Configuration Manual

Touch Controller Version 52

IMPORTANT NOTICE

The manufacturer reserves the right to make changes without notice in product design and specifications as warranted by evolution in user needs, progress in engineering or manufacturing technology.

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Glossary

Throughout this document, the following terminology is used.

Term	Description
Main Set Point (MSP)	This is the temperature goal for the room and it is also the reference temperature for all relative settings. Note that the **Main Set Point** may be affected by the **Ramping Function** and the time of day.
Relative Set Point (RSP)	This is the difference between the temperature at which an event will occur and the **Main Set Point**.
Differential	Difference between an activation and a deactivation temperature. For example, with a **Differential** of 1.0°F, the control turns on a fan at 70.0°F when temperature increases, but it will shut it off only at 70.0°F - 1.0°F when the temperature decreases. The **Differential** is necessary to avoid oscillations.
Modulation Band	Number of degrees a variable output takes to reach its full intensity.
Growth Day	This is the reference day used for **Ramping Function**. It may be set to OFF, deactivating all **Ramping Functions**. If it is adjusted to a value other than OFF, it will be incremented each day.
Growth Curve	The **Growth Curve** is composed of value points and day points. It is used for the **Ramping Function**. When the **Growth Day** is equal to a given day point, the associated value point will be the value taken by the parameter affected by the **Ramping Function**.
Ramping Function	The **Ramping Function** is used to modify a parameter value automatically. When the **Ramping Function** is activated, the affected parameter will be updated each hour according to its **Growth Curve** and the **Growth Day**.
Zone (A-D) Temperature	This is the temperature calculated using probes selected for the zone average.
Outside Temperature	This is the temperature read by the outside temperature probe.
Used Probe	Refers to a probe that is used by a zone.

Input Table

Inputs	Quantity	Inputs	Quantity
Inside Temperature	1 to 16*	Poultry Scale	Up to 4
Outside Temperature	Up to 1	Bin Scale	Up to 8
Heat Pad Temperature	Up to 1*	Pig Sorter	Up to 8
Solarwall Temperature	Up to 3*	Batch Weighing Scale	Up to 1
Humidity	Up to 8	Lux Meter	Up to 4
Feeder	Up to 16	Ammonia	Up to 4
Feed Auger	Up to 15	Carbon Dioxide (CO_2)	Up to 4
Proximity Switch	Up to 20	Level Probe	Up to 1
Static Pressure	Up to 1*	RF Reader OW	Up to 4
Water Meter	Up to 12	State Reading	Up to 4
Egg Counter	Up to 12	Water Pressure	Up to 4
Recuperator Temperature	Up to 1*	Current Detector (CDC-4)	Up to 16
Generic Counter	Up to 4	Energy Counter	Up to 1
Duct Temperature	Up to 4*	Acidity (pH)	Up to 1
Chlorine (mg/L)	Up to 1	Generic Probe	Up to 1*
EPS-1	Up to 8	Chain Disk Security	Up to 10
EPS-4	Up to 8	A.B. Temperature Core	Up to 4*
External Exhaust Signal	Up to 1*	BinWatch	Up to 8

*Per Zone

Output Table

Outputs	Quantity	Outputs	Quantity
Variable Stage	Up to 24*	Egg Conveyor	Up to 1
Variable Stir Fan	Up to 6*	Distribution Panel	Up to 1
On/Off Stir Fan	Up to 6*	Trap Door	Up to 10*
On/Off Stage	Up to 15* or 24**	Nests	Up to 4*
Heater	Up to 8* or 16**	Variable Egg Strap	Up to 8
Variable Heater	Up to 8*	Variable Egg Elevator	Up to 8
Sprinkler/Mist	Up to 4*	Variable Egg Conveyor	Up to 2
Clock	Up to 4*	On/Off Light	Up to 4*
Feeder	Up to 16	Cooling	Up to 1*
Feed Auger	Up to 15	Humidifier	Up to 2*
Air Inlet	Up to 10* or 16**	Dehumidifier	Up to 1*
Light	Up to 4*** or 16****	Disinfection	Up to 1*
High Water Alarm	Up to 12	Reservoir Valve	Up to 4
Water Flush	Up to 12	Reservoir Pump	Up to 1
Pressure fan	Up to 4*	Heat Pad	Up to 1*
Feed Drop	Up to 24	Egg Saver	Up to 1
Recuperator Input Polarity	Up to 1*	Recuperator Output Polarity	Up to 10*
Recuperator Valve	Up to 10*	Recuperator Pump	Up to 10*
Floor Heater	Up to 4*	Alarm	1
CO2	Up to 1*	Air Blast Heater	Up to 4*
A.B. Heater Burner Cutoff	Up to 4*	A.B. Heater Fan	Up to 4*

*Per Zone

** For Zone A only
*** Lights 1-4 can be in mode cycle, stage and darkness.
**** Lights 5-6 can be in mode cycle and stage.
***** Lights 7-16 can only be in mode stage.

Required Equipment**

Quantity	Description
1	Controller
Up to 8	Relay Board (X1184) or Relay Board with Current Detector (X1414-X1417)
Up to 8	Switch Board (X1192)
1	Variable Control (X1206) or Variable Control with Current Detector (X1415)
2	Var. Board (X1204) or Var. Board with Current Detector (X1418)
1	Sensor & Comm. Board (X1199)
1	Temperature Probe 2004-10k

** The quantity and necessary equipment depend on the various types of installations.

Optional Equipment

Quantity	Description
30	Temperature Probe 2004-10k
4	RH3 Humidity Probe
4	HUM+ Humidity Probe
4	Ammonia Sensor
4	Carbon Dioxide Sensor
4	Static Pressure Probe
4	Lux Meter
12	Water Meter
4	Generic Counter
1	Energy Counter
1	Level Probe
4	Water Pressure Probe
16	Feeder
15	Feed Auger
20	Proximity Switch
22	CSD-1
1	MS-10
2	Slave Module
3	Pot Board (X1205)
6	Opti-Gain 1
8	BT-1
4	RF Reader OW
1	CBW
8	FBT / LIM
2	8 Comm. Board (X1276)
1	8 Input Board (X1200)
6	MGCB 8 Input Board (X1399)
8	V4 (4 Variable Output Module)
8	V2/M (X1429) (2 0-10 Volts Output Module)
8	V4/M (X1429) (4 0-10 Volts Output Module)

8	V2/LED (X1442) (2 Variable Output Module)
1	Output Board [0-10V] (X1201)
4	Press+ Probe (X1455)
4	CDC-4 (X1456)
1	Acidity Probe (pH)
1	Chlorine Probe (mg/L)
4	Generic 4-20mA Probe
8	EPS-1
8	EPS-4
1	GE-RFL
8	BinWatch
31	GE-MGCB/485
31	GE-EC
31	GE-HEBUS

Configuration Version

Version	Date	Min. Proc. Version	Modification
CA2iT07V0	04/23/2015	2	- New.
CA2iT07V1	10/06/2015	2	- Add pig sorters. - Add inflatable inlets. - Add weather station. - Add empty time for bin scales. - Set zone temperature alarms to ON by default. - Remaining animals are per zone or per group according to animal inventory type. - Add programmable light curve support for V4 modules of version 3 or greater. - Add support for Relay Control version 9 and above for interlock on inlets that do not use potentiometers. - Add a delay before history data is reset when date changes. - Adjustment on inlet cool down messages,
CA2iT07V2	19/01/2016	3	- Add the batch weighing system. - Add many breeding types. - Remove charts and personalize growth curve gain values for poultry scales. - Correction on group assignment for poultry scales 2 and above. - Correction on stir fan group display when only one zone is used. - Correction on differential “direction” for on/off stir fans. - Correction on maximum value and conversion of the main set point growth curve. - Add reduced period for water alarms. - Add 10 feeders. - Add egg conveyor output. - All output states In the building application now redirect to adjustment screens. - Correction on relay 33-40 state display in Building Application. - Add a display of the actual main set point in Building Application.
CA2iT07V3	04/02/2016	3	- Correction on Feed Auger assignment on Duration outputs. - Change on certain pig sorter default values. - Correction on low water alarm when OFF.

Version	Date	Min. Proc. Version	Modification
CA2iT07V4	04/03/2016	3	- Add 6 variable ventilation outputs for zone A. - Add 14 on/off ventilation outputs for zone A. - Add 6 on/off heater outputs for zone A. - Add 8 air inlets for zone A. - Add 2 feed auger inputs and outputs. - The alarm icon now changes when the alarm relay is deactivated. - Correction on gain calibration for certain breeding types - Correction on day, evening and selection mortality history past day 11. - Correction on pig sorter assignment when only one zone is used. - Add power outage recovery modulation for lights. - Add an option to have a maximum intensity for each cycle for lights. - Change on certain icons for animal inventory. - Add an option to have static pressure compensation for position mode inlets when no stages are activated. - Change ventilation timer selection from “1-2” to “Timer1-2”.
CA2iT07V5	19/05/2016	3	- Add RF ID management for pig sorters. - Add the amount of unique animal RF IDs. - Add the number of passages of the animals. - Add a second slave unit. - Make slave unit communication ports configurable. - Add 2 V4 modules. - Make V4 communication ports configurable. - Add an option to have full start on variable stages and stir fans separately. - Add an option to make stir fan set points relative or absolute. - Add option to enter bird weight manually. - Add time log for sorting mode of pig sorters.

Version	Date	Min. Proc. Version	Modification
CA2iT07V6	21/06/2016	3	- Tunnel mode can now affect one zone or all zones. - The humidity probes can be assigned to more than one zone. - Add Trap Door output type. - Add support for slave module models SL20, SL15 and SL 10. - Add Compact controller type. - Make all communication ports configurable for external modules. - Correction on 8-Input board communication alarm. - Add Inlet type for 0-10 Volt outputs. - Add actual values and history for poultry scale Gain, Homogeneity and Standard Deviation. - Add history for variable stage 1 minimum speed for each zone. - Add display of Main Set Point adjustment in variable stage, on/off stage and heater screens. - Add Manual Activation for Batch Weighing System.
CA2iT07V7	31/08/2016	3	- Add 4 pig sorters (total 8). - Retained animals are now associated to a zone instead of a pig sorter - Add credits for animal inventory with history. - Add history for all pig sorter group maximum weights. - Add overload weight for pig sorters. - Add floor scale for nursery piglet breeding type. - Add outside temperature influence on variable stage actual speed.
CA2iT07V8	29/09/2016	3	- Correction on light power outage recovery modulation when lights are used for the first time after system being OFF. - Correction on variable stage selection evaluation for static pressure compensation. - Correction on pig sorter restart when retained amount is reduced or limit is increased.

Version	Date	Min. Proc. Version	Modification
CA2iT07V9	31/10/2016	3	- Add 2 variable heaters per zone (total 8). - Add 2 on/off heaters per zone for zones B-D (total 8). - Add BTU consumption for on/off heaters. - Add an absolute maximum and minimum position used at all times for position mode air inlets. - Add Multi-feed system. - Add 2 poultry scales. - Add opening and closing times for trap doors. - Add an option to have individual tunnel reactivation temperatures for variable and on/off stages. - Add slope for 0-10Volt outputs to allow modulation from 0 to 10 Volts or from 10 to 0 Volts. - Add display of static pressure in position mode inlet screen. - Add 4 lux meters to measure luminosity and trigger an alarm when measurement does not match expected lighting. - Add an option to have proximity switches normally open or normally closed. - Add option to determine batch weighing system quantity globally, buy zone or by drop. - Add a bi-weekly schedule (14 days) for batch weighing system. - Add option to have manual, scheduled or mixt modes for batch weighing system. - Add a weight increment with frequency for batch weighing system. - Add a main set point offset. - Add a high temperature shutoff for stir fans. - Correction on calibration weight display for turkey types. - Correction on floor scale communication for ports 9-16. - Correction on feed auger shutoff by maximum alarm. - Correction on static pressure compensation for inlets of zones B to D.

Version	Date	Min. Proc. Version	Modification
CA2iT07V10	31/10/2016	3	- Add an option to have light modulation settings per cycle or global. - Add an option to change light cycle end target intensity to either minimum intensity or intensity between cycles. - If a light cycle ends at the time another cycle begins, lights will not take intensity between cycles. - Correction on detailed mortality history. - Correction on inlet potentiometer and cool down messages for zones C and D. - Some messages truncated to fit in their designated area.
CA2iT07V11	23/02/2017	3	- Correction on humidity history that logged 0 on a communication error. - Add a pressure set point for each ventilation stage on air inlet static pressure compensation. - Add 3 sprinklers per zone (total 4). - Add 5 trap doors per zone (total 10). - Add animal inventory per pig sorter. - Increase maximum amount of training days for pig sorters. - When a pig sorter is in training mode, Sorting Activation is automatically set to Stop. - Add Oxygenation function. - Add two ventilation timers. - Add proximity switch type for Duration inputs with NO/NC option. - Add a weekly schedule for water flush. - Add a reaction factor for pressure fans. - Position mode inlet temperature compensation increment is now adjustable. - Add carbon dioxide and ammonia sensor types for 4-20mA inputs. - Add Transfer Box support.

Version	Date	Min. Proc. Version	Modification
CA2iT07V12	07/03/2017	3	- Add a forced closing time for inlets when requested position is 0%. - Inlet Precision increment is now 0.1%. The default value will return to 1.0%. - Add an option to have temperature compensation according to main set point when compensation ventilation stage is not activated. - Increase the number of inlet position readings to accelerate display refresh. - Correction on the number of retained animals on date change when reduced by transferred or shipped animals.

Version	Date	Min. Proc. Version	Modification
CA2iT07V13	10/04/2017	3	- Add weekly schedule for lights. - Add weekly schedule for feeders. - Add probe selection for zone average. - Add probe selection for high/low alarm. - Add minimum and maximum static pressure reading for the actual day. - Add 4 nest outputs per zone. - Correction on toggle switch evaluation for additional closing time. - Minimum calibration weight for poultry scales is now 1 kg/1 lb. - Pig start weight is now adjustable in 0.1 unit increments. - Add an option for pig sorter daily reset. - Allow oxygenation only during a time period. - Allow oxygenation only if outside temperature is high enough. - Add egg management with pre-picking mode. - Display calculated dehumidification set points. - Add a minimum delay between batch weighing transfers and continuously activate distribution feed auger until required weight is obtained before running for distribution time. - Pig sorter Sorting Activation returns to Stop only when the date changes if pig sorter is in training mode. - Add installation mode. - Add multiple feed auger selection for batch weighing system bin feed auger. - Add feed auger grouping. - Add poultry scale reinitialization button. - Add support for transfer box.

Version	Date	Min. Proc. Version	Modification
CA2iT07V14	11/05/2017	3	- Add level probe. - Add option to deactivate feeder toggle switch according to its proximity switch. - Add an option to have an alarm on toggle switch activation. - Add an option to have position mode inlet static pressure compensation when cold closing temperature is reached. - Add event history for pig sorters. - Add event history for pig sorter retained animals. - Add 4 RF Reader OW with event history. - Add individual options for heater dehumidification. - Heater dehumidification differential is now adjustable. - Relative temperature settings now include MSP offset in their display. - Add 3 daily cycles for each trap door. - Correction on feeder alarms according to activated feed augers. - Correction on air inlet modes when air inlet is removed. - Correction on OFF value for high and low temperature alarms. - Correction on modulation band for natural position air inlets zones B to D.

Version	Date	Min. Proc. Version	Modification
CA2iT07V15	14/06/2017	3	- Add set point reduction for shipping temperature. - Add manual flush with water meter selection for input pause during flush. - Flush is now possible without a flush output. - Add egg room option for all zones. - Add cooling output type. - Add two humidifier output types. - Add dehumidifier output type. - Add disinfection output type. - Add state reading input type. - Add batch weighing system available for commercial layer breeding type. - Add option to use last evaluation period weight as target weight for poultry scales. - Add temperature compensation according to ventilation stage set points for air inlets.
CA2iT07V16	31/07/2017	3	- Add water reservoir logic. - If a feeder is stopped by its bin being filled, the time lost will be added at the end of its activation cycle once filling is completed. - Calculate time between feeder input activation and proximity switch activation. - Add 10 proximity switches (total 16). - If less than twice the maximum weight is left to distribute in the batch weighing system, the remaining weight will be divided in two equal distributions. - Add stage logic for lights. - Add weight mode and quantity calibration with history for feed augers. - Add actual condition for feeders and feed augers. - Add combined weight value for feed bins. - Add closing in tunnel option for natural mode air inlets.
CA2iT07V17	18/08/2017	3	- Add adjustable delay for the Empty Weigh phase of the batch weighing.

Version	Date	Min. Proc. Version	Modification
CA2iT07V18	19/09/2017	3	- Add egg picking logic. - Add heat pad logic. - Corrected period reinitialization for cycle mode lights when starting a new breeding. - Add halting feed auger switch by associated proximity switch. - Add copy of cycle settings from feeder to feed auger. - Add weight management option by drop or cycle for batch weighing. - Add feed auger management option by drop or cycle for batch weighing. - Add timer for the distribution feed auger of the batch weighing. - Add V2/Led module. - Add modulation band for dehumidification with variable stage. - Corrected calculation of number retained for pig sorter. - Corrected egg counter name in history - Corrected state reading name in history. - Corrected humidity probe and transfer box alarms coming back before the set delay after an alarm reinitialization. - Add water pressure reading and history. - Add airflow ventilation for broiler turkey. - Airflow per ventilation stage can be adjusted from 0 to 300000 units in 10-unit increments. - Add weather station compensation for natural mode air inlets. - Corrected V4/M module relay state configured with a light stage output. - Corrected reinitialization of feed auger run time at day change. - Corrected Co2 and NH3 probe compatibility with 8 input board X1399.

Version	Date	Min. Proc. Version	Modification
CA2iT07V19	02/10/2017	3	- Added sequence logic to close nests. - Added 2 variable stages for zones B, C and D. - Correction on internal 0-10 Volt relays when associated to an output with a negative slope. - Add 3 solarwalls per zone. - Add heat pad temperature history. - Add heat pad probe alarm. - Exhaust fans are now pressure fans that can be set to exhaust or intake. - Add pressure reading to pressure fan screen. - Add airflow compare option to compare automatically calculated airflow with actual airflow provided by ventilation. - Corrected Feeder and Feed Auger deactivation by proximity switch in manual mode. - Add 2 pre-picking periods (total 3) - Add egg count per period logic. - Add sequence logic for nest closing. - Add option to activate tunnel mode with a variable stage.

Version	Date	Min. Proc. Version	Modification
CA2iT07V20	06/11/2017	3	- Added speed control of egg straps, elevators and conveyors to picking time logic. - Corrected nest option with Installation Mode OFF and parameter refresh when nest is opening. - Corrected reinitialization of automatic egg count when activating manual egg counter. - Corrected interlock when changing inlet type. - Add 4 on/off light outputs. - Correction on on/off stage calculated demanded airflow. - Calibration message for poultry scale is now reset when date changes. - Add number of weighed history for each pig sorter group. - Add history for required airflow for each zone. - Add 12 variable lights with mode stage only (total 16). - Add egg saver. - Add oxygenation logic for inlet in natural mode. - Separate pig sorter scale reset and retained reset in two different buttons. - Moving a feeder or feed auger toggle switch to the ON position now resets the proximity switch non detection filter time when proximity switch stops feeder or feed auger manual mode. - Add history for batch weighing system total quantity. - Add event history for chicken scales. - Corrected repeated opening and closing of natural time inlets when affected by rain compensation. - Correction on light stimulation when lights are at maximum intensity at midnight.

Version	Date	Min. Proc. Version	Modification
CA2iT07V21	12/12/2017	3	- Add main set point offset adjustment to main set points group. - Add Group for Retained selection for Pig Sorter. - Corrected time air inlet auto-calibration duration parameter format. - Add average weight of each group for the sorting scale. - Add automatic adjustment of mortality type depending on breeding type. - Add history for bin silo consumption percentage compared to group. - Add bin feed auger selection for manual batch loader operation. - Modification on gain calibration. - Add configurable ventilation stages. - Corrected canceling manual batch loader operation. - Add minimum current reading limit.

Version	Date	Min. Proc. Version	Modification
CA2iT07V22	12/02/2018	3	- Add G-Power Module support. - Add options for door blocked and no weight alarms for pig sorters. - Add the display of the current Average Temperature in the Variable Stage group. - Add the possibility to associate a feed auger to a feeder. - Display the Current Main Setpoint in the Inputs group. - Display the current Average Temperature in the Variable Stages group. - Display of all zone A-D Setpoint parameters in the main level Setpoints group. - Add option for inlet static pressure compensation minimum stage selection. - Add option for inlet static pressure compensation per stage high and low set point. - Display inlet static pressure parameters in inlet static pressure group. - Add of a maximum ventilation stage for variable and On/Off stages. - Add Inlet Opening Priority Option. - Add the display of poultry scale weight averages. - Add end fill alarm option for batch weighing. - Add mist absolute set point option. - Corrected feeder and feed auger deactivation by proximity switch when a slave module is used. - Corrected bin feed auger activation for batch loader.

Version	Date	Min. Proc. Version	Modification
CA2iT07V23	26/02/2018	3	- Disable the bin scales alarm message displayed when communication filter = 0 - Disable the poultry scales alarm message displayed when the communication filter = 0 - Add the cumulative consumption of several bins. - Add slave module (max 3). - Add 2 MGCB 8 input board X1399 (max 4). - Corrected display of the variable current reading group for slave 1. - Corrected reset of relay switch alarm when clearing alarm history. - Corrected state reading on 8 input board X1399. - Corrected 8 input board alarm reset when clearing alarm history. - Add egg count per period manual activation. - Add GE-OptiGain module compatibility with uniformity low and high limits. - Corrected trap door opening and closing time. - Corrected water pressure history display. - Modification on pig sorter Retained history for a daily value instead of a cumulative one. - Add recuperator system. - Corrected air inlet requested position when using configurable ventilation stages. - Corrected display of configurable ventilation stage parameters when returning to conventional ventilation. - Change G-Power for MBUS. - Unlock animal inventory when parameters are locked. - Corrected logic activation when the same relay type is assigned to multiple relays in zones B-D. - Corrected display of Outputs group and logic parameters when the appropriate logic is activated or deactivated. - Corrected stage selection for temperature compensation of position mode inlets.

Version	Date	Min. Proc. Version	Modification
CA2iT07V23.1	05/04/2018	3	- Correction on air inlet position during transition between natural mode and tunnel mode. - Correction on night set point.
CA2iT07V23.2	05/04/2018	3	- Correction on air inlet position during transition between natural mode and tunnel mode. - Correction on relay assignation to zone A. - Correction on tunnel mode activation by an on/off stage deactivated by on/off stage maximum option. - Correction on pre-alarm data check on MBUS module. - Display the main output group when only On/ Off lights are assigned to the relays.

Version	Date	Min. Proc. Version	Modification
CA2iT07V24	31/05/2018	3	- Add option to display outside temperature in both temperature units. - Add options for oxygenation in natural and tunnel modes. - Add hot/cold security for air inlets in the natural position mode. - Add support for 8 load cell bin scale modules. - Add variable fan positioning delay. - Add a 7-day chart for the poultry scales. - Add ventilation stage and ventilator airflow settings. - Add airflow positioning for position mode inlets. - Add timer mode for heaters. - Add pressure compensation minimum stage for position mode inlets. - Correction of the display of the air inlet 8 temperature compensation parameters in Zone D. - Correction of the bin scale's actual weight display. - Display the day's minimum and maximum temperatures as measured by the temperature probes. - Add airflow temperature compensation in airflow ventilation. - Add airflow humidity compensation in airflow ventilation. - Correction of the modules displayed in Tech Param. - Correction of pig sorter group average weight when the daily clear option is off. - Add immediate update when there is a modification of a pig sorter's maximum group weight. - Add a parameter to display the minor revision number. - Corrected activation of tunnel mode by a variable stage in natural shutoff. - Corrected condition of sending the calibration weight of turkeys. - Corrected turkey weight calibration when Type of Breeding is Turkey Poultry Egg Reproduction or Turkey Egg Reproduction. - Corrected oxygenation in configurable ventilation stages. - Corrected heater consumption.

Version	Date	Min. Proc. Version	Modification
CA2iT07V24 (Continued…)	31/05/2018	3	- Display the On/Off lights in the output groups. - Cancel Tunnel Mode if the Tunnel Start Stage Option is set to OFF. - Add airflow not satisfied warning. - Add airflow timer in airflow ventilation. - Add heater ventilation stage activation selection for configurable stages. - Corrected ventilator positioning delay for configurable stages. - Add manual adjustment of current airflow requirement. - Add a differential parameter for each variable stage. - Correction of air inlet hysteresis in pressure mode. - Add airflow ventilation deactivation stage. - Add airflow ventilation security temperature.

Version	Date	Min. Proc. Version	Modification
CA2iT07V25	29/08/2018	5	- Added alternating timers. - Corrected the evaluation of timer-activated ON/OFF ventilators by position mode air inlets. - Correction of assignation when reducing the number of zones to one. - Correction of invalid sorting scale's weight treatment. - Deactivated the Intake Ventilator timer when Exhaust Ventilator is active. - Increased the water meter high limit for a period preceding darkness. - Added 2 pre-picking periods (to a Total of 5). - Correction on the scale 6 weight unit display. - Added synchronisation of ON/OFF stir fans with airflow timer. - Added display of airflow information. - Corrected the continuous activation of a configurable stage's ventilators when activated by a heater. - Corrected possible display of airflow timer option in variable stages and ON/OFF stages even if the option was not activated for the zone. - Correction relating to out of range values. - Correction relating to the activation of correct ON/OFF stage for airflow ventilation configurable stages. - Added cold security for airflow ventilation. - Added the operation of minimum ventilation timers during airflow ventilation shutoff. - Added CO2 mode for air inlets. - Added CO2 influence on ventilation. - Added CO2 influence on position inlets. - Corrected the continuous opening of static pressure inlets while in positioning delay.
CA2iT07V25.1	24/09/2018	5	- Corrected the continuous opening of static pressure inlets while in positioning delay. - Corrected the continuous initialization of poultry scales.

Version	Date	Min. Proc. Version	Modification
CA2iT07V25.2	05/10/2018	5	- Correction on CO2 inlet when assigned to a 0-10 Volt output. - Correction on the Potentiometer Option parameter display for the CO2 inlets.
CA2iT07V25.3	12/10/2018	5	- Force CORE2000A update for V5.

Version	Date	Min. Proc. Version	Modification
CA2iT07V26		5	- Modification on GE-V2/LED modules to only accept light program logic. - Add GE-V2/LED version 3 support. - Add maximum weight handle by bin scale to 220,000lb (99,999kg). - Improved static pressure inlet response time. - Add the minimum and maximum stage option for the static pressure inlets. - Add the egg counter selection for the total egg count. - Corrected the relay display in the Master Relay Current group. - Invert the pressure air inlet logic if the closing setpoint is greater than the opening setpoint. - Add the stop stage option for the pressure fans. - Add current reading alarm. - Correction on current reading with master control and slave module with 20 relays or less. - Correction of unassigned air inlet on 0-10 volts output. - Correction on ventilator activation in airflow ventilation with configurable stages. - Correction on alternating timer cycles in airflow ventilation with configurable stages. - Correction on evaluation of progressive ventilator speed in airflow ventilation with configurable stages. - Adjust day one point to 0 for curves. - Add timer count in building view. - Add CDC-4 module support. - Correction on the number of active relays depending on the chosen model type. - Correction on poultry scale group assignment. - Add position error detection of the inlets using potentiometer. - Add an obstructed inlet alarm (works only on inlet without potentiometer). - Corrected water meter resetting when a flush is active. - Corrected 1-4 timer parameter display of the ON/OFF and variable stage.

Version	Date	Min. Proc. Version	Modification
CA2iT07V26 (continued)			- Add the redirection on the chart weight scale, inlet airflow unreachable and airflow requirement not satisfied in the building view. - Correction of the parameter display Deactivate Low Feed Auger Alarm in Darkness of Feed Auger 7 and 8. - Add inlet positioning delay during OFF period of ventilation timer.
CA2iT07V26.1	17/12/2018	5	- Corrected inverting the recuperator intake ventilator when changing the recuperator mode. - Use feed auger proximity switch delays with multi-feed system.
CA2iT07V26.2	07/01/2019	5	- Correction on feed auger quantity history.
CA2iT07V27	06/03/2019	5	- Add the animal mortality percentage. - Modification on cold security temperature for a relative value. - Modification on feed auger feeder association for multiple selection. - Add minimum current alarm. - Add proximity switch delays used only for multi-fed system. - Correction on Multi-Feed System wait timer. - Correction on full start option for the different variable output types. - Modification of the luminosity display conditions and display its value in the Input groups. - Correction on the deactivation of the recuperator's ventilators during rinsing. - Add Press+ module support. - Feed Per animal can now be counted by feed augers, bin scales or batch weighing system. - Add lux meter alarms for on/off light and light stage. - Add a minimum current reading parameter. - Add support for new alarm list. - Add support for BinTrac on MBUS module. - Correction of the multi-feed positioners precision processing.

Version	Date	Min. Proc. Version	Modification
CA2iT07V27 (continued)		5	- Modification of the Multi-Feed Bins display conditions. - Increase maximum of the automatic and manual egg counters. - Reset the egg counters 5-12 manuals when the date changes. - Corrected position mode inlets' minimum stage pressure compensation in configurable stages and airflow ventilation and airflow per ventilator. - Correction on heat pad defective probe alarm trigger. - Add air inlet (position and time mode) airflow positioning even if airflow ventilation is not in used.
CA2iT07V28	18/03/2019	5	- Add 4 egg straps and elevators. - Add an egg conveyor and elevator selection for the egg picking. - Add egg pre-picking per egg strap. - Corrected natural reactivation temperature of position mode inlets 9-16 - Corrected evaluation of position mode air inlets airflow positioning when the inlets position is limited by its options.
CA2iT07V28.1	28/03/2019	5	- Corrected the deactivation of egg strap, elevator and conveyor outputs when the egg count per period is active. - Correction on Multi-Feed Start Filter time.

Version	Date	Min. Proc. Version	Modification
CA2iT07V29	09/04/2019	5	- Add the support of CDC-4 modules. - Corrected evaluation of stage positioned air inlets during ventilation mode transitions. - Corrected evaluation of air inlets during delay positioning by anticipation. - Remove animals' number from pig sorters. - Corrected temperature conversion of the recuperator parameters. - Allow FarmQuest warnings for state reading inputs. - Add High/Low pressure setpoints when no stages are active. - Add High/Low pressure setpoints when stages are only timer activated. - Correction on communication on P8 port and array out of bounds error with Compact model.
CA2iT07V29.1	27/04/2019	5	- Improve position error detection of the inlets using potentiometer

Version	Date	Min. Proc. Version	Modification
CA2iT07V30	17/06/2019	5	- Modified display of recuperator defrost settings when using outside temperature influence. - Modified the recuperator's variable timer speed and run time settings for them to vary according to the recuperator temperature and outside temperature respectively. - Increase animal inventory parameters to 999999. - Extend the air inlets airflow adjustment range to [-99%, 999%]. - Add an airflow ventilation correction factor. - Add an option to reset the initial number of animals at breeding start. - Add 4 bin scales. - Add sort door option for the pig sorter. - Block pig sorter training mode when sorting deactivated. - Add cumulative delay option for proximity switches. - Add darkness stimulation. - Display the last weighing poultry scales. - Add the eggs total weight. - Display recuperator setpoint in the Building View. - Add an option for the variable stages CO2 activation even if the temperature is less than the setpoint. - Change default values of Static Pressure Compensation and Temperature Compensation. - Allow Multi-Feed Cycles to pass midnight. - Change the name MANUAL to TEST in pig sorters. - Enhance the trap door close reaction time. - Increase the maximum flow fans to 300000. - Correction of the turkey scale manual target weight unit. - Add 4 generic counters. - Add an energy counter. - Correction of inlet pressure compensation and solarwall selection in configurable stages. - Change of the Airflow Charts/Curves default values for the male chicken.

Version	Date	Min. Proc. Version	Modification
CA2iT07V30	17/06/2019	5	- Corrected evaluation of position mode inlets in airflow positioning mode. - Corrected inlet's anticipated positioning delay in per ventilator airflow ventilation. - Correction on CDC-4 module communication for port 9 to 16.

Version	Date	Min. Proc. Version	Modification
CA2iT07V31	19/08/2019	5	- Corrected evaluation of position mode inlets using the open for stage option. - Add the display of the average probe selection temperature for each on/off heaters, variable heaters and air inlets. - Add an option to deactivate the feeders and feed augers if no light is active in the zone. - Addition of an internal temperature at which the oxygenation is deactivated. - Add a button to suspend the batch weighing system operation. - Increase the number of daily rinses to 4. - Add an automatic mode to the sprinkler soak cycle. - Add a new HUM + humidity probe. - Add air blast heater logic. - Add support of pH probe. - Disable the variable modules outputs when the model configured for these modules does not include these outputs. - Correction of the V4/M modules initialization condition when the values of their chart points change. - Add support of chlorine probe. - Application of the positioning delay when fans switch off in configurable ventilation stages mode. - Add natural position without potentiometer mode for air inlets. - Add breeding day warnings. - Add stop stage static pressure compensation. - Add 8 batch weighing system drops (up to 24). - Add alarm relay deactivation during night for certain alarms. - Add correction factor and correction factor age histories for chicken scales. - Modification of the default humidity value from 80% to 50% - Modification of the default airflow protection values - Modification of the nomenclature of the parameter “Demanded Airflow” for “Actual Airflow”

Version	Date	Min. Proc. Version	Modification
CA2iT07V31M1	11/09/2019	5	- Correction of the reservoir valves 2 to 4 treatment. - Correction of the output type display of the Nest Opening/Closing, Cooling, Reservoir Valve, Recuperator Intake Polarity and Recuperator Evacuation Polarity.
CA2iT07V32	23/10/2019	5	- Add outside humidity probe. - Add parameters 100% Opening stage to position mode air inlets - Add Heaters 13-16 in zone A. - Add parameter Stop Hum compensation according to max ext. hum. for all zones - Add On/Off Stages and Ventilators 11 to 15 to zone B, C and D. - Add Variable Stages and Ventilators 9 to 12 to zone B, C and D. - Add chart mode for poultry scales. - Moved airflow ventilation charts and curves. - Correction in the configurable ventilation stages mode for the activation's reset of the on/off and variable fans - Corrected invalid pig sorter weighings. - Add 5 periods for cycle lights for a total of 15.
CA2iT07V32M1	18/11/2019	5	- Corrected deactivation of pig sorter training mode at midnight. - Corrected deactivation of 0-10V relay for heat pad outputs when it has a deactivation demand.

Version	Date	Min. Proc. Version	Modification
CA2iT07V33	20/01/2020	5	- Add a stop option for output in maximum current alarm. - Modification to add the use of the HUM+ probe for the outdoor temperature. - Add position mode inlet per ventilation stage airflow adjustment. - Modification to have a different number of cycles for each lights period - Add display option for variable stage differential parameter. - Add securities for egg pre-picking. - Correction of the Air blast heaters temperature parameter - Add Precision+ mode for the poultry scales. - Replace Eggs Total Manual Weight parameter with 5 parameters Egg Manual Weight 1-5. - Increase the precision of the Eggs Manual Weight 1-5 parameters in hundredths of the weight unit. - Configure the main set point for zone B so it follows the breeding day of the group 2. - Add one Generic 4-20mA Probe per zone. - Correction of the Zone B and C Airflow Requirement history display. - Add option to stop airflow ventilation during shipping. - Correction on the evaluation of the demand of airflow controlled position mode air inlets. - Corrected visibility of the variable stage 11 of zones C and D.
CA2iT07V33M1	03/02/2020	5	- Correction on feed auger's deactivation by proximity switch when assign to a feeder and activated in manual operation.

Version	Date	Min. Proc. Version	Modification
CA2iT07V33M2	06/02/2020	5	- Corrected evaluation of the exterior temperature by the exterior HUM+ probe.
CA2iT07V33M3	18/02/2020	5	- Corrected airflow ventilation humidity compensation stop according to exterior humidity.
CA2iT07V33M4		5	- Corrected initialization of bin silo fills when starting a batch. - Add initialization of bin silo consumption values when starting a batch.

Version	Date	Min. Proc. Version	Modification
CA2iT07V34		5	- Add Natural Mode Only option. - Add 4 proximity switches (total 20). - Display Actual Start and Stop Time in Light Status. - Add 2 air inlets for zone B, C and D (total 10). - Correction of the Weather Compensation parameters zone in zone B. - Corrected Auto-Calibration activation of the Nat Pos (No Pot) air inlets. - Correction of the Wind Compensation Closing Point 1, 2 and 3 values display of zone B and C. - Add feeder and feed auger runtime evaluation by current reading. - Correction on the wind/rain detection parameters display when a communication issue occurs with the weather station. - Display the percentage of the weight measured by each bin scale's load cell. - Change the variable lights behavior when output module is in backup mode. - Correction on target weight display when the breeding is stopped. - Add an option to stop the distribution feed auger during filling. - Cancellation of the drops sequences execution when their feed to distribute is null. - Changed first stage active under set point default value. - Add a total water counter with history. - Add a total egg counter with history. - Add hourly acquisition for feeders. - Corrected priority processing of feed augers when associated to a feeder. - Correction of the target weight initialization of the batch loader. - Corrected manual override of 0-10V air inlets. - Correction of the air inlets low and high calibration messages. - Moved airflow weight chart and curve. - Corrected BinTrac bin amount selection. - Add 7 feed augers (total 15).

Version	Date	Min. Proc. Version	Modification
CA2iT07V34 (Continued)		5	- Add use of HUM+ probe for inside temperature. - Add associated relay stop on high current. - Correction of the on/off stage 17-24 deactivation when the maximum on/off stage option is set to none. - Corrected activation of first ventilation stage by the heaters. - Correction of reset and redirection of Inlet # Zone A-B Blocked alarms. - Corrected temperature conversion of air blast heaters.

Version	Date	Min. Proc. Version	Modification
CA2iT07V35	14/12/2020	5	- Add low/high inside temperature stop to the intake and exhaust ventilators. - Add ON/OFF timer for humidifiers. - Use only Outside Temperature Defrost Time Influence mode. - Add an option to choose the communication speed of the batch loader system. - Add a limitation to airflow settings when the configurable stages are not used. - Corrected end weight evaluation of feed augers in weight mode. - Add an OFF option for the Recuperator Timer. - Add an outside temperature influence function on the intake ventilator minimum and maximum speed. - Add the possibility for a zone to use probes of another zone. - Move the parameter Variable Timer Outside Setpoint to the Options group. - Removal of the Recuperator Intake Ventilator On Time parameter and the exhaust timer influence on the intake ventilator. - Modification of the minimum value of the recuperator speeds to 0% instead of 12%. - Correction of the default value of the Intake Ventilator Maximum Speed parameter in the B, C and D zones. - Add a minimum temperature function to variable heaters. - Added negative growth day. - Correction of the use of the recuperator rinsing curves in zones B, C and D. - Add a curve on High Temperature Shutoff parameter for the heaters and air blast heaters. - Add Total Batch Consumption for the heaters. - Add darkness mode variable lights. - Correction on feeder and feed auger association when feeder is in run time mode. - Corrected pig sorter overload weight. - Add an option for pressure compensation on reverse inlet.

Version	Date	Min. Proc. Version	Modification
CA2iT07V35 (Continued)	14/12/2020	5	- Correction on display of the Auto-Calibration Outside Set Point. - Add time delay to feeder associated with feed auger when proximity switch senses feed. - Add ATM module support with reading and history. - Correction on display, on Position Mode, of the Manual Override of the Air Inlet 1 and 2 in Zone B and the Air Inlet 5 in Zone C. - Correction on display of the Number of Cycles and Feeder Cycle Mode of the feeder 16. - Add a curve to the Humidity Set Point. - Add the "Maximum Opening Temp Follow" option of the EAs. - Add support for the DOL-53 ammonia probe. - Add manual timer mode for the variable lights. - Add of the NH3 influence on the variable stages activation.
CA2iT07V36	06/01/2021	5	- Add support for two additional X1399 card (total 6).

Version	Date	Min. Proc. Version	Modification
CA2iT07V37	01/07/2021	5	- Correction of the display in English of the Timed Manual Operation Intensity parameter. - Correction of the display in Manual Override of Trap Door 3-7 Close, Reservoir Valve 1-4 and Reservoir Pump. - Add a second alarm threshold for the max currents. - Add a function to deactivate on/off stages and lights when a stir fan activates. - Allow pig sorters to have air jet and marker operation at the same time. - Add to pig sorters the forced sorting according to TAG. - Add a door opening time and delay parameters to pig sorters. - Correction of the light cycles processing when the day changes. - Make the Added Animals parameter of zone A, editable when the inventory management type is by zone. - Add NO/NC option for the clocks. - Make the pressure compensation inversion option individual for each inlet. - Correction of the Rinsing and Rinsing curve groups display. - Correction of the Overload Weight Count display. - Increase the maximum of the volume parameters of the water reservoir and level probe to 32767. - Removal of the Intake Ventilator Manual Defrost parameter on the Defrost Influence. - Removal of the Variable Speed Outside Setpoint parameter on the Recuperator's Options. - Make available on FarmQuest the history of modifications during breeding, of the Start Age parameter. - Add histories per hours for CO2 and water pressure. - Rename the truncated names of the Current Alarms groups.

Version	Date	Min. Proc. Version	Modification
CA2iT07V38	06/12/2021	6	- Add confirmation message to animal inventory reset. - Correction of the calibration and the activation of the additional format for an outside temperature read by a HUM+ probe. - Correction of the motor curve used by the variable heaters 7 and 8. - Modification of the choices in Maximum Variable Stage and Maximum On/Off Stage. - Correction of the reset for the potentiometer alarm when a relay is removed while a 0-10V output is active for an air inlet. - Correction of the display for the Airflow Ventilation group in the history. - Correction of the display of the Remaining Animals headers in the Consumption Values history when the controller has been set to English. - Add the Alarm Level 1 option to Max Current Alarms. - Add FarmGuard (EPS Module). - Correction of the decimal display of the Start/End weight for porks in the building view and in the FarmQuest history. - Modification of the default value of Air Inlet Position on Timer for the stages. - Modification of the default value of Maximum Opening Temperature for air inlets. - Add wind compensation for variable stir fans. - Add a chain disk security. - Correction of feeder and feed auger value reinitialization. - Add confirmation message to feeder and feed auger value and alarm reinitialization. - Corrected amount of periods for darkness lights. - Add a differential level 1 to the max current alarms. - Correction of variable stage co2 influence below setpoint.

Version	Date	Min. Proc. Version	Modification
CA2iT07V38M1	11/01/2022	6	- Add reinitialization of shipping day when starting a batch. - Correction on communication with FarmGuard module when connected to X1276.
CA2iT07V39	22/04/2022	6	- Add a maximum current stop for feeder and feed auger outputs and a display for this condition. - Add current temperature display of air inlets in Air Inlets Position Mode. - Modification of the dehumidification setpoints for intake and exhaust ventilators into relative/absolute setpoints. - Add display for the Main Setpoint of zones in Summary. - Add high temperature maximum speed for variable stages. - Add second X1276 (P17-P24) - Added daily added weight for the pig sorter weight groups. - Add a second Egg Saver output. - Add configurable load cell gain and max weight for pig sorters. - Add display of the active stage (configurable ventilation stage mode) in Position Mode Air Inlets and Static Pressure Compensation. - Add on/off pressure fans. - Add a CO2 output. - Correction of the feeders/feed augers inputs state when they are no longer assigned to the inputs. - Add a global laying percentage. - Add display of the distributed quantity by the feed augers that are associated to bins according to their run time. - Add support of the EPS-4 - Add OFF option for the low/high recuperator temperature alarms.

Version	Date	Min. Proc. Version	Modification
CA2iT07V40	08/08/2022	6	- Add support for the APM402 (DEC3000) Kohler generator. - Add support for the Dynagen generator. - Add a group and water meter selection for the calculation of Global Water per Animal. - Add a display of static pressure values in the Summary group. - Add the total heater run time in the Summary group. - Add 2 Air Blast/Floor Heaters per zone (Total 4). - Add 3 Duct Temperature per zone (Total 4). - Add 3 Stop Temperature and associate each of them with one Air Blast/Floor Heater. - Correction of the Air Blast/Floor Heaters histories display.
CA2iT07V40M1	13/09/2022	6	- Set the default value of the Heat Detector Option to OFF.
CA2iT07V40M2	28/10/2022	6	- Correction of the current alarms' operation in controllers with staggered relays. - Correction of the feeders and feed augers status display when they are stopped by the high current alarm. - Correction of the EPS communication alarm initialization. - Make navigation in the iTouch windows more fluid. - Modify the register for reading the run time of Dynagen generators.

Version	Date	Min. Proc. Version	Modification
CA2iT07V41	30/01/2023	6	- Add an option to remove defect probe alarm checks. - Add an option to select which variable stages to be displayed. - Add the Rinsing Schedule option to the recuperators. - Add a recuperator ventilators slowdown when rinsing. - Inversion of the valves/ventilators sequence during rinsing. - Add to the intake and exhaust fans the high temperature shutdown on the stages. - Add a rinsing deactivation at high inside temperature stop or stage stop of the exhaust ventilator. - Make the activation of the alarm relay by FarmGuard alarms independent of the configuration of this relay. - Add the power failure detection with FarmGuard heat detector input. - Add history for the combined consumption of the bin scales. - Make the recuperator intake ventilators defrost run for one ventilator at a time. - Add the humidity and CO2 influence on the On/Off ventilators. - Correction of CO2 setpoint values. - Add four GE-V4/M. - Correction in the history of heating time totals. - Add the proximity switch state display in Multi-Feed System. - Fixed the display of the Current Main Setpoint in Building View.
CA2iT07V41M1	03/02/2023	6	- Set to 0 the cycle times' default value of the Humidity and CO2 influences on the On/Off fans.

Version	Date	Min. Proc. Version	Modification
CA2iT07V41M2	15/02/2023	6	- Set to 0 the default values of the inlets positions for Variable Stages 1 and 2 as well as the Minimum Opening. - Temporarily reset the Recuperator Defrost logic as before V41. - Correction of the EPS temperatures and currents reading following a configuration installation with parameters saving.
CA2iT07V42	05/04/2023	6	- Add of the outside temperature influence on the CO2 air inlets. - Add four GE-V4. - Add an option to activate in sequence identical sprinklers assigned to the same zone. - Add an option to activate in sequence the intake ventilators of the same zone. - Remove breeding day warnings. - Add 2 lights cycle mode (total 6). - Fixed the run time display of heaters and air blast/floor heaters.
CA2iT07V42M1	19/04/2023	6	- Make the position mode air inlets active when activating the variable stages by CO2 influence.
CA2iT07V43	25/05/2023	6	- Add a curve for the minimum speed of the second variable stage. - Rename Airflow Ventilation settings to CFM+ […] - Add an option to enable/disable CO2 influence on On/Off stages. - Add an option to enable/disable humidity influence on On/Off stages. - Allow the feeders associated with the feed augers to use the proximity switch of these feed augers. - Allow the feeders associated with the feed augers to use the proximity switch of these feed augers.

Version	Date	Min. Proc. Version	Modification
CA2iT07V43M1	10/05/2023	6	- Correction of the recuperator ventilators defrost sequence. - Correction of the low limit water alarm activation.
CA2iT07V44	25/10/2023	6	- Rename Air Blast/Floor Heater to Floor Heater only. - Add 6 EPS-1/EPS-4 modules (total 8). - Add 3 water pressure probes (total 4). - Correction of Global Water Per Animal calculation. - Add 5 periods for darkness mode variable lights (total 15). - Add a high/low pressure alarm for the water pressure probes. - Add an activation period for the CO2 outputs. - Correction of the acquisition's day, evening and selection display in the pig sorter inventory mode. - Add a new logic for the Air Blast Heater. - Correction of the conversion into Celsius of the Heaters and Floor Heaters High Temperature Shutoff curves values. - Add a critical shutoff CO2 level for the inlets CO2 mode. - Make the humidity influence and the CO2 influence individual for each stage on/off. - Correction of negative temperature readings using HUM+. - Add an option to hide Feed Augers/Feeders' groups when Multi-Feed is enabled. - Add an option to adjust the target weight to the tenth of the batch weighing system whose weight distribution mode is per drop. - Move the Timed Manual Operation parameter to be displayed just after System in Lights Settings.

Version	Date	Min. Proc. Version	Modification
CA2iT07V44M1	01/11/2023	6	- Correction of the defrost speed of variable stages 1 and 2.
CA2iT07V44M2	01/12/2023	6	- Correction of the number weighed and the actual average weight acquisitions of the poultry scales.
CA2iT07V44M3	26/01/2024	6	- Correction of the breeding day histories processing. - Use the maximum temperature range for the defective core probe alarm. - Correction of the display of negative values of temperature probes assigned to MGCB 8-Input Board.
CA2iT07V44M4	27/02/2024	6	- Correction of the poultry scales weight gain acquisition. - Correction of the EPS alarms activating after a certain number of communication errors. - Correction of the target weight to the tenth in manual operation mode of the batch weighing system.
CA2iT07V44M4	08/03/2024	6	- Correction of the variable output setpoint when influenced by CO2, NH3 or humidity. - Add a fixed differential to the Minimum CO2 Relative Setpoint for On/Off Stages. - Add a fixed differential to the Minimum Humidity Relative Setpoint for On/Off Stages.

Version	Date	Min. Proc. Version	Modification
CA2iT07V45	06/05/2024	6	- Correction of the temperature unit display for the temperature in Temperature Calibration. - Make the Actual Start Time and Actual Stop Time of lights available in the Building view. - Add a logic to turn off the lights when the luminosity measured by the lux meters is too high. - Add a deactivation day of CFM+ ventilation. - Add the Airflow Weight Curve for each gender: male, female and mix. - Correction in Building View and in Farmquest, the English translation of Recuperator Setpoint. - Change the default precision value to 1.0% for the Multi-Feed positioners. - Make the feed consumption per animal elements available in the Building view. - Correction of the number of regulators' occurrences on FarmQuest. - Add a high/low alarm for the CO2 probes. - Correction of the drop quantities acquisitions. - Add the acquisitions of the drop quantity 17 to 24. - Add a day/hour combined consumption history for the bins. - Added a limitation on the air inlets opening in air flow mode. - Make variable the differential of the Minimum CO2 Relative Setpoint for the On/Off Stages. - Add a low level alarm for the bin scales. - Adding the minimum core temperature to the air blast heaters. - Moved certain CFM+ parameters in a new group (CFM+ Options). - Adding compensation for hot and cold temperatures to the temperature airflow compensation. - Correction of the conversion of static pressure into inches of water read by the Press+ sensors. - Correction of the V2/M # or V4/M # Not Responding alarm that activates even when there are no communication errors with the V2/M or V4/M.

Version	Date	Min. Proc. Version	Modification
CA2iT07V46	29/07/2024	6	- Add a count of the last 24 hours for the water meters. - Add an option to prevent the activation of a variable stage by humidity, CO2, and NH3. - Correction of the unit for the Modulation Band Humidity Level 1 and 2 parameter. - Change the minimum heating differential to 0.1 instead of 0.3. - Rename “Mortalities total” to “Cumulative total mortalities” and add daily history for the mortalities total. - Correction of the inlets temperature compensation according to the main setpoint. - Add Minimum Variable Stage and Minimum ON/OFF Stage logic. - Add influence of the “Blink on toggle switch manual mode” parameter on the V2/LED. - Adjustments to CFM+ Options parameters. - Correction of the activation delay of feed augers associated to feeders not being respected when a cycle is shorter than the activation delay. - Add support for an external exhaust fan with 0-10V signal. - Add current alarms >500mA and >1000mA for the FarmGuard. - Add FarmQuest display of FarmGuard alarm types.
CA2iT07V46M1	15/08/2024	6	- Added the operation of the First Stage Active Under Setpoint for non-configurable ventilation. - Correction of the active stage under setpoint for configurable ventilation. - Added sending of the external exhaust signal setpoint to the variable stage of the recuperator.

Version	Date	Min. Proc. Version	Modification
CA2iT07V47	02/10/2024	6	- Add a parameter to control the display of the Stage Minimum and Maximum limit parameters.in the variable and on/off stages. - Make the First Stage Active Under Set Point option visible in non-configurable ventilation mode. - Make the Stage Used For Exhaust Ventilator parameter visible for the external exhaust signal. - Make visible the count of the last 24 hours of the water meters. - Add a system in configurable ventilation stages mode to better support air exchangers. - Add a parameter that displays the total of mortalities for all groups.
CA2iT07V48	24/10/2024	6	- Added Maximum Variable Exchanger Speed. - Make the exchanger ventilator speeds dependent on the minimum and maximum speeds defined by the exchanger of the active stage. - Adding the Maximum Core Temperature to the air blast heaters. - Correction of the operation of the Air Blast Heater and the Burner Cutoff.
CA2iT07V49	10/12/2024	6	- Change the defective probe detection lower limit of the inside temperature to -50 degrees Celsius. - Add support for BinWatch module. - Fixed the display of the run time for heaters after resetting their values. - Corrected the display of run time and the requested state for heaters 13-15 in Zone A and 7-8 in Zones B-D in the Outputs groups. - Rename CFM+ Settings to Airflow Settings in System Configuration. - Make the Full Start Variable Stages option available in Configurable Ventilation Stages. - Make the off temperature curve values of the air blast heaters independent of the main setpoint.
CA2iT07V49M1	23/01/2025	6	- Correction of the maximum setpoint values for variable ventilators when influenced by humidity, CO2 and NH3.

Version	Date	Min. Proc. Version	Modification
CA2iT07V50	12/02/2025	6	- Added 12 variable stages (Total 24). - Fixed the influence of variable stage convergence on defrosting. - Added an activation delay for low and high water pressure alarms. - Increased the maximum curve points to 160°F/80°C for high core temperature OFF of blast air heaters. - Add a high temperature shutoff function for the heat pads. - Make the Actual Main Set Point parameter visible at all times. - Disable feeders associated with feed augers stopped by their proximity switches. - Add a curve for the Critical High Temperature parameter. - Add the ability to operate variable and on/off stir fans on the minimum ventilation timer. - Added a display of the current date and time in System Configuration. - Added a batch start date for batches in Batch Management.
CA2iT07V50M1	21/02/2025	6	- Correction of the influence of level 2 dehumidification on variable stages 2 to 24.
CA2iT07V51	09/04/2025	6	- Added support for GE-MGCB/485, GE-EC, and GE-HEBUS modules. - Restore the display of the *Variable Stage # Low Pressure Setpoint* and *Variable Stage # High Pressure Setpoint* parameters in this order for each variable stage. - Added support for the new X1399 board.
CA2iT07V51M1	02/05/2025	6	- Correction of temperature sensor assignment and temperature calculation after update with parameter backup. - Reverse the rotation direction of the intake motor of the air exchanger.

Version	Date	Min. Proc. Version	Modification
CA2iT07V52	28-05-2025	6	- Added a reading of the static pressure in Variable Stages. - Added Actual Main Set Point in CFM+ Options. - Changed the order and names of certain parameters in Position Mode Air Inlets. - Added (Curve) to the names of parameters that have a curve. - Modified the Lights group name to Lights Management and Lights # Settings to Light # Program. - Modified the Outputs group names to Actual Output States. - Added the Timed Manual Mode Intensity group. - Added the Water Flush Manual Mode On Timer group. - Added the OFF value to the Extinction Luminosity parameters of the Lux Meters.

Ventilation System Overview

The controller can be used to operate up to 4 zones, amongst which the available inputs and outputs are divided. Each zone can act independently and use its own humidity probe, static pressure sensor, ammonia sensor, carbon dioxide sensor and target temperature. Zone A can operate more outputs than the other zones.

Zones can be regrouped on the basis of animals having the same age to simplify growth curve and animal inventory management. Also, feeders, feed augers, water meters, poultry scales, bin scales, pig sorters and lights can be assigned to one or more zones. Zone 1 can have more outputs than the other zones.

The controller can be used alone or with slave modules. The controller itself can control up to 40 relay outputs and up to 4 variable outputs. The controller can also use slave modules to increase its capacity to a total of 28 variable outputs, 10 0-10 Volt outputs and 120 relay outputs. The main controller, as well as slave units using 35 or 40 relays, cannot have any integrated variable outputs but can use V4 modules.

The variables and 0-10 Volt outputs can be used as a variable ventilation stage, a variable stir fan, a variable heater, a A.B. Heater Fan, as a pressure fan, an inlet, a variable egg strap, a variable egg conveyor, a variable egg elevator or as a light output.

The relay outputs can be used as a ventilation stage, a stir fan, a heater, a sprinkler, a clock output, a feeder output, a feed auger, a high water alarm relay output, a water flush output, a feed drop output, a distribution panel, an egg conveyor, a reservoir valve, a reservoir pump or an air inlet.

The inputs are located on up to 4 boards, a 20-input board and three 8-input boards. There are six different input types: Temperature, Duration, 4-20 mA, Pulse, Multifunction and 4-20 mA Multifunction. A Temperature input can be assigned as the inside temperature of any zone, as an outside temperature, Duct Temperature or A.B. Core Temperature. A Duration input can be assigned as a feeder, a feed auger, a proximity switch, chain disk security or a generic state reading. A 4-20mA input can be assigned to static pressure, ammonia, CO_2, level, water pressure, acidity, chlorine, generic or External Exhaust Signal. A Pulse input can be used as a water meter or as an egg counter. A Multifunction input can be used as any type of input, except static pressure, ammonia, CO_2 or External Exhaust Signal. A 4-20 mA Multifunction input can be used as any type of input without exception. Four humidity probes can also be used.

The controller can work with up to 16 inside temperature probes per zone. All outputs will follow the probes selected by the user. When one temperature probe is defective (short or open circuit), the controller does not consider it to compute the temperature it is used in and the alarm is triggered. An **Outside Temperature** can be used to override the inside temperature alarm if it is too hot outside in order to reduce false alarms. The outside temperature can also increase ventilation and maximum water alarm thresholds.

Other features, including night set point, **Ramping Function** and alarm history for alarms, temperature probes, humidity probes, feeders, feed augers, water meters and heaters are included in all controller types.

SUMMARY

ACTUAL TEMPERATURE
These parameters display the actual average temperature of the probes selected for the zone.

MINIMUM TEMPERATURE
These parameters display the minimum temperature of the day for the zone.

MAXIMUM TEMPERATURE
These parameters display the maximum temperature of the day for the zone.

HUMIDITY
These parameters display the actual humidity for the zone. ERROR will be displayed if the humidity cannot be calculated for a given zone.

MINIMUM HUMIDITY
These parameters display the minimum humidity of the day for the zone.

MAXIMUM HUMIDITY
These parameters display the maximum humidity of the day for the zone.

OUTSIDE HUMIDITY
These parameters display the actual outside humidity. ERROR will be displayed if the outside humidity cannot be calculated.

MINIMUM OUTSIDE HUMIDITY
These parameters display the minimum outside humidity of the current day.

MAXIMUM OUTSIDE HUMIDITY
These parameters display the maximum outside humidity of the current day.

CURRENT AIRFLOW REQUIREMENT
This parameter displays the current airflow requirement automatically calculated when CFM+ ventilation or compare is used.

DEMANDED AIRFLOW
This parameter displays the current airflow demand that will be provided by ventilation stages.

AMMONIA
These parameters display the actual ammonia for the zone. ERROR will be displayed if the ammonia cannot be calculated for a given zone.

MINIMUM AMMONIA
These parameters display the minimum ammonia of the day for the zone.

MAXIMUM AMMONIA
These parameters display the maximum ammonia of the day for the zone.

CO2
These parameters display the actual CO_2 for the zone. ERROR will be displayed if the CO_2 cannot be calculated for a given zone.

MINIMUM CO2
These parameters display the minimum CO_2 of the day for the zone.

MAXIMUM CO2
These parameters display the maximum CO_2 of the day for the zone.

GENERIC 4-20MA PROBE
These parameters display the currents calibrated values of the generic 4-20mA probes for the different zones.

MINIMUM GENERIC 4-20MA PROBE
These parameters display the daily minimum values reached by the currents calibrated values in the different zones.

MAXIMUM GENERIC 4-20MA PROBE
These parameters display the daily maximum values reached by the currents calibrated values in the different zones.

OUTSIDE TEMPERATURE
This parameter displays the current outside temperature.

OUTSIDE TEMPERATURE MINIMUM
This parameter displays the minimum outside temperature of the day.

OUTSIDE TEMPERATURE MAXIMUM
This parameter displays the maximum current outside temperature of the day.

OUTSIDE TEMPERATURE ADDITIONAL FORMAT
This parameter displays the current outside temperature using a temperature unit not used by any of the other settings and readings.

OUTSIDE TEMPERATURE ADDITIONAL FORMAT MINIMUM
This parameter displays the minimum outside temperature of the day using a temperature unit not used by any of the other settings and readings.

OUTSIDE TEMPERATURE ADDITIONAL FORMAT MAXIMUM
This parameter displays the maximum current outside temperature of the day using a temperature unit not used by any of the other settings and readings.

WIND SPEED
This parameter displays the wind speed read by the weather station. Wind and rain may cause inflatable curtain stages to close. If a communication issue occurs with the weather station, this parameter displays “---“.

WIND DIRECTION
This parameter displays the wind direction read by the weather station. Wind and rain may cause inflatable curtain stages to close. Wind direction can be N (North), NE (North-East), E (East), SE (South-East), S (South), SW (South-West), W (West) or NW (North-West). If a communication issue occurs with the weather station, this parameter displays “---“.

RAIN DETECTOR
This parameter displays the state of the weather station's rain detector. Wind and rain may cause inflatable curtain stages to close. When rain is detected, this parameter will display ON. When no rain is detected, this parameter will display OFF. If a communication issue occurs with the weather station, this parameter displays “---“.

SET POINTS

***MAIN SET POINT* (Curve Available)**
This parameter is used to adjust the **MSP**. This value sets the temperature goal for the building. This parameter will be affected by its **Ramping Function** when the *MAIN SET POINT CURVE* is set to ON and the *GROWTH DAY* of the associated group is not set to OFF.

ACTUAL MAIN SET POINT
These parameters display the **MSP** actually used by the controller. This value can be either *MAIN SET POINT*, the *NIGHT SET POINT* or, during a transition delay, a value between these two set points.

MAIN SET POINT CURVE
This parameter is used to activate or deactivate the **MSP Ramping Function**. If this option is set to ON and the *GROWTH DAY* is not set to OFF, the *MAIN SET POINT* will change according to its programmed **Growth Curve**.

MAIN SET POINT OFFSET
This parameter is used to add or subtract a value to the **MSP**. The offset is useful when the user would like to adjust the **MSP** without modifying other adjustments, such as the **MSP Growth Curve**.

***HUMIDITY SET POINT* (Curve Available)**
This parameter is used to set the humidity set point. This is the reference value for other variable stage dehumidification set points.

HUMIDITY SET POINT CURVE
This parameter is used to activate or deactivate the *HUMIDITY SET POINT* **Ramping Function**. If this option is set to ON and the Growth Day is not set to OFF, the *HUMIDITY SET POINT* will change according to its programmed **Growth Curve**.

NIGHT SET POINT
This parameter is used to adjust the night set point. This value sets the temperature target during the night period. This setting is relative to the *MAIN SET POINT*.

NIGHT SET POINT TIME BEGIN
This parameter is used to adjust the time at which the night period will begin. When this time is reached, the ACTUAL MAIN SET POINT will begin to modulate towards the *NIGHT SET POINT* if *NIGHT SET POINT ACTIVE* is set to Yes.

NIGHT SET POINT TIME END
This parameter is used to adjust the time at which the night period will end. When the time reaches *NIGHT SET POINT TIME END*, the ACTUAL MAIN SET POINT will modulate to the *MAIN SET POINT* if it had been modified for night compensation.

NIGHT SET POINT TRANSITION
This parameter is used to adjust the time the ACTUAL MAIN SET POINT will take to modulate from the *MAIN SET POINT* to the *NIGHT SET POINT* and vice versa.

NIGHT SET POINT SYNCHRONIZED WITH LIGHTS
This parameter is used to synchronize the night set point with the light program zone. If this parameter is set to ON, the transition, start and end values will be used as the light program zone instead of *NIGHT SET POINT TIME BEGIN*, *NIGHT SET POINT TIME END* and *NIGHT SET POINT TRANSITION*. The *NIGHT SET POINT* will be used when lights are at *LIGHT INTENSITY BETWEEN CYCLES*. The set point will modulate between *NIGHT SET POINT* and *MAIN SET POINT* at the beginning of the light program and vice-versa at the end of the light program.

SHIPPING SET POINT
This parameter is used to adjust the shipping set point. The **Main Set Point** will start to decrease towards *SHIPPING SET POINT* when its group's **Growth Day** reaches *SHIPPING SET POINT START REDUCTION DAY* and the time is equal to *SHIPPING SET POINT START REDUCTION TIME*. The **Main Set Point** will decrease progressively to reach *SHIPPING SET POINT* when the time is equal to *SHIPPING SET POINT TIME*. The **Main Set Point** will remain at *SHIPPING SET POINT* as long as the **Growth Day** is greater than *SHIPPING SET POINT START REDUCTION DAY*.

SHIPPING SET POINT START REDUCTION DAY
This parameter is used to set the day at which the **Main Set Point** will start to decrease towards the *SHIPPING SET POINT*.

SHIPPING SET POINT START REDUCTION TIME
This parameter is used to set the time of day at which the **Main Set Point** will start to decrease towards the *SHIPPING SET POINT*.

SHIPPING SET POINT TIME
This parameter is used to set the time of day at which the **Main Set Point** will be equal to the *SHIPPING SET POINT*.

CO2 SETPOINT
This parameter is used to set the CO2 concentration set point for the zone. This is the reference value for all variable stage CO2 influence set points. These parameters are adjusted in 1ppm increments from 0ppm to 6000ppm.

NH3 SETPOINT
This parameter is used to set the NH3 concentration set point for the zone. This is the reference value for all variable stage NH3 influence set points. These parameters are adjusted in 0.01ppm increments from 0.00ppm to 100.00ppm.

BATCH MANAGEMENT

GROWTH DAY
This parameter is used to adjust the **Growth Day** of the respective group. The **Growth Day** affects all parameters associated to the group that are using their **Ramping Function**.

BATCH START DATE
These parameters display the date at which a batch has been started.

ANIMAL AGE
These parameters display the age of the animals by displaying the actual week and day of that week using the (week:day) format. This display is used for breeding types that are managed by week: Layer Pullet, Commercial Pullet, Layer Chicken, Commercial Layer, Layer Poult, Turkey Layer and Turkey.

START AGE
These parameters are used to set the age the animals have at the start of the breeding. The age is adjusted in weeks or days depending on the type of breeding.

START WEIGHT
These parameters are used to set the weight the animals have at the beginning of the batch.

END WEIGHT
These parameters are used to set the weight the animals have at the end of the batch.

GENDER
These parameters are used to determine the gender of the animals of the respective group.

BATCH MANAGEMENT
These parameters are used start or end a batch. When Start Batch is displayed, pressing this parameter will set the **Growth Day** to 0 and reset all values that are cumulated throughout the batch as well as all actual values that are associated to the batch. If an element is included in a zone that is assigned to the group whose batch is started, its values will also be reset. When End Batch is displayed, pressing this parameter will set the **Growth Day** to OFF.

ANIMAL INVENTORY
The animal inventory can be managed by group, by zone or by pig sorter. All amounts mentioned in the parameters of this group refer to the quantity of animals in that set.

ACTUAL AMOUNT OF ANIMALS
This parameter displays the number of remaining animals according to TOTAL ADDED, TOTAL MORTALITIES and TOTAL SHIPPED.

MORTALITY PERCENTAGE
These parameters display the mortality percentage for the respective zone for the batch. This value represents the relation between CUMULATIVE TOTAL MORTALITIES, *INITIAL AMOUNT OF ANIMALS* and TOTAL ADDED. This value is displayed to the nearest 1% from 0% to 100%.

INITIAL AMOUNT OF ANIMALS
This parameter is used to adjust the number of animals present when a batch is started. When a batch is started or when RESET ANIMAL INVENTORY is pressed, the ACTUAL AMOUNT OF ANIMALS will take the value adjusted here.

MORTALITIES
This parameter is used to adjust the number of mortalities for the current day. This adjustment will be used only when *MORTALITY TYPE* is set to Simple. The value adjusted here will reduce the REMAINING ANIMALS. This value will be automatically reset with each day change.

MORNING /EVENING/CULL MORTALITIES
These parameters are used to adjust the number of mortalities of the respective category for the current day. These adjustments will be used only when *MORTALITY TYPE* is set to Detailed. The value adjusted here will reduce the REMAINING ANIMALS. This value will be automatically reset with each day change.

CUMULATIVE TOTAL MORTALITIES
This parameter displays the total amount of mortalities since the batch was started. This value can be reset with the RESET ANIMAL INVENTORY parameter.

ALL GROUP CUMULATIVE TOTAL MORTALITIES
This parameter displays the total amount of mortalities of all groups since the batch was started. This value can be reset with the RESET ANIMAL INVENTORY parameter.

CREDITS
This parameter is used to adjust the number of credits of the current day. The value adjusted here will reduce the ACTUAL AMOUNT OF ANIMALS value. This value will be automatically reset to zero on each day change.

TOTAL CREDITS
This parameter displays the total credits for the respective zone since the last reset. This value can be reset using the RESET ANIMAL INVENTORY parameter.

ADDED ANIMALS
This parameter is used to adjust the number of added animals for the current day. The value adjusted here will increase TOTAL ADDED and REMAINING ANIMALS values. This value will be automatically reset with each day change.

TOTAL ADDED
This parameter displays the total of added animals since the batch was started. This value may be reset with the RESET ANIMAL INVENTORY parameter.

SHIPPED ANIMALS
This parameter is used to adjust the number of shipped animals for the current day. The value adjusted here will reduce the REMAINING ANIMALS. This value will automatically be reset with each day change.

TOTAL SHIPPED
This parameter displays the total amount of animals shipped since the batch was started. This value can be reset with the RESET ANIMAL INVENTORY parameter.

TRANSFERRED ANIMALS
This parameter is used to adjust the number of transferred animals for the current day. The value adjusted here will increase TOTAL TRANSFERRED and can reduce REMAINING ANIMALS. *ADDED ANIMALS* of another set can be increased if *TRANSFERRED TO* is set to a different value than the one being adjusted. This value will be automatically reset with each day change. **The user must indicate which zone the animals are transferred to before adjusting this parameter.**

TRANSFERRED TO
This parameter is used to choose to which set the animals are transferred to. The set chosen here will have its *ADDED ANIMALS* value increase by the increase of the value or the *TRANSFERRED ANIMALS* value. Transferring the animals to the same set will not add any animals to that set.

TOTAL TRANSFERRED
This parameter displays the total amount of animals transferred for the zone since the batch was started. This value can be reset with the RESET ANIMAL INVENTORY parameter.

RESET ANIMAL INVENTORY
This parameter is used to reset the animals' livestock. When this parameter is pressed, all relative livestock parameters for the zone will be reset.

INPUTS

ACTUAL MAIN SETPOINT
These parameters display the current main setpoint for the zone.

AVERAGE TEMPERATURE
These parameters display the actual average temperature of the probes selected for the zone.

MINIMUM AVERAGE TEMPERATURE
These parameters display the minimum average temperature of the day for the zone.

MAXIMUM AVERAGE TEMPERATURE
These parameters display the maximum average temperature of the day for the zone.

TEMPERATURE #
These parameters display the actual temperature read by the probe. All probes used by the zone will be displayed.

MINIMUM TEMPERATURE #
These parameters display the minimum probe temperature of the day for the zone.

MAXIMUM TEMPERATURE #
These parameters display the maximum probe temperature of the day for the zone.

DUCT TEMPERATURE #
This parameter displays the actual duct temperature read by each duct probe of the zone.

MINIMUM DUCT TEMPERATURE #
These parameters display the minimum duct temperature of the day for each duct probe of the zone.

MAXIMUM DUCT TEMPERATURE #
These parameters display the maximum duct temperature of the day for each duct probe of the zone.

A.B. CORE TEMPERATURE #
This parameter displays the actual air blast core temperature read by each core probe of the zone.

MINIMUM A.B. CORE TEMPERATURE #
These parameters display the minimum core temperature of the day for each core probe of the zone.

MAXIMUM A.B. CORE TEMPERATURE #
These parameters display the maximum core temperature of the day for each core probe of the zone.

HUMIDITY
These parameters display the actual humidity for the zone. ERROR will be displayed if the humidity cannot be calculated for a given zone.

MINIMUM HUMIDITY
These parameters display the minimum humidity of the day for the zone.

MAXIMUM HUMIDITY
These parameters display the maximum humidity of the day for the zone.

STATIC PRESSURE
This parameter displays the actual static pressure for the zone.

MINIMUM STATIC PRESSURE
These parameters display the minimum static pressure of the day for the zone.

MAXIMUM STATIC PRESSURE
These parameters display the maximum static pressure of the day for the zone.

AMMONIA
These parameters display the actual ammonia for the zone. ERROR will be displayed if the ammonia cannot be calculated for a given zone.

MINIMUM AMMONIA
These parameters display the minimum ammonia of the day for the zone.

MAXIMUM AMMONIA
These parameters display the maximum ammonia of the day for the zone.

CO2
These parameters display the actual CO_2 for the zone. ERROR will be displayed if the CO_2 cannot be calculated for a given zone.

MINIMUM CO2
These parameters display the minimum CO_2 of the day for the zone.

MAXIMUM CO2
These parameters display the maximum CO_2 of the day for the zone.

GENERIC 4-20MA PROBE
These parameters display the currents calibrated values of the generic 4-20mA probes for the different zones.

MINIMUM GENERIC 4-20MA PROBE
These parameters display the daily minimum values reached by the currents calibrated values in the different zones.

MAXIMUM GENERIC 4-20MA PROBE
These parameters display the daily maximum values reached by the currents calibrated values in the different zones.

ACTUAL LUMINOSITY LUX METER #
These parameters display the current luminosity read by the lux meter.

ACTUAL OUTPUT STATES

REQUESTED VARIABLE STAGE SPEED
These parameters display the actual speed of the variable stages.

ON/OFF STAGE REQUESTED STATE
These parameters display the requested state of the ON/OFF stage outputs.

VARIABLE VENTILATOR CURRENT SPEED
These parameters display the current speed of the variable ventilators.

ON/OFF VENTILATOR REQUESTED STATE
These parameters display the requested state of the ON/OFF ventilators.

HEATER REQUESTED STATE
These parameters display the requested state of the heater outputs.

HEATER RUN TIME
These parameters display the time for which the current heater output has been activated for the corresponding day.

A.B. HEATER REQUESTED STATE
These parameters display the requested state of the air blast heater output.

BURNER CUTOFF REQUESTED STATE
These parameters display the requested state of the burner cutoff output.

A.B. HEATER RUN TIME
These parameters display the operating time of the air blast heater and the current burner cutoff for the corresponding day.

FLOOR HEATER REQUESTED STATE
These parameters display the requested state of the floor heater outputs.

FLOOR HEATER RUN TIME
These parameters display the time for which the current floor heater output has been activated for the corresponding day.

HEATER TOTAL RUN TIME
These parameters display the time for which the current heat zone has been activated for the corresponding day.

SPRINKLER REQUESTED STATE
These parameters display the requested state of the sprinkler output.

CLOCK REQUESTED STATE
These parameters display the requested state of the clock outputs.

VARIABLE HEATER ACTUAL INTENSITY
These parameters display the requested intensity of the variable heater.

REQUESTED VARIABLE STIR FAN SPEED
These parameters display the requested speed of the variable stir fans.

REQUESTED STIR FAN STATE
These parameters display the requested state of the stir fan outputs.

AIR INLET REQUESTED STATE
These parameters display the actual state of the air inlets.

AIR INLET ACTUAL POSITION
These parameters display the actual position of the air inlets. The actual positions are displayed to the nearest 1% from -99% to 127%. However, if the controller cannot read the position, the corresponding parameter will display ERROR.

AIR INLET REQUESTED POSITION
These parameters display the requested position of the air inlets. Note that this is the requested position and not necessarily the actual position of the inlet.

BLOWER # REQUESTED STATE
These parameters display the requested state of each of the blower outputs of the inflatable curtains.

PRESSURE FAN ACTUAL SPEED
These parameters display the actual speed of the pressure fans.

TRAP DOOR REQUESTED STATE
These parameters display the requested state of the trap doors.

HUMIDIFIER REQUESTED STATE
These parameters display the requested state of the humidifier output. Each humidifier output can be ON or OFF.

DEHUMIDIFIER REQUESTED STATE
These parameters display the requested state of the dehumidifier output. Each dehumidifier output can be ON or OFF.

DISINFECTION REQUESTED STATE
These parameters display the state of the disinfection output. The parameter displays the actual demanded state, which may be ON or OFF.

ON/OFF LIGHTS REQUESTED STATE
These parameters display the requested state of the ON/OFF light output.

SET POINTS

***MAIN SET POINT* (Curve Available)**
This parameter is used to adjust the **MSP**. This value sets the temperature goal for the building. This parameter will be affected by its **Ramping Function** when the *MAIN SET POINT CURVE* is set to ON and the *GROWTH DAY* is not set to OFF.

ACTUAL MAIN SET POINT
These parameters display the **MSP** actually used by the controller. This value can be either *MAIN SET POINT*, *NIGHT SET POINT* or, during a transition delay, a value between these two set points.

MAIN SET POINT CURVE
This parameter is used to activate or deactivate the **MSP Ramping Function**. If this option is set to ON and the *GROWTH DAY* is not set to OFF, the *MAIN SET POINT* will change according to its programmed **Growth Curve**.

MAIN SET POINT OFFSET
This parameter is used to adjust the main set point offset. This value will be added to the *MAIN SET POINT* to form the ACTUAL MAIN SET POINT.

***HUMIDITY SET POINT* (Curve Available)**
This parameter is used to set the humidity set point. This is the reference value for other variable stage dehumidification set points.

HUMIDITY SET POINT CURVE
This parameter is used to activate or deactivate the *HUMIDITY SET POINT* **Ramping Function**. If this option is set to ON and the Growth Day is not set to OFF, the *HUMIDITY SET POINT* will change according to its programmed **Growth Curve**.

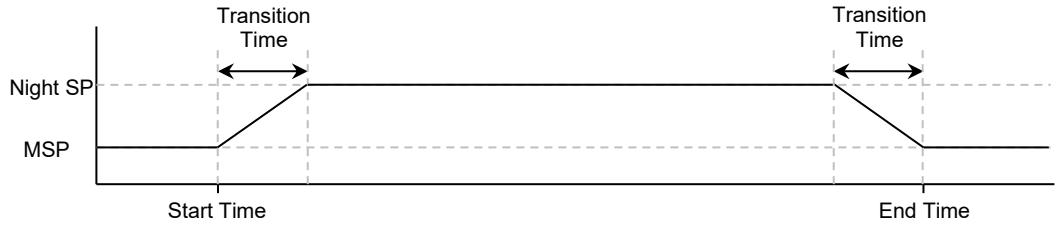
NIGHT SET POINT
This parameter is used to adjust the night set point. This value sets the temperature goal during the night period. This setting is relative to the *MAIN SET POINT*.

NIGHT SET POINT TIME BEGIN
This parameter is used to adjust the time at which the night period will begin. When this time is reached, the ACTUAL MAIN SET POINT will begin to modulate towards the *NIGHT SET POINT* if *NIGHT SET POINT ACTIVE* is set to Yes.

NIGHT SET POINT TIME END
This parameter is used to adjust the time at which the day period will end. When this time reaches *NIGHT SET POINT TIME BEGIN*, the ACTUAL MAIN SET POINT will modulate to the *MAIN SET POINT* if it had been modified for night compensation.

NIGHT SET POINT TRANSITION
This parameter is used to adjust the time the ACTUAL MAIN SET POINT will take to go from the *MAIN SET POINT* to the *NIGHT SET POINT* and vice versa.

Example of night compensation:



NIGHT SET POINT SYNCHRONIZED WITH LIGHTS

This parameter is used to synchronize the night set point with the light program zone. If this parameter is not set to OFF, the transition, start and end values will be used as the light program zone instead of *NIGHT SET POINT TIME BEGIN*, *NIGHT SET POINT TIME END* and *NIGHT SET POINT TRANSITION*. The *NIGHT SET POINT* will be used when lights are at *LIGHT INTENSITY BETWEEN CYCLES*. The set point will modulate between *NIGHT SET POINT* and *MAIN SET POINT* at the beginning of the light program and vice-versa at the end of the light program.

SHIPPING SET POINT

This parameter is used to adjust the shipping set point. The **Main Set Point** will start to decrease towards *SHIPPING SET POINT* when its group's **Growth Day** reaches *SHIPPING SET POINT START REDUCTION DAY* and the time is equal to *SHIPPING SET POINT START REDUCTION TIME*. The **Main Set Point** will decrease progressively to reach *SHIPPING SET POINT* when the time is equal to *SHIPPING SET POINT TIME*. The **Main Set Point** will remain at *SHIPPING SET POINT* as long as the **Growth Day** is greater than *SHIPPING SET POINT START REDUCTION DAY*.

SHIPPING SET POINT START REDUCTION DAY

This parameter is used to set the day at which the **Main Set Point** will start to decrease towards the *SHIPPING SET POINT*.

SHIPPING SET POINT START REDUCTION TIME

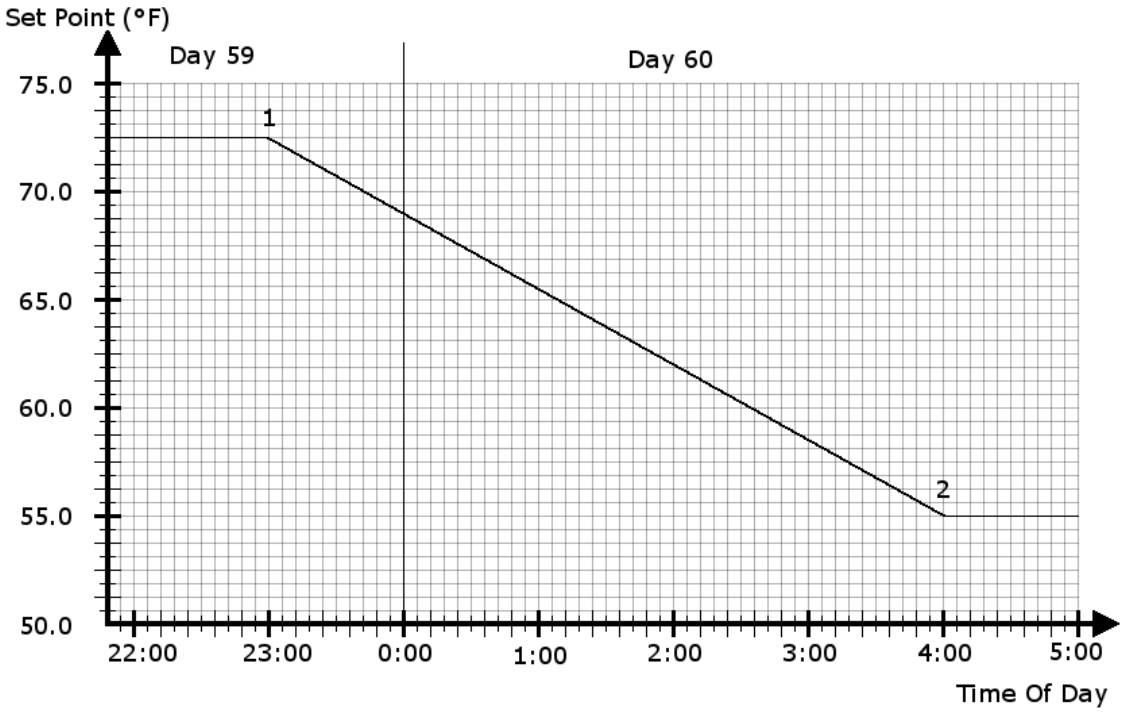
This parameter is used to set the time of day at which the **Main Set Point** will start to decrease towards the *SHIPPING SET POINT*.

SHIPPING SET POINT TIME

This parameter is used to set the time of day at which the **Main Set Point** will be equal to the *SHIPPING SET POINT*.

Shipping set point example

Main Set Point	72.5°F
Shipping Set Point	55.0°F
Shipping Set Point Reduction Start Day	59
Shipping Set Point Reduction Start Time (1)	23:00
Shipping Set Point Time (2)	4:00



STOP HUM. COMPENSATION ACCORDING TO MAX EXT. HUM.
This parameter is used to set the percentage of compensation stoppage at which, if lower than the outdoor humidity set point, will stop indoor humidity compensation in CFM+ ventilation as well as heating dehumidification and variable stages dehumidification.

CO2 SETPOINT
This parameter is used to set the CO2 concentration set point for the zone. This is the reference value for all variable stage CO2 influence set points. These parameters are adjusted in 1ppm increments from #ppm to 6000ppm.

NH3 SETPOINT
This parameter is used to set the NH3 concentration set point for the zone. This is the reference value for all variable stage NH3 influence set points. These parameters are adjusted in 0.01ppm increments from 0.00ppm to 100.00ppm.

VARIABLE STAGES

MAIN SET POINT
This parameter displays the *MAIN SET POINT* of the zone.

AVERAGE TEMPERATURE
These parameters display the actual average temperature of the probes selected for the zone.

CURRENT REQUIREMENT
This parameter displays the current airflow requirement automatically calculated when CFM+ ventilation or compare is used.

CURRENT AIRFLOW
This parameter displays the current airflow that is provided by ventilation stages.

ACTIVE STAGE
In configurable ventilation stages, this parameter displays the ventilation stage presently in use.

ACTUAL AIRFLOW PER WEIGHT
During CFM+ ventilation, this parameter displays the current airflow per weight of the zone.

CURRENT VENTILATION MODE
During CFM+ ventilation, this parameter displays the current ventilation mode, either Airflow or Temperature Control.

CURRENT TEMPERATURE COMPENSATION AIRFLOW
During CFM+ ventilation, this parameter displays the airflow added to or subtracted from the requirement by the temperature compensation airflow.

CURRENT HUMIDITY COMPENSATION AIRFLOW
During CFM+ ventilation, if a humidity probe is used, this parameter displays the airflow added to or subtracted from the requirement by the humidity compensation airflow.

CURRENT CO2 COMPENSATION AIRFLOW
During CFM+ ventilation, if a CO2 probe is used, this parameter displays the airflow added to or subtracted from the requirement by the humidity compensation airflow.

ACTUAL SPEED
These parameters display the actual speed of the variable stages when *CONFIGURABLE VENTILATION STAGES* is not used.

VARIABLE VENTILATOR CURRENT SPEED
These parameters display the current speed of the variable ventilators.

ON/OFF VENTILATOR REQUESTED STATE
These parameters display the requested state of the ON/OFF ventilators.

AIRFLOW
This parameter is used to set the airflow of the ventilation stage. When airflow compare is used, the controller must know the airflow capacity of each stage to calculate the current airflow.

START TEMPERATURE
These parameters are used to set the temperature at which the variable stage will be activated continuously to *VARIABLE STAGE # MINIMUM SPEED*. As the average temperature of the probes selected in *VARIABLE STAGE # PROBES* increases, the variable stage's speed will increase until *VARIABLE STAGE # START TEMPERATURE + VARIABLE STAGE # MODULATION BAND* is reached.

MODULATION BAND
These parameters are used to determine the temperature at which the variable stage will be activated at its maximum speed. The variable stage will be activated at *VARIABLE STAGE # MAXIMUM SPEED WHEN* its temperature reaches *VARIABLE STAGE # START TEMPERATURE + VARIABLE STAGE # MODULATION BAND.*

***MINIMUM SPEED* (Curve Available for variable stage 1)**
These parameters are used to adjust the minimum speed of variable stages. This speed is the base value used to calculate the actual minimum speed. The OUTSIDE TEMPERATURE and humidity may affect the variable stages' actual minimum speed. If the minimum speed **Growth Function** for variable stage 1 is activated, that stage's minimum speed will not be adjustable.

MINIMUM SPEED CURVE
This parameter is used to activate or deactivate the **Ramping Function** on *VARIABLE STAGE 1 MINIMUM SPEED*. If set to ON and *GROWTH DAY* is not set to OFF, the *VARIABLE STAGE 1 MINIMUM SPEED* will follow its programmed curve.

MAXIMUM SPEED
These parameters are used to adjust the maximum speed of the variable stage. This speed will be reached when the average temperature of the probes selected in *VARIABLE STAGE # PROBES* reaches *VARIABLE STAGE # START TEMPERATURE* + *VARIABLE STAGE # MODULATION BAND*.

HIGH TEMPERATURE MAXIMUM SPEED
These parameters are used to set the temperatures at which each variable stage will disregard the set maximum speed. At that point, instead of the stage speed varying between the set min speed and max speed, it will vary between the set min speed and 100%.

DIFFERENTIAL
These parameters are used to set the temperatures at which each variable stage will be deactivated. When the temperature selected in *VARIABLE STAGE # PROBES* drops to *VARIABLE STAGE # ON TEMPERATURE* - *VARIABLE STAGE # DIFFERENTIAL* -, the variable stage will be deactivated.

PROBES
These parameters are used to select the probes the variable stage will use to determine activation and deactivation according to the temperature demand. **If there are no probes selected, the temperature used will be equal to the actual *MAIN SET POINT*.**

ADD MINIMUM SPEED OUTSIDE TEMPERATURE COMPENSATION
These parameters are used to adjust the amount by which the variable stage's minimum speed will increase when *OUTSIDE TEMPERATURE COMPENSATION* option is set to Minimum Speed and the OUTSIDE TEMPERATURE is equal to or above *OUTSIDE TEMPERATURE COMPENSATION SET POINT*. Setting one of these parameters to 0% will deactivate the speed increase for the associated variable stage.

OUTSIDE INFLUENCE

These parameters are used to adjust the amount by which the variable stage's actual speed will be modified when the *OUTSIDE TEMPERATURE COMPENSATION* option is set to Actual Speed. The variable stage's speed will be increased by this amount for each degree of difference between the OUTSIDE TEMPERATURE and the *MAIN SET POINT* when OUTSIDE TEMPERATURE is above the *MAIN SET POINT* or decreased by this amount for each degree of difference between the OUTSIDE TEMPERATURE and the *MAIN SET POINT* when OUTSIDE TEMPERATURE is below the *MAIN SET POINT*. Setting one of these parameters to 0% will deactivate the outside influence for the associated variable stage. Outside influence will not increase variable speed stage above its *MAXIMUM SPEED*, nor decrease it below its *MINIMUM SPEED*.

OUTSIDE TEMPERATURE COMPENSATION SET POINT

This parameter sets the OUTSIDE TEMPERATURE at which the minimum speed of the variable stages will be increased if the *VARIABLE STAGE OUTSIDE TEMPERATURE COMPENSATION* option is set to Minimum Speed. When the OUTSIDE TEMPERATURE is equal to or above this value, *VARIABLE STAGE # ADD MINIMUM SPEED OUTSIDE TEMPERATURE COMPENSATION* will be added to the associated variable stage's minimum speed. A fixed **Differential** of 0.3° is used with this logic.

TIMER

These parameters are used to set the timer used by the variable stage when it is not activated by a temperature demand. If one of these parameters is set to OFF, the stage will not use any timer.

ALTERNATING TIMER

These parameters select the timer cycle that the variable stage will use. At each timer's ON time, the cycle will alternate between 1 and 2. If this parameter is set to Cycle 1 or Cycle 2, the stage will activate during the respective timer cycle. If set to OFF, the stage will activate every ON time, regardless of the current timer cycle.

TEMPERATURE PROTECTION UNDER

This parameter allows the user to set the temperature set point that will activate the protection relative to the variable stage's minimum speed. If *VARIABLE STAGE # PROTECTION MINIMUM SPEED* is not set to OFF, the variable stage will be activated to the adjusted speed when it is activated by the timer or dehumidification and its temperature is equal to or below the temperature adjusted here.

PROTECTION MINIMUM SPEED

These parameters are used to set the minimum variable speed when activated by the timer and by the protection option on the minimum speed and the protection minimum speed function is activated. The variable stage will be active at the speed adjusted here when activated by its timer and when its temperature is equal to or below the *TEMPERATURE PROTECTION UNDER*. If *VARIABLE STAGE # PROTECTION MINIMUM SPEED* is set to Stop, the variable stage will deactivate instead of reducing its speed. If *VARIABLE STAGE # PROTECTION MINIMUM SPEED* is set to OFF, this function will be deactivated. This speed can also be used for dehumidification if the *VARIABLE STAGE # PROTECTION MINIMUM SPEED ON DEHUMIDIFICATION* option is set to Yes.

PROTECTION MINIMUM SPEED ON DEHUMIDIFICATION

These parameters are used to determine if *VARIABLE STAGE # PROTECTION MINIMUM SPEED* will be used following a dehumidification demand on the variable stage. If this option is set to Yes, the corresponding variable stage will use that speed when activated for dehumidification. If this option is set to No, the variable stage will not be affected by the minimum speed protection when activated for dehumidification.

TUNNEL SHUTOFF

These parameters are used to activate or deactivate the tunnel shutoff logic for the ventilation stage. If a tunnel shutoff option is set to YES, the corresponding variable ventilation stage will deactivate when tunnel mode is entered. If it is set to NO, tunnel mode will not affect the ventilation stage. The stage that is selected to start tunnel mode cannot be shut off by tunnel mode even if the corresponding tunnel shut off option is set to YES.

NATURAL SHUTOFF

These parameters are used to activate or deactivate the natural shutoff logic for the variable ventilation stage. If a natural shutoff option is set to YES, the corresponding ventilation stage will deactivate when natural mode is entered. If it is set to NO, natural mode will not affect the ventilation stage.

SPEED WHEN NEXT STAGE ON

These parameters set the speed a variable stage will take when the next variable stage activates on temperature demand. For example, variable stage 1's speed will be equal to *VARIABLE STAGE 1 SPEED WHEN NEXT STAGE ON* when the average temperature of the probes selected in *VARIABLE STAGE 2 PROBES* reaches *VARIABLE STAGE 2 START TEMPERATURE*. As the temperature continues to increase, variable stage 1 will modulate according to variable stage 2's temperature adjustments. When there is no longer a temperature demand for variable stage 2, variable stage 1 will return to the speed calculated by its own settings. The last variable stage may use this feature when the first ON/OFF stage turns ON by temperature demand. In this case, the variable stage will modulate using its own modulation band as the temperature rises past the first ON/OFF stage's activation temperature. Setting one of these parameters to STOP will deactivate the variable stage when the next one activates on temperature demand. If one of these parameters is set to OFF it will deactivate the above-mentioned function for the variable stage.

DEFROST

These parameters are used to activate or deactivate the defrost logic on the variable stage. When this parameter is set to Yes, the defrost logic on the variable stage will be applied.

OUTSIDE TEMPERATURE DEFROST

This parameter is used to adjust when the temperature set point is applied on the variable stages. There is a fixed **Differential** of 0.3° on this logic.

DEFROST TIME

These parameters are used to set the ON time of the defrost cycle. When the defrost cycle of a variable stage is in its active portion, the preceding variable stage will deactivate. Furthermore, only one variable stage can be activated for defrosting at any given time.

DEFROST CYCLE

These parameters are used to set the OFF time of the defrost duration. This amount of time determines the maximum time of the variables stage's inactivity. If a variable stage has not been activated for a consecutive period of time equal to this parameter, it will activate at its minimum speed for *VARIABLE STAGE # DEFROST TIME*. When the defrost cycle of a variable stage is in its active portion, the preceding variable stage will deactivate. Furthermore, only one variable stage can be activated for defrosting at any given time.

HUMIDITY RELATIVE SET POINT

This relative set point is used to set the humidity level at which the VARIABLE STAGE # will be activated for dehumidification. Variable stage # will be activated at its minimum speed when the actual humidity reaches the *HUMIDITY SET POINT + VARIABLE STAGE # HUMIDITY RELATIVE SET POINT* even if *VARIABLE STAGE # START TEMPERATURE* has not been reached. There is a fixed **Differential** of 3RH% on this logic.

HUMIDITY ABSOLUTE SET POINT

This parameter displays the calculated set point for dehumidification. This value is the sum of *HUMIDITY SET POINT* and *HUMIDITY RELATIVE SET POINT*.

ADD MINIMUM SPEED FOR HUMIDITY

These parameters are used to adjust the speed increase that will be applied on the variable stage for the dehumidification logic. When the actual humidity reaches the *HUMIDITY SET POINT*, *VARIABLE STAGE 1 MINIMUM SPEED* will be increased by this value and, if *VARIABLE STAGE 1 START TEMPERATURE* is not reached, it will activate continuously at its new minimum speed. When the actual humidity reaches the *HUMIDITY SET POINT + VARIABLE STAGE # HUMIDITY RELATIVE SET POINT*, variable stage #'s will be increased by *VARIABLE STAGE # ADD MINIMUM SPEED FOR HUMIDITY* and, if *VARIABLE STAGE # START TEMPERATURE* is not reached, it will activate continuously at its new minimum speed.

MODULATION BAND HUMIDITY LEVEL 1

This parameter is used to set the range of temperature within which the minimum speed of the variable stage will increase for dehumidification. If this parameter is not set to 0%, the increase in minimum speed will be 0% at *HUMIDITY ABSOLUTE SETPOINT* and will increase linearly to reach *ADD MINIMUM SPEED FOR HUMIDITY* at *HUMIDITY ABSOLUTE SETPOINT + MODULATION BAND HUMIDITY LEVEL 1.*

HUMIDITY RELATIVE SET POINT LEVEL 2

This relative set point is used to set the humidity level at which the variable stage # will be activated for level 2 dehumidification. The variable stage # will be activated at its minimum speed when the actual humidity reaches the *HUMIDITY SET POINT + VARIABLE STAGE # HUMIDITY RELATIVE SET POINT LEVEL 2* even if *VARIABLE STAGE # START TEMPERATURE* has not been reached. There is a fixed **Differential** of 3RH% on this logic.

HUMIDITY ABSOLUTE SET POINT LEVEL 2

This parameter displays the calculated set point for level 2 dehumidification. This value is the sum of *HUMIDITY SET POINT* and *HUMIDITY RELATIVE SET POINT LEVEL 2*.

ADD MINIMUM SPEED FOR HUMIDITY LEVEL 2

These parameters are used to adjust the speed increase that will be applied on the variable stage for the level 2 dehumidification logic. When the actual humidity reaches *HUMIDITY SET POINT + VARIABLE STAGE # HUMIDITY RELATIVE SET POINT LEVEL 2*, the variable stage #'s speed will be increased by *VARIABLE STAGE # ADD MINIMUM SPEED FOR HUMIDITY LEVEL 2* and, if *VARIABLE STAGE # START TEMPERATURE* is not reached, it will activate continuously at its new minimum speed.

MODULATION BAND HUMIDITY LEVEL 2

This parameter is used to set the range of temperature within which the minimum speed of the variable stage will increase for dehumidification. If this parameter is not set to 0%, the increase in minimum speed will be 0% at *HUMIDITY ABSOLUTE SETPOINT LEVEL 2* and will increase linearly to reach *ADD MINIMUM SPEED FOR HUMIDITY LEVEL 2* at *HUMIDITY ABSOLUTE SETPOINT LEVEL 2 + MODULATION BAND HUMIDITY LEVEL 2*.

CO2 INFLUENCE

This parameter is used to activate or deactivate CO2 influence for the variable stage. When the CO2 concentration reaches *MINIMUM CO2 INFLUENCE SETPOINT*, the stage speed is increased by *MINIMUM CO2 INFLUENCE*. The influence will linearly increase to reach *MAXIMUM CO2 INFLUENCE* at *MAXIMUM CO2 INFLUENCE SETPOINT*. When the CO2 concentration is equal or superior to *MAXIMUM CO2 INFLUENCE SETPOINT*, the stage speed increases by *MAXIMUM CO2 INFLUENCE*.

MINIMUM/MAXIMUM CO2 INFLUENCE SETPOINT

These parameters are used to determine at which CO2 concentration the CO2 influence will be minimum and maximum. When the CO2 concentration is equal to *MINIMUM CO2 INFLUENCE SETPOINT*, the stage's speed is increased by *MINIMUM CO2 INFLUENCE*. When the CO2 concentration is equal to *MAXIMUM CO2 INFLUENCE SETPOINT*, the stage's speed is increased by *MAXIMUM CO2 INFLUENCE*. These parameters are relative to the CO2 zone setpoint.

CO2 DIFFERENTIAL

This parameter is used to adjust at which CO2 concentration the CO2 influence will cease to have effect. When the CO2 concentration decreases to *MINIMUM CO2 INFLUENCE SETPOINT* minus the value of this parameter, the CO2 influence has no effect on the stage.

MINIMUM/MAXIMUM CO2 INFLUENCE

These parameters set the minimum and maximum speed increase for the variable stage. When the CO2 concentration is equal to *MINIMUM CO2 INFLUENCE SETPOINT*, the speed increase will be equal to *MINIMUM CO2 INFLUENCE*. When the CO2 concentration is equal to *MAXIMUM CO2 INFLUENCE SETPOINT*, the speed increase will be equal to *MAXIMUM CO2 INFLUENCE*.

MINIMUM/MAXIMUM NH3 INFLUENCE SETPOINT

These parameters are used to determine at which NH3 concentration the NH3 influence will be minimum and maximum. When the NH3 concentration is equal to *MINIMUM NH3 INFLUENCE SETPOINT*, the stage's speed is increased by *MINIMUM NH3 INFLUENCE*. When the NH3 concentration is equal to *MAXIMUM NH3 INFLUENCE SETPOINT*, the stage's speed is increased by *MAXIMUM NH3 INFLUENCE*. These parameters are relative to the NH3 zone setpoint.

NH3 DIFFERENTIAL

This parameter is used to adjust at which NH3 concentration the NH3 influence will cease to have effect. When the NH3 concentration decreases to *MINIMUM NH3 INFLUENCE SETPOINT* minus the value of this parameter, the NH3 influence has no effect on the stage.

MINIMUM/MAXIMUM NH3 INFLUENCE

These parameters set the minimum and maximum speed increase for the variable stage. When the NH3 concentration is equal to *MINIMUM NH3 INFLUENCE SETPOINT*, the speed increase will be equal to *MINIMUM NH3 INFLUENCE*. When the NH3 concentration is equal to *MAXIMUM NH3 INFLUENCE SETPOINT*, the speed increase will be equal to *MAXIMUM NH3 INFLUENCE*.

MINIMUM SPEED REFERENCE FOR INLET

These parameters are used to set the reference speed used by Position Mode inlets for the beginning of the variable stage's **Modulation Band**. The inlet positions in Position Mode will modulate from de *AIR INLET # VARIABLE # START POSITION* when the variable stage is activated at *VARIABLE STAGE # MINIMUM SPEED REFERENCE FOR INLET*. The inlet opening will increase proportionally to the variable stage speed to reach *AIR INLET # VARIABLE # END POSITION* when the variable stage is active at *VARIABLE STAGE # MAXIMUM SPEED*.

NATURAL MODE REACTIVATION TEMPERATURE

This parameter is used to set the temperature at which the natural shutoff function will be overridden. A ventilation stage that would be activated by temperature or that is otherwise deactivated because the controller is in natural mode may reactivate when the associated temperature reaches this set point. A fixed **Differential** of 1.0° is used with this logic. If natural mode is not used, this parameter will not appear.

TUNNEL MODE REACTIVATION TEMPERATURE

This parameter is used to set the temperature at which the tunnel shutoff function will be overridden. A ventilation stage that would be activated by temperature or that is otherwise deactivated because the controller is in tunnel mode may reactivate when the associated temperature reaches this set point. A fixed **Differential** of 1.0° is used with this logic. If tunnel mode is not used, this parameter will not appear. There may be one activation temperature per stage or one for the entire zone depending on the *TUNNEL SHUTOFF REACTIVATION* option.

TIMER VARIABLE VENTILATORS

These parameters are used to select the variable ventilators that will be activated on timer when *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the variable ventilators selected only here will activate at the stage's minimum speed during the active portion of its timer. Variable ventilators selected here and in *PROGRESSIVE VARIABLE VENTILATOR SELECTION* will activate at the stage's calculated speed during the active portion of its timer. Variable ventilators selected here and in *MAXIMUM SPEED VARIABLE VENTILATOR SELECTION* will activate at the stage's maximum speed during the active portion of its timer.

TIMER CYCLE # VARIABLE VENTILATORS

These parameters are used to select the variable ventilators that will be activated on timer as well as the timer cycle on which they will be activated when *CONFIGURABLE VENTILATION STAGES* and *ALTERNATING TIMERS* are used.

PROGRESSIVE VARIABLE VENTILATORS

These parameters are used to select the variable ventilators that will be activated at variable speed when *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the variable ventilators selected only here will activate at the stage's calculated speed.

MAXIMUM SPEED VARIABLE VENTILATORS

These parameters are used to select the variable ventilators that will be activated at maximum speed when *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the variable ventilators selected only here will activate at the stage's maximum speed.

TIMER ON/OFF VENTILATORS

These parameters are used to select the ON/OFF ventilators that will be activated on timer when *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the ON/OFF ventilators selected only here will activate during the active portion of its timer.

TIMER CYCLE # ON/OFF VENTILATORS

These parameters are used to select the ON/OFF ventilators that will be activated on timer as well as the timer cycle on which they will be activated when *CONFIGURABLE VENTILATION STAGES* and *ALTERNATING TIMERS* are used.

ACTIVE ON/OFF VENTILATORS

These parameters are used to select the ON/OFF ventilators that will be activated *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the ON/OFF ventilators selected only here will activate full time.

PROGRESSIVE VARIABLE EXCHANGER

These parameters are used to select the variable ventilators that will be activated at the calculated speed for each variable ventilator when the *CONFIGURABLE VENTILATION STAGES* are used. When the respective variable stage is the active stage, the selected variable ventilators will be activated at a speed determined by the values of *MINIMUM VARIABLE EXCHANGER* and *MAXIMUM VARIABLE EXCHANGER* for each ventilator. This speed is also influenced by the humidity, CO2, and NH3 levels in the zone.

MAXIMUM SPEED VARIABLE EXCHANGER

These parameters are used to select the variable ventilators that will be activated at *MAXIMUM VARIABLE EXCHANGER* when *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage, the variable ventilators selected only here will activate at the stage's *MAXIMUM SPEED VARIABLE EXCHANGER.*

MINIMUM VARIABLE EXCHANGER

These parameters allow adjusting the minimum speed of the variable ventilators selected in the *PROGRESSIVE VARIABLE EXCHANGER* parameter in *CONFIGURABLE VENTILATION STAGES* mode. When the temperature changes, the speed of the variable ventilators selected in the *PROGRESSIVE VARIABLE EXCHANGER* parameter is calculated based on the *MINIMUM VARIABLE EXCHANGER*, rather than the minimum speed of the active stage.

MAXIMUM VARIABLE EXCHANGER

These parameters allow adjusting the maximum speed of the variable ventilators selected under the *PROGRESSIVE VARIABLE EXCHANGER* parameter in *CONFIGURABLE VENTILATION STAGES* mode. When the temperature changes, the speed of the variable ventilators selected under the *PROGRESSIVE VARIABLE EXCHANGER* parameter is calculated based on the *MAXIMUM VARIABLE EXCHANGER* rather than the maximum speed of the active stage.

MINIMUM VARIABLE STAGE

This parameter determines the lower limit of the variable fan stages that can be activated or deactivated. If this parameter is set to *All Variables Allowed*, there will be no restriction on the minimum limit of variable ventilation stages to activate. However, if this parameter takes a value of one of the variable stages (for example: Variable Stage 2), only the variable stages having a number greater than or equal to that of the *MINIMUM VARIABLE STAGE* and less than or equal to that of the *MAXIMUM VARIABLE STAGE* can activate (in our example, the variable stages between Variable Stage 2 and *MAXIMUM VARIABLE STAGE* can be activated). In Configurable Ventilation Stages, this parameter determines the minimum variable stage which can be the active stage.

MAXIMUM VARIABLE STAGE
This parameter determines the upper limit of the variable fan stages that can be enabled or disabled. If this parameter is set to *All Variables Allowed*, there will be no restriction on the maximum limit of variable fan stages to activate. However, if this parameter is set to *No Variable Allowed*, no variable stage can be activated. Finally, if this parameter takes a value from one of the variable stages (for example: Variable Stage 9), only the variable stages with a number less than or equal to that of the *MAXIMUM VARIABLE STAGE* and greater than or equal to that of the *MINIMUM VARIABLE STAGE* can be activated (in our example, the variable stages between *MINIMUM VARIABLE STAGE* and Variable Stage 9 can be activated). In Configurable Ventilation Stages, this parameter determines the maximum variable stage which can be the active stage.

CURRENT AIRFLOW REQUIREMENT ADJUSTMENT
This parameter is used to manually adjust the current airflow requirement for the zone. The percentage set here will be added to or subtracted from the current requirement. The temperature and humidity compensations are applied after the manual adjustment.

ON/OFF STAGES

MAIN SET POINT
This parameter displays the *MAIN SET POINT* of the zone.

CURRENT REQUIREMENT
This parameter displays the current airflow requirement automatically calculated when airflow compare is used.

CURRENT AIRFLOW
This parameter displays the current airflow that is provided by ventilation stages.

ACTIVE STAGE
In configurable ventilation stages, this parameter displays the ventilation stage presently in use.

ACTUAL AIRFLOW PER WEIGHT
During CFM+ ventilation, this parameter displays the current airflow per weight of the zone.

CURRENT VENTILATION MODE
During CFM+ ventilation, this parameter displays the current ventilation mode, either Airflow or Temperature Control.

CURRENT TEMPERATURE COMPENSATION AIRFLOW
During CFM+ ventilation, this parameter displays the airflow added to or subtracted from the requirement by the temperature compensation airflow.

CURRENT HUMIDITY COMPENSATION AIRFLOW
During CFM+ ventilation, if a humidity probe is used, this parameter displays the airflow added to or subtracted from the requirement by the humidity compensation airflow.

CURRENT CO2 COMPENSATION AIRFLOW
During CFM+ ventilation, if a CO2 probe is used, this parameter displays the airflow added to or subtracted from the requirement by the humidity compensation airflow.

REQUESTED STATE
These parameters display the requested state of the ON/OFF stage outputs.

VARIABLE VENTILATOR CURRENT SPEED
These parameters display the current speed of the variable ventilators.

ON/OFF VENTILATOR REQUESTED STATE
These parameters display the requested state of the ON/OFF ventilators.

AIRFLOW
This parameter is used to set the airflow of the ventilation stage. When airflow compare is used, the controller must know the airflow capacity of each stage to calculate the current airflow.

ON TEMPERATURE
These parameters are used to set the temperature at which the ON/OFF stage will be activated. When the temperature selected in *ON/OFF STAGE # PROBES* reaches this temperature, the ON/OFF cooling stage will be activated continuously.

DIFFERENTIAL
These parameters are used to set the temperature at which the ON/OFF stage will be deactivated. When the temperature selected in *ON/OFF STAGE # PROBES* drops to *ON/OFF STAGE # ON TEMPERATURE - ON/OFF STAGE # DIFFERENTIAL* -, the ON/OFF cooling stage will be deactivated.

PROBES
These parameters are used to select the probes the ON/OFF stage will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual** *MAIN SET POINT***.**

TIMER
These parameters are used to set the timer used by the ON/OFF stage when it is not activated through a temperature demand. If one of these parameters is set to OFF, the stage will not use any timer.

ALTERNATING TIMER
These parameters are used to select the timer cycle that the ON/OFF stage will use. At each timer's ON time, the cycle will switch between 1 and 2. If this parameter is set to Cycle 1 or Cycle 2, the stage will activate during the respective timer cycle. If set to OFF, the stage will activate every ON time, regardless of the current timer cycle.

TUNNEL SHUTOFF
These parameters are used to activate or deactivate the tunnel shutoff logic for the stage. If a tunnel shutoff option is set to YES, the corresponding variable ventilation stage will deactivate when tunnel mode is entered. If it is set to NO, tunnel mode will not affect the ventilation stage. The stage that is selected to start tunnel mode cannot be shut off by tunnel mode even if the corresponding tunnel shut off option is set to YES.

NATURAL SHUTOFF

These parameters are used to activate or deactivate the natural shutoff logic for the ventilation stage. If a natural shutoff option is set to YES, the corresponding ventilation stage will deactivate when natural mode is entered. If it is set to NO, natural mode will not affect the ventilation stage.

NATURAL MODE REACTIVATION TEMPERATURE

This parameter is used to set the temperature at which temperature the natural shutoff function will be overridden. A ventilation stage that would be activated by temperature or one that is otherwise deactivated because the controller is in natural mode may reactivate when the associated temperature reaches this set point. A fixed **Differential** of 1.0° is used with this logic. If natural mode is not used, this parameter will not appear.

TUNNEL MODE REACTIVATION TEMPERATURE

This parameter is used to set the temperature at which the tunnel shutoff function will be overridden. A ventilation stage that would be activated by temperature or is otherwise deactivated because the controller is in tunnel mode may reactivate when the associated temperature reaches this set point. A fixed **Differential** of 1.0° is used with this logic. If tunnel mode is not used, this parameter will not appear. There may be one activation temperature per stage or one for the entire zone depending on the *TUNNEL SHUTOFF REACTIVATION* option.

TIMER VARIABLE VENTILATORS

These parameters are used to select the variable ventilators that will be activated on timer when *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the variable ventilators selected here will activate at 100%.

TIMER CYCLE # VARIABLE VENTILATORS

These parameters are used to select the variable ventilators that will be activated on timer as well as the timer cycle on which they will be activated when *CONFIGURABLE VENTILATION STAGES* and *ALTERNATING TIMERS* are used.

MAXIMUM SPEED VARIABLE VENTILATORS

These parameters are used to select the variable ventilators that will be activated at maximum speed when *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the variable ventilators selected only here will activate at the stage's maximum speed.

TIMER ON/OFF VENTILATORS

These parameters are used to select the ON/OFF ventilators that will be activated on timer when *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the ON/OFF ventilators selected only here will activate during the active portion of its timer.

TIMER CYCLE # ON/OFF VENTILATORS

These parameters are used to select the ON/OFF ventilators that will be activated on timer as well as the timer cycle on which they will be activated when *CONFIGURABLE VENTILATION STAGES* and *ALTERNATING TIMERS* are used.

ACTIVE ON/OFF VENTILATORS
These parameters are used to select the ON/OFF ventilators that will be activated *CONFIGURABLE VENTILATION STAGES* is used. When the respective stage is the active stage and that stage uses a timer, the ON/OFF ventilators selected only here will activate full time.

HUMIDITY INFLUENCE
This parameter is used to activate or deactivate humidity influence for the On/Off stages.

MINIMUM HUMIDITY RELATIVE SETPOINT
This parameter is used to adjust the humidity value from which begins the humidity influence on the on/off ventilators. When the humidity value read is greater than or equal to the value of this setpoint and the temperature is below the activation temperature of the on/off ventilators, the latter will activate according to the humidity influence timer. This parameter is relative to the humidity setpoint.

MAXIMUM HUMIDITY RELATIVE SETPOINT
This parameter is used to adjust the maximum humidity value for which the humidity influence timer on the ventilators will run at its *ON TIME MAXIMUM HUMIDITY*. When the humidity value reading increases to reach values greater than or equal to the *MAXIMUM HUMIDITY RELATIVE SETPOINT*, the ventilators will activate according to the humidity influence timer for an ON Time equal to the *ON TIME MAXIMUM HUMIDITY*. This parameter is relative to the humidity setpoint.

ON TIME MINIMUM HUMIDITY
This parameter is used to set the minimum time for which the humidity influence timer will be at its ON time. When the temperature of the on/off ventilators is below their setpoints and the humidity value read is equal to the *MINIMUM HUMIDITY RELATIVE SETPOINT*, the timer will activate for an *ON TIME MINIMUM HUMIDITY*. If the humidity value continues to rise, the timer ON time will be modulated between *ON TIME MINIMUM HUMIDITY* and *ON TIME MAXIMUM HUMIDITY*.

ON TIME MAXIMUM HUMIDITY
This parameter is used to set the maximum time for which the humidity influence timer will be at its ON time. When the temperature of the on/off ventilators is below their setpoints and the humidity value read is equal to or greater than the *MAXIMUM HUMIDITY RELATIVE SETPOINT*, the timer will activate for an *ON TIME MAXIMUM HUMIDITY*.

HUMIDITY CYCLE TIME
This parameter is used to set the cycle time of the humidity influence timer on on/off ventilators.

CO2 INFLUENCE
This parameter is used to activate or deactivate CO2 influence for the On/Off stages.

MINIMUM CO2 RELATIVE SETPOINT
This parameter is used to adjust the CO2 concentration from which begins the CO2 influence on the on/off ventilators. When the CO2 value read is greater than or equal to the value of this setpoint and the temperature is below the activation temperature of the on/off ventilators, the latter will activate according to the CO2 influence timer. This parameter is relative to the CO2 setpoint.

MAXIMUM CO2 RELATIVE SETPOINT
This parameter is used to adjust the maximum CO2 concentration for which the CO2 influence timer on the ventilators will run at its *ON TIME MAXIMUM CO2*. When the CO2 value reading increases to reach values greater than or equal to the *MAXIMUM CO2 RELATIVE SETPOINT*, the ventilators will activate according to the CO2 influence timer for an ON Time equal to the *ON TIME MAXIMUM CO2*. This parameter is relative to the CO2 setpoint.

ON TIME MINIMUM CO2
This parameter is used to set the minimum time for which the CO2 influence timer will be at its ON time. When the temperature of the on/off ventilators is below their setpoints and the CO2 value read is equal to the *MINIMUM CO2 RELATIVE SETPOINT*, the timer will activate for an *ON TIME MINIMUM CO2*. If the CO2 value continues to rise, the timer ON time will be modulated between *ON TIME MINIMUM CO2* and *ON TIME MAXIMUM CO2*.

ON TIME MAXIMUM CO2
This parameter is used to set the maximum time for which the CO2 influence timer will be at its ON time. When the temperature of the on/off ventilators is below their setpoints and the CO2 value read is equal to or greater than the *MAXIMUM CO2 RELATIVE SETPOINT*, the timer will activate for an *ON TIME MAXIMUM CO2*.

CO2 CYCLE TIME
This parameter is used to set the cycle time of the CO2 influence timer on on/off ventilators.

MINIMUM ON/OFF STAGE
This parameter determines the lower limit of the ON/OFF fan stages that can be activated or deactivated. If this parameter is set to *All ON/OFF Allowed*, there will be no restriction on the minimum limit of ON/OFF ventilation stages to activate. However, if this parameter takes a value of one of the ON/OFF stages (for example: ON/OFF Stage 4), only the ON/OFF stages having a number greater than or equal to that of the *MINIMUM ON/OFF STAGE* and less than or equal to that of the *MAXIMUM ON/OFF STAGE* can activate (in our example, the ON/OFF stages between ON/OFF Stage 4 and *MAXIMUM ON/OFF STAGE* can be activated). In Configurable Ventilation Stages, this parameter determines the minimum ON/OFF stage which can be the active stage.

MAXIMUM ON/OFF STAGE
This parameter determines the upper limit of the ON/OFF fan stages that can be enabled or disabled. If this parameter is set to *All ON/OFF Allowed*, there will be no restriction on the maximum limit of ON/OFF fan stages to activate. However, if this parameter is set to *No ON/OFF Allowed*, no ON/OFF stage can be activated. Finally, if this parameter takes a value from one of the ON/OFF stages (for example: ON/OFF Stage 20), only the ON/OFF stages with a number less than or equal to that of the *MAXIMUM ON/OFF STAGE* and greater than or equal to that of the *MINIMUM ON/OFF STAGE* can be activated (in our example, the ON/OFF stages between *MINIMUM ON/OFF STAGE* and ON/OFF Stage 20 can be activated). In Configurable Ventilation Stages, this parameter determines the maximum ON/OFF stage which can be the active stage.

HEATERS

MAIN SET POINT
This parameter displays the *MAIN SET POINT* of the zone.

TEMPERATURE
These parameters display the average temperature of the probes selected in the corresponding *HEATER # PROBES* parameter

REQUESTED STATE
These parameters display the requested state of the heater outputs.

RUN TIME
These parameters display the time for which the current heat output has been activated for the corresponding day.

TOTAL RUN TIME
These parameters display the time for which the current heat zone has been activated for the corresponding day.

CONSUMPTION
These parameters display the consumption for the respective heater for the day.

TOTAL CONSUMPTION
This parameter displays the total consumption for all the heaters of the zone for the day.

TOTAL BATCH CONSUMPTION
This parameter displays the batch total of heater's consumption since the beginning of the batch. This parameter is displayed to the nearest 1000 BTU near from 0 x1000BTU to 7999999 x1000BTU.

ON TEMPERATURE
These parameters are used to set the temperature at which the heater stage will be activated. When the temperature of the probes selected in the corresponding *HEATER # PROBES* parameter drops to this temperature, the heater will be activated in continuous mode.

DIFFERENTIAL
These parameters are used to set the temperature at which the heater stage will be deactivated in continuous mode. When the temperature of the probes selected in the corresponding *HEATER # PROBES* parameter rises to *HEATER # ON TEMPERATURE + HEATER # DIFFERENTIAL*, the heater will stop working in continuous mode.

TIMER SETPOINT
These parameters are used to set the temperature at which the heater stage will be in timer mode. When the temperature of the probes selected in the corresponding *HEATER # PROBES* parameter is equal to or below this temperature, the heater will be in timer mode.

TIMER DIFFERENTIAL
These parameters are used to set the temperature at which the heater stage will exit timer mode. When the temperature of the probes selected in the corresponding *HEATER # PROBES* parameter rises to *HEATER # TIMER SETPOINT + HEATER # TIMER DIFFERENTIAL*, the heater will be deactivated.

TIMER ON TIME
This parameter is used to set the ON time of the heater timer. When the heater is in timer mode, the heater will be activated for this amount of time and deactivated for *TIMER OFF TIME*. If this parameter is set to 0, the heater will be deactivated when in timer mode.

TIMER OFF TIME
This parameter is used to set the OFF time of the heater timer. When the heater is in timer mode, the heaters will be activated for *TIMER ON TIME* and deactivated for this amount of time. If this parameter is set to 0, the heater will activate continuously when in timer mode.

PROBES
These parameters are used to select the probes the heater will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual *MAIN SET POINT*.**

CONSUMPTION PER HOUR
These parameters are used to set the heater consumption. The consumption is the amount of BTU the heater will use up in one hour. This value will be used to calculate daily heater consumption.

***HIGH TEMPERATURE SHUTOFF* (Curve available)**
This parameter sets the temperature at which the heater will deactivate in all modes. When the temperature of the probes selected in *HEATER # PROBES* reaches this set point, the heater will deactivate. Temperature, dehumidification, manual mode and even the toggle switches will not be permitted to activate a heater whose temperature has risen to this set point. A fixed **Differential** of 1.0° is used with this logic.

HIGH TEMPERATURE SHUTOFF CURVE
These parameters are used to activate or deactivate the growth curve of the *HIGH TEMPERATURE SHUTOFF* parameter. If this option is set to ON and the *GROWTH DAY* is not set to OFF, values of *HIGH TEMPERATURE SHUTOFF* will follow their **Growth Curve** and will no longer be adjustable. If this value is set to OFF, *HIGH TEMPERATURE SHUTOFF* parameter will not be affected by the *GROWTH DAY*.

DEHUMIDIFICATION OPTION
These parameters are used to determine if the heater will activate for dehumidification or not. If this option is set to ON, the heater will activate for dehumidification. If this option is set to OFF, the heater will not activate for dehumidification.

HUMIDITY SET POINT
This parameter is used to set the humidity level at which heater dehumidification will be activated. When the actual humidity rises to this set point, OUTSIDE TEMPERATURE is below *OUTSIDE SET POINT HUMIDITY DEACTIVATION* and the heater's temperature is below the activation temperature of the stage selected at *VENTILATION STAGE STOP DEHUMIDIFICATION*, that heater will be activated for *HUMIDITY TIMER ON TIME* and deactivated for *HUMIDITY TIMER OFF TIME*.

HUMIDITY DIFFERENTIAL
This parameter is used to set the humidity at which heater dehumidification will be deactivated. When the actual humidity drops to *HUMIDITY SET POINT - HUMIDITY DIFFERENTIAL*, heater dehumidification will be deactivated.

HEATER OPTION
These parameters are used to determine if the heater will activate for dehumidification or not. If this option is set to ON, the heater will activate for dehumidification. If this option is set to OFF, the heater will not activate for dehumidification.

HUMIDITY TIMER ON TIME
This parameter is used to set the ON time of the heater dehumidification timer. When heater dehumidification logic is activated, the heaters will be activated for this amount of time and deactivated for *HUMIDITY TIMER OFF TIME*.

HUMIDITY TIMER OFF TIME
This parameter is used to set the OFF time of the heater dehumidification timer. When heater dehumidification logic is activated, the heaters will be activated for *HUMIDITY TIMER ON TIME* and deactivated for this amount of time.

OUTSIDE SET POINT HUMIDITY DEACTIVATION
This parameter is used to set the OUTSIDE TEMPERATURE at which heater dehumidification will not be allowed. When the OUTSIDE TEMPERATURE rises to this temperature, no heater will be allowed to activate for dehumidification. A fixed **Differential** of 0.3° is used with this logic.

VENTILATION STAGE STOP DEHUMIDIFICATION
This parameter is used to select which ventilation stage's activation temperature will be used to stop a heater's dehumidification function. When a heater's temperature reaches the activation temperature of the stage selected here, that heater's dehumidification function will cease. Adjusting this parameter to None will remove dehumidification deactivation by the heater's temperature.

RUN IN NATURAL MODE
This parameter is used to determine if the heaters are allowed to be activated when the Natural Mode is active. If this parameter is set to No, the heaters will never be allowed to activate when the system is in Natural Mode. If this parameter is set to Yes, the heaters will be allowed to activate when the system is in Natural Mode.

ACTIVATES FIRST VENTILATION STAGE
This parameter is used to determine if the first ventilation stage will activate when a heater is activated. If this option is set to Yes, the first ventilation stage will activate continuously as long as a heater is activated. If a variable stage is used, it will run at minimum speed when this function activated. A ventilation stage that is deactivated by tunnel or natural mode will not be activated by heaters. If this option is set to No, ventilation will not be affected by heaters.

ACTIVATES VENTILATION STAGE #
While in configurable ventilation stages, this parameter is used to select which configurable ventilation stage will activate when a heater is activated. If set to a value other than None, the selected ventilation stage will be the active stage as long as a heater is activated and no subsequent stage has an activation demand. All the ventilators of a configurable stage activated by a heater will be activated continuously, independently from any ventilation timer. A ventilation stage that is deactivated by tunnel or natural mode will not be activated by heaters. If set to None, ventilation will not be affected by heaters. This parameter is, by default, set to Variable 1.

REINITIALIZE HEATING ACTUAL VALUES
This parameter is used to reinitialize all heater actual values of the zone. To reinitialize all these values, press on this parameter.

AIR BLAST HEATERS

MAIN SET POINT
This parameter displays the *MAIN SET POINT* of the zone.

TEMPERATURE
These parameters display the average temperature of the probes selected in the corresponding *AIR BLAST HEATER # PROBES* parameter.

CORE TEMPERATURE
These parameters display the temperature of the core probes of the air blast heaters.

OFF TEMPERATURE
These parameters display the calculated temperature according to the outside temperature and **OFF TEMPERATURE CURVE** - OFF T° #.

A.B. HEATER REQUESTED STATE
These parameters display the requested state of the air blast heater outputs. Each air blast heater can have OFF or ON state.

BURNER CUTOFF REQUESTED STATE
These parameters display the requested state of the burner cutoff of the corresponding air blast heater of the zone. When the CORE TEMPERATURE increases to reach the OFF TEMPERATURE, the burner cutoff switches to the OFF state. Each burner cutoff can have the OFF or ON state.

RUN TIME
These parameters display the activation time of the air blast heater and the burner cutoff for the current day.

TOTAL RUN TIME
These parameters display the activation time of the heaters of the current zone for the corresponding day.

CONSUMPTION
These parameters display the consumption for the respective burner cutoff for the corresponding day.

TOTAL CONSUMPTION
This parameter displays the total consumption for all the heaters of the zone for the day.

TOTAL BATCH CONSUMPTION
This parameter displays the batch total of heater's consumption since the beginning of the batch. This parameter is displayed to the nearest 1000 BTU near from 0 x1000BTU to 7999999 x1000BTU.

ON TEMPERATURE
These parameters are used to set the temperature at which the air blast heater will be activated. When the temperature of the probes selected in the corresponding *AIR BLAST HEATER # PROBES* parameter drops to this temperature, the air blast heater will be activated in continuous mode. These settings are related to the *MAIN SET POINT*.

DIFFERENTIAL
These parameters are used to set the temperature at which the air blast heater will be deactivated in continuous mode. When the temperature of the probes selected in the corresponding *AIR BLAST HEATER # PROBES* parameter rises to *AIR BLAST HEATER # ON TEMPERATURE + AIR BLAST HEATER # DIFFERENTIAL*, the air blast heater will stop working in continuous mode.

PROBES
These parameters are used to select the probes the air blast heater will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual *MAIN SET POINT*.**

CONSUMPTION PER HOUR
These parameters are used to set the air blast heater consumption. The consumption is the amount of BTU the air blast heater will use up in one hour. This value will be used to calculate daily air blast heater consumption.

CORE MIN TEMPERATURE
These parameters are used to adjust the minimum temperature to maintain in the core of the air blast heaters. When the core temperature decreases to reach the value defined by this parameter, the air blast heater relay activates. These settings are related to the *MAIN SET POINT*.

CORE MAX TEMPERATURE
These parameters are used to adjust the maximum temperature to maintain in the core of the air blast heaters. When the core temperature increases to reach the value defined by this parameter, the air blast heater relay deactivates. These settings are related to the *MAIN SET POINT*.

***HIGH TEMPERATURE SHUTOFF* (Curve available)**
This parameter sets the temperature at which the air blast heater will deactivate in all modes. When the temperature of the probes selected in *AIR BLAST HEATER # PROBES* reaches this set point, the air blast heater will deactivate. The manual mode and even the toggle switches will not be permitted to activate neither air blast heater nor burner cutoff whose temperature has risen to this set point. A fixed **Differential** of 1.0° is used with this logic.

HIGH TEMPERATURE SHUTOFF CURVE
These parameters are used to activate or deactivate the growth curve of the *HIGH TEMPERATURE SHUTOFF* parameter. If this option is set to ON and the *GROWTH DAY* is not set to OFF, values of *HIGH TEMPERATURE SHUTOFF* will follow their **Growth Curve** and will no longer be adjustable. If this value is set to OFF, *HIGH TEMPERATURE SHUTOFF* parameter will not be affected by the *GROWTH DAY*.

FAN SPEED
These parameters are used to display the fan speeds of the air blast heaters. These speeds are calculated based on its curve and of the **Growth Curve**.

FAN SPEED CURVE
These parameters are used to activate or deactivate the growth curve of the *FAN SPEED* parameter. If this option is set to ON and the *GROWTH DAY* has a value other than OFF, the *FAN SPEED* values will take the value defined by its **Growth Curve** and will no longer be adjustable. If this option is set to OFF, the *FAN SPEED* parameter will not be affected by the **Growth Curve**.

REINITIALIZE HEATING ACTUAL VALUES
This parameter is used to reinitialize all heater actual values of the zone. To reinitialize all these values, press on this parameter.

OFF TEMPERATURE CURVE

POINT #
These parameters are used to edit off temperature curve of the air blast heaters. Each point of the curve is composed of the outside temperature (left columns) and 4 off temperature (right columns). When the outside probe measure a temperature equals to the outside temperature of a point, each off temperature will be equal to the off temperature of the corresponding point. When the outside probe measures a temperature between two points' outside temperature, the off temperature of each air blast heater will be interpolated between the off temperatures of the corresponding points.

FLOOR HEATERS

MAIN SET POINT
This parameter displays the *MAIN SET POINT* of the zone.

TEMPERATURE
These parameters display the average temperature of each heater's probe selection.

OUTSIDE TEMPERATURE
This parameter displays the temperature measured by the outside probe.

DUCT TEMPERATURE
This parameter displays the temperature measured by each duct probe of the zone.

REQUESTED STATE
These parameters display the requested state of the heater outputs.

RUN TIME
These parameters display the active time of each floor heater output of the day.

TOTAL RUN TIME
This parameter displays the total active time of all the zone's heaters of the current day.

CONSUMPTION
These parameters display the consumption for each respective heater for the day.

TOTAL CONSUMPTION
This parameter displays the total consumption for all the heaters of the zone for the day.

TOTAL BATCH CONSUMPTION
This parameter displays the batch total of heater's consumption since the beginning of the batch. This parameter is displayed to the nearest 1000 BTU near from 0 x1000BTU to 7999999 x1000BTU.

ON TEMPERATURE
These parameters are used to set the temperature at which the heater stage will be activated. When the temperature of the probes selected in the corresponding *HEATER # PROBES* parameter drops to this temperature, the heater will be activated in continuous mode.

OFF TEMPERATURE
This parameter displays at which duct temperature floor heaters will deactivate. When the duct temperature reaches the value of this parameter, all floor heaters of the zone will stop. This value is determined with the outside temperature. The relation between the off temperature and the outside temperature is characterised by the curve found at the OFF TEMPERATURE CURVE screen.

TIMER SETPOINT
These parameters are used to set the temperature at which the heater stage will be in timer mode. When the temperature of the probes selected in the corresponding *HEATER # PROBES* parameter is equal to or below this temperature, the heater will be in timer mode.

TIMER DIFFERENTIAL
These parameters are used to set the temperature at which the heater stage will exit timer mode. When the temperature of the probes selected in the corresponding *HEATER # PROBES* parameter rises to *HEATER # TIMER SETPOINT + HEATER # TIMER DIFFERENTIAL*, the heater will be deactivated.

TIMER ON TIME
This parameter is used to set the ON time of the heater timer. When the heater is in timer mode, the heater will be activated for this amount of time and deactivated for *TIMER OFF TIME*. If this parameter is set to 0, the heater will be deactivated when in timer mode.

TIMER OFF TIME
This parameter is used to set the OFF time of the heater timer. When the heater is in timer mode, the heaters will be activated for *TIMER ON TIME* and deactivated for this amount of time. If this parameter is set to 0, the heater will activate continuously when in timer mode.

PROBES
These parameters are used to select the probes the heater will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual *MAIN SET POINT*.**

CONSUMPTION PER HOUR
These parameters are used to set the heater consumption. The consumption is the amount of BTU the heater will use up in one hour. This value will be used to calculate daily heater consumption.

***HIGH TEMPERATURE SHUTOFF* (Curve available)**
This parameter sets the temperature at which the heater will deactivate in all modes. When the temperature of the probes selected in *HEATER # PROBES* reaches this set point, the heater will deactivate. Temperature, dehumidification, manual mode and even the toggle switches will not be permitted to activate a heater whose temperature has risen to this set point. A fixed **Differential** of 1.0° is used with this logic.

HIGH TEMPERATURE SHUTOFF CURVE
These parameters are used to activate or deactivate the growth curve of the *HIGH TEMPERATURE SHUTOFF* parameter. If this option is set to ON and the *GROWTH DAY* is not set to OFF, values of *HIGH TEMPERATURE SHUTOFF* will follow their **Growth Curve** and will no longer be adjustable. If this value is set to OFF, *HIGH TEMPERATURE SHUTOFF* parameter will not be affected by the *GROWTH DAY*.

DEHUMIDIFICATION OPTION
These parameters are used to determine if the heater will activate for dehumidification or not. If this option is set to ON, the heater will activate for dehumidification. If this option is set to OFF, the heater will not activate for dehumidification.

HUMIDITY SET POINT
This parameter is used to set the humidity level at which heater dehumidification will be activated. When the actual humidity rises to this set point, OUTSIDE TEMPERATURE is below *OUTSIDE SET POINT HUMIDITY DEACTIVATION* and the heater's temperature is below the activation temperature of the stage selected at *VENTILATION STAGE STOP DEHUMIDIFICATION*, that heater will be activated for *HUMIDITY TIMER ON TIME* and deactivated for *HUMIDITY TIMER OFF TIME*.

HUMIDITY DIFFERENTIAL
This parameter is used to set the humidity at which heater dehumidification will be deactivated. When the actual humidity drops to *HUMIDITY SET POINT - HUMIDITY DIFFERENTIAL*, heater dehumidification will be deactivated.

HEATER OPTION
These parameters are used to determine if the heater will activate for dehumidification or not. If this option is set to ON, the heater will activate for dehumidification. If this option is set to OFF, the heater will not activate for dehumidification.

HUMIDITY TIMER ON TIME
This parameter is used to set the ON time of the heater dehumidification timer. When heater dehumidification logic is activated, the heaters will be activated for this amount of time and deactivated for *HUMIDITY TIMER OFF TIME*.

HUMIDITY TIMER OFF TIME
This parameter is used to set the OFF time of the heater dehumidification timer. When heater dehumidification logic is activated, the heaters will be activated for *HUMIDITY TIMER ON TIME* and deactivated for this amount of time.

OUTSIDE SET POINT HUMIDITY DEACTIVATION

This parameter is used to set the OUTSIDE TEMPERATURE at which heater dehumidification will not be allowed. When the OUTSIDE TEMPERATURE rises to this temperature, no heater will be allowed to activate for dehumidification. A fixed **Differential** of 0.3° is used with this logic.

VENTILATION STAGE STOP DEHUMIDIFICATION

This parameter is used to select which ventilation stage's activation temperature will be used to stop a heater's dehumidification function. When a heater's temperature reaches the activation temperature of the stage selected here, that heater's dehumidification function will cease. Adjusting this parameter to None will remove dehumidification deactivation by the heater's temperature.

ACTIVATES FIRST VENTILATION STAGE

This parameter is used to determine if the first ventilation stage will activate when a heater is activated. If this option is set to Yes, the first ventilation stage will activate continuously as long as a heater is activated. If a variable stage is used, it will run at minimum speed when this function activated. A ventilation stage that is deactivated by tunnel or natural mode will not be activated by heaters. If this option is set to No, ventilation will not be affected by heaters.

ACTIVATES VENTILATION STAGE #

While in configurable ventilation stages, this parameter is used to select which configurable ventilation stage will activate when a heater is activated. If set to a value other than None, the selected ventilation stage will be the active stage as long as a heater is activated and no subsequent stage has an activation demand. All the ventilators of a configurable stage activated by a heater will be activated continuously, independently from any ventilation timer. A ventilation stage that is deactivated by tunnel or natural mode will not be activated by heaters. If set to None, ventilation will not be affected by heaters. This parameter is, by default, set to Variable 1.

REINITIALIZE HEATING ACTUAL VALUES

This parameter is used to reinitialize all heater actual values of the zone. To reinitialize all these values, press on this parameter.

OFF TEMPERATURE CURVE

POINT #

These parameters are used to edit off temperature curve of the floor heaters. Each point of the curve is composed of the outside temperature (left columns) and 4 off temperature (right columns). When the outside probe measure a temperature equals to the outside temperature of a point, each off temperature will be equal to the off temperature of the corresponding point. When the outside probe measures a temperature between two points' outside temperature, the off temperature of each floor heater will be interpolated between the off temperatures of the corresponding points.

SPRINKLER

REQUESTED STATE

These parameters display the requested state of the sprinkler output.

ACTUAL TIMER
These parameters display the current timer used by the sprinkler output.

ACTUAL TIMER ON TIME LEFT
These parameters display the remaining ON time of the timer used by the sprinkler output.

ACTUAL TIMER ON TIME PERIOD
These parameters display the total ON time of the timer used by the sprinkler output.

ACTUAL TIMER OFF TIME LEFT
These parameters display the remaining OFF time of the timer used by the sprinkler output.

ACTUAL TIMER OFF TIME PERIOD
These parameters display the total OFF time of the timer used by the sprinkler output.

ACTIVATION MODE
These parameters are used to adjust the sprinkler operating mode. When the activation mode is set to SIMULTANEOUS, identical sprinklers assigned to the zone will activate at the same time. When this option is set to SEQUENCE, the identical sprinklers of the zone will activate one after the other.

TIMER 1 ON TEMPERATURE
This parameter is used to adjust the first sprinkler timer's activation temperature. Timer 1 will be activated when the temperature selected in *SPRINKLER PROBES* is equal to or above this set point and under *TIMER 2 ON SPRINKLER TIMER 1 ON TIME TEMPERATURE*. When this temperature is reached, the sprinkler will be activated for *SPRINKLER TIMER 1 ON TIME* and deactivated for *SPRINKLER TIMER 1 OFF TIME*.

TIMER 1 DIFFERENTIAL
This parameter is used to adjust the first sprinkler timer's deactivation temperature. When the temperature selected in *SPRINKLER PROBES* drops to *SPRINKLER TIMER 1 ON TEMPERATURE - SPRINKLER TIMER 1 DIFFERENTIAL* the timer 1 logic will no longer be effective. This parameter is adjusted in 0.1° increments from the *SPRINKLER TIMER 1 ON TEMPERATURE* - 0.5° to *SPRINKLER TIMER 1 ON TEMPERATURE* - 10.0°.

TIMER 1 ON TIME
This parameter is used to adjust the ON time of the first sprinkler timer. When the *SPRINKLER TIMER 1 ON TEMPERATURE* is reached the sprinkler will be activated for this amount of time and deactivated for *SPRINKLER TIMER 1 OFF TIME*.

TIMER 1 OFF TIME
This parameter is used to adjust the OFF time of the first sprinkler timer. When the *TIMER 1 ON TEMPERATURE* is reached the sprinkler will be activated for *SPRINKLER TIMER 1 ON TIME* and deactivated for this amount of time.

TIMER 2 ON TEMPERATURE
This parameter is used to adjust the second sprinkler timer's activation temperature. Timer 2 will be activated when the temperature selected in *SPRINKLER PROBES* is equal to or above this set point. When this temperature is reached, the sprinkler will be activated for *SPRINKLER TIMER 2 ON TIME* and deactivated for *SPRINKLER TIMER 2 OFF TIME*.

TIMER 2 DIFFERENTIAL
This parameter is used to adjust the second sprinkler timer's deactivation temperature. When the temperature selected in *SPRINKLER PROBES* drops to *SPRINKLER TIMER 2 ON TEMPERATURE - SPRINKLER TIMER 2 DIFFERENTIAL*, the timer 2 logic will no longer be effective.

TIMER 2 ON TIME
This parameter is used to adjust the ON time of the second sprinkler timer. When the *SPRINKLER TIMER 2 ON TEMPERATURE* is reached the sprinkler will be activated for this amount of time and deactivated for *SPRINKLER TIMER 2 OFF TIME*.

TIMER 2 OFF TIME
This parameter is used to adjust the OFF time of the second sprinkler timer. When the *SPRINKLER TIMER 2 ON TEMPERATURE* is reached the sprinkler will be activated for *SPRINKLER TIMER 2 ON TIME* and deactivated for this amount of time.

ACTIVATION PERIOD START
This parameter is used to set the beginning of the sprinkler activation period. When the time of day reaches the time set here, the sprinkler output will be allowed to activate according to temperature. Setting this value to the same value as the *SPRINKLER ACTIVATION PERIOD END* will cancel the deactivation period.

ACTIVATION PERIOD END
This parameter is used to set the end of the sprinkler activation period. When the time of day reaches the time set here, the sprinkler output will no longer be allowed to activate according to temperature. Setting this value to the same value as the *SPRINKLER ACTIVATION PERIOD START* will cancel the deactivation period.

HUMIDITY INFLUENCE
This option is used to determine if the sprinkler will be deactivated by the actual humidity. If this option is set to ON, the sprinkler will be deactivated if humidity is above the *SPRINKLER HUMIDITY SET POINT*. If this option is set to OFF the sprinkler will not be affected by humidity.

HUMIDITY SET POINT
This parameter is used to adjust the humidity level at which the sprinkler may not be activated by temperature demand. If the *SPRINKLER HUMIDITY INFLUENCE* option is set to ON, the sprinkler will be deactivated if humidity is above this set point. A fixed **Differential** of 3RH% is used with this logic.

SOAKING CYCLE

This parameter is used to activate or deactivate the soak cycle. As soon as this option is set to ON, the sprinkler will be activated for the *SPRINKLER SOAKING TIME ON* and will be deactivated for the *SPRINKLER SOAKING TIME OFF*. This cycle will continue for a period of time equal to the *SPRINKLER SOAKING DURATION*. As soon as the *SPRINKLER SOAKING DURATION* has elapsed, this parameter will automatically be reset to OFF. The soak cycle can also be set to AUTO, in this case, the sprinkler output will be activated when the time reaches the value of the *SOAKING START TIME* parameter and will deactivate when it reaches *SOAKING STOP TIME.* The user may cancel a soak cycle at any time by adjusting this option to OFF before the *SPRINKLER SOAKING DURATION* has elapsed. The soak cycle has priority over all other sprinkler timers.

SOAKING START TIME

These parameters are used to set the time at which the soak cycle will start in automatic mode. When the time reaches the value of this parameter, the sprinkler output will be activated. If the soak start time and the soak end time are adjusted to the same value, the cycle will not activate in automatic mode.

SOAKING END TIME

These parameters are used to set the time at which the soak cycle will stop in automatic mode. When the time reaches the value of this parameter, the sprinkler output will be deactivated.

SOAKING DURATION

This parameter is used to determine the amount of time for which the soak cycle will be active after the *SPRINKLER SOAKING CYCLE* option has been set to ON. As soon as this period of time has elapsed, the *SPRINKLER SOAKING CYCLE* option will automatically be reset to OFF.

SOAKING ON TIME

This parameter is used to adjust the ON time of the soak timer. When the *SPRINKLER SOAKING CYCLE* option has been set to ON, the sprinkler will be activated for this amount of time and deactivated for the *SPRINKLER SOAKING TIME OFF*. Setting this parameter to 0 will deactivate the soak timer.

SOAKING OFF TIME

This parameter is used to adjust the OFF time of the soak timer. When the *SPRINKLER SOAKING CYCLE* option has been set to ON, the sprinkler will be activated for the *SPRINKLER SOAKING TIME ON* and deactivated for this amount of time. Setting this parameter to 0 will activate the sprinkler continuously during the soak cycle.

SOAKING TIME LEFT

These parameters display the remaining time of the soak cycle. After the *SPRINKLER SOAKING CYCLE* option has been set to ON, this parameter will start to decrease as time advances.

PROBES

These parameters are used to select the probes the sprinkler will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual** *MAIN SET POINT***.**

CLOCKS

REQUESTED STATE
These parameters display the actual status of the clock outputs.

START TIME CYCLE #
These parameters are used to set the time at which the clock cycle will begin. When the time of day reaches this time, the clock outputs will activate.

STOP TIME CYCLE #
These parameters are used to set the time at which the clock cycle will end. When the time of day reaches this time, the clock output will deactivate.

RUN TIME CYCLE #
These parameters are used to set the time for which the clock cycle will run. When the time of day reaches *CLOCK # START TIME CYCLE # + CLOCK # RUN TIME CYCLE #*, the clock output will deactivate.

START TIME CYCLE
These parameters are used to set the time at which the first repetition of the cycle will start when Mode 2 is used. When the time of day reaches this time, the cycle will activate for the first time.

DURATION CYCLE #
These parameters are used to set the time for which the clock cycle will last in Mode 2. Each repetition of the cycle will have a duration equal to the value adjusted here.

REPETITION CYCLE #
These parameters are used to set the time after which the clock cycle will repeat itself in Mode 2. Each time a number of hours equal to the value adjusted here has elapsed after *CLOCK # START TIME CYCLE #*, the cycle repetition will begin. All repetitions must begin at 23:59 (11:59P) at the latest, or else they will be cancelled.

NUMBER OF REPETITIONS CYCLE #
These parameters are used to set the number of times the cycle will repeat itself each day. Adjusting this value to 0 deactivates the cycle.

MINIMUM VENTILATION

ON TIME **(Curve available)**
These parameters are used to adjust the ON time of the minimum ventilation timer used by ventilation stages when not activated by temperature demand. The minimum ventilation cycle is used to reduce humidity and ensure adequate airflow for the room.

OFF TIME **(Curve available)**
These parameters are used to adjust the OFF time of the minimum ventilation timer used by ventilation stages when not activated by temperature demand. The minimum ventilation cycle is used to reduce humidity and ensure adequate airflow is provided for the room.

CURVE
These parameters are used to activate or deactivate the growth curve of the ventilation timer. If this option is set to ON and the *GROWTH DAY* is not set to OFF, values of *MINIMUM VENTILATION TIMER # ON/OFF TIME* will follow their **Growth Curve** and will no longer be adjustable. If this value is set to OFF, timers will not be affected by the *GROWTH DAY*.

VARIABLE HEATER

ACTUAL INTENSITY
These parameters display the actual intensity of the variable heater.

TEMPERATURE
These parameters display the average temperature of the probes selected in the corresponding *VARIABLE HEATER # PROBES* parameter

ON TEMPERATURE
These parameters are used to set the temperature at which the variable heater will activate when PI logic is not used. When the variable heater temperature is equal to this set point, the variable heater will activate at *VARIABLE HEATER # MINIMUM INTENSITY*. When the variable heater temperature is below this set point, the variable heater intensity will increase to reach *VARIABLE HEATER # MAXIMUM INTENSITY* when the temperature reaches *VARIABLE HEATER # MAXIMUM TEMPERATURE*. A fixed **Differential** of 0.3° is used with this logic.

TARGET TEMPERATURE
These parameters are used to set the target temperature for the variable heater when PI logic is used. If the *VARIABLE HEATER PI LOGIC* is set to ON, the variable heater will activate at *VARIABLE HEATER # TARGET TEMPERATURE* – 0.5° and will deactivate when its temperature is above *VARIABLE HEATER # TARGET TEMPERATURE* + *VARIABLE HEATER # STABLILIZATION RANGE* for *VARIABLE HEATER # TIMEOUT*.

MODULATION BAND
These parameters are used to set the temperature at which the variable heater will be activated at *VARIABLE HEATER # MAXIMUM INTENSITY*. When the variable heater temperature drops and reaches *VARIABLE HEATER # ON TEMPERATURE* - *VARIABLE HEATER # MODULATION BAND*, the variable heater will be activated at *VARIABLE HEATER # MAXIMUM INTENSITY*. If the *VARIABLE HEATER PI LOGIC* is set to ON, this parameter will have additional functions.

MINIMUM INTENSITY
These parameters are used to set the intensity that will take the variable heater when its temperature is equal to *VARIABLE HEATER # ON TEMPERATURE*. If the *VARIABLE HEATER PI LOGIC* is set to ON, this parameter will have additional functions.

MAXIMUM INTENSITY
These parameters are used to set the intensity that will take the variable heater when its temperature is equal to *VARIABLE HEATER # ON TEMPERATURE* - *VARIABLE HEATER # MODULATION BAND*. If the *VARIABLE HEATER PI LOGIC* is set to ON, this parameter will have additional functions.

PROBES
This is used to select the inside temperature probes that will be used by the variable heater. The average of the selected probes will dictate heater intensity. **If there are no probes selected, the temperature used will be equal to the** *MAIN SET POINT*.

HEAT TIMEOUT
These parameters are used to set the time for which the temperature of a variable heater may be above *VARIABLE HEATER # TARGET TEMPERATURE + VARIABLE HEATER # STABLILIZATION RANGE* and activated at *VARIABLE HEATER # MINIMUM INTENSITY* without shutting off the variable heater in PI mode. If the temperature remains above *VARIABLE HEATER # TARGET TEMPERATURE + VARIABLE HEATER # STABLILIZATION RANGE* and the heater is activated at *VARIABLE HEATER # MINIMUM INTENSITY*, the variable heater will deactivate.

STABLILIZATION RANGE
This parameter determines the range of temperatures within which the PI mode variable heater is considered as being at an ideal intensity. When the variable heater is between *VARIABLE HEATER # TARGET TEMPERATURE + VARIABLE HEATER # STABLILIZATION RANGE* and *VARIABLE HEATER # TARGET TEMPERATURE - VARIABLE HEATER # STABLILIZATION RANGE*, the variable heater will maintain its current intensity without considering any temperature error or timeout factor.

INTEGRATION TIME
This parameter is used to set the range of time within which the integral correction will be applied. The difference between the heater's temperature and *VARIABLE HEATER # TARGET TEMPERATURE* will be weighted according to this period of time. The shorter this time value is, the faster the variable heater will react.

MINIMUM INTENSITY TEMPERATURE
This parameter is used to adjust the temperature at which the variable heater output will be activated at *MINIMUM INTENSITY*. The variable heater output will be at *MINIMUM INTENSITY* as long as TEMPERATURE READOUT is between *MINIMUM TEMPERATURE* and *SET TEMPERATURE*. If this parameter is set to OFF, the variable heater output will activate at *MINIMUM INTENSITY* when TEMPERATURE READOUT is equal to *SET TEMPERATURE*.

VARIABLE STIR FANS

ACTUAL SPEED
These parameters display the actual speed of the variable stir fans.

START TEMPERATURE
These parameters are used to set the temperature at which the variable stir fan will be activated continuously to *VARIABLE STIR FAN # MINIMUM SPEED*. A fixed **Differential** of 0.3° is used with this logic. As the average temperature of the probes selected in *VARIABLE STIR FAN # PROBES* increases, the variable stir fan's speed will increase until *VARIABLE STIR FAN # MODULATION BAND* is reached. These parameters can be relative to the *MAIN SET POINT* or not according to the *STIR FAN SET POINT* option. If the activation temperature is relative it will be adjustable from *MAIN SET POINT* - 40.0° to *MAIN SET POINT* + 40.0°.

MODULATION BAND
These parameters are used to set the temperature at which the variable stir fan will be activated at *VARIABLE STIR FAN # MAXIMUM SPEED*.

MINIMUM SPEED
These parameters are used to adjust the minimum speed of variable stir fans. This speed is the base value used to calculate the actual minimum speed. The OUTSIDE TEMPERATURE and humidity may affect variable stir fans' actual minimum speed. If the minimum speed **Growth Function** for variable stir fan 1 is activated, that stage's minimum speed will not be adjustable.

MAXIMUM SPEED
These parameters are used to adjust the maximum speed of the variable stir fan. This speed will be reached when the average temperature of the probes selected in *VARIABLE STIR FAN # PROBES* reaches the corresponding *VARIABLE STIR FAN # MODULATION BAND*.

TUNNEL SHUTOFF
These parameters are used to activate or deactivate the tunnel shutoff logic for the variable stir fan. If a tunnel shutoff option is set to YES, the corresponding variable stir fan will deactivate when tunnel mode is entered. If it is set to NO, tunnel mode will not affect the variable stir fan.

NATURAL SHUTOFF
These parameters are used to activate or deactivate the natural shutoff logic for the variable stir fan. If a natural shutoff option is set to YES, the corresponding variable stir fan will deactivate when natural mode is entered. If it is set to NO, natural mode will not affect the variable stir fan.

PROBES
These parameters are used to select the probes the variable stir fan will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual** *MAIN SET POINT***.**

TIMER
These parameters allow selecting the timers that variable stir fans will use. A variable stir fan activates at its minimum speed according to its timer when it has no other demand. If this parameter is set to OFF, the variable stir fan will not use a timer.

NATURAL MODE REACTIVATION TEMPERATURE
This parameter is used to set the temperature at which the natural shutoff function will be overridden. A variable stir fan that would be activated by temperature or that is otherwise deactivated because the controller is in natural mode may reactivate when the associated temperature reaches this set point. A fixed **Differential** of 1.0° is used with this logic. If natural mode is not used, this parameter will not appear.

TUNNEL MODE REACTIVATION TEMPERATURE
This parameter is used to set the temperature at which the tunnel shutoff function will be overridden. A stir fan that would be activated by temperature or that is otherwise deactivated because the controller is in tunnel mode may reactivate when the associated temperature reaches this set point. A fixed **Differential** of 1.0° is used with this logic. If tunnel mode is not used, this parameter will not appear.

HIGH TEMPERATURE SHUTOFF
These parameters are used to set the temperature at which a variable stir fan will shutoff. When the variable stir fan's temperature reaches this value, the variable stir fan will deactivate.

LIGHT AND ON/OFF STAGE DEACTIVATION
These parameters are used to activate or deactivate the light and on/off stage deactivation function. If this option is set to Yes, the lights and on/off stage selected at *LIGHT DEACTIVATION SELECTION* and *ON/OFF STAGE DEACTIVATION SELECTION* will deactivate for a period of time before and after the stir fan receives an activation demand.

LIGHT DEACTIVATION SELECTION
This parameter is used to select the lights that will deactivate for a period of time before and after the stir fan receives an activation demand.

LIGHT DEACTIVATION INTENSITY
This parameter is used to set the intensity the lights will take during the before and after stir fan activation delays.

ON/OFF STAGE DEACTIVATION SELECTION
This parameter is used to select the on/off stages that will deactivate for a period of time before and after the stir fan receives an activation demand.

DEACTIVATION TIME BEFORE
This parameter is used to set the time for which lights and on/off stages will deactivate when a stir fan receives an activation demand. When a stir fan receives an activation demand, the selected lights will take *LIGHT DEACTIVATION INTENSITY* and the on/off stages will deactivate. The stir fan will wait for this amount of time before it activates. Once this delay is finished, the *DEACTIVATION TIME AFTER* delay will begin.

DEACTIVATION TIME AFTER
This parameter is used to set the time for which lights and on/off stages will deactivate after a stir fan has activated. When a stir fan activates, the selected lights will take *LIGHT DEACTIVATION INTENSITY* and the on/off stages will deactivate. Once this delay is finished, lights and on/off stages will resume normal operation.

WIND COMPENSATION
This parameter is used to activate or deactivate the wind compensation on the variable stir fans.

WIND SPEED FOR STIR FAN STOP
This parameter is used to set the wind speed, as read by the weather station module, at which the variable stir fans can be stopped by the wind compensation.

WIND SPEED FOR STIR FAN RESTART
This parameter is used to set the wind speed, as read by the weather station module, below which variable stir fans stopped by the wind compensation will be able to restart.

WIND DIRECTION
This parameter is used to set the direction from which the wind must be blowing for the wind compensation to stop the stir fans. If set to All, the wind direction is not taken into consideration during evaluation.

DELAY TO STOP
This parameter is used to set the time for which the speed must be superior to *WIND SPEED FOR STIR FAN STOP* and for which the wind direction must match *WIND DIRECTION* for the stir fans to stop.

HIGH TEMPERATURE COMPENSATION STOP
This parameter is used to set the zone temperature above which the wind compensation will no longer be applied. If variable stir fans are stopped by the wind compensation and the zone temperature exceeds the temperature set here, the variable stir fans will restart, other settings permitting.

STIR FANS

REQUESTED STATE
These parameters display the actual status of the stir fan outputs.

ON TEMPERATURE
These parameters are used to set the temperature at which the stir fan will be activated. When the temperature selected in *STIR FAN # PROBES* reaches this temperature, the stir fan will be activated according to its timer. These parameters can be relative to the *MAIN SET POINT* or according to the *STIR FAN SET POINT* option. If the activation temperature is relative it will be adjustable from *MAIN SET POINT* - 40.0° to *MAIN SET POINT* + 40.0°.

DIFFERENTIAL
These parameters are used to set the temperature at which the stir fan will be deactivated. When the temperature selected in *STIR FAN # PROBES* drops to *STIR FAN # ON TEMPERATURE - STIR FAN # DIFFERENTIAL*, the stir fan will be deactivated.

PROBES
These parameters are used to select the probes the stir fan will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual** *MAIN SET POINT***.**

TUNNEL SHUTOFF
These parameters are used to activate or deactivate the tunnel shutoff logic for the stage. If a tunnel shutoff option is set to YES, the corresponding variable stir fan will deactivate when tunnel mode is entered. If it is set to NO, tunnel mode will not affect the stir fan.

NATURAL SHUTOFF
These parameters are used to activate or deactivate the natural shutoff logic for the stir fan. If a natural shutoff option is set to YES, the corresponding stir fan will deactivate when natural mode is entered. If it is set to NO, natural mode will not affect the stir fan.

ON TIME
These parameters are used to set the ON time of the stir fan's timer. The stir fan will activate for this amount of time and deactivate for *STIR FAN # OFF TIME* when its temperature reaches *STIR FAN # ON TEMPERATURE*.

OFF TIME
These parameters are used to set the OFF time of the stir fan's timer. The stir fan will activate for *STIR FAN # ON TIME* and deactivate for this amount of time when its temperature reaches *STIR FAN # ON TEMPERATURE*.

TIMER
These parameters allow selecting the timers that stir fans will use. A stir fan activates according to its timer when it has no other demand. If this parameter is set to OFF, the stir fan will not use a timer.

NATURAL MODE REACTIVATION TEMPERATURE
This parameter is used to set the temperature at which the natural shutoff function will be overridden. A stir fan that would be activated by temperature or that is otherwise deactivated because the controller is in natural mode may reactivate when the associated temperature reaches this set point. A fixed **Differential** of 1.0° is used with this logic. If natural mode is not used, this parameter will not appear.

TUNNEL MODE REACTIVATION TEMPERATURE
This parameter is used to set the temperature at which the tunnel shutoff function will be overridden. A stir fan that would be activated by temperature or that is otherwise deactivated because the controller is in tunnel mode may reactivate when the associated temperature reaches this set point. A fixed **Differential** of 1.0° is used with this logic. If tunnel mode is not used, this parameter will not appear.

HIGH TEMPERATURE SHUTOFF
These parameters are used to set the temperature at which the stir fan will shutoff. When the stir fan's temperature reaches this value, the stir fan will deactivate.

LIGHT AND ON/OFF STAGE DEACTIVATION
These parameters are used to activate or deactivate the light and on/off stage deactivation function. If this option is set to Yes, the lights and on/off stage selected at *LIGHT DEACTIVATION SELECTION* and *ON/OFF STAGE DEACTIVATION SELECTION* will deactivate for a period of time before and after the stir fan receives an activation demand.

LIGHT DEACTIVATION SELECTION
This parameter is used to select the lights that will deactivate for a period of time before and after the stir fan receives an activation demand.

LIGHT DEACTIVATION INTENSITY
This parameter is used to set the intensity the lights will take during the before and after stir fan activation delays.

ON/OFF STAGE DEACTIVATION SELECTION
This parameter is used to select the on/off stages that will deactivate for a period of time before and after the stir fan receives an activation demand.

DEACTIVATION TIME BEFORE
This parameter is used to set the time for which lights and on/off stages will deactivate when a stir fan receives an activation demand. When a stir fan receives an activation demand, the selected lights will take *LIGHT DEACTIVATION INTENSITY* and the on/off stages will deactivate. The stir fan will wait for this amount of time before it activates. Once this delay is finished, the *DEACTIVATION TIME AFTER* delay will begin.

DEACTIVATION TIME AFTER
This parameter is used to set the time for which lights and on/off stages will deactivate after a stir fan has activated. When a stir fan activates, the selected lights will take *LIGHT DEACTIVATION INTENSITY* and the on/off stages will deactivate. Once this delay is finished, lights and on/off stages will resume normal operation.

AIR INLETS SETUP

TYPE
These parameters are used to set the mode according to which the inlet will operate. When this parameter is set to No Mode, the associated inlet will not move unless the manual override or toggle switches are used. Otherwise, inlets may operate according to selectable modes. In Position Mode, the inlet will position itself according to the position mode settings. In Position Mode, the inlet will follow ventilation stage activation according to its own probes and will be able to use temperature compensation. In Natural Position and Natural Position Without Potentiometer mode, the inlet can trigger natural mode and will position itself according to the assigned temperature and the parameter adjustments of that mode. In Natural Time mode, the inlet can trigger natural mode and will position itself according to the assigned temperature and the parameter adjustments of that mode. In Static Pressure mode, the inlet will position itself according to the zone's static pressure and the parameter adjustments of that mode. In Time Mode, the inlet can trigger natural mode and will position itself according to the assigned temperature and the parameter adjustments of that mode. Time mode inlets do not require a potentiometer but rely on counting the time for which they took to open and close themselves. If an inlet is set to No Mode, it will not move unless manual override or toggle switches are used.

PROBES
This is used to select the inside temperature probes that will be used by the inlet. The average of the selected probes will dictate inlet position. **If there are no probes selected, the temperature used will be equal to the** *MAIN SET POINT*.

TEMPERATURE
These parameters display the average temperature of the probes selected in the corresponding *AIR INLETS SETUP # PROBES* parameter

POTENTIOMETER OPTION
These parameters are used to determine whether the position of a CO2 air inlet is determined by reading the potentiometer values or by the moving time of the air inlet.

PRECISION
This parameter is used to adjust the precision of the inlet. If the inlet performs unnecessary small movements, increase this value until acceptable stability is obtained. When this value is increased, a greater difference between the actual position and the requested position will be required before the inlet moves.

POTENTIOMETER ALARM
This parameter is used to determine if the alarm will be activated when the inlet's potentiometer value cannot be read. If this option is set to ON and the inlet's potentiometer has an out of range reading, the alarm relay will activate. If this option is set to OFF, only an alarm message will be logged in the alarm history in the case of a potentiometer problem.

ALARM POSITION ERROR IN MANUAL MODE

This parameter is used to determine whether the position error alarm of the air inlets using potentiometers can be active in manual mode. If this parameter is set to ON and the air inlet is in manual mode because of its switches (at least one of the air inlet switches is put to ON/OFF) or due to its configuration, the position error alarm activates if the difference between the *CURRENT POSITION* and the *REQUESTED POSITION* is greater than *TOLERANCE POSITION ERROR* for a time equal to or greater than *MAXIMUM TIME POSITION ERROR*. In case this option is set to OFF, the position error alarm will never be activated if the air inlet is in manual mode.

MAXIMUM RUN TIME

This parameter is used to set the maximum run time of the inlet within a ten-minute period. When an inlet has moved for a time greater than the value of this parameter within a ten-minute period, the module will not activate the open or close relays until the inlet has had time to cool down and an alarm message will be logged in the alarm history. This value should be set according to the manufacturer's specifications. Setting this value to OFF will deactivate the module cool down function. If the air inlet is already in cool down mode when this parameter is set to OFF, it will finish the cool down period before deactivating the function. It is possible to cancel the cool down sequence immediately by powering off the controller and then powering it back on. Make sure this parameter is set to OFF before powering down to cancel the cool down sequence.

LOW LIMIT CALIBRATION

This parameter is used to set the low potentiometer limit for the inlet. This will define the lowest value the inlet's potentiometer can reach. To obtain this value, completely close the inlet using the manual override switch. Once the inlet is completely closed, press on this parameter. At this moment, the displayed text will change for Low Limit Saved if the operation was successful, Cannot Save Low Limit if the potentiometer value could not be saved, or Error, Check Potentiometer if the potentiometer has an out of range value. In the last two cases, the calibration must be performed again once the situation is corrected.

HIGH LIMIT CALIBRATION

This parameter is used to set the low potentiometer limit for the inlet. This will define the lowest value the inlet's potentiometer can reach. To obtain this value, completely open the inlet using the manual override switch. Once the inlet is completely closed, press on this parameter. The displayed text will change for High Limit Saved if the operation was successful, Cannot Save High Limit if the potentiometer value could not be saved, or Error, Check Potentiometer if the potentiometer has an out of range value. In the last two cases, the calibration must be performed again once the situation is corrected.

POTENTIOMETER INPUT

This parameter is used to select which potentiometer input the inlet will use. Inlets used in Position Mode or Natural Position must have a feedback potentiometer assigned to operate properly. The inlet calibration must be performed after the potentiometer is assigned. If this value is set to ---, positioning will not be possible. The potentiometer input can be set to Master 1-8 or Slave 1-8.

ADDITIONAL CLOSING TIME
This parameter is used to determine the time allowed for the inlet to close to make sure its limit switch is reached. When the requested position is 0%, the inlet will close for this amount of time to make sure its limit switch is reached. After this delay, the inlet will stop until the requested position is greater than 0 or the inlet is operated manually.

TOTAL RUN TIME
This parameter is used to determine the total run time of the inlet. The total run time is the time the inlet takes to go from a completely closed position to a completely open position. Time Mode inlets will use this value to convert the requested position (in percentage) to a requested run time.

AUTO-CALIBRATION TIME
These parameters are used to set the time at which an auto-calibration will be performed. When a number of days equal to *INLET # AUTO-CALIBRATION FREQUENCY* has gone by since the last auto-calibration, the Time Mode inlet will perform its auto-calibration when the time of day reaches this hour.

AUTO-CALIBRATION DURATION
These parameters are used to set the duration for which the auto-calibration will last. When an air inlet performs an auto-calibration, it will move in the selected direction for this amount of time.

AUTO-CALIBRATION FREQUENCY
These parameters are used to determine the frequency at which the auto-calibration will be performed. For the air inlet to perform an auto-calibration, a number of days equal to this parameter must have gone by since the last auto-calibration or since auto-calibration was activated.

AUTO-CALIBRATION DIRECTION
These parameters are used to determine the direction in which the auto-calibration will be performed. If this parameter is set to Open, the air inlet will open for *INLET # AUTO-CALIBRATION DURATION*. If this parameter is set to Close, the air inlet will close for *INLET # AUTO-CALIBRATION DURATION*. If this parameter is set to Out Temp, the air inlet will close if the **Outside Temperature** is below *AUTO-CALIBRATION OUTSIDE SET POINT*, but will open when **Outside Temperature** is above *AUTO-CALIBRATION OUTSIDE SET POINT*.

CDC-4 CURRENT INPUT
These parameters assign a CDC-4(current-reading module) input to an air inlet. This assignation is used by the control to determine if the inlet has moved. If the inlet stays in place for a time equals to *NO MOVEMENT TIME LIMIT* while having a demand to move, an alarm will activate. This option is only used for an inlet mode that works without a potentiometer.

NO MOVEMENT TIME LIMIT
These parameters set the maximum time limit each inlet can stay in place while receiving a signal to move. Once this delay has passed, an alarm will activate. During this delay, the inlet will keep trying to move in the desired direction. This option is only used for an inlet mode that works without a potentiometer.

BLOCKED INLET ALARM IN MANUAL MODE
These parameters determine for each inlet if a blocked inlet alarm can happen while the inlet is operated manually. This option is only used for an inlet mode that works without a potentiometer.

REINIT BLOCKED INLET ALARM
These parameters are used to reset each blocked inlet alarm. This option is only used for an inlet mode that works without a potentiometer.

ALARM RELAY DEACTIVATED DURING NIGHT
These parameters are used to determine whether the alarm relay will be activated during the alarm relay deactivation period for air inlet alarms. If set to Yes, the alarm relay will not be activated in the event of an air inlet alarm. The alarm will nonetheless be noted in the alarm list. If this parameter is set to No, the alarm relay will be activated in the event of an air inlet alarm which requires the alarm relay to be activated.

AUTO-CALIBRATION OUTSIDE SET POINT
This parameter is used to determine the temperature at which inlet auto-calibration direction will change. If this *INLET # AUTO-CALIBRATION DIRECTION* is set to Out Temp, the air inlet will close if the **Outside Temperature** is below this value, but will open when **Outside Temperature** is above this value. A fixed **Differential** of 0.3° is used with this set point.

POSITION INLETS VENTILATION MODE
This parameter is used to determine how the inlet will compute its required position. In Adjustable Positions mode, the inlet computes its position according to the ventilation stages. In Airflow mode, the inlet computes its position according to the zone airflow.

AIR INLETS POSITION MODE

STATIC PRESSURE
This parameter displays the actual static pressure for the zone.

REQUESTED POSITION
These parameters display the requested position of the air inlets. Note that this is the requested position and not necessarily the actual position of the inlet.

ACTUAL POSITION
These parameters display the actual position of the air inlets. If the controller cannot read the position, the corresponding parameter will display ERROR.

CURRENT AIRFLOW
This parameter displays the current airflow provided by ventilation stages.

AIRFLOW 100% OPEN
This parameter is used to set the airflow of each inlet when said inlet is completely open. The airflow of each position mode inlet of the zone will be added to or subtracted from the amount set at this parameter.

LIMITATION MAXIMUM OPENING
These settings are used to configure the maximum opening position of the air inlets in air flow. When the ventilation stage selected in *LIMITATION MAXIMUM POSITION START OPENING STAGE* is lower or equal to the active stage, the air inlet will be limited in opening in air flow to the value of *LIMITATION MAXIMUM OPENING*.

LIMITATION MAXIMUM POSITION START OPENING STAGE
These settings are used to configure the air flow ventilation stage from which the air inlet will be limited in opening. When the active stage of the zone in air flow mode is higher or equal to the stage chosen in this parameter, the opening of the air inlet will be limited to the value of *LIMITATION MAXIMUM OPENING*.

LIMITATION MAXIMUM POSITION CLOSING/FOLLOWING STAGE
These settings enable the adjustment of an additional limit for the air inlet opening based on the active ventilation stage. When the active stage of the zone in air flow mode exceeds the stage chosen in the *LIMITATION MAXIMUM POSITION START OPENING STAGE* parameter, the value of *LIMITATION MAXIMUM OPENING* will be reduced by the difference between the two stages multiplied by *LIMITATION MAXIMUM POSITION CLOSING/FOLLOWING STAGE*.

INLET AIRFLOW ADJUSTMENT
This parameter redirects to the AIRFLOW ADJUSTMENT GROUP.

MANUAL OVERRIDE
This parameter is used to manually operate the inlet. When this parameter is set to a value other than AUTO, the corresponding inlet will take the corresponding state/position.

ABSOLUTE MINIMUM POSITION
These parameters are used to set the lowest requested position for the inlet. The requested inlet position will never go below this value unless through manual operation.

WINTER SET POINT
This parameter is used to adjust the temperature at which the calculated position *(AIR INLET # MINIMUM OPENING* and *AIR INLET # VARIABLE 1 START* position) will be equal to *AIR INLET # WINTER MINIMUM OPENING NO ACTIVE STAGE* and *AIR INLET # WINTER VARIABLE 1 START*. When the Outside Temperature is between *AIR INLET # WINTER SET POINT* and *AIR INLET # SUMMER SET POINT*, calculated positions will modulate according to these seasonal settings. These calculated positions are displayed to the parameter *AIR INLET # MINIMUM OPENING* and on the *AIR INLET # VARIABLE 1 START* position.

SUMMER SET POINT
This parameter is used to adjust the temperature at which the calculated position (*AIR INLET # MINIMUM OPENING* and *AIR INLET # VARIABLE 1 START POSITION*) will be equal to *AIR INLET # SUMMER MINIMUM OPENING NO ACTIVE STAGE* and *AIR INLET # SUMMER VARIABLE 1 START POSITION*. When the **Outside Temperature** is between *AIR INLET # WINTER SET POINT* and *AIR INLET # SUMMER SET POINT*, calculated positions will modulate according to these seasonal settings. These calculated positions are displayed to the parameter *AIR INLET # MINIMUM OPENING* and on the *AIR INLET # VARIABLE 1 START POSITION*.

WINTER MINIMUM OPENING NO ACTIVE STAGE
This parameter is used to adjust the minimum opening position when the OUTSIDE TEMPERATURE is equal to or below *AIR INLET # WINTER SET POINT*. When the OUTSIDE TEMPERATURE is between *AIR INLET # WINTER SET POINT* and *AIR INLET # SUMMER SET POINT*, the minimum opening position will modulate accordingly. The calculated minimum opening is displayed at the parameter *AIR INLET # MINIMUM OPENING*.

SUMMER MINIMUM OPENING NO ACTIVE STAGE
This parameter is used to adjust the minimum opening position when the OUTSIDE TEMPERATURE is equal to or above *AIR INLET # SUMMER SET POINT*. When the OUTSIDE TEMPERATURE is between *AIR INLET # WINTER SET POINT* and *AIR INLET # SUMMER SET POINT*, the minimum opening position will modulate accordingly. The calculated minimum opening is the parameter *AIR INLET # MINIMUM OPENING*.

WINTER VARIABLE 1 START POSITION
This parameter allows the adjustment of the variable stage 1 start position (*AIR INLET # VARIABLE 1 START POSITION*) when OUTSIDE TEMPERATURE is equal to or under *AIR INLET # WINTER SET POINT* and *AIR INLET # SUMMER SET POINT*. This calculated position is displayed on parameter *AIR INLET # VARIABLE 1 START POSITION*.

SUMMER VARIABLE 1 START POSITION
This parameter is used to adjust the start position of variable stage 1 (*AIR INLET # VARIABLE 1 START POSITION*) when OUTSIDE TEMPERATURE is equal to or above to *AIR INLET # SUMMER SET POINT*. When OUTSIDE TEMPERATURE is between *AIR INLET # WINTER SET POINT* and *AIR INLET # SUMMER SET POINT*, this position will modulate according to these seasonal settings.

MINIMUM OPENING
This parameter is used to adjust the minimum opening position when no ventilation stages are active. When the OUTSIDE TEMPERATURE is used, the calculated minimum opening is shown here and this parameter is not adjustable.

VARIABLE # START POSITION
These parameters allow the user to set the inlet opening position when the variable stage is activated at *VARIABLE STAGE # MINIMUM SPEED REFERENCE FOR INLET* or *VARIABLE STAGE # MINIMUM SPEED* (including OUTSIDE TEMPERATURE compensation, but excluding humidity compensation) according to *VARIABLE STAGE # MINIMUM SPEED AFFECTS INLET*. Inlet opening will increase proportionally to the variable stage speed to reach *AIR INLET # VARIABLE # END POSITION* when the variable stage is activated at *VARIABLE STAGE # MAXIMUM SPEED*. Inlet will also be positioned when the variable stage is active on minimum ventilation or while dehumidification is active. If the outside temperature probe is used, *AIR INLET # VARIABLE 1 START POSITION* will reflect the minimum calculated position and will not be adjustable.

VARIABLE # END POSITION
These parameters allow for the adjustment of the inlet's opening position when the variable stage is activated at *VARIABLE STAGE # MAXIMUM SPEED*.

POSITION AFTER STAGE #
This parameter is used to set the position the inlet will take when the idle back function between the last variable stage and the first ON/OFF stage is used. When *VARIABLE STAGE # IDLE BACK* of the last variable stage is set to a value other than OFF or STOP, the air inlet will modulate from the first ON/OFF stage's position to this position throughout the last variable stage's modulation band.

ON/OFF STAGE # POSITION
These parameters are used to set the opening position the inlet will take when the stage is activated.

MAXIMUM OPENING TEMPERATURE
This parameter allows the user to set the temperature at which the inlet will take the *AIR INLET # MAXIMUM OPENING* position. When the temperature related to the inlet reaches this set point, the inlet will be positioned according to *AIR INLET # MAXIMUM OPENING*. A fixed **Differential** of 0.3° is used with this logic.

MAXIMUM OPENING
This parameter is used to set the position the inlet will take when its related temperature reaches *AIR INLET # MAXIMUM OPENING TEMPERATURE*.

ABSOLUTE MAXIMUM OPENING WINTER
This parameter is used to set the maximum position the inlet can take when OUTSIDE TEMPERATURE drops to or below *AIR INLET # WINTER SET POINT*. If the air inlet is in winter mode, it will never take an opening above this setting except through manual override.

ABSOLUTE MAXIMUM OPENING
This parameter is used to set the maximum position the inlet can take. The inlet will never open more than this setting unless through manual override.

POSITION IN TUNNEL
This parameter is used to determine the position the inlet will take in tunnel mode. If this parameter is set to OFF, the inlet will position itself according to stage position and the selected temperature. If the parameter is set to any value from 0% to 100%, this will be the position the inlet will take when in tunnel mode.

CLOSE IN NATURAL
This parameter allows the user to set if the inlet closes in natural mode. When this parameter is set to Yes, the inlet will completely close when the controller begins a tunnel mode. This parameter will not be available if the natural mode is not used or if the inlet is required to open in natural mode by another setting.

NATURAL REACTIVATION TEMPERATURE
This parameter is used to reactivate the inlet in natural mode if it is closed by the *AIR INLET # CLOSE IN NATURAL*. When the inlet temperature reaches this parameter, the inlet will not be forced to close in natural mode. A fixed **Differential** of 1.0° is used with this logic.

COLD CLOSING TEMPERATURE
This parameter is used to set the temperature at which the inlet will close, regardless of ventilation demand. When the inlet's temperature drops to this set point, the air inlet will close without considering other requests. A locked **Differential** of 0.3° is used with this set point. Setting this parameter to OFF deactivates the cold closing function.

POSITION ON TIMER/HEATING

This parameter determines the behavior of the inlet for its positioning when a ventilation stage is activated by its timer or by a heater. When this parameter is set to V1Str, in minimum ventilation, no matter which stage is activated by its timer or by a heater, the inlet will position itself at the *AIR INLET # VARIABLE 1 START POSITION* if no stage is activated by temperature. When a stage is activated by temperature, the inlet will position itself according to the opening position of the last stage which is activated by temperature. If this parameter setting is between 0% and 100% inclusively, the inlet will act as the previous case, replacing the V1Str position with the position adjusted in this parameter. When this parameter is set to Stages, the inlet will position itself according to the opening position of the last stage which is activated by temperature, its timer or by a heater.

TEMPERATURE COMPENSATION

This parameter is used to adjust the compensation that will be applied to the inlet for each degree of difference between its temperature and the *AIR INLET # PROBES* temperature. When the inlet's temperature is greater than the *AIR INLET # PROBES*, the inlet's opening will be increased by this value for every degree of difference. When the *AIR INLET # PROBES* temperature is less than the AVERAGE TEMPERATURE or **MSP** the inlet's opening will be decreased by this value for every degree of difference. This compensation will be applied only if the inlet is positioned for the stage selected at *AIR INLET # MINIMUM STAGE TEMPERATURE COMPENSATION* or at any higher stage.

TEMPERATURE COMPENSATION INCREMENT

This parameter is used to adjust the temperature increment required to increase or decrease temperature compensation. Each time the difference between AVERAGE TEMPERATURE or **MSP** and *AIR INLET # PROBES* increases or decreases by this value, the temperature compensation will change its value. The effective compensation will be equal to: ((*AIR INLET # PROBES* – AVERAGE TEMPERATURE or **MSP**)/ *AIR INLET # TEMPERATURE COMPENSATION INCREMENT)* ***** *AIR INLET # TEMPERATURE COMPENSATION.*

MINIMUM STAGE TEMPERATURE COMPENSATION

This parameter is used to adjust the minimum stage at which the inlet must be positioned in order to apply temperature compensation by AVERAGE TEMPERATURE. If the air inlet has a position of a stage lower than the one selected here and *MAIN SET POINT TEMPERATURE COMPENSATION BELOW VENTILATION* is set to ON, temperature compensation will use the **MSP** instead of the AVERAGE TEMPERATURE. If the air inlet is at a stage lower than the one selected here and *MAIN SET POINT TEMPERATURE COMPENSATION BELOW VENTILATION* is set to OFF, temperature compensation will not be applied.

MAXIMUM STAGE TEMPERATURE COMPENSATION

This parameter is used to adjust the maximum stage at which the inlet can be positioned in order to apply temperature compensation by AVERAGE TEMPERATURE. If the air inlet is in a stage higher than the one selected here, temperature compensation will not be applied. Setting this parameter to None removes the maximum stage limit.

MAIN SET POINT TEMPERATURE COMPENSATION BELOW VENTILATION

These parameters are used to determine if temperature compensation using the main set point will be used when the inlet is not positioned for the stage selected at *AIR INLET # MINIMUM STAGE TEMPERATURE COMPENSATION* or a higher stage. If this parameter is set to ON, temperature compensation will compare *AIR INLET # PROBES* temperature to **MSP** to evaluate temperature compensation when the inlet is not positioned for the stage selected at *AIR INLET # MINIMUM STAGE TEMPERATURE COMPENSATION.* If this parameter is set to OFF, there will be no temperature compensation when the inlet is not positioned for the stage selected at *AIR INLET # MINIMUM STAGE TEMPERATURE COMPENSATION.*

FOLLOW NATURAL POT INLET IN NATURAL

This parameter determines if the air inlet will mimic the behavior of a specific natural position air inlet when the system is in natural mode. If this parameter is set to a number that corresponds to a natural position air inlet, this air inlet will mimic the requested position of the selected natural position inlet when in natural mode. Adjusting this parameter to OFF or a number that does not correspond to a natural position air inlet will deactivate this function.

MAXIMUM TIME POSITION ERROR

This parameter is used to set the time after which the air inlet position error alarm activates. If the difference between the *CURRENT POSITION* and the *REQUESTED POSITION* is greater than the value of *TOLERANCE POSITION ERROR* for a time equal to or greater than the value of this parameter and if the air inlet is in automatic mode or *ALARM POSITION ERROR IN MANUAL MODE* is set to ON, the maximum time position error alarm activates.

TOLERANCE POSITION ERROR

This parameter is used to set the position error margin of the air inlet. If the difference between the *CURRENT POSITION* and the *REQUESTED POSITION* is greater than the value of this parameter for a time equal to or greater than *MAXIMUM TIME POSITION ERROR* and the air inlet is in automatic mode or *ALARM POSITION ERROR IN MANUAL MODE* is set to ON, the position error alarm will be activated. If this parameter is to OFF, there will be no control of the air inlet position error and the position error alarm will not be activated.

100% OPENING VARIABLE STAGES

This parameter is used to assign variable stages to an air inlet. When one of these stages is identical to the current active stage, the requested position of the air inlet adjusts to its absolute maximum position.

100% OPENING ON/OFF STAGES

This parameter is used to assign On/Off stages to an air inlet. When one of these stages is identical to the current active stage, the requested position of the air inlet adjusts to its absolute maximum position.

MINIMUM STAGE PRESSURE COMPENSATION

These parameters are used to select the variable or ON/OFF stage which needs to be active for a static pressure compensation to be applied on the respective inlet. If the chosen stage is not active, the inlet will not be affected by any pressure compensation. If set to None, the inlet will always be affected by pressure compensation.

STOP STAGE STATIC PRESSURE COMPENSATION
This parameter is used to select the variable or ON/OFF stage at which the static pressure compensation will stop. If the chosen stage is active, a static pressure compensation will be applied on the inlet. If set to None, no maximum limit will be applied, a minimum limit can still be applied if the concerned parameter has a stage selected.

INLET OPENS FOR VARIABLE STAGE
This parameter is used to determine whether the respective inlet can open when in airflow positioning and the selected variable stage is the active stage.

INLET OPENS FOR ON/OFF STAGE
This parameter is used to determine whether the respective inlet can open when in airflow positioning and the selected ON/OFF stage is the active stage.

FAN DELAY FOR POSITIONING
This parameter is used to set the amount of time for which the inlets will move in anticipation of the activation of a ventilation stage. When the fans are set to activate in the time set at this parameter, the inlets will start their movement in order to reach the required position when the fans do activate. If the ventilation stage receives a temperature driven activation demand, they will wait this delay before activating to allow the inlets to position themselves. The pressure mode air inlets will open continuously during the delay and, once this delay has expired, the ventilation stage will activate.

MOVEMENT DELAY POSITIONING
This parameter is used to set the inlet movement associated to *FAN DELAY FOR POSITIONING*. When an inlet must move due to the activation of a ventilation stage, said stage activation will be delayed an amount of time equal to *FAN DELAY FOR POSITIONING* for each slice of the value set at this parameter that the inlet needs to move, rounded up. For example, if the inlet must move 2.5 times the value set here, the ventilation stage will be delayed an amount of time equal to 3 times the value set at *FAN DELAY FOR POSITIONING*.

CO2 CLOSING TEMPERATURE
This parameter is used to set at which temperature the CO2 closing will be possible. When the AVERAGE TEMPERATURE is equal to or lower than the value of this parameter, the temperature condition is fulfilled. When the temperature condition and CO2 condition are fulfilled, the inlet will close. The temperature condition will cease to be fulfilled when the temperature reaches the temperature set at this parameter + 0.3°F(°C).

CO2 CLOSING SETPOINT
This parameter is used to set at which CO2 concentration the CO2 closing will be possible. When the CO2 concentration is equal to or lower than the value of this parameter, the CO2 condition is fulfilled. When the temperature condition and CO2 condition are fulfilled, the inlet will close. The CO2 condition will cease to be fulfilled when the CO2 concentration reaches the concentration set at this parameter + *CO2 DIFFERENTIAL.*

CO2 DIFFERENTIAL
This parameter is used to adjust the CO2 concentration at which the inlets will begin to reopen after being fully closed. The closing demand will stop when the CO2 concentration drops under *CO2 CLOSING SETPOINT- CO2 DIFFERENTIAL.*

AIR INLETS NATURAL POSITION

REQUESTED POSITION

These parameters display the requested position of the air inlets. Note that this is the requested position and not necessarily the actual position of the inlet.

ACTUAL POSITION

These parameters display the actual position of the air inlets. If the controller cannot read the position, the corresponding parameter will display ERROR.

MANUAL OVERRIDE

This parameter is used to manually operate the inlet. When this parameter is set to a value other than AUTO, the corresponding inlet will take the corresponding state/position.

OPENING TEMPERATURE

This parameter is used to set the temperature at which the inlet will position itself at its *AIR INLET # MINIMUM OPENING*. The inlet will close completely when the inlet's selected temperature drops to *AIR INLET # OPENING TEMPERATURE - AIR INLET # DIFFERENTIAL*. If the temperature continues to increase, the inlet's opening will increase proportionally to reach *AIR INLET # MAXIMUM OPENING* when the selected temperature is equal to or above the *AIR INLET # OPENING TEMPERATURE + AIR INLET # MODULATION BAND*.

DIFFERENTIAL

This parameter is used to set the **Differential** used with the *INLET # OPENING TEMPERATURE*. When the temperature decreases, the inlet will close completely when the inlet's selected temperature drops to *INLET # OPENING TEMPERATURE - INLET # DIFFERENTIAL*.

MODULATION BAND

This parameter is used to set the range of temperatures within which the inlet's opening will modulate from its *INLET # MINIMUM OPENING* to its *INLET # MAXIMUM OPENING*. When the inlet's temperature reaches *INLET # OPENING TEMPERATURE + INLET # MODULATION BAND*, the inlet will open at its *INLET # MAXIMUM OPENING*.

ABSOLUTE MINIMUM OPENING

This parameter is used to set the absolute minimum opening position of the inlet.

MINIMUM OPENING

This parameter is used to set the position the inlet will take when its temperature reaches its *INLET # OPENING TEMPERATURE*. The inlet's opening will modulate from this position to its *INLET # MAXIMUM OPENING* throughout the *INLET # MODULATION BAND*.

MAXIMUM OPENING

This parameter is used to set the position the inlet will take when its temperature reaches its *INLET # OPENING TEMPERATURE + INLET # MODULATION BAND*. The inlet's opening will modulate from its *INLET # MINIMUM OPENING* to this position throughout the *INLET # MODULATION BAND*.

POSITION DIFFERENCE BEFORE MOVEMENT

This parameter is used to set the minimum difference between the actual demanded position and the last demanded position before requesting a movement from the inlet. If the difference between the actual demanded position and the last demanded position is less than this parameter, the inlet will not move. When the inlet's demanded position is 0%, *INLET # MINIMUM OPENING* or *INLET # MAXIMUM OPENING*, the inlet will not consider this parameter.

CLOSE IN TUNNEL

This parameter allows the user to set if the inlet closes in tunnel mode. When this parameter is set to Yes, the inlet will completely close when the controller enters tunnel mode. This parameter will not be available if the tunnel mode is not used.

COLD SECURITY TEMPERATURE

These parameters are used to set at which temperature each inlet will be affected by cold security. When an inlet's temperature reaches a value less than or equal to *COLD SECURITY TEMPERATURE*, the inlet is affected by the cold security and its REQUESTED POSITION will be equal to *MINIMUM OPENING*. The cold security effect stops when the inlet's temperature reaches a value greater than *COLD SECURITY TEMPERATURE* + 1°.

HOT SECURITY TEMPERATURE

These parameters are used to set at which temperature each inlet will be affected by hot security. When an inlet's temperature reaches a value greater than or equal to *TEMPERATURE SECURITY HOT*, the inlet is affected by hot security and its REQUESTED POSITION will be equal to *MAXIMUM OPENING*. The effect of hot security stops when the inlet temperature reaches a value lower than *TEMPERATURE SECURITY HOT* - 1°

MAXIMUM TIME POSITION ERROR

This parameter is used to set the time after which the position error alarm of the air inlet activates. If the difference between the *CURRENT POSITION* and the *REQUESTED POSITION* is greater than the value of *TOLERANCE POSITION ERROR* for a time equal to or greater than the value of this parameter and the air inlet is in automatic mode or *ALARM POSITION ERROR IN MANUAL MODE* is set to ON, the maximum time position error alarm activates.

TOLERANCE POSITION ERROR

This parameter is used to set the position error margin of the air inlet. If the difference between the *CURRENT POSITION* and the *REQUESTED POSITION* is greater than the value of this parameter for a time equal to or greater than *MAXIMUM TIME POSITION ERROR* and the air inlet is in automatic mode or *ALARM POSITION ERROR IN MANUAL MODE* is set to ON, the position error alarm will be activated. If this parameter is to OFF, there will be no control of the air inlet position error and the position error alarm will not be activated.

AIR INLETS NATURAL TIME

REQUESTED STATE

These parameters display the actual position of the air inlets. They display the actual demanded state, which may be OPEN, CLOSE, or HOLD.

OPENING TEMPERATURE
This parameter is used to set the temperature at which the inlet will begin to open according to its opening timer. When the assigned temperature reaches this relative set point, the ON portion of the opening timer will be equal to the *INLET # MINIMUM OPENING* parameter. As the temperature increases, the opening time will increase proportionally to reach the *INLET # MAXIMUM OPENING* time when the assigned temperature reaches the *INLET # OPENING TEMPERATURE + INLET # PROGESSIVE OPENING*.

PROGRESSIVE OPENING
This parameter is used to set the temperature at which the ON portion of the opening timer will be equal to the maximum value. When the assigned temperature reaches the *INLET # OPENING TEMPERATURE + INLET # PROGESSIVE OPENING* temperature, the inlet will open for *INLET # MAXIMUM OPENING*.

CLOSING TEMPERATURE
This parameter is used to set the temperature at which the inlet will begin to close according to its closing timer. When the assigned temperature reaches this relative set point, the ON portion of the closing timer will be equal to the *INLET # MINIMUM CLOSING* parameter. As the temperature decreases, the closing time will increase proportionally to reach the *INLET # MAXIMUM CLOSING* time when the assigned temperature drops to *INLET # CLOSING TEMPERATURE - INLET # PROGESSIVE CLOSING*.

PROGRESSIVE CLOSING
This parameter is used to set the temperature at which the ON portion of the closing timer will be equal to the maximum value. When the assigned temperature drops to *INLET # CLOSING TEMPERATURE - INLET # PROGESSIVE CLOSING* temperature, the inlet will open for *INLET # MAXIMUM CLOSING*.

DIFFERENTIAL
This parameter is used to set the **Differential** used on both the opening and closing set points. Once a movement temperature (*INLET # OPENING TEMPERATURE* or *INLET # CLOSING TEMPERATURE*) is reached, the timer will only be deactivated when the temperature reaches *INLET # OPENING TEMPERATURE - INLET # DIFFERENTIAL* or *INLET # CLOSING TEMPERATURE + INLET # DIFFERENTIAL*.

CYCLE TIME
This parameter is used to set the total period of both the opening and the closing timers. An inlet will open or close according to the actual calculated opening or closing time and stay put for the rest of the period. If the calculated opening or closing time is equal to or greater than this parameter, the inlet will continuously be in movement.

MINIMUM CLOSING TIME
This parameter is used to set the minimum active portion of the closing timer. When the assigned temperature reaches the *INLET # CLOSING TEMPERATURE* set point, the ON portion of the closing timer will be equal to this value.

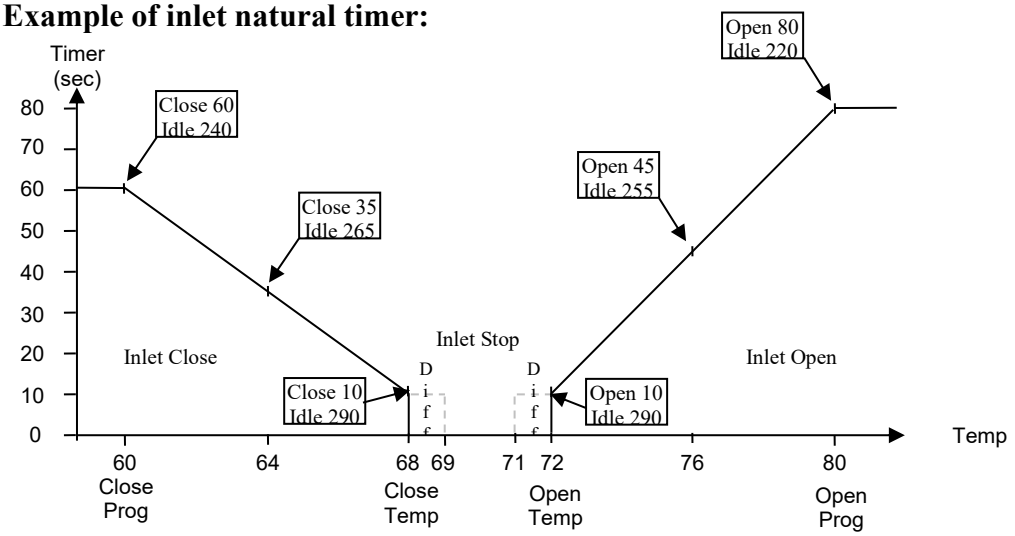
MAXIMUM CLOSING TIME
This parameter is used to set the maximum active portion of the closing timer. When the assigned temperature drops to *INLET # CLOSING TEMPERATURE - INLET # PROGESSIVE CLOSING*, the ON portion of the closing timer will be equal to this value.

MINIMUM OPENING TIME
This parameter is used to set the minimum active portion of the opening timer. When the assigned temperature reaches the *INLET # OPENING TEMPERATURE* set point, the ON portion of the opening timer will be equal to this value.

MAXIMUM OPENING TIME
This parameter is used to set the maximum active portion of the opening timer. When the assigned temperature reaches the *INLET # OPENING TEMPERATURE + INLET # PROGESSIVE OPENING*, the ON portion of the opening timer will be equal to this value.

CLOSE IN TUNNEL
This parameter allows the user to set whether or not the inlet closes in tunnel mode. When this parameter is set to Yes, the inlet will completely close when the controller enters tunnel mode. This parameter will not be available if the tunnel mode is not used.

Example of inlet natural timer:



INLET # OPENING TEMPERATURE = 72.0°F
INLET # PROGRESSIVE OPENING = 8.0°F
INLET # CLOSING TEMPERATURE = 68.0°F
INLET # PROGRESSIVE CLOSING = 8.0°F
INLET # DIFFERENTIAL = 1.0°F
INLET # CYCLE TIME = 5:00 min
INLET # MINIMUM CLOSING TIME = 0:10 min
INLET # MAXIMUM CLOSING TIME = 1:00 min
INLET # MINIMUM OPENING TIME = 0:10 min
INLET # MAXIMUM OPENING TIME = 1:20 min

AIR INLETS STATIC PRESSURE

REQUESTED STATE
These parameters display the actual state of the air inlets. The parameter displays the actual demanded state, which may be OPEN, CLOSE or HOLD.

LOW STATIC PRESSURE
This parameter is used to set the inlet's low static pressure set point. When static pressure is below this set point, the inlet will close according to its static pressure timer. As soon as static pressure rises to or above this set point, the inlet will stop closing.

HIGH STATIC PRESSURE
This parameter is used to set the inlet's high static pressure set point. When static pressure is above this set point, the inlet will open according to the static pressure timer. As soon as static pressure drops to or below this set point, the inlet will stop opening.

RUN TIME
This parameter is used to set the active portion of the static pressure timer. When static pressure is not within the *INLET (1-7, 9-15) HIGH STATIC PRESSURE* and *INLET (1-7, 9-15) LOW STATIC PRESSURE* set points, the inlet will open or close for this amount of time and remain immobile for the *INLET (1-7, 9-15) DELAY*.

DELAY
This parameter is used to set the idle portion of the static pressure timer. When static pressure is not within the *INLET (1-7, 9-15) HIGH STATIC PRESSURE* and *INLET (1-7, 9-15) LOW STATIC PRESSURE* set points, the inlet will open or close for the *INLET (1-7, 9-15) RUN TIME* and remain immobile for this amount of time.

CLOSE IN NATURAL
This parameter allows the user to set if the respective inlet closes in natural mode. When this parameter is set to Yes, the inlet will completely close when the controller enters tunnel mode. This parameter will not be available if the natural mode is not used or if the inlet is required to open by another setting in natural mode.

CLOSE IN TUNNEL
This parameter allows the user to set if the respective inlet closes in tunnel mode. When this parameter is set to Yes, the inlet will completely close when the controller enters tunnel mode. This parameter will not be available if the tunnel mode is not used.

CLOSE WHEN NOT IN TUNNEL
This parameter allows the user to set if the respective inlet closes when the system is not in tunnel mode. When this parameter is set to Yes, the inlet will completely close when the controller is not in tunnel mode. This parameter will not be available if the tunnel mode is not used.

FORCED OPENING TEMPERATURE
This parameter is used to set the temperature at which the respective inlet will be forced to open continuously. When the assigned temperature reaches this set point, the inlet will open continuously, without regard to static pressure. Adjusting this parameter to OFF will deactivate this forced opening.

DIFFERENTIAL
This parameter sets the **Differential** used with the *INLET (1-7, 9-15) FORCED OPENING TEMPERATURE*. After receiving a continuous opening demand, the inlet will only follow its static pressure set points when the assigned temperature drops to *INLET (1-7, 9-15) FORCED OPENING TEMPERATURE - INLET (1-7, 9-15) DIFFERENTIAL*.

MINIMUM STAGE
These parameters allow the user to set which ON/OFF or variable ventilation stage will close the air inlet. If the zone temperature is lower than the activation temperature of the selected stage, the air inlet closes continuously. However, if this parameter is set to NONE or if the zone temperature has reached the activation temperature of the selected stage, the evaluation of the air inlet state does not take this parameter into account.

MAXIMUM STAGE
These parameters allow the user to set which ON/OFF or variable ventilation stage will close the air inlet. If the zone temperature has reached the activation temperature of the selected stage, the air inlet closes continuously. However, if this parameter is set to NONE or if the zone temperature is lower than the activation temperature of the selected stage, the evaluation of the air inlet state does not take this parameter into account.

FAN DELAY FOR POSITIONNING
This parameter is used to set the time the fans will wait before activating to allow inlets to position themselves. When a ventilation stage receives an activation demand, the position mode air inlets will take that stage's position, the pressure mode air inlets will open continuously and, once this delay has expired, the ventilation stage will activate.

AIR INLET CO2 MODE

CO2
These parameters display the actual CO_2 for the zone. ERROR will be displayed if the CO_2 cannot be calculated for a given zone.

STATIC PRESSURE
This parameter displays the actual static pressure for the zone.

REQUESTED POSITION
These parameters display the requested position of the air inlets. Note that this is the requested position and not necessarily the actual position of the inlet.

ACTUAL POSITION
These parameters display the actual position of the air inlets. If the controller cannot read the position, the corresponding parameter will display ERROR.

CO2 SETPOINT MINIMUM POSITION
These parameters are used to select at which CO2 concentration the inlets will be at their minimum position. If the value of this parameter is lower than *CO2 SETPOINT MAXIMUM POSITION,* the inlet will keep its minimal position when the CO2 concentration is between 0 PPM and the value of this parameter. Otherwise, the minimal position will be kept when the CO2 concentration is between the value of this parameter and *CO2 CLOSING SETPOINT*.

CO2 SETPOINT MAXIMUM POSITION

These parameters are used to select at which CO2 concentration the inlets will be at their maximum position. If the value of this parameter is lower than *CO2 SETPOINT MINIMUM POSITION,* the inlet will keep its maximum position when the CO2 concentration is between 0 PPM and the value of this parameter. Otherwise, the maximal position will be kept when the CO2 concentration is between the value of this parameter and *CO2 CLOSING SETPOINT*.

CO2 CLOSING SETPOINT

These parameters are used to adjust at which CO2 concentration each inlet will close. When the CO2 concentration reaches this value, the corresponding inlet will close completely. The inlet will reopen when the CO2 concentration drop under *CO2 CLOSING SETPOINT- CO2 DIFFERENTIAL.*

CO2 DIFFERENTIAL

These parameters are used to adjust the CO2 concentration at which the inlets will begin to reopen after being fully close. The closing demand will stop when the CO2 concentration falls under *CO2 CLOSING SETPOINT- CO2 DIFFERENTIAL*.

MINIMUM OPENING

These parameters are used to adjust the inlets' minimum position. If *CO2 SETPOINT MINIMUM POSITION* is lower than *CO2 SETPOINT MAXIMUM POSITION,* the inlet will keep this position when the CO2 concentration is between 0 PPM and the value of *CO2 SETPOINT MINIMUM POSITION*. Otherwise, this position will be kept when the CO2 concentration is between *CO2 SETPOINT MINIMUM POSITION* and *CO2 CLOSING SETPOINT*.

MAXIMUM OPENING

These parameters are used to adjust the inlets' maximum position. If *CO2 SETPOINT MAXIMUM POSITION* is lower than *CO2 SETPOINT MINIMUM POSITION,* the inlet will keep this position when the CO2 concentration is between 0 PPM and the value of *CO2 SETPOINT MAXIMUM POSITION*. Otherwise, this position will be kept when the CO2 concentration is between *CO2 SETPOINT MAXIMUM POSITION* and *CO2 CLOSING SETPOINT*.

STATIC PRESSURE COMPENSATION OPTION

These parameters are used to activate or deactivate the static pressure compensation for each inlet. When active, the static pressure will influence the inlet's position.

MAXIMUM TIME POSITION ERROR

This parameter is used to set the time after which the position error alarm of the air inlet activates. If the difference between the *CURRENT POSITION* and the *REQUESTED POSITION* is greater than the value of *TOLERANCE POSITION ERROR* for a time equal to or greater than the value of this parameter and if the air inlet is in automatic mode or *ALARM POSITION ERROR IN MANUAL MODE* is set to ON, the maximum time position error alarm activates.

TOLERANCE POSITION ERROR

This parameter is used to set the position error margin of the air inlet. If the difference between the *CURRENT POSITION* and the *REQUESTED POSITION* is greater than the value of this parameter for a time equal to or greater than *MAXIMUM TIME POSITION ERROR* and the air inlet is in automatic mode or *ALARM POSITION ERROR IN MANUAL MODE* is set to ON, the position error alarm will be activated. If this parameter is to OFF, there will be no control of the air inlet position error and the position error alarm will not be activated.

MINIMUM OUTSIDE TEMPERATURE INFLUENCE

These parameters are used to set the minimum outside temperature at which the air inlets will be at their minimum opening. If the outside temperature value is less than or equal to the *MINIMUM OUTSIDE TEMPERATURE INFLUENCE*, the air inlet position will be set to the *MINIMUM OPENING* parameter value.

MAXIMUM OUTSIDE TEMPERATURE INFLUENCE

These parameters are used to set the maximum outside temperature at which the air inlets will be at their minimum opening. If the outside temperature value is greater than or equal to the *MAXIMUM OUTSIDE TEMPERATURE INFLUENCE*, the air inlet position will be set to the *MINIMUM OPENING* parameter value.

DIFFERENTIAL OUTSIDE TEMPERATURE INFLUENCE

These parameters are used to adjust the values to which the influence of the outside temperature will no longer apply. The outside temperature influence no longer applies when the outside temperature is between *MINIMUM OUTSIDE TEMPERATURE INFLUENCE + DIFFERENTIAL OUTSIDE TEMPERATURE INFLUENCE* and *MAXIMUM OUTSIDE TEMPERATURE INFLUENCE - DIFFERENTIAL OUTSIDE TEMPERATURE INFLUENCE*.

ACTUAL STATIC PRESSURE COMPENSATION

This parameter displays the actual temperature compensation applied to the inlet's position.

STATIC PRESSURE COMPENSATION

This parameter is used to adjust the compensation that will be applied to the inlet when the static pressure is not under *AIR INLET LOW STATIC PRESSURE SET POINT* and not above *AIR INLET HIGH STATIC PRESSURE SET POINT*. When the static pressure is greater than *AIR INLET HIGH STATIC PRESSURE SET POINT*, the inlet's opening will be increased by this value every time *AIR INLET STATIC PRESSURE COMPENSATION DELAY* has expired. When the static pressure is less than *AIR INLET LOW STATIC PRESSURE SET POINT*, the inlet's opening will be decreased by this value every time *AIR INLET STATIC COMPENSATION PRESSURE DELAY* has expired. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* and the position added or reduced is reset each time a ventilation stage is activated. Pressure compensation will be checked each time the *AIR INLET STATIC PRESSURE COMPENSATION DELAY* has expired.

LOW STATIC PRESSURE SET POINT

This parameter is used to adjust the value at which inlet static pressure compensation will begin to reduce the inlet's opening when *PRESSURE SET POINT* is set to Global. When the static pressure is lower than this parameter, the inlet's opening will be decreased by *AIR INLET STATIC PRESSURE COMPENSATION*. Pressure compensation will be checked each time the *AIR INLET STATIC PRESSURE COMPENSATION DELAY* has expired. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* option is selected.

HIGH STATIC PRESSURE SET POINT

This parameter is used to adjust the value at which inlet static pressure compensation will begin to increase the inlet's opening when *PRESSURE SET POINT* is set to Global. When the static pressure is greater than this parameter, the inlet's opening will be increased by *AIR INLET STATIC PRESSURE COMPENSATION*. Pressure compensation will be checked each time the *AIR INLET STATIC PRESSURE COMPENSATION DELAY* expires. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* option is selected.

STATIC PRESSURE COMPENSATION DELAY

This parameter is used to adjust the time after which static pressure will be checked to evaluate static pressure compensation on the inlet's position. When the static pressure is not within *AIR INLET LOW STATIC PRESSURE SET POINT* and *AIR INLET HIGH STATIC PRESSURE SET POINT*, this delay will start. Once the delay has expired, the compensation will be evaluated and applied. Once the compensation is evaluated, the delay starts once again and compensation will be evaluated and applied again when the delay expires once more. This cycle continues as long as the static pressure is outside the *AIR INLET LOW STATIC PRESSURE SET POINT* and *AIR INLET HIGH STATIC PRESSURE SET POINT* limits. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* option is selected.

STATIC PRESSURE COMPENSATION LIMIT

This parameter is used to set the limit for the static pressure compensation. The static pressure compensation will not alter the inlet's position by a value greater than the one set here.

AIR INLET PURGE

DELAY BEFORE PURGE

These parameters are used to set the time after which a purge will occur. If an inlet used in Position Mode, Natural Position or Time Mode has not moved for this amount of time, the purge will be performed. If an inlet used in Natural Time closes, on timer or continuously, for this amount of time, the purge will be performed. This parameter can be adjusted from 0:00 minute to 300:59 minutes.

PURGE OPENING
These parameters are used to determine the opening position that will be added to the inlet for a purge sequence. When an inlet used in Position Mode, Natural Position or Time Mode performs a purge, it will increase its opening by the value adjusted here.

PURGE RUN TIME
These parameters are used to determine the inlets opening movement delay for a purge sequence. When the inlet stays immobile for a period equal to *DELAY BEFORE PURGE* then a purge sequence starts and the inlet will open for this amount of time.

PURGE TIME
This parameter is used to determine the purge sequence duration. This amount of time includes the inlet's opening movement to reach the purge position and the time the inlet will stay at this position. After this time, Position Mode, Natural Position or Time Mode inlets will return to the calculated position, but Natural Time inlets will close for this amount of time + 15 seconds.

DELAY BETWEEN PURGE
This parameter is used to set the waiting time between recurrent purge sequences. After the first opening purge sequence, if the current inlet's requested position does not change, the inlet will wait for a period of time equal to this parameter before starting the recurrent purge sequences.

PURGE IN TUNNEL
This parameter is used to determine if the purge logic will be applied while the system is in tunnel mode. If this parameter is set to Yes, the purge will be allowed when the zone is in tunnel mode. If the zone is in tunnel mode and this option is set to NO, the purge logic will not be applied to the inlet.

AIR INLET WEATHER COMPENSATION

WIND COMPENSATION INCREASE DELAY
This parameter is used to set the amount of time for which the increase in wind compensation must be present for it to have an effect on the air inlet. When an air inlet must close for wind compensation, this delay will be applied on the air inlet.

WIND COMPENSATION DECREASE DELAY
This parameter is used to set the amount of time for which the decrease in wind compensation must be present for it to have an effect on the air inlet. When an air inlet must open for wind compensation, this delay will be applied on the air inlet.

WIND DIRECTION COMPENSATION
This parameter is used to select the wind direction that will cause compensation on the air inlet. If the wind direction read by the weather station is exactly the one adjusted here, the calculated wind compensation will be applied. If the wind direction is indirectly the one adjusted here, for example North-East or North-West when the chosen direction is North, the applied compensation will be a percentage, defined by *INDIRECT WIND COMPENSATION*, of the original calculated compensation.

WIND SPEED POINT #
These parameters are used to set the wind speed at which *WIND COMPENSATION CLOSING POINT #* will be applied. When the wind speed reaches one of these values, the calculated compensation will be equal to the associated closing value.

WIND COMPENSATION CLOSING POINT #
These parameters are used to set the percentage by which the air inlets will close when the associated wind speed is reached.

WIND COMPENSATION MINIMUM OPENING
This parameter is used to set the minimum percentage that the inlet will take because of wind compensation. If calculated wind compensation would make the inlet close more than this position, it will instead take the position adjusted here.

WIND COMPENSATION DEACTIVATION TEMPERATURE
This parameter is used to set the temperature at which wind compensation will be cancelled. When the zone's temperature reaches this value, wind compensation will no longer be effective.

INDIRECT WIND COMPENSATION
This parameter is used to set the percentage of the calculated wind compensation that will be applied when an indirect wind is detected by the weather station. A wind qualifies as indirect when it has a direction that is not exactly the one set in *WIND DIRECTION COMPENSATION*, but does contain that direction. For example, if the *WIND DIRECTION COMPENSATION* of an inlet is set to south, indirect winds will be South-East and South West winds, South will be direct wind and other directions will not have any effect on wind.

MINIMUM WIND SPEED RAIN COMPENSATION
This parameter is used to set the minimum wind speed for rain compensation to be applied. If wind and rain compensations are both used, the wind must have at least this speed for rain compensation to be effective.

RAIN COMPENSATION ACTIVATION DELAY
This parameter is used to set the amount of time for which rain compensation must be present for it to have an effect on the air inlet. When an air inlet must limit its opening for rain compensation, this delay will be applied before the limitation becomes effective.

RAIN COMPENSATION DEACTIVATION DELAY
This parameter is used to set the amount of time for which rain compensation must be absent for it to no longer have an effect on the air inlet. When an air inlet must no longer limit its opening for rain compensation, this delay will be applied before the limitation is removed.

RAIN COMPENSATION DEACTIVATION TEMPERATURE
This parameter is used to set the temperature at which rain compensation will be cancelled. When the zone's temperature reaches this value, rain compensation will no longer be effective.

RAIN COMPENSATION MAXIMUM OPENING
This parameter is used to set the maximum opening the inlet can take when rain compensation is activated. When the air inlet compensates for rain, it will not open to a position greater than the one adjusted here.

AIR INLET STATIC PRESSURE COMPENSATION

STATIC PRESSURE
This parameter displays the actual static pressure for the zone.

ACTUAL STATIC PRESSURE COMPENSATION
This parameter displays the actual temperature compensation applied to the inlet's position.

STATIC PRESSURE COMPENSATION
This parameter is used to adjust the compensation that will be applied to the inlet when the static pressure is not under *AIR INLET LOW STATIC PRESSURE SET POINT* and not above *AIR INLET HIGH STATIC PRESSURE SET POINT*. When the static pressure is greater than *AIR INLET HIGH STATIC PRESSURE SET POINT*, the inlet's opening will be increased by this value every time *AIR INLET STATIC PRESSURE COMPENSATION DELAY* has expired. When the static pressure is less than *AIR INLET LOW STATIC PRESSURE SET POINT*, the inlet's opening will be decreased by this value every time *AIR INLET STATIC COMPENSATION PRESSURE DELAY* has expired. Static pressure compensation will be applied only when the inlet is using the position of a stage that is selected in *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION.* The compensation is reset each time a ventilation stage is activated or deactivated. Pressure compensation will be verified every time the *AIR INLET STATIC PRESSURE COMPENSATION DELAY* has expired.

LOW STATIC PRESSURE SET POINT
This parameter is used to adjust the value at which inlet static pressure compensation will begin to reduce the inlet's opening when *PRESSURE SET POINT* is set to Global. When the static pressure is less than the value of this parameter, the inlet's opening will be decreased by *AIR INLET STATIC PRESSURE COMPENSATION*. Pressure compensation will be checked each time the *AIR INLET STATIC PRESSURE COMPENSATION DELAY* has expired. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* option is selected.

HIGH STATIC PRESSURE SET POINT
This parameter is used to adjust the value at which inlet static pressure compensation will begin to increase the inlet's opening when *PRESSURE SET POINT* is set to Global. When the static pressure is greater than this parameter, the inlet's opening will be increased by *AIR INLET STATIC PRESSURE COMPENSATION*. Pressure compensation will be checked each time the *AIR INLET STATIC PRESSURE COMPENSATION DELAY* expires. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* option is selected.

LOW STATIC PRESSURE TOLERANCE

This parameter is used to adjust the value at which inlet static pressure compensation will begin to reduce the inlet's opening when *PRESSURE SET POINT* is set to Per Stage. When the static pressure is less than *NO STAGE-TIMER-ON/OFF-VARIABLE STAGE # PRESSURE SET POINT - LOW STATIC PRESSURE TOLERANCE*, the inlet's opening will be decreased by *AIR INLET STATIC PRESSURE COMPENSATION*. Pressure compensation will be checked each time the *AIR INLET STATIC PRESSURE COMPENSATION DELAY* has expired. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* option is selected.

HIGH STATIC PRESSURE TOLERANCE

This parameter is used to adjust the value at which inlet static pressure compensation will begin to increase the inlet's opening when *PRESSURE SET POINT* is set to Per Stage. When the static pressure is greater than *ON/OFF/VARIABLE STAGE # PRESSURE SET POINT + HIGH STATIC PRESSURE TOLERANCE*, the inlet's opening will be increased by *AIR INLET STATIC PRESSURE COMPENSATION*. Pressure compensation will be checked each time the *AIR INLET STATIC PRESSURE COMPENSATION DELAY* expires. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* option is selected.

STATIC PRESSURE COMPENSATION DELAY

This parameter is used to adjust the time after which static pressure will be checked to evaluate static pressure compensation on the inlet's position. When the static pressure is not within the range of values contained between *AIR INLET LOW STATIC PRESSURE SET POINT* and *AIR INLET HIGH STATIC PRESSURE SET POINT*, this delay will start. Once the delay has expired, the compensation will be evaluated and applied. Once the compensation is evaluated, the delay starts once again and compensation will be evaluated and applied again when the delay expires once more. This cycle continues as long as the static pressure is outside the *AIR INLET LOW STATIC PRESSURE SET POINT* and *AIR INLET HIGH STATIC PRESSURE SET POINT* limits. Static pressure compensation will be applied only when the inlet is using the position of a stage whose corresponding *AIR INLET VARIABLE STAGES/STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* option is selected.

STATIC PRESSURE COMPENSATION LIMIT

This parameter is used to set the limit for the static pressure compensation. The static pressure compensation will not alter the inlet's position by a value greater than the one set here.

COMPENSATION DIRECTION

This parameter is used to adjust the direction of the static pressure compensation of the air inlet. At high pressure, if the *COMPENSATION DIRECTION* is set to Direct, the air inlet tends to open and close if this parameter is set to Reverse. Likewise, at low pressure, if *DIRECTION COMPENSATION* is set to Direct, the air inlet tends to close and open if this parameter is set to Reverse.

NO STAGE PRESSURE COMPENSATION
This parameter is used to select whether pressure compensation is to be applied when no stage is active. If this option is set to No, the pressure compensation will not be used when no ventilation, variable or ON/OFF stage is active. If this option is set to Yes, the pressure compensation will be used when no ventilation stage is active.

NO STAGE PRESSURE SET POINT
This parameter is used to set the pressure set point when no ventilation stages are activated and *PRESSURE SET POINT* is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to Median/Tolerance. When the static pressure is less than *NO STAGE PRESSURE SET POINT - LOW STATIC PRESSURE TOLERANCE*, the inlet's opening will be reduced to control static pressure. When the static pressure is greater than *NO STAGE PRESSURE SET POINT + HIGH STATIC PRESSURE TOLERANCE*, the inlet's opening will be increased to control static pressure.

NO STAGE LOW PRESSURE SET POINT
This parameter is used to set the low pressure set point when no ventilation stage is activated and PRESSURE SET POINT is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to High/Low. If the static pressure is lower than the value set here, the inlet will move to control static pressure.

NO STAGE HIGH PRESSURE SET POINT
This parameter is used to set the high pressure set point when no ventilation stage is activated and when PRESSURE SET POINT is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to High/Low. If the static pressure is higher than the value set here, the inlet will move to control static pressure.

VARIABLE STAGES AFFECTED BY STATIC PRESSURE COMPENSATION
This parameter is used to activate or deactivate static pressure compensation for the respective variable stage's position. If a variable stage is not selected through this parameter, static pressure compensation will not be applied for that variable stage's position.

STAGES AFFECTED BY STATIC PRESSURE COMPENSATION
This parameter is used to activate or deactivate static pressure compensation for the respective ON/OFF stage's position. If an ON/OFF stage is not selected through this parameter, static pressure compensation will not be applied for that ON/OFF stage's position.

MINIMUM VARIABLE STAGE AFFECTED BY STATIC PRESSURE COMPENSATION
This parameter is used to set the variable stage from which static pressure compensation will be active. If set to None, the static pressure compensation will never be active for variable stages.

MINIMUM STAGE AFFECTED BY STATIC PRESSURE COMPENSATION
This parameter is used to set the ON/OFF stage from which static pressure compensation will be active. If set to None, the static pressure compensation will never be active for ON/OFF stages.

PRESSURE COMPENSATION ABOVE STAGE 16
This parameter enables static pressure compensation to be activated if one of the stages 17 to 24 is active.

PRESSURE COMPENSATION WITH TIMER

This parameter determines if static pressure compensation will be applied on a ventilation stage using timer. If set to No, the static pressure compensation will not be used as long as long as a variable stage, ON/OFF stage or inlet uses minimum ventilation timer. If this parameter is set to Yes, the static pressure compensation will be applied when outputs use minimum ventilation timer.

TIMER PRESSURE SET POINT

This parameter is used to set the pressure set point when at least one ventilation stage is activated by its timer and *PRESSURE SET POINT* is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to Median/Tolerance. When the static pressure is less than *TIMER PRESSURE SET POINT - LOW STATIC PRESSURE TOLERANCE*, the inlet's opening will be reduced to control static pressure. When the static pressure is greater than *TIMER PRESSURE SET POINT + HIGH STATIC PRESSURE TOLERANCE*, the inlet's opening will be increased to control static pressure.

TIMER LOW STATIC PRESSURE SET POINT

This parameter is used to set the low pressure set point when at least one ventilation stage is activated by its timer and PRESSURE SET POINT is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to High/Low. If the static pressure is lower than the value set here, the inlet will move to control static pressure.

TIMER HIGH STATIC PRESSURE SET POINT

This parameter is used to set the high pressure set point when at least one ventilation stage is activated by its timer and when PRESSURE SET POINT is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to High/Low. If the static pressure is higher than the value set here, the inlet will move to control static pressure.

VARIABLE STAGE # PRESSURE SET POINT

This parameter is used to set the pressure set point when the corresponding variable stage is activated, when *PRESSURE SET POINT* is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to Median/Tolerance. When the static pressure is less than *VARIABLE STAGE # PRESSURE SET POINT - LOW STATIC PRESSURE TOLERANCE*, the inlet's opening will be reduced to control static pressure. When the static pressure is greater than *VARIABLE STAGE # PRESSURE SET POINT + HIGH STATIC PRESSURE TOLERANCE*, the inlet's opening will be increased to control static pressure.

ON/OFF STAGE # PRESSURE SET POINT

This parameter is used to set the pressure set point when the respective ON/OFF stage is activated, when *PRESSURE SET POINT* is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to Median/Tolerance. When the static pressure is less than *ON/OFF STAGE # PRESSURE SET POINT - LOW STATIC PRESSURE TOLERANCE*, the inlet's opening will be reduced to control static pressure. When the static pressure is greater than *ON/OFF STAGE # PRESSURE SET POINT + HIGH STATIC PRESSURE TOLERANCE*, the inlet's opening will be increased to control static pressure.

VARIABLE STAGE # LOW PRESSURE SET POINT
This parameter is used to set the low pressure set point for the respective variable stage when PRESSURE SET POINT is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to High/Low. If the static pressure is lower than the value set here, the inlet will move to control static pressure.

VARIABLE STAGE # HIGH PRESSURE SET POINT
This parameter is used to set the high pressure set point for the respective variable stage when PRESSURE SET POINT is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to High/Low. If the static pressure is higher than the value set here, the inlet will move to control static pressure.

ON/OFF STAGE # LOW PRESSURE SET POINT
This parameter is used to set the low pressure set point for the respective ON/OFF stage when PRESSURE SET POINT is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to High/Low. If the static pressure is lower than the value set here, the inlet will move to control static pressure.

ON/OFF STAGE # HIGH PRESSURE SET POINT
This parameter is used to set the high pressure set point for the respective ON/OFF stage when PRESSURE SET POINT is set to Per Stage and *PRESSURE SET POINT PER STAGE* is set to High/Low. If the static pressure is higher than the value set here, the inlet will move to control static pressure.

AIR INLET AIRFLOW ADJUSTMENT

CURRENT TOTAL INLET AIRFLOW
This parameter displays the sum of the airflow of the inlets which can open for the active ventilation stage. If a given inlet cannot open for the active ventilation stage, it will not be taken into consideration for the total airflow.

CURRENT INLET AIRFLOW AJUSTMENT
This parameter displays the airflow adjustment which is currently applied to the inlets according to the active ventilation stage.

CURRENT ADJUSTED INLET AIRFLOW
This parameter displays the total airflow of the inlets which can open for the active ventilation stage, taking into consideration the CURRENT INLET AIRFLOW ADJUSTMENT.

INLET AIRFLOW ADJUSTMENT VARIABLE STAGE #
This parameter is used to set the desired airflow adjustment for a given variable ventilation stage. The adjustment set here will be used and applied to the inlets when the ventilation stage is the last active ventilation stage.

INLET AIRFLOW ADJUSTMENT STAGE #
This parameter is used to set the desired airflow adjustment for a given on/off ventilation stage. The adjustment set here will be used and applied to the inlets when the ventilation stage is the last active ventilation stage.

INFLATABLE CURTAIN

BLOWER # REQUESTED STATE
These parameters display the actual status of each of the blower outputs of the inflatable curtains. Each blower output can be ON or OFF.

BLOWER # OPENING TEMPERATURE
These parameters are used to set the temperature at which the inflatable curtain stage will open. When the temperature of the probes selected in *INFLATABLE CURTAIN # PROBES* is equal to or above this value, the inflatable curtain blower will deactivate.

BLOWER # DEFLATION DELAY
These parameters are used to set the minimum deactivation delay between the previous inflatable curtain's blower and this one. When the previous inflatable curtain stage deflates, the controller will wait at least this amount of time before deflating this stage. For proper inflatable curtain operation, all set points of a given inflatable curtain must be set in ascending order.

BLOWER # INFLATION DELAY
These parameters are used to set the minimum activation delay between the next inflatable curtain's blower and this one. When the next inflatable curtain stage inflates, the controller will wait at least this amount of time before inflating this stage. For proper inflatable curtain operation, all set points of a given inflatable curtain must be set in ascending order.

DIFFERENTIAL
These parameters are used to set the temperature at which the inflatable curtain blowers will close. When the temperature of the probes selected in *INFLATABLE CURTAIN # PROBES* is equal to or below *INFLATABLE CURTAIN # BLOWER # OPENING TEMPERATURE - INFLATABLE CURTAIN # DIFFERENTIAL*, the inflatable curtain blower will activate.

MINIMUM VENTILATION ON TIME
This parameter is used to adjust the deflation time for the minimum ventilation timer. This parameter determines the time during which stage 1 will deflate when it has remained inflated for a period of time equal to *INFLATABLE CURTAIN # MINIMUM VENTILATION OFF TIME*.

MINIMUM VENTILATION OFF TIME
This parameter is used to adjust the idle time for the minimum ventilation timer. This parameter determines the time for which stage 1 must be inflated before it deflates according to the *INFLATABLE CURTAIN # MINIMUM VENTILATION ON TIME*. If stage 1 has remained inflated for a time equal to *INFLATABLE CURTAIN # MINIMUM VENTILATION OFF TIME*, it will deflate for *INFLATABLE CURTAIN # MINIMUM VENTILATION ON TIME* even if its deflation temperature has not been reached.

PROBES
This is used to select the inside temperature probes that will be used by the Inflatable curtain. The average of the selected probes will dictate opening and closing. **If there are no probes selected, the temperature used will be equal to the** *MAIN SET POINT*.

DRAINING TIME

This parameter establishes the time at which stages 2 to 4 will inflate to evacuate water accumulation on the membrane of those stages. The inflation delays between stages will be applied within *DRAINING DURATION*. The drainage of those stages will be performed only when they have been deflated for 24 hours or more. Only one inflatable inlet will perform its draining sequence at a time. If more than one inflatable inlet requires draining, they will be performed one at a time.

DRAINING DURATION

This parameter determines the inflation time for stages 2 to 4 during a drainage sequence. The inflation delays between stages will be applied within the drainage time adjusted here.

CLOSE IN TUNNEL

This parameter allows the user to set if the inflatable curtain will close in tunnel mode. When this parameter is set to Yes, the inflatable curtain will completely close when the controller begins tunnel mode. This parameter will not be available if the tunnel mode is not used.

RAIN/WIND COMPENSATION STATE

This parameter displays the actual rain/wind compensation state. When the inflatable curtain stages close for rain/wind compensation stop delay, this parameter displays ON. When the rain/wind compensation does not affect the inflatable curtain stages, this parameter displays OFF.

WIND COMPENSATION DIRECTION

These parameters are used to determine the wind direction that triggers compensation for the inflatable curtain. A wind must at least partially come from the adjusted direction to enable rain/wind compensation. For example, if the selected direction is North, wind from North-West, North and North-East will all affect the inflatable curtain. When the wind comes at least partially from the direction chosen here, its speed is at *INFLATABLE CURTAIN # WIND COMPENSATION SPEED* and the rain detector is active, the inflatable curtain will close a number of stages equal to *INFLATABLE CURTAIN # NUMBER OF BLOWERS COMPENSATION*. The wind direction can be North, East, South or West.

WIND COMPENSATION SPEED

These parameters are used to determine the wind speed that triggers compensation for the inflatable curtain. A wind must have a speed equal to or greater than this value to affect an inflatable curtain. When the wind comes at least partially from the *INFLATABLE CURTAIN # WIND COMPENSATION SPEED*, its speed is equal to or greater the value adjusted here and the rain detector is active, the inflatable curtain will close a number of stages equal to *INFLATABLE CURTAIN # NUMBER OF BLOWERS COMPENSATION*. The wind direction can be North, East, South or West.

RAIN/WIND COMPENSATION STOP DELAY

These parameters determine the total time rain/wind compensation will continue after one of the conditions is no longer satisfied. When one of the conditions that causes wind/rain compensation is no longer present (either wind direction, wind speed or rain) compensation will continue for this amount of time.

NUMBER OF BLOWERS COMPENSATION
These parameters determine the number of blowers that will activate for wind/rain compensation. When the rain/win compensation condition is ON, the number of stages selected here will close in addition to the ones that are required to close because of other conditions. Adjusting this parameter to OFF deactivates wind/rain compensation for the inflatable curtain.

PRESSURE FANS

ACTUAL SPEED
These parameters display the actual speed of the pressure fans.

STATIC PRESSURE
This parameter displays the actual static pressure for the zone.

REACTION FACTOR
This parameter is used to adjust the speed at which the fans will react to static pressure changes. If this parameter is set to 1, pressure fans for the respective zone will change their speed to what the actual static pressure reading dictates. It this value is greater than 1, the pressure fans will change their speed progressively and the higher the number is, the more time it will take for the fans to reach the required speed.

MODE
This parameter is used to adjust the mode of the pressure fan. If this parameter is set to Exhaust, fans will activate when pressure is equal to or greater *ACTIVATION STATIC PRESSURE SET POINT* and accelerate as pressure increases. If this parameter is set to Intake, fans will activate when the pressure is equal to or lower than *ACTIVATION STATIC PRESSURE SET POINT* and accelerate as pressure decreases.

ACTIVATION STATIC PRESSURE SET POINT
These parameters are used to set the pressure at which the pressure fan will activate. When the pressure is equal to this set point, the pressure fan will have an activation demand.

DEACTIVATION STATIC PRESSURE SET POINT
These parameters are used to set the pressure at which the pressure fan will deactivate. When the pressure is equal to this set point, the pressure fan will no longer have a deactivation demand.

MODULATION BAND
These parameters are used to determine the pressure at which the pressure fan will be activated at its maximum speed. The pressure fan will be activated at *MAXIMUM SPEED* when its pressure reaches *ACTIVATION STATIC PRESSURE SET POINT +/- MODULATION BAND*.

MINIMUM SPEED
These parameters are used to adjust the minimum speed of pressure fans. When a pressure fan has an activation demand and the pressure is equal to *ACTIVATION STATIC PRESSURE SET POINT*, the pressure fan will be activated at this speed.

MAXIMUM SPEED
These parameters are used to adjust the maximum speed of pressure fans. When a pressure fan has an activation demand and the pressure is equal to *ACTIVATION STATIC PRESSURE SET POINT +/- MODULATION BAND*, the pressure fan will be activated at this speed.

ACTIVATION DELAY
These parameters are used to set the time for which an activation demand must be present to activate the pressure fan.

DEACTIVATION DELAY
These parameters are used to set the time for which a deactivation demand must be present to deactivate the pressure fan.

DELAY BETWEEN ACTIVATIONS
These parameters are used to set the minimum time between two activations. When an activation demand occurs when this delay is not elapsed, the pressure fan will wait until the delay has expired before activating the pressure fan.

DELAY BETWEEN DEACTIVATIONS
These parameters are used to set the minimum time between two deactivations. When a deactivation demand occurs when this delay is not elapsed, the pressure fan will wait until the delay has expired before deactivating the pressure fan.

STOP STAGE
These parameters allow the user to set which ON/OFF or variable ventilation stage will deactivate the pressure fan. If the zone temperature reaches the activation temperature of the selected stage, the pressure fan will deactivate. However, if this parameter is set to NONE or if the zone temperature is lower than the activation temperature of the selected stage, the pressure fan activation or deactivation will not take this parameter into account.

PRESSURE FANS ON/OFF

ACTUAL SPEED
These parameters display the current state of the on/off pressure fans.

STATIC PRESSURE
This parameter displays the actual static pressure for the zone.

REACTION FACTOR
This parameter is used to adjust the number of static pressure samples that will be used to calculate the average static pressure used by the on/off pressure fans.

MODE
This parameter is used to adjust the mode of the pressure fan. If this parameter is set to Exhaust, fans will activate when pressure is equal to or greater *ACTIVATION STATIC PRESSURE SET POINT* and accelerate as pressure increases. If this parameter is set to Intake, fans will activate when the pressure is equal to or lower than *ACTIVATION STATIC PRESSURE SET POINT* and accelerate as pressure decreases.

ACTIVATION STATIC PRESSURE SET POINT
These parameters are used to set the pressure at which the on/off pressure fan will activate. When the pressure is equal to this set point, the on/off pressure fan will have an activation demand.

DEACTIVATION STATIC PRESSURE SET POINT
These parameters are used to set the pressure at which the on/off pressure fan will deactivate. When the pressure is equal to this set point, the on/off pressure fan will no longer have a deactivation demand.

ACTIVATION DELAY
These parameters are used to set the time for which an activation demand must be present to activate the on/off pressure fan.

DEACTIVATION DELAY
These parameters are used to set the time for which a deactivation demand must be present to deactivate the on/off pressure fan.

DELAY BETWEEN ACTIVATIONS
These parameters are used to set the minimum time between two activations. When an activation demand occurs when this delay is not elapsed, the on/off pressure fan will wait until the delay has expired before activating the on/off pressure fan.

DELAY BETWEEN DEACTIVATIONS
These parameters are used to set the minimum time between two deactivations. When a deactivation demand occurs when this delay is not elapsed, the on/off pressure fan will wait until the delay has expired before deactivating the on/off pressure fan.

STOP STAGE
These parameters allow the user to set which ON/OFF or variable ventilation stage will deactivate the on/off pressure fan. If the zone temperature reaches the activation temperature of the selected stage, the on/off pressure fan will deactivate. However, if this parameter is set to NONE or if the zone temperature is lower than the activation temperature of the selected stage, the on/off pressure fan activation or deactivation will not take this parameter into account.

TRAP DOORS

REQUESTED STATE
These parameters display the state of the trap door. The parameter displays the actual demanded state, which may be OPEN, CLOSE, or HOLD.

NUMBER OF CYCLES
These parameters are used to select the amount of cycles per day that the trap door will use.

OPEN TIME #
These parameters are used to set the time at which the trap door will open for the respective cycle. When the time of day reaches this value, the trap door opens for *OPEN DURATION #.*

CLOSE TIME #
These parameters are used to set the time at which the trap door will close for the respective cycle. When the time of day reaches this value, the trap door closes for *CLOSE DURATION #.*

OPEN DURATION #
These parameters are used to set the time for which the trap door will open for the respective cycle. When the time of day reaches *OPEN TIME #*, the trap door opens for this amount of time.

CLOSE DURATION #
These parameters are used to set the time for which the trap door will close for the respective cycle. When the time of day reaches *CLOSE TIME #*, the trap door closes for this amount of time.

NESTS

REQUESTED STATE
These parameters display the state of the nest. The parameter displays the actual demanded state, which may be OPEN, CLOSE or HOLD.

OPEN START TIME
These parameters are used to set the time at which the nest will open. When the time of day reaches this value, the nest opens for *OPEN RUN DURATION*, and then does not move for *OPEN IDLE DURATION*. This cycle continues until *OPEN END TIME* is reached.

OPEN END TIME
These parameters are used to set the time at which the nest ceases to open. When the time of day reaches this value, the nest no longer performs its opening cycle.

CLOSE START TIME
These parameters are used to set the time at which the nest will close. When the time of day reaches this value, the nest closes for *CLOSE RUN DURATION*, and then does not move for *CLOSE IDLE DURATION*. This cycle continues until *CLOSE END TIME* is reached.

CLOSE END TIME
These parameters are used to set the time at which the nest ceases to close. When the time of day reaches this value, the nest no longer performs its closing cycle.

OPEN RUN DURATION
These parameters are used to set the cycle time for which the nest will open when the time of day is between *OPEN START TIME* and *OPEN END TIME*.

OPEN IDLE DURATION
These parameters are used to set the cycle time for which the nest will not move when the time of day is between *OPEN START TIME* and *OPEN END TIME*.

CLOSE RUN DURATION
These parameters are used to set the cycle time for which the nest will close when the time of day is between *CLOSE START TIME* and *CLOSE END TIME*.

CLOSE IDLE DURATION
These parameters are used to set the cycle time for which the nest will not move when the time of day is between *CLOSE START TIME* and *CLOSE END TIME*.

NUMBER CLOSING CYCLES
These parameters are used to set the amount of closing and opening cycles to do during the closing sequence.

CYCLE CLOSE DURATION
These parameters are used to set the duration for which the nest will close during the closing sequence.

CYCLE OPEN DURATION
These parameters are used to set the duration for which the nest will open during the opening sequence.

CYCLE FINAL CLOSING
These parameters are used to set the duration for which the nest will close once all the opening and closing cycles are completed.

OXYGENATION

ON TIME
This parameter is used to set the time at which oxygenation will be allowed. Oxygenation is no longer allowed when time of day reaches *OFF TIME*.

OFF TIME
This parameter is used to set the time at which oxygenation will no longer be allowed. Oxygenation is allowed once again when time of day reaches *ON TIME*.

OUTSIDE TEMPERATURE
This parameter is used to set the outside temperature at which oxygenation will be allowed. When the OUTSIDE TEMPERATURE is equal to or above this value, oxygenation will be allowed. A fixed **Differential** of 1.0° is used with this logic.

FREQUENCY
This parameter is used to set the frequency at which oxygenation will occur. When this amount of time has gone by, position mode air inlets will open for *INLET POSITIONNING DELAY* and then ventilation stages will activate for an amount of time equal to *DURATION*.

DURATION
This parameter is used to set the duration for which ventilation stages will activate for oxygenation. When an amount of time equal to *FREQUENCY* has gone by, position mode air inlets will open for *INLET POSITIONNING DELAY* and then ventilation stages will activate for this amount of time.

INLET POSITIONNING DELAY
This parameter is used to set the time for which inlets will open before activating ventilation stages for oxygenation. When an amount of time equal to *FREQUENCY* has gone by, position or time mode air inlets will open for this amount of time and then ventilation stages will activate for an amount of time equal to *DURATION*.

ALLOWED IN NATURAL MODE
This parameter is used to determine if oxygenation will be allowed in natural mode. If this option is set to Yes, oxygenation can be performed in natural mode. If this option is set to No, oxygenation will be cancelled in natural mode.

ALLOWED IN TUNNEL MODE
This parameter is used to determine if oxygenation will be allowed in tunnel mode. If this option is set to Yes, oxygenation can be performed in tunnel mode. If this option is set to No, oxygenation will be cancelled in tunnel mode.

INDOOR TEMPERATURE OXYGENATION STOP
This parameter is used to set a temperature below which oxygenation will be deactivated.

VARIABLE STAGE #
These parameters are used to set the speed at which the respective ventilation stage will activate for oxygenation. A variable stage will take this speed only if its actual speed is lower than the one set here. If this parameter is set to No, the respective variable stage will not be affected by oxygenation.

ON/OFF STAGE #
These parameters are used to set the speed at which the respective ON/OFF stage will activate for oxygenation. If this parameter is set to No, the respective ON/OFF stage will not be affected by oxygenation.

VARIABLE VENTILATOR #
These parameters are used to set the speed at which the respective variable ventilator will activate for oxygenation when using configurable ventilation stages. A variable ventilator will take this speed only if their actual speed is lower than the one set here. If this parameter is set to No, the respective variable ventilator will not be affected by oxygenation.

ON/OFF VENTILATOR #
These parameters are used to set the speed at which the respective ON/OFF ventilator will activate for oxygenation when using configurable ventilation stages. If this parameter is set to No, the respective ON/OFF ventilator will not be affected by oxygenation.

AIR INLET #
These parameters are used to set the speed at which the respective position, time, natural or natural time mode inlet will open for oxygenation. A position or time mode inlet will take this position only if its actual position is lower than the one set here. If this parameter is set to No, the respective position or time mode inlet will not be affected by oxygenation.

COOLING

REQUESTED STATE
These parameters display the requested state of the cooling output. Each cooling output can be ON or OFF.

ACTIVATION TEMPERATURE
These parameters are used to set the temperature at which the cooling will be activated. When the temperature selected in *COOLING PROBES* reaches this temperature, the cooling output will be activated continuously.

DIFFERENTIAL
These parameters are used to set the temperature at which the cooling will be deactivated. When the temperature selected in *COOLING PROBES* drops to *COOLING ON TEMPERATURE - COOLING DIFFERENTIAL*, the cooling output will be deactivated.

PROBES
These parameters are used to select the probes the cooling will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual** *MAIN SET POINT***.**

CO2

REQUESTED STATE
This parameter displays the requested state of the CO2 output in the zone displayed.
CO2 ACTIVATION CURVE
This parameter allows enabling/disabling of the curve for the *CO2 ACTIVATION* parameter. The curve becomes active when this parameter is set to **ON** and the breeding day isn't **OFF**.
CO2 ACTIVATION
This parameter is used to adjust the CO2 PPM to which the output will be activated. When the PPM of the zone is equal or inferior to this parameter, the output will be activated continually.
DIFFERENTIAL
This parameter is used to adjust the PPM to which the output will be deactivated. When the PPM of the zone goes up to *CO2 ACTIVATION + DIFFERENTIAL*, the output will be deactivated.
TIMER ON TIME
This parameter is used to adjust the activation time of the CO2 output timer. When the CO2 output is in timer mode, it is activated for the duration of *TIMER ON TIME* and deactivated for the duration of *TIMER OFF TIME*. If this parameter is set to 0, the output will remain deactivated.
TIMER OFF TIME
This parameter is used to adjust the deactivation time of the CO2 output timer. When the CO2 output is in timer mode, it will be deactivated for the duration of *TIMER OFF TIME* and activated for the duration of *TIMER ON TIME*. If this parameter is set to 0 and *TIMER ON TIME* is not set to 0, the output will remain activated.

ACTIVATION PERIOD START
This parameter is used to set the beginning of the CO2 output activation period. When the time of day reaches the time set here, the CO2 output will be allowed to activate according to PPM. Setting this value to the same value as the *ACTIVATION PERIOD END* will cancel the deactivation period.

ACTIVATION PERIOD END
This parameter is used to set the end of the CO2 output activation period. When the time of day reaches the time set here, the CO2 output will no longer be allowed to activate according to PPM. Setting this value to the same value as the *ACTIVATION PERIOD START* will cancel the deactivation period.

HUMIDIFIER

REQUESTED STATE
These parameters display the requested state of the humidifier output. Each humidifier output can be ON or OFF.

ACTIVATION HUMIDITY
These parameters are used to set the humidity at which the humidifier will be activated. When the zone humidity drops to this value, the humidifier output will be activated.

DIFFERENTIAL
These parameters are used to set the humidity at which the humidifier will be deactivated. When the zone humidity reaches *ACTIVATION HUMIDITY + DIFFERENTIAL*, the humidifier output will be deactivated.

TIMER ON TIME
This parameter is used to set the ON time of the humidifier timer. When the humidifier is in timer mode, the humidifiers will be activated for this amount of time and deactivated for *TIMER OFF TIME*. If this parameter is set to 0, the humidifier will be deactivated in timer mode.

TIMER OFF TIME
This parameter is used to set the OFF time of the humidifier timer. When the humidifier is in timer mode, the humidifiers will be activated for *TIMER ON TIME* and deactivated for this amount of time. If this parameter is set to 0, the humidifier will activate continuously in timer mode.

DEHUMIDIFIER

REQUESTED STATE
These parameters display the requested state of the dehumidifier output. Each dehumidifier output can be ON or OFF.

ACTIVATION HUMIDITY
These parameters are used to set the humidity at which the dehumidifier will be activated. When the zone humidity reaches to this value, the dehumidifier output will be activated.

DIFFERENTIAL
These parameters are used to set the humidity at which the dehumidifier will be deactivated. When the zone humidity drops to *ACTIVATION HUMIDITY - DIFFERENTIAL*, the dehumidifier output will be deactivated.

DISINFECTION

REQUESTED STATE
These parameters display the state of the disinfection output. The parameter displays the actual demanded state, which may be ON or OFF.

NUMBER OF CYCLES
These parameters are used to select the amount of cycles per day that the disinfection output will use.

START TIME #
These parameters are used to set the time at which the disinfection output will activate for the respective cycle. When the time of day reaches this value, the disinfection output will activate for an amount of time equal to *RUN TIME #.*

RUN TIME #
These parameters are used to set the amount of time for which the disinfection output will activate for the respective cycle. When the time of day reaches *START TIME #*, the disinfection output activates for this amount of time.

HEAT PAD

VARIABLE OUTPUT STATE
This parameter displays the activation intensity of the variable heat pad.

RELAY OUTPUT STATE
This parameter displays the activation state of the on/off heat pad.

TEMPERATURE READOUT
This parameter displays the temperature read by the heat pad temperature probe. If no probe is configured for the heat pad, the temperature used will be that of the **Set Point** of the heat pad's zone.

SET TEMPERATURE
This parameter is used to set the temperature at which the heat pad will activate. This parameter is affected by the **Ramping Function** when *SETPOINT CURVE OPTION* is set to ON and the **Growth Day** of the animal group assigned to that zone is not set to OFF.

SETPOINT CURVE OPTION
This parameter is used to activate or deactivate the **Ramping Function** of *SET TEMPERATURE*. If this option is set to ON and **Growth Day** is not set to OFF, *SET TEMPERATURE* will follow its **Ramping Function**.

***HIGH TEMPERATURE SHUTOFF* (Curve available)**
This parameter sets the temperature at which the heat pad will always remain deactivated. When the average temperature of the zone reaches this set point, the heater will deactivate. A fixed **Differential** of 1.0° is used with this logic.

HIGH TEMPERATURE SHUTOFF CURVE
These parameters are used to activate or deactivate the growth curve of the *HIGH TEMPERATURE SHUTOFF* parameter. If this option is set to ON and the *GROWTH DAY* is not set to OFF, values of *HIGH TEMPERATURE SHUTOFF* will follow their **Growth Curve** and will no longer be adjustable. If this value is set to OFF, *HIGH TEMPERATURE SHUTOFF* parameter will not be affected by the *GROWTH DAY*.

DIFFERENTIAL
This parameter is used to set the differential which will be used for a heat pad configured with a variable or relay output. The heat pad output will deactivate when TEMPERATURE READOUT is equal to or above *SET TEMPERATURE + DIFFERENTIAL*.

MODULATION BAND
This parameter determines the range of temperatures throughout which the heat pad output intensity will increase as the temperature decreases. The heat pad output will vary linearly between *MINIMUM INTENSITY* when TEMPERATURE READOUT is equal to *SET TEMPERATURE* to *MAXIMUM INTENSITY* when TEMPERATURE READOUT is equal to or lower than *SET TEMPERATURE - MODULATION BAND*.

MINIMUM INTENSITY
This parameter is used to adjust the minimum intensity of the variable heat pad output when it is active.

MAXIMUM INTENSITY
This parameter is used to adjust the maximum intensity of the variable heat pad output when it is active. The heat pad output will be at *MAXIMUM INTENSITY* when TEMPERATURE READOUT is equal to or lower than *SET TEMPERATURE - MODULATION BAND*.

MINIMUM TEMPERATURE
This parameter is used to adjust the temperature at which the variable heat pad output will be activated at *MINIMUM INTENSITY*. The heat pad output will be at *MINIMUM INTENSITY* as long as TEMPERATURE READOUT is between *MINIMUM TEMPERATURE* and *SET TEMPERATURE*. If this parameter is set to OFF, the heat pad output will activate at *MINIMUM INTENSITY* when TEMPERATURE READOUT is equal to *SET TEMPERATURE*.

TIME ON
This parameter is used to set the ON time of the relay heat pad output when the temperature demand is reached. If this parameter is set to 0, the heat pad output will be continuously deactivated.

TIME OFF
This parameter is used to set the OFF time of the relay heat pad output when the temperature demand is reached. If this parameter is set to 0, the heat pad output will be continuously activated when the temperature demand is reached.

SOLARWALLS

TEMPERATURE
This parameter displays the actual temperature read by the respective solarwall probe.

SETPOINT
These parameters are used to set the temperature at which an adjustment will be applied on the selected output(s) temperature set point. When the SOLARWALL # TEMPERATURE reaches this temperature, output(s) selected in *SOLARWALL # AFFECTED VARIABLE STAGES* will progressively drop their activation temperature by *SOLARWALL # INFLUENCE* for every degree of difference between the SOLARWALL # TEMPERATURE and this temperature. If more than one solarwall affects the same variable stage, the greatest difference will be applied on that stage's activation temperature. The maximum variable stage activation temperature adjustment is limited to 20.0°.

AFFECTED VARIABLE STAGES
These parameters are used to select which variable stages will be affected by the solarwall logic. Stages selected in one of these parameters will progressively drop their activation temperature by *SOLARWALL # INFLUENCE* for every degree of difference between the SOLARWALL # TEMPERATURE and *SOLARWALL # SETPOINT*. If more than one solarwall affects the same variable stage, the greatest difference will be applied on that stage's activation temperature.

INFLUENCE
These parameters allow the temperatures of the respective solar walls to be adjusted. The adjustment is calculated as the difference between the SOLAR WALL # TEMPERATURE and the *SOLAR WALL # SETPOINT*. The adjustment cannot be negative or greater than 20 ° F (° C).

RECUPERATOR

MODE
This parameter determines the recuperator mode. The mode affects outputs associated to the recuperator system. In Recovery mode, the variable ventilation stages assigned to exhaust and intake ventilators will follow the recuperator demands and valves and pumps will be allowed to activate according to their schedule. In Evacuation mode, the variable ventilation stages assigned to exhaust and intake ventilators will shut off while valves and pumps will not be allowed to activate.

RECUPERATOR SETPOINT
This parameter is used to set the recuperator set point. All recuperator-relative values will follow this parameter when its value is changed.

TEMPERATURE
This parameter displays the temperature read by the *RECUPERATOR PROBE*. The intake ventilator will follow this temperature.

MINIMUM TEMPERATURE
This parameter displays the minimum temperature read by the *RECUPERATOR PROBE* for the day.

MAXIMUM TEMPERATURE
This parameter displays the maximum temperature read by the *RECUPERATOR PROBE* for the day.

INTAKE VENTILATOR REQUESTED STATE
This parameter displays the requested speed of the intake ventilator.

EXHAUST VENTILATOR REQUESTED STATE
This parameter displays the requested speed of the exhaust ventilator.

PUMP REQUESTED STATE
This parameter displays the requested state of the pump.

VALVE # REQUESTED STATE
This parameter displays the requested state of the respective valve.

RECUPERATOR SETTINGS – INTAKE VENTILATOR

MODE
This parameter displays the current recuperator mode being used.

INTAKE VENTILATOR REQUESTED STATE
This parameter displays the requested speed of the intake ventilator.

INTAKE VENTILATOR START TEMPERATURE
This parameter is used to set the temperature at which the intake ventilator will be activated continuously with a speed equal to *INTAKE VENTILATOR MINIMUM SPEED*. A fixed **Differential** of 0.3° is used with this logic. As the temperature of the probe selected in the *RECUPERATOR PROBE* increases, the speed will increase until *INTAKE VENTILATOR END TEMPERATURE* is reached. The intake ventilator's behaviour may change, depending on the mode chosen in *INTAKE VENTILATOR MODE*.

INTAKE VENTILATOR END TEMPERATURE
This parameter is used to set the temperature at which the intake ventilator will be activated at *INTAKE VENTILATOR MAXIMUM SPEED*. The intake ventilator's behaviour may change, depending on *INTAKE VENTILATOR MODE*.

ANTI-FREEZE SETPOINT
This parameter is used to set the drop temperature at which the intake ventilator will deactivate in variable speed mode. The intake ventilator will no longer be allowed to operate according to its timers when the temperature of the *RECUPERATOR PROBE* is equal to or below this set point.

INTAKE VENTILATOR LOW INSIDE TEMPERATURE STOP
This parameter is used to set the low inside temperature at which the intake ventilator will deactivate in variable speed mode. The intake ventilator will no longer be allowed to operate when the AVERAGE TEMPERATURE is equal to or below this set point.

INTAKE VENTILATOR HIGH INSIDE TEMPERATURE STOP
This parameter is used to set the high inside temperature at which the intake ventilator will deactivate in variable speed mode. The intake ventilator will no longer be allowed to operate when the AVERAGE TEMPERATURE is equal to or above this set point.

INTAKE VENTILATOR STAGE STOP
This parameter is used to set the stage whose activation temperature will be used to deactivate the intake ventilator. When the AVERAGE TEMPERATURE of the zone is equal to or higher than the activation temperature of the selected stage, the intake ventilator will turn off. When this parameter is set to OFF, the functionality of this parameter will no longer be used.

INTAKE VENTILATOR MINIMUM SPEED
This parameter is used to adjust the minimum speed of the intake ventilator. In variable speed mode, this speed is used on speed mode timer or when *RECUPERATOR PROBE* is equal to *INTAKE VENTILATOR START TEMPERATURE*. The OUTSIDE TEMPERATURE and humidity may affect the intake ventilator's speed. In variable timer mode, this speed will be used when the temperature probes selected in *RECUPERATOR* reaches *RECUPERATOR SET POINT VARIABLE TIMER MODE MINIMUM SPEED*.

INTAKE VENTILATOR MAXIMUM SPEED
This parameter is used to adjust the maximum speed of the intake ventilator. In variable speed mode, this speed will be reached when the average temperature of the probes selected in *RECUPERATOR PROBE* reaches the corresponding *INTAKE VENTILATOR END TEMPERATURE*. In variable timer mode, this speed will be used when the temperature probes selected in *RECUPERATOR* reaches *RECUPERATOR SET POINT VARIABLE TIMER MODE MINIMUM SPEED*.

INTAKE VENTILATOR RELATIVE DEHUMIDIFICATION SETPOINT
This parameter is used to set the humidity set point at which the intake ventilator dehumidification logic will be activated. When the current humidity reaches this value, the intake ventilator's speed will gradually be increased as humidity rises. There is a fixed **Differential** of 3RH% used with this logic.

INTAKE VENTILATOR ABSOLUTE DEHUMIDIFICATION SETPOINT
This parameter is used to set the humidity set point at which the intake ventilator dehumidification logic will be activated. When the actual humidity reaches this value, the intake ventilator's speed will gradually be increased as humidity rises. There is a fixed **Differential** of 3RH% used with this logic. Dehumidification will not force the intake ventilator to activate if it does not have a temperature demand.

INTAKE VENTILATOR DEHUMIDIFICATION MODULATION BAND
This parameter is used to adjust the range of humidity throughout which the speed increase for dehumidification will go from 0% to *INTAKE VENTILATOR ADD SPEED DEHUMIDIFICATION*. When the humidity reaches *INTAKE VENTILATOR ABSOLUTE DEHUMIDIFICATION SETPOINT*, the speed increase for dehumidification will be 0%. As humidity rises, the speed increase will modulate to reach *INTAKE VENTILATOR ADD SPEED DEHUMIDIFICATION* at *INTAKE VENTILATOR ABSOLUTE DEHUMIDIFICATION SETPOINT + INTAKE VENTILATOR DEHUMIDIFICATION MODULATION BAND*.

INTAKE VENTILATOR ADD SPEED DEHUMIDIFICATION
This parameter is used to adjust the speed increase that will be applied on the intake ventilator for the dehumidification. When the actual humidity reaches *INTAKE VENTILATOR ABSOLUTE DEHUMIDIFICATION SETPOINT + INTAKE VENTILATOR DEHUMIDIFICATION MODULATION BAND*, the intake ventilator's speed will be increased by this value.

RECUPERATOR TIMER SETPOINT
This parameter is used to set the temperature at which the intake ventilator will use its speed mode timer. In variable speed mode, the intake ventilator will use the speed mode timer when the *RECUPERATOR PROBE* temperature is equal to or greater than this set point but lower than *INTAKE VENTILATOR START TEMPERATURE*. This parameter can also be used to deactivate the speed mode timer by setting it to OFF.

RECUPERATOR TIMER ON TIME
This parameter is used to set the ON time of the speed mode timer when the *RECUPERATOR TIMER SETPOINT* is not equal to OFF. In variable speed mode, when the speed mode timer is used, the intake ventilator will activate for this amount of time, then deactivate for *SPEED MODE TIMER OFF TIME*.

RECUPERATOR TIMER OFF TIME
This parameter is used to set the OFF time of the speed mode timer when the *RECUPERATOR TIMER SETPOINT* is not equal to OFF. In variable speed mode, when the speed mode timer is used, the intake ventilator will activate for *SPEED MODE TIMER ON TIME*, then deactivate for this amount of time.

OUTSIDE SET POINT VARIABLE SPEED INFLUENCE
This parameter, if its value is not OFF, is used to activate the **Outside Temperature** influence on the intake ventilator speeds. When the **Outside Temperature** is less or equal to this set point, the intake ventilator minimum speed will be the value of *INTAKE VENTILATOR MINIMUM SPEED OUTSIDE INFLUENCE.* When the **Outside Temperature** is above or equal to this set point, the intake ventilator maximum speed will be the value of *INTAKE VENTILATOR MAXIMUM SPEED OUTSIDE INFLUENCE.* A **Differential** of 2°F (1.1°C) is used with this logic.

INTAKE VENTILATOR MINIMUM SPEED OUTSIDE INFLUENCE
This parameter is used to set the minimum speed that will be used by the intake ventilator when the **Outside Temperature** is less or equal to *OUTSIDE SET POINT VARIABLE SPEED INFLUENCE.*

INTAKE VENTILATOR MAXIMUM SPEED OUTSIDE INFLUENCE
This parameter is used to set the maximum speed that will be used by the intake ventilator when the **Outside Temperature** is above or equal to *OUTSIDE SET POINT VARIABLE SPEED INFLUENCE.*

RECUPERATOR SETPOINT VARIABLE TIMER MODE MINIMUM SPEED
This parameter is used to adjust the temperature at which the intake ventilator speed will equal *INTAKE VENTILATOR VARIABLE TIMER MINIMUM SPEED* in variable timer mode. When temperature probes selected in *RECUPERATOR PROBE* is equal to or under this set point and the intake ventilator is in variable timer mode, it will activate at *INTAKE VENTILATOR VARIABLE TIMER MINIMUM SPEED* on the active portion of its timer. Between this temperature and *INTAKE VENTILATOR RECUPERATOR SETPOINT VARIABLE TIMER MODE MAXIMUM SPEED*, the speed will modulate between *INTAKE VENTILATOR VARIABLE TIMER MINIMUM SPEED* and *INTAKE VENTILATOR VARIABLE TIMER MAXIMUM SPEED*.

RECUPERATOR SETPOINT VARIABLE TIMER MODE MAXIMUM SPEED
This parameter is used to adjust the temperature at which the intake ventilator speed will equal *INTAKE VENTILATOR VARIABLE TIMER MAXIMUM SPEED* in variable timer mode. When the temperature probes selected in *RECUPERATOR PROBE* is equal to or above this set point and the intake ventilator is in variable timer mode, it will activate at its *INTAKE VENTILATOR VARIABLE TIMER MAXIMUM SPEED* on the active time of its timer. Between *INTAKE VENTILATOR RECUPERATOR SETPOINT VARIABLE TIMER MODE MINIMUM SPEED* and this temperature, the speed will modulate between *INTAKE VENTILATOR VARIABLE TIMER MINIMUM SPEED* and *INTAKE VENTILATOR VARIABLE TIMER MAXIMUM SPEED*.

VARIABLE TIMER MINIMUM SPEED
This parameter is used to adjust the intake ventilator speed when the temperature probes selected in *RECUPERATOR PROBE* is equal to or below *INTAKE VENTILATOR RECUPERATOR SETPOINT VARIABLE TIMER MODE MINIMUM SPEED* in variable timer mode.

VARIABLE TIMER MAXIMUM SPEED
This parameter is used to adjust the intake ventilator speed when the temperature probes selected in *RECUPERATOR PROBE* is equal to or below *INTAKE VENTILATOR RECUPERATOR SETPOINT VARIABLE TIMER MODE MAXIMUM SPEED* in variable timer mode.

***VARIABLE TIMER MINIMUM ON TIME* (Curve available)**
This parameter is used to adjust the activation time of the intake ventilator timer when the temperature probes selected in *RECUPERATOR PROBE* reach *INTAKE VENTILATOR START TEMPERATURE* in variable timer mode. This value will follow a **Growth Curve** if *VARIABLE TIMER MODE MINIMUM TIME CURVE* and *GROWTH DAY* are not set to OFF.

***VARIABLE TIMER MAXIMUM ON TIME* (Curve available)**
This parameter is used to adjust the activation time of the intake ventilator timer when the temperature probes selected in *RECUPERATOR PROBE* reach *INTAKE VENTILATOR END TEMPERATURE* in variable timer mode. This value will follow a **Growth Curve** if *VARIABLE TIMER MODE MAXIMUM TIME CURVE* and *GROWTH DAY* are not set to OFF.

***VARIABLE TIMER MINIMUM OFF TIME* (Curve available)**
This parameter is used to set the deactivation time of the intake ventilator when the temperature probes selected in *RECUPERATOR PROBE* reach *INTAKE VENTILATOR START TEMPERATURE* in variable timer mode. This value will follow a **Growth Curve** if *VARIABLE TIMER MODE MINIMUM TIME CURVE* and *GROWTH DAY* are not set to OFF.

VARIABLE TIMER MAXIMUM OFF TIME (*Curve available*)
This parameter is used to set the deactivation time of the intake ventilator when the temperature probes selected in *RECUPERATOR PROBE* reach *INTAKE VENTILATOR END TEMPERATURE* in variable timer mode. This value will follow a **Growth Curve** if *VARIABLE TIMER MODE MAXIMUM TIME CURVE* and *GROWTH DAY* are not set to OFF.

RECUPERATOR SETTINGS – EXHAUST VENTILATOR

MODE
This parameter displays the current recuperator mode being used.

EXHAUST VENTILATOR REQUESTED STATE
This parameter displays the requested speed of the exhaust ventilator.

EXHAUST VENTILATOR START TEMPERATURE
This parameter is used to set the temperature at which the exhaust ventilator will be activated continuously to *EXHAUST VENTILATOR MINIMUM SPEED*. A fixed **Differential** of 0.3° is used with this logic. As the temperature of the probes selected in *EXHAUST VENTILATOR PROBES* increases, the speed will increase until *EXHAUST VENTILATOR END TEMPERATURE* is reached.

EXHAUST VENTILATOR END TEMPERATURE
This parameter is used to set the temperature at which the exhaust ventilator will be activated at *EXHAUST VENTILATOR MAXIMUM SPEED*. The exhaust ventilator's behaviour may change, depending on the chosen mode of *EXHAUST VENTILATOR MODE*.

EXHAUST VENTILATOR LOW INSIDE TEMPERATURE STOP
This parameter is used to set the low inside temperature at which the exhaust ventilator will deactivate in variable speed mode. The exhaust ventilator will no longer be allowed to operate according to its timers when the AVERAGE TEMPERATURE is equal to or below this set point.

EXHAUST VENTILATOR HIGH INSIDE TEMPERATURE STOP
This parameter is used to set the high inside temperature at which the exhaust ventilator and the rinsing will deactivate. The exhaust ventilator and the rinsing will no longer be allowed to operate when the AVERAGE TEMPERATURE is equal to or above this temperature.

EXHAUST VENTILATOR STAGE STOP
This parameter is used to set the stage whose activation temperature will be used to deactivate the exhaust ventilator and the rinsing. When the AVERAGE TEMPERATURE of the zone is equal to or higher than the activation temperature of the selected stage, the exhaust ventilator and the rinsing will turn off. When this parameter is set to OFF, the functionality of this parameter will no longer be used.

EXHAUST VENTILATOR MINIMUM SPEED
This parameter is used to adjust the minimum speed of the exhaust ventilator. This speed is used on speed mode timer or when *EXHAUST VENTILATOR PROBES* is equal to *EXHAUST VENTILATOR START TEMPERATURE*. The humidity may affect the actual minimum speed.

EXHAUST VENTILATOR MAXIMUM SPEED
This parameter is used to adjust the maximum speed of the exhaust ventilator. This speed will be reached when the average temperature of the probes selected in *EXHAUST VENTILATOR PROBES* reaches the corresponding *EXHAUST VENTILATOR END TEMPERATURE*.

EXHAUST VENTILATOR TIMER ON TIME
This parameter is used to set the ON time of the exhaust ventilator timer. When the exhaust ventilator has no temperature activation demand, it will activate for this amount of time, then deactivate for *SPEED MODE TIMER OFF TIME*.

EXHAUST VENTILATOR TIMER OFF TIME
This parameter is used to set the OFF time of the exhaust ventilator timer. When exhaust ventilator has no temperature activation demand, if will activate for *SPEED MODE TIMER ON TIME*, then deactivate for this amount of time.

EXHAUST VENTILATOR RELATIVE DEHUMIDIFICATION SETPOINT
This parameter is used to set the humidity set point at which the exhaust ventilator dehumidification logic will be activated. When the current humidity reaches this value, the intake ventilator's speed will gradually be increased as humidity rises. There is a fixed **Differential** of 3RH% used with this logic.

EXHAUST VENTILATOR ABSOLUTE DEHUMIDIFICATION SETPOINT
This parameter is used to set the humidity set point at which the exhaust ventilator dehumidification logic will be activated. When the actual humidity reaches this value, the exhaust ventilator's speed will gradually be increased as humidity rises. There is a fixed **Differential** of 3RH% on this logic. Dehumidification will not force the exhaust ventilator to activate if it does not have a temperature demand.

EXHAUST VENTILATOR DEHUMIDIFICATION MODULATION BAND
This parameter is used to adjust the range of humidity through which the speed increase for dehumidification will go from 0% to *EXHAUST VENTILATOR ADD SPEED DEHUMIDIFICATION*. When humidity reaches *EXHAUST VENTILATOR ABSOLUTE DEHUMIDIFICATION SETPOINT*, the speed increase for dehumidification will be 0%. As humidity rises, the speed increase will modulate to reach *EXHAUST VENTILATOR ADD SPEED DEHUMIDIFICATION* at *EXHAUST VENTILATOR ABSOLUTE DEHUMIDIFICATION SETPOINT + EXHAUST VENTILATOR DEHUMIDIFICATION MODULATION BAND*.

EXHAUST VENTILATOR ADD SPEED DEHUMIDIFICATION
This parameter is used to adjust the speed increase applied on the exhaust ventilator for dehumidification. When the actual humidity reaches *EXHAUST VENTILATOR ABSOLUTE DEHUMIDIFICATION SETPOINT + EXHAUST VENTILATOR DEHUMIDIFICATION MODULATION BAND*, the exhaust ventilator's speed will be increased by this value.

RINSING

PUMP REQUESTED STATE
This parameter displays the requested state of the pump. The pump activates 5 seconds after a valve activates and deactivates 5 seconds before a valve deactivates.

VALVE REQUESTED STATE
This parameter displays the requested state of the respective valve.

RUN TIME
This parameter is used to set the run time for the respective valve. When the start time of an active cycle is reached, the corresponding valve will activate for the time adjusted here. Only one valve can be activated at once. If two or more valves receive an activation demand at the same time, the other valves will wait until no other valve is active before activating for their respective *RUN TIME*.

STOP VENTILATION
This parameter if is set to Yes, the intake and exhaust ventilators are deactivated or slowed down during rinsing.

INTAKE VENT. STATUS DURING STOP
This parameter is used to set the value the intake ventilator will have during rinsing. When *STOP VENTILATION* is set to Yes, on a valve activation, the demand for activation of the intake ventilator will be equal to the value set in this parameter. If this parameter is set to OFF, the intake ventilator will turn off.

EXHAUST VENT. STATUS DURING STOP
This parameter is used to set the value the exhaust ventilator will have during rinsing. When *STOP VENTILATION* is set to Yes, on a valve activation, the demand for activation of the exhaust ventilator will be equal to the value set in this parameter. If this parameter is set to OFF, the exhaust ventilator will turn off.

RINSING SCHEDULE
This parameter is used to choose the schedule type to apply to rinsing. If this parameter is set to Start Time, the valves will activate according to their *START TIME CYCLE #* during *RUN TIME*. If this parameter is set to Distributed 24hr, the valves will activate one after the other at each start of a cycle for *RUN TIME* each one, and they will deactivate for *TIME BETWEEN VALVES* after each activation of a valve.

***NUMBER OF CYCLES PER DAY* (Curve)**
This parameter is used to adjust the day cycles number of the valves. When this parameter curve and the zone breeding are active, the value of this parameter will follow the curve's values. If this parameter curve or zone breeding is not active, this parameter becomes adjustable in 1 cycle increments from 0 cycles (or OFF) to 24 cycles.

NUMBER OF CYCLES PER DAY CURVE
This parameter is used to enable or disable the curve of the *NUMBER OF CYCLES PER DAY* parameter. If this parameter is set to ON and the *BREEDING DAY* is not OFF, the *NUMBER OF CYCLES PER DAY* will follow the programmed **Growth Curve** in its curve.

TIME BETWEEN VALVES
This parameter is used to set the time to wait to start the next valve after the previous one is stopped. The valves operate in sequence. If a valve's run time is set to 0 minutes, it will not be considered during valve run cycles.

START TIME CYCLE #
These parameters are used to set the time at which a cycle will start. When the time of day reaches the time set here, the respective valve will have an activation demand. If no other valves are activated, the valve will activate immediately. If another valve is already activated, this valve will wait until all valves are deactivated before activating for its *RUN TIME*.

OPTION CYCLE #
These parameters are used to activate or deactivate a given cycle. If this option is set to OFF, the corresponding cycle will not be considered. If this option is set to ON, the valve will have an activation demand when the corresponding cycle's *START TIME CYCLE #* is reached. If the rinsing curve is used, the state of these parameters will be determined by the number of cycles per day that is programmed and these values will no longer be adjustable.

RINSING CURVE

CURVE OPTION
This parameter is used to determine whether the rinsing cycles will follow a curve or not. If the curve is not used, the active cycles will depend on what the user set at *OPTION CYCLE #.* If the curve is used, *OPTION CYCLE #* will be determined by the curve and will no longer be adjustable. When the *GROWTH DAY* reaches *DAY CURVE POINT #*, the cycles that have a number equal or inferior to the corresponding *CYCLES CURVE POINT #* will have their option set to ON and cycles that have a number superior to the corresponding *CYCLES CURVE POINT #* will have their option set to OFF.

DAY CURVE POINT #
These parameters are used to determine at which day the number of active cycles will be equal to the corresponding *CYCLES CURVE POINT #*. When the *GROWTH DAY* reaches *DAY CURVE POINT #*, the cycles that have a number equal to or inferior to the corresponding *CYCLES CURVE POINT #* will have their option set to ON and cycles that have a number superior to the corresponding *CYCLES CURVE POINT #* will have their option set to OFF. Before *DAY CURVE POINT 1*, all cycles are OFF.

CYCLES CURVE POINT #
These parameters are used to determine how many cycles per day will be active when the corresponding *DAY CURVE POINT #* is reached. When the *GROWTH DAY* reaches *DAY CURVE POINT #*, the cycles that have a number equal to or inferior to the corresponding *CYCLES CURVE POINT #* will have their option set to ON and cycles that have a number superior to the corresponding *CYCLES CURVE POINT #* will have their option set to OFF. Before *DAY CURVE POINT 1*, all cycles are OFF.

DEFROST INFLUENCE

DEFROST INFLUENCE SET POINT
These parameters establish the set points at which the defrost times will be equal to the times of the same column. When the outside temperature drops to the value adjusted here, the times for the intake ventilator defrost function will be to the times of the same column. These temperatures must be set in descending order. The set point in the first column used to adjust the outside temperature at which the defrost sequence will be allowed to operate, when the outside temperature remains below this set point, the defrost sequence will be active. At the start of the active portion of the defrost sequence, the intake ventilator will deactivate for 5 seconds. Then, the intake vent polarity relay will deactivate and the intake ventilator will activate at 100% for *DEFROST ON TIME*. After that, the intake ventilator will deactivate again for 5 seconds and the intake vent polarity relay will reactivate.

DEFROST ON TIME
These parameters set the ON times that will be used for the intake ventilator defrost when the outside temperature is less or equal to *DEFROST INFLUENCE SET POINT*. When the outside temperature drops to *DEFROST INFLUENCE SET POINTS (1-5)*, the intake ventilator will be activated, according to a timer, during *DEFROST ON TIME* of the same column.

DEFROST OFF TIME
These parameters set the OFF times that will be used for the intake ventilator defrost when the outside temperature is less or equal to *DEFROST INFLUENCE SET POINT*. When the outside temperature drops to *DEFROST INFLUENCE SET POINTS (1-5)*, the intake ventilator will be deactivated, according to a timer, during *DEFROST OFF TIME* of the same column.

INTAKE VENTILATOR MANUAL DEFROST
This parameter is used to activate or deactivate the defrost sequence of the intake ventilator. If this parameter is pressed when it displays Activate, the defrost sequence will activate. If this parameter is pressed when it displays Deactivate, the defrost sequence will deactivate.

NUMBER OF INTAKE VENTILATORS TO DEFROST
This parameter is used to set the number of intake ventilators to defrost at the same time in the same zone. When this parameter is set to ALL, all intake ventilators will be defrosted at once. If the value of this parameter is one of these values 1, 2, 3, or 4, the intake ventilators will be defrosted in batches of the same value as this parameter.

OPTIONS

STAGE USED FOR INTAKE VENTILATOR
This parameter is used to select the stage that will be used for the recuperator intake ventilation. When a ventilation stage is assigned here, it will operate normally when the recuperator is in Evacuation mode. However, when the recuperator is in Recuperation mode, the ventilation stage will be activated according to the intake ventilation settings.

STAGE USED FOR EXHAUST VENTILATOR
This parameter is used to select the stage that will be used for the recuperator intake ventilation. When a ventilation stage is assigned here, it will operate normally when the recuperator is in Evacuation mode. However, when the recuperator is in Recuperation mode, the ventilation stage will be activated according to the exhaust ventilation settings.

RECUPERATOR PROBE CALIBRATION
This parameter is used to adjust the recuperator probe's value to match an external reference.

EXHAUST VENTILATOR PROBES
These parameters are used to select the probes the exhaust ventilator will use to determine activation and deactivation according to temperature demand. **If there are no probes selected, the temperature used will be equal to the actual** *MAIN SETPOINT***.**

LOW ALARM SETPOINT
This parameter is used to set the low temperature alarm threshold for the recuperator. If the *RECUPERATOR PROBE* is below this value, an alarm will activate.

HIGH ALARM SETPOINT
This parameter is used to set the high temperature alarm threshold for the recuperator. If the *RECUPERATOR PROBE* is above this value, an alarm will activate.

VARIABLE TIMER OUTSIDE SETPOINT
This parameter is used to adjust the outside temperature at which intake ventilator mode will be the variable timer mode if *INTAKE VENTILATOR MODE* is set to Variable Timer/Spd. When **Outside Temperature** is equal to or under this set point, the intake ventilator will change to variable timer mode.

VARIABLE SPEED OUTSIDE SETPOINT
This parameter is used to adjust the outside temperature at which intake ventilator mode will be the variable speed mode if *OPERATING MODE* is set to Min/Spd Variable. When **Outside Temperature** is equal or above this set point, intake ventilator will change to speed variable mode.

RECUPERATOR SETPOINT CURVE
These parameters are used to activate or deactivate the respective **Ramping Function**. If this option is set to ON and the *GROWTH DAY* is not set to OFF, the corresponding parameter will change according to its **Growth Curve**.

OUTSIDE TEMPERATURE DEFROST TIME INFLUENCE
This parameter is used to determine if the outside temperature can influence the defrost time of the intake ventilator. If this option is set to ON, the defrost times can be replaced by the values of the Defrost Influence group.

INTAKE VENTILATOR MINIMUM SPEED CURVE
INTAKE VENTILATOR MAXIMUM SPEED CURVE
INTAKE VENTILATOR VARIABLE TIMER MINIMUM SPEED CURVE
INTAKE VENTILATOR VARIABLE TIMER MAXIMUM SPEED CURVE
EXHAUST VENTILATOR MINIMUM SPEED CURVE
These parameters are used to activate or deactivate the respective **Ramping Function**. If this option is set to ON and the *GROWTH DAY* is not set to OFF, the corresponding parameter will change according to its **Growth Curve**.

VARIABLE TIMER MODE MINIMUM TIME CURVE
This parameter is used to activate or deactivate the **Ramping Function** of the intake ventilator minimum timer when variable timer mode is used. If this option is set to ON and the *GROWTH DAY* is not set to OFF, *INTAKE VENTILATOR VARIABLE TIMER MINIMUM ON TIME* and *INTAKE VENTILATOR VARIABLE TIMER MINIMUM OFF TIME* will follow their **Growth Curve**.

VARIABLE TIMER MODE MAXIMUM TIME CURVE
This parameter is used to activate or deactivate the **Ramping Function** of the intake ventilator maximum timer when variable timer mode is used. If this option is set to ON and the *GROWTH DAY* is not set to OFF, *INTAKE VENTILATOR VARIABLE TIMER MAXIMUM ON TIME* and *INTAKE VENTILATOR VARIABLE TIMER MAXIMUM OFF TIME* will follow their **Growth Curve**.

INTAKE VENTILATOR FULL SPEED START
These parameters determine if the intake ventilator will perform a full start upon activation. If this option is set to ON the intake ventilator output will be activated at full speed for the first few seconds following an activation demand.

EXHAUST VENTILATOR FULL SPEED START
These parameters are used to determine if the exhaust ventilator will perform a full start upon activation. If this option is set to ON the exhaust ventilator output will be activated at full speed for the first few seconds following an activation demand.

BACKUP PROBES

BACKUP FOR PROBE #
These parameters are used to select the probe that will be used as a backup when the associated inside temperature probe reading is not valid. The backup probes will be used only if less than three sensors are used (or left) in the temperature calculation. If three or more sensors are used (or left) in the temperature calculation, the non-valid probe will simply be eliminated from the calculation. If a temperature calculation originally has more than two probes but, due to non-valid readings, probes are eliminated and there are two or less left, the control will use the backup probes.

A probe will be eliminated or replaced from a temperature calculation if:

- The probe is an open-circuit or a short-circuit.
- The probe reading is not within an acceptable temperature range (-58.0°F to 131.0°F) or (-50.0°C to 55.0°C).
- The probe's temperature reading is off by more than 20.0° from the average temperature calculated for the area. This particular situation does not trigger the alarm.

OPTIONS

INSTALLATION MODE
This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

AVERAGE PROBES
This parameter allows the user to select the temperature probes for the ZONE TEMPERATURE.

NO PROBE ASSIGNED. USE PROBES FROM ZONE
This parameter is used to select a zone in order to use its temperature and recuperator probes. If no probe is assigned to the current zone, this parameter offers the possibility to use the probes of another zone as if they are assigned to the actual zone.

NUMBER OF VARIABLE STAGES
This parameter is used to set the number of variable stages that will be used in the respective zone when *CONFIGURABLE VENTILATION STAGES* are used. All the zones can have up to 24 variable stages.

NUMBER OF ON/OFF STAGES
This parameter is used to set the number of ON/OFF stages that will be used in the respective zone when *CONFIGURABLE VENTILATION STAGES* are used. Zone A can have up to 24 ON/OFF stages. Other zones can have up to 15 ON/OFF stages.

FIRST STAGE ACTIVE UNDER SET POINT
This parameter is used to activate the first variable stage of the zone or the first on/off stage if no variable stage assigned to the zone, even if the temperature is lower than their activation set points. The first stage activated below its setpoint must be greater than or equal to the *MINIMUM VARIABLE STAGE* (or *MINIMUM ON/OFF STAGE*). In non-configurable ventilation stage mode, no stage will activate below its setpoint if the *MINIMUM VARIABLE STAGE* is set to All Variable Allowed (or if the *MINIMUM ON/OFF STAGE* is set to All On/Off Allowed).

NIGHT SET POINT ACTIVE
This parameter is used to activate or deactivate the night compensation. Night set point parameters can be adjusted in the zone's set points screen.

SHIPPING SET POINT
This parameter is used to activate or deactivate the shipping set point. Shipping set point parameters can be adjusted in the zone's set points screen.

CRITICAL TEMPERATURE ALARM OPTION
This option is used to activate or deactivate the critical high and low temperature alarms. If this option is set to ON, the high and low critical alarms will activate if a temperature is greater than *HIGH CRITICAL TEMPERATURE* or lower than *LOW CRITICAL TEMPERATURE*. If this option is set to OFF, critical alarms will not be active or displayed.

 # INLETS ACTIVE FOR NATURAL
This parameter is used to set the amount of inlets using natural mode that must have an opening demand before natural mode is activated. When the number of inlets using natural mode and having an opening demand is equal to this parameter, the *NATURAL MODE TRANSITION DELAY* will start. Once the *NATURAL MODE TRANSITION DELAY* has elapsed, natural mode will effectively begin. At this point, cool stages set to shutoff in natural mode will shutoff and inlets set to close in natural mode will close. When a natural time mode inlet is used, natural mode will end once all natural time mode inlets have a closing demand. If all natural time mode inlets are closing, natural mode will end once the amount of natural position mode inlets selected here no longer have an opening demand.

OUTSIDE TEMPERATURE FOR NATURAL
This parameter is used to set the OUTSIDE TEMPERATURE at which the inlet in natural mode will open. When OUTSIDE TEMPERATURE is above this parameter, these inlets will stop continuously closing and will be allowed to open. When the *OUTSIDE PROBE ACTIVE* option is set to No or the outside probe is defective, this restriction will not be applied. A fixed **Differential** of 0.3° is used with this logic.

NATURAL MODE TRANSITION DELAY
This parameter is used to set the amount of time for which cooling stages that will shut off in natural mode and inlets that close in natural mode will continue to operate. When the number of inlets using natural mode that also have an opening demand equals *# INLETS ACTIVE FOR NATURAL*, this delay will start. Once this delay has elapsed, natural mode will effectively begin. At this point, cool stages set to shut off in natural mode will shut off and inlets set to close in natural mode will close.

Transition towards Natural mode

1- From Minimum Ventilation :

- Ventilation stages that shut off in natural mode continue to activate according to their demands.
- Air inlets take the largest opening of either their Minimum Ventilation or Natural mode positions.

2- From Tunnel Mode :

- All ventilation stages shut off.
- Air inlets take the largest opening of either their Tunnel mode or Natural mode positions.

NATURAL MODE ONLY
This parameter allows the user to activate or deactivate the natural mode only option. If this option is set to ON, the zone will operate as in natural mode event if natural mode's activation conditions are not met.

TUNNEL START STAGE
This parameter is used to set the ON/OFF or variable ventilation stage that will activate the tunnel ventilation mode. When the selected stage is activated by temperature demand, tunnel mode will be activated. Tunnel mode will end when that same stage no longer has a temperature activation demand. The stage selected here must have an associated relay or variable to make tunnel mode available. Setting this parameter to OFF will deactivate tunnel mode. This parameter can be set to OFF or adjusted from ON/OFF Stage 1 to ON/OFF Stage 24 or Variable Stage 1 to Variable Stage 12. However, depending on system setup, some of the values will not be available.

TUNNEL MODE TRANSITION DELAY
This parameter is used to set the amount of time for which cooling stages will shut off to allow air inlets to reach the proper position for tunnel mode. When the ON/OFF stage selected at *TUNNEL START STAGE* is activated by temperature demand, this delay will start. During this delay, all ventilation stages will shut off, except the ON/OFF stage selected at *TUNNEL START STAGE*, which can stay ON or not during the transition depending on *TUNNEL STAGE STOP IN TRANSITION*. Once this delay is finished, ventilation stages set to run in tunnel mode will be allowed to activate and inlets set to close in tunnel mode will close.

TUNNEL MODE OPERATION
This parameter is used to determine the way tunnel mode will operate. If this parameter is set to Per Zone, the tunnel mode of a zone will not affect other zones. If this parameter is set to Global, the tunnel mode of any zone will activate tunnel mode for all zones.

TUNNEL STAGE STOP IN TRANSITION
This parameter is used to determine if the ON/OFF stage selected at *TUNNEL START STAGE* will shut off during the tunnel transition delay. If this parameter is set to Yes, all ventilation stages will be deactivated during the tunnel transition delay. If this parameter is set to No, the ON/OFF stage selected at *TUNNEL START STAGE* will not shut off during the tunnel transition delay.

Transition towards Tunnel mode

1- From Minimum Ventilation :

- All ventilation stages shut off, except the ON/OFF stages that starts tunnel mode which can activate or not according to *TUNNEL STAGE STOP IN TRANSITION*.
- Air inlets take the largest opening of either their Minimum Ventilation or Tunnel mode positions.

2- From Natural Mode :

- All ventilation stages shut off, except the ON/OFF stages that start tunnel mode which can activate (or not) according to *TUNNEL STAGE STOP IN TRANSITION*.
- Air inlets take the largest opening of either their Natural mode or Tunnel mode positions.

TUNNEL SHUTOFF REACTIVATION

This parameter is used to determine the way tunnel shutoff override will operate. If this parameter is set to Per Zone, tunnel shutoff override will activate on a single temperature set point for all of the zone's ventilation stages. If this parameter is set to Per Stage, tunnel shutoff override will activate on a different temperature set point for each of the zone's ventilation stages.

VARIABLE STAGES DISPLAY

This parameter is used to select the variable stages for which their parameters in the Variable Stages and Position Mode Air Inlets groups will be displayed. The variable stages that are not selected in this parameter will be hidden but continue to be processed will function as they are visible.

VARIABLE STAGE OUTSIDE COMPENSATION

This parameter is used to activate or deactivate the increase of the minimum speed of the variable stages when the OUTSIDE TEMPERATURE is equal to or above *VARIABLE STAGE OUTSIDE TEMPERATURE SET POINT*. If this parameter is set to OFF, the OUTSIDE TEMPERATURE will not affect the minimum speed of the variable stages. If this parameter is set to Minimum Speed, *VARIABLE STAGE # ADD MINIMUM SPEED OUTSIDE TEMPERATURE COMPENSATION* will be added to the associated variable stage's minimum speed when the OUTSIDE TEMPERATURE is equal to or above *VARIABLE STAGE OUTSIDE TEMPERATURE COMPENSATION SET POINT*. If this parameter is set to Actual Speed, the variable stage's actual speed will be increased or decreased by *VARIABLE STAGE # OUTSIDE INFLUENCE* for every degree of difference between the OUTSIDE TEMPERATURE and the *MAIN SET POINT*.

VARIABLE STAGE MINMUM SPEED PROTECTION
This parameter allows *VARIABLE STAGE TEMPERATURE PROTECTION UNDER*, *VARIABLE STAGE # PROTECTION MINIMUM SPEED* and *VARIABLE STAGE # PROTECTION MINIMUM SPEED ON DEHUMIDIFICATION* to be used and displayed.

VARIABLE STAGE IDLE BACK
This parameter allows *VARIABLE STAGE # SPEED WHEN NEXT STAGE ON* to be used and displayed.

VARIABLE STAGE DEFROST
This parameter allows *VARIABLE STAGE # DEFROST*, *VARIABLE STAGE OUTSIDE TEMPERATURE DEFROST*, *VARIABLE STAGE # DEFROST TIME* and *VARIABLE STAGE # DEFROST CYCLE* to be used and displayed.

VARIABLE STAGE DEHUMIDIFICATION
This parameter allows *VARIABLE STAGE # HUMIDITY RELATIVE SET POINT* and *VARIABLE STAGE # ADD MINIMUM SPEED FOR HUMIDITY* to be used and displayed if their value is 1 or 2, as well as *VARIABLE STAGE # HUMIDITY RELATIVE SET POINT LEVEL 2* and *VARIABLE STAGE # ADD MINIMUM SPEED FOR HUMIDITY LEVEL 2* to be used and displayed if their value is 2.

CO2 VENTILATION COMPENSATION
This parameter allows *OPTIONS # CO2 FAN ACTIVATION UNDER SETPOINT, VARIABLE STAGE # MINIMUM/MAXIMUM CO2 INFLUENCE, VARIABLE STAGE # CO2 DIFFERENTIAL* and *VARIABLE STAGE # MINIMUM/MAXIMUM CO2 COMPENSATION* to be used and displayed.

CO2 FAN ACTIVATION UNDER SETPOINT
This parameter is used to activate the variable stages even if the temperature is lower than their activation setpoint. If this option is set to ON and the temperature is less than the setpoint, the variable stages will be activated depending on the CO2 read value.

VARIABLE STAGES NH3 INFLUENCE
This parameter is used to activate or deactivate NH3 influence for the variable stage. When the NH3 concentration reaches *MINIMUM NH3 INFLUENCE SETPOINT*, the stage speed is increased by *MINIMUM NH3 INFLUENCE*. The influence will linearly increase to reach *MAXIMUM NH3 INFLUENCE* at *MAXIMUM NH3 INFLUENCE SETPOINT*. When the NH3 concentration is equal or superior to *MAXIMUM NH3 INFLUENCE SETPOINT*, the stage speed increases by *MAXIMUM NH3 INFLUENCE*.

HUMIDITY/CO2/NH3 ACTIVATE OTHER STAGES
This parameter allows the influence of humidity, NH3, and CO2 on the activation of variable stages to be enabled or disabled. When this option is set to No, the variable stages cannot be activated by humidity, NH3, or CO2, but their speeds can vary based on these factors when they are activated in particular by temperature. When this option is set to Yes, the variable stages can be activated by humidity, NH3, and CO2.

VARIABLE STAGE TIMER
This parameter allows *VARIABLE STAGE # TIMER* to be used and displayed.

MIN/MAX SPEED FOR EXCHANGER
This parameter allows displaying and using, in configurable ventilation stages mode, the air exchanger parameters for variable stages. These parameters enable the use of the minimum and maximum exchanger speeds of the variable ventilators of the active stage for calculating their speeds.

VARIABLE STAGE INLET REFERENCE SPEED
This parameter allows *VARIABLE STAGE # MINIMUM SPEED REFERENCE FOR INLET* to be used and displayed.

OXYGENATION
This parameter is used to activate or deactivate the oxygenation function for the respective zone.

RECUPERATOR
This parameter is used to activate or deactivate the recuperator system for the respective zone.

ON/OFF STAGE TIMER
This parameter allows *ON/OFF STAGE # TIMER* to be used and displayed.

HEATER HIGH TEMPERATURE SHUTOFF
This parameter allows *HEATER # HIGH TEMPERATURE SHUTOFF* to be used and displayed.

HEATER DEHUMIDIFICATION
This parameter allows *HEATER HUMIDITY SET POINT, HEATER HUMIDITY TIMER ON TIME*, *HEATER HUMIDITY TIMER OFF TIME*, *OUTSIDE SET POINT HUMIDITY DEACTIVATION* and *HEATER VENTILATION STAGE STOP DEHUMIDIFICATION* to be used and displayed.

HEATER CONSUMPTION
This parameter is used to activate and display heater consumption values.

HEATERS TIMER
This parameter it is used to activate the heater timers.

CLOCK MODE
This parameter is used to select the operating mode for the clock output. If Mode 1 is chosen, the clock output will activate according to *CLOCK # START TIME CYCLE #, CLOCK # STOP TIME CYCLE #* or *CLOCK # RUN TIME CYCLE #* according to *CLOCK CYCLE MODE #*. If Mode 2 is chosen, the clock output will activate according to *CLOCK # START TIME CYCLE #, CLOCK # DURATION CYCLE #, CLOCK # REPETITION CYCLE#* and *CLOCK # NUMBER OF REPETITIONS CYCLE #.*

CLOCK CYCLE MODE
This parameter is used to choose the operating mode for the clock cycles. If Time is chosen, the clock output will activate according to *CLOCK # START TIME CYCLE #* and *CLOCK # STOP TIME CYCLE #*. If Run Time is chosen, the clock output will activate according to *CLOCK # START TIME CYCLE #* and *CLOCK # RUN TIME CYCLE #.*

CLOCK NUMBER OF CYCLES
This parameter is used to set the number of cycles that are used and displayed when using mode 1. The cycles with a number lower than the number adjusted here will disappear and not be considered.

CLOCK RELAY NORMAL STATE
This parameter is used to set the normal state of the clock relays. If this parameter is set to NO (Normally Open) the relays that are set to the Clock will be open in a normal situation and close when required to activate the clock. If this parameter is set to NC (Normally Closed) the relays that are set to the Clock will be closed in a normal situation and open when required to activate the clock.

VARIABLE HEATER PI LOGIC
This parameter is used to activate or deactivate the PI heating mode. If this parameter is set to ON, the heater will use PI (Progressive-Integral) logic as well as the *VARIABLE HEATER # TARGET TEMPERATURE*, *VARIABLE HEATER # TIMEOUT*, *VARIABLE HEATER # STABLILIZATION RANGE* and *VARIABLE HEATER # INTEGRATION TIME* parameters. It will add the integral demand calculated according to the temperature difference in time and to the proportional demand which is calculated according to the immediate temperature difference. If this parameter is set to OFF the variable heater will use *VARIABLE HEATER # ON TEMPERATURE* to calculate its required intensity linearly.

TIME MODE INLET AUTO-CALIBRATION
This parameter allows *INLET # AUTO-CALIBRATION TIME*, *INLET # AUTO-CALIBRATION DURATION*, *INLET # AUTO-CALIBRATION FREQUENCY* and *INLET # DIRECTION AUTO-CALIBRATION* to be used and displayed.

INLET PURGE
This parameter allows *INLET # DELAY BEFORE PURGE*, *INLET # PURGE OPENING*, *INLET # PURGE RUN TIME*, *INLET # PURGE TIME*, *INLET # DELAY BETWEEN PURGE* and *INLET # PURGE EN TUNNEL* to be used and displayed.

INLET STATIC PRESSURE COMPENSATION
This parameter allows *INLET # STATIC PRESSURE COMPENSATION*, *INLET # LOW STATIC PRESSURE SET POINT*, *INLET # HIGH STATIC PRESSURE SET POINT*, *INLET # STATIC PRESSURE COMPENSATION DELAY*, *INLET # STATIC PRESSURE COMPENSATION LIMIT*, *INLET # VARIABLE STAGES AFFECTED BY STATIC PRESSURE* , *INLET # STAGES AFFECTED BY STATIC PRESSURE COMPENSATION* and *INLET # PRESSURE COMPENSATION WITH TIMER* to be used and displayed.

STAGE CHOICE INLET STATIC PRESSURE COMPENSATION
This parameter is used to determine if the static pressure can be activated or deactivated for each variable and ON/OFF stage or if the static pressure is applied to a selected variable or ON/OFF stage and all following activated stages.

PRESSURE SET POINT
This parameter is used to determine if the static pressure set point is global or if each ventilation stage has its own static pressure set point.

PRESSURE SET POINT PER STAGE
This parameter is used to determine if the pressure set point per stage will use median and tolerance parameters to compute the static pressure high and low limits for variable and ON/OFF stages or if the pressure set point per stage will use absolute high and low limits for variable and ON/OFF stages.

INLET STATIC PRESSURE COMPENSATION ON COLD CLOSING
This parameter is used to determine if static pressure compensation will be applied when *COLD CLOSING TEMPERATURE* is reached.

INLET TEMPERATURE COMPENSATION TYPE
This parameter is used to determine if temperature compensation will be used and how it will be applied on the position and time mode air inlets. If this parameter is set to None, the air inlets will position themselves according to ventilation stage activation and no temperature compensation will be applied. It this parameter is set to Compare, the air inlets will position themselves according to ventilation stage activation and then adjust their position according to the temperature difference between its probes and the zone temperature. It this parameter is set to Ventilation stage Set Points, the air inlets will position themselves according to ventilation stage set points, without considering the actual temperature demand on the ventilation stages.

MAXIMUM OPENING TEMP FOLLOW
This parameter is used to choose the temperature to be evaluated to determine whether the air inlet will be positioned to its maximum opening. When this parameter is set to “Inl Temp” and the EA temperature exceeds the *MAXIMUM OPENING TEMPERATURE* parameter value, the EA will open to the *MAXIMUM OPENING* value. When this parameter is set to “Zone Temp”, the EA opens to its maximum opening when the temperature zone is greater or equal to the *MAXIMUM OPENING TEMPERATURE*.

INLET OPENING PRIORITY
This parameter is used to set the order used to evaluate the position of position mode air inlets. If the parameter is set to “Stage Type/Number”, the inlet position will be evaluated according to the activated stage with the highest number. The variable stages will activate first, then the ON/OFF stages. If the parameter is set to “Activation Temperature”, the inlet position will be evaluated according to the activated stage with the highest ON temperature. There is no priority between variable stages and ON/OFF stages.

POSITION INLET INFLUENCE CO2
This parameter allows *AIR INLETS POSITION MODE # CO2 CLOSING TEMPERATURE*, *AIR INLETS POSITION MODE # CO2 CLOSING SETPOINT* and *AIR INLETS POSITION MODE # CO2 DIFFERENTIAL* to be used and displayed.

INFLATABLE CURTAIN DRAINAGE
This parameter allows *INFLATABLE CURTAIN # DRAINING TIME* and *INFLATABLE CURTAIN # DURATION* to be used and displayed.

WIND/RAIN COMPENSATION INFLATABLE CURTAIN
This parameter allows INFLATABLE CURTAIN # RAIN/WIND COMPENSATION, *INFLATABLE CURTAIN # WIND COMPENSATION DIRECTION*, *INFLATABLE CURTAIN # WIND COMPENSATION SPEED*, *INFLATABLE CURTAIN # RAIN/WIND COMPENSATION STOP DELAY* and *INFLATABLE CURTAIN # NUMBER OF BLOWERS COMPENSATION* to be used and displayed.

NATURAL INLET RAIN COMPENSATION
This parameter is used to activate or deactivate natural inlet rain compensation.

NATURAL INLET WIND COMPENSATION
This parameter is used to activate or deactivate natural inlet wind compensation.

STIR FAN SET POINT
This parameter is used to determine if the stir fan activation temperatures are relative to the zone *MAIN SET POINT* or independent (absolute). If this parameter is set to Relative, stir fan activation temperatures will change when the *MAIN SET POINT* is changed. If this parameter is set to Absolute, stir fan activation temperatures will not be affected by changes on the *MAIN SET POINT*.

HIGH TEMPRATURE STIR FAN SHUTOFF
This parameter is used to determine if the stir fans will use a high temperature deactivation function. If this parameter is set to ON, stir fans will deactivate when a high temperature set point is reached.

STIR FANS TIMER
This parameter allows displaying and using *TIMER* for variable and on/off stir fans.

EGG ROOM
This parameter is used to activate the zone's egg room.

NEST CLOSING
This parameter is used to determine if the nest closing will operate with a timer logic or a sequence logic.

SHOW MIN/MAX LIMIT PARAMETERS IN STAGES
This parameter controls the display of the *MINIMUM VARIABLE STAGE, MINIMUM ON/OFF STAGE, MAXIMUM VARIABLE STAGE, MAXIMUM ON/OFF STAGE* in the stages. If the parameter is enabled, the parameters will be available in the Variable Stage and On/Off Stage groups.

MINIMUM VARIABLE STAGE
This parameter determines the lower limit of the variable fan stages that can be activated or deactivated. If this parameter is set to *All Variables Allowed*, there will be no restriction on the minimum limit of variable ventilation stages to activate. However, if this parameter takes a value of one of the variable stages (for example: Variable Stage 2), only the variable stages having a number greater than or equal to that of the *MINIMUM VARIABLE STAGE* and less than or equal to that of the *MAXIMUM VARIABLE STAGE* can activate (in our example, the variable stages between Variable Stage 2 and *MAXIMUM VARIABLE STAGE* can be activated). In Configurable Ventilation Stages, this parameter determines the minimum variable stage which can be the active stage.

MAXIMUM VARIABLE STAGE

This parameter determines the upper limit of the variable fan stages that can be enabled or disabled. If this parameter is set to *All Variables Allowed*, there will be no restriction on the maximum limit of variable fan stages to activate. However, if this parameter is set to *No Variable Allowed*, no variable stage can be activated. Finally, if this parameter takes a value from one of the variable stages (for example: Variable Stage 9), only the variable stages with a number less than or equal to that of the *MAXIMUM VARIABLE STAGE* and greater than or equal to that of the *MINIMUM VARIABLE STAGE* can be activated (in our example, the variable stages between *MINIMUM VARIABLE STAGE* and Variable Stage 9 can be activated). In Configurable Ventilation Stages, this parameter determines the maximum variable stage which can be the active stage.

MINIMUM ON/OFF STAGE

This parameter determines the lower limit of the ON/OFF fan stages that can be activated or deactivated. If this parameter is set to *All ON/OFF Allowed*, there will be no restriction on the minimum limit of ON/OFF ventilation stages to activate. However, if this parameter takes a value of one of the ON/OFF stages (for example: ON/OFF Stage 4), only the ON/OFF stages having a number greater than or equal to that of the *MINIMUM ON/OFF STAGE* and less than or equal to that of the *MAXIMUM ON/OFF STAGE* can activate (in our example, the ON/OFF stages between ON/OFF Stage 4 and *MAXIMUM ON/OFF STAGE* can be activated). In Configurable Ventilation Stages, this parameter determines the minimum ON/OFF stage which can be the active stage.

MAXIMUM ON/OFF STAGE

This parameter determines the upper limit of the ON/OFF fan stages that can be enabled or disabled. If this parameter is set to *All ON/OFF Allowed*, there will be no restriction on the maximum limit of ON/OFF fan stages to activate. However, if this parameter is set to *No ON/OFF Allowed*, no ON/OFF stage can be activated. Finally, if this parameter takes a value from one of the ON/OFF stages (for example: ON/OFF Stage 20), only the ON/OFF stages with a number less than or equal to that of the *MAXIMUM ON/OFF STAGE* and greater than or equal to that of the *MINIMUM ON/OFF STAGE* can be activated (in our example, the ON/OFF stages between *MINIMUM ON/OFF STAGE* and ON/OFF Stage 20 can be activated). In Configurable Ventilation Stages, this parameter determines the maximum ON/OFF stage which can be the active stage.

SPRINKLER SET POINT

This parameter is used to determine if the sprinkler activation temperatures will be relative to the main set point or independent.

DISPLAY MIN / MAX TEMPERATURE PROBES

This parameter is used to determine whether the minimum and maximum values of the temperature probes will be displayed. If this parameter is set to YES, the minimum and maximum values of the temperature probes for the current day will be displayed in the Inputs group.

ALTERNATING TIMER

This parameter is used to activate the alternating timers for the ventilation timers. While alternating timers are active, it will be possible to select the timer cycle that the respective logic will use.

DISPLAY VARIABLE STAGES DIFFERENTIAL
This parameter is used to display differential parameter in variable stages module.

ATM MODULE ACTIVE?
This parameter is used to activate the reading of the ATM module for the given zone. The ATM module must be activated in the input options for this parameter to be visible.

VARIABLE STAGE HIGH TEMPERATURE MAX SPEED
This parameter is used to activate the high temperature maximum speed functionality for variable stages.

CFM+ OPTIONS

CFM+ TIMER
This parameter is used to determine whether the CFM+ timer will be used or not. Timers 1-4 cannot be used concurrently with the CFM+ timer. In non-configurable stages, the CFM+ timer has to be individually activated for each ventilation stage for it to affect the respective stage.

CFM+ VENTILATION DEACT. STAGE
This parameter is used to select the variable or ON/OFF stage which will deactivate the CFM+ ventilation. If the temperature of the zone exceeds the activation temperature of the selected stage, the CFM+ ventilation will be stopped and the controller will operate in temperature ventilation mode. If this parameter is set to None, the CFM+ ventilation will not be stopped by any stage.

CFM+ VENTILATION REACT. TEMPERATURE
This parameter is used to set the temperature under which the temperature of the zone must recede for the CFM+ ventilation to be reactivated after being stopped by the *CFM+ VENTILATION DEACT. STAGE*. If set to According to Stage, the controller will return to CFM+ ventilation once the temperature of the zone has receded below the deactivation temperature of the selected stage.

CFM+ VENTILATION HOT SECURITY TEMPERATURE
This parameter is used to set the temperature threshold which will deactivate the CFM+ ventilation and activate the temperature ventilation. If the temperature of the zone exceeds the temperature set here, the CFM+ ventilation will stop. This parameter is relative to the main set point.

CFM+ VENTILATION HOT SECURITY DIFFERENTIAL
This parameter is used to set the temperature differential under which the temperature of the zone must recede for CFM+ ventilation to be reactivated once it has been stopped by the security temperature. If the CFM+ ventilation has been stopped by the security temperature and the temperature of the zone falls under *CFM+ VENTILATION HOT SECURITY TEMPERATURE - CFM+ VENTILATION HOT SECURITY DIFFERENTIAL*, the controller will be able to return to CFM+ ventilation

CFM+ VENTILATION SECURITY COLD TEMPERATURE
This parameter is used to set the low temperature threshold which will deactivate the CFM+ ventilation and activate the temperature ventilation. If the temperature of the zone drops below the value set here, the CFM+ ventilation will stop. This parameter is relative to the main set point.

CFM+ VENTILATION SECURITY COLD DIFFERENTIAL
This parameter is used to set the temperature differential over which the temperature of the zone must be for the CFM+ ventilation to be reactivated once it has been stopped by the security cold temperature. If the CFM+ ventilation has been stopped by the cold security and the temperature of the zone rises above *CFM+ VENTILATION SECURITY COLD TEMPERATURE + CFM+ VENTILATION SECURITY COLD DIFFERENTIAL*, the controller will be able to return to CFM+ ventilation.

SYNCHRONIZE TIMER WITH CFM+ VENTILATION
This parameter is used to synchronize the activation of ON/OFF stir fans with the CFM+ timer if the CFM+ timer activates a ventilation stage. The stir fans will be deactivated during the ON period of the CFM+ timer and activated during the OFF period of the CFM+ timer.

VARIABLE CFM+ TIMER
These parameters are used to set whether or not the variable stage will use the CFM+ timer while in CFM+ ventilation.

VARIABLE CFM+ TIMER CYCLE
This parameter is used to set the total run time for the CFM+ timer. The timer's OFF time is equal to the difference between the cycle time and the calculated ON time. The timer's ON time is calculated in order to satisfy the airflow requirement, within the limits set by *VARIABLE CFM+ TIMER MAXIMUM TIME* and *VARIABLE CFM+ TIMER MINIMUM TIME*.

VARIABLE CFM+ TIMER MAXIMUM TIME
This parameter is used to set the maximum amount of time for which the CFM+ timer can be in its ON period.

VARIABLE CFM+ TIMER MINIMUM TIME
This parameter is used to set the minimum amount of time for which the CFM+ timer can be in its ON period.

ON/OFF CFM+ TIMER
These parameters are used to set whether or not the variable stage will use the CFM+ timer while in CFM+ ventilation.

ON/OFF CFM+ TIMER CYCLE
This parameter is used to set the total run time for the CFM+ timer. The timer's OFF time is equal to the difference between the cycle time and the calculated ON time. The timer's ON time is calculated in order to satisfy the airflow requirement, within the limits set by *ON/OFF CFM+ TIMER MAXIMUM TIME* and *ON/OFF CFM+ TIMER MINIMUM TIME*.

ON/OFF CFM+ TIMER MAXIMUM TIME
This parameter is used to set the maximum amount of time for which the CFM+ timer can be in its ON period.

ON/OFF CFM+ TIMER MINIMUM TIME
This parameter is used to set the minimum amount of time for which the CFM+ timer can be in its ON period.

COLD TEMPERATURE MINIMUM COMPENSATION
This parameter is used to adjust the temperature at which the decrease in temperature airflow compensation will be minimum. If the zone temperature is lower than or equal to the value of this parameter, the value of the temperature airflow compensation will reach its minimum value, which will be subtracted from the current requirement. This parameter is related to the main setpoint.

COLD TEMPERATURE MAXIMUM COMPENSATION
This parameter is used to adjust the temperature at which the temperature airflow compensation begins to decrease. If the zone temperature is lower than or equal to the value of this parameter, the temperature airflow compensation will decrease proportionally to the temperature decrease. This parameter is related to the main setpoint.

AIRFLOW MINIMUM COMPENSATION COLD TEMPERATURE
This parameter is used to adjust the maximum percentage of airflow to be subtracted from the current requirement if the zone temperature is cold. When the zone temperature is cold, the temperature airflow compensation decreases proportionally to the temperature decrease to reach the value of this parameter when the temperature is lower than or equal to *COLD TEMPERATURE MINIMUM COMPENSATION*. The value of the cold temperature airflow compensation will be subtracted from the current requirement.

AIRFLOW MAXIMUM COMPENSATION COLD TEMPERATURE
This parameter is used to adjust the minimum percentage of airflow to be subtracted from the current requirement if the zone temperature is cold. When the zone temperature decreases to reach the *COLD TEMPERATURE MAXIMUM COMPENSATION*, the percentage value of this parameter will be subtracted from the current requirement.

HOT TEMPERATURE MINIMUM COMPENSATION
This parameter is used to adjust the temperature at which the temperature airflow compensation begins to increase. If the zone temperature is higher than or equal to the value of this parameter, the temperature airflow compensation will increase proportionally to the temperature increase. This parameter is related to the main setpoint.

HOT TEMPERATURE MAXIMUM COMPENSATION
This parameter is used to adjust the temperature at which the increase in temperature airflow compensation will be maximum. If the zone temperature is higher than or equal to the value of this parameter, the value of the temperature airflow compensation will reach its maximum value, which will be subtracted from the current requirement. This parameter is related to the main setpoint.

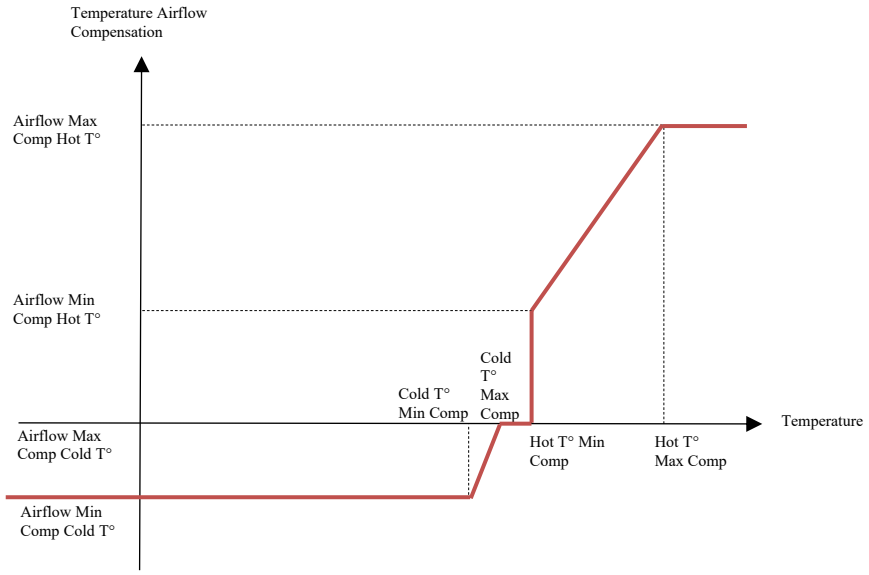
AIRFLOW MINIMUM COMPENSATION HOT TEMPERATURE
This parameter is used to adjust the minimum percentage of airflow to be added to the current demand if the zone temperature is hot. When the zone temperature increases to reach *HOT TEMPERATURE MINIMUM COMPENSATION*, the percentage value of this parameter will be added to the current requirement.

AIRFLOW MAXIMUM COMPENSATION HOT TEMPERATURE

This parameter is used to adjust the maximum percentage of airflow to be added to the current demand if the zone temperature is hot. When the zone temperature is hot, the temperature airflow compensation increases proportionally to the temperature increase to reach the value of this parameter when the temperature is higher than or equal to *HOT TEMPERATURE MAXIMUM COMPENSATION*. The value of the hot temperature airflow compensation will be added to the current requirement.

Temperature airflow compensation diagram

COLD TEMPERATURE MINIMUM COMPENSATION = 10° + main setpoint
COLD TEMPERATURE MAXIMUM COMPENSATION = 11° + main setpoint
AIRFLOW MINIMUM COMPENSATION COLD TEMPERATURE = -10%M3H
AIRFLOW MAXIMUM COMPENSATION COLD TEMPERATURE = 0%M3H
HOT TEMPERATURE MINIMUM COMPENSATION = 12° + main setpoint
HOT TEMPERATURE MAXIMUM COMPENSATION = 16° + main setpoint
AIRFLOW MINIMUM COMPENSATION HOT TEMPERATURE = 15%M3H
AIRFLOW MAXIMUM COMPENSATION HOT TEMPERATURE = 40%M3H



MINIMUM HUMIDITY AIRFLOW COMPENSATION

This parameter is used to set the maximum negative compensation difference that will be used to calculate the required compensation. If the humidity of the zone is inferior to the value set here, the humidity difference used to calculate the compensation will be limited to the difference between the humidity set point and the value set here. This parameter is relative to the humidity set point.

MAXIMUM HUMIDITY AIRFLOW COMPENSATION

This parameter is used to set the maximum positive compensation difference that will be used to calculate the required compensation. If the humidity of the zone is superior to the value set here, the humidity difference used to calculate the compensation will be limited to the difference between the humidity set point and the value set here. This parameter is relative to the humidity set point.

HUMIDITY AIRFLOW COMPENSATION

This parameter is used to set the airflow percentage to be added or removed from the required airflow for each %RH of difference between the humidity set point and the zone humidity. When the zone humidity is superior to the humidity set point, the percentage set here will be added to the required airflow for each %RH of difference. When the zone humidity is inferior to the humidity set point, the percentage set here will be removed from the required airflow for each %RH of difference.

MINIMUM CO2 AIRFLOW COMPENSATION

This parameter is used to set the maximum negative compensation difference that will be used to calculate the required compensation. If the CO2 concentration of the zone is inferior to the value set here, the CO2 difference used to calculate the compensation will be limited to the difference between the CO2 set point and the value set here. This parameter is relative to the CO2 set point.

MAXIMUM CO2 AIRLOW COMPENSATION

This parameter is used to set the maximum positive compensation difference that will be used to calculate the required compensation. If the CO2 concentration of the zone is superior to the value set here, the CO2 difference used to calculate the compensation will be limited to the difference between the CO2 set point and the value set here. This parameter is relative to the CO2 set point.

CO2 AIRFLOW COMPENSATION

This parameter is used to set the airflow percentage to add or remove from the required airflow for each PPM of difference between the CO2 set point and the zone's CO2 concentration. When the zone's CO2 concentration is superior to the CO2 set point, the percentage set here will be added to the required airflow for each PPM of difference. When the zone's CO2 concentration is inferior to the CO2 set point, the percentage set here will be removed from the required airflow for each PPM of difference.

CFM+ VENTILATION DEACT. DAY

This parameter is used to set the day on which CFM+ ventilation is deactivated. If the growth day reaches the day configured in this parameter, CFM+ ventilation will stop and the control will operate in temperature ventilation. If this parameter is set to OFF, CFM+ ventilation will not stop regardless of the growth day.

STOP CFM+ VENTILATION DURING SHIPPING

This parameter is used to stop CFM+ ventilation, meaning to operate according to the temperature, during the shipping phase.

TEST MODE

OPTION
This parameter is used to activate or deactivate the test mode. When this parameter is set to ON, all inside probe readings will be replaced by the *TEST MODE TEMPERATURE*. This parameter will reset itself to OFF if *TEST MODE TEMPERATURE* is not changed during the 10-minute delay.

TEMPERATURE
This parameter is used to adjust the test mode temperature; all temperature sensors will be overridden by this parameter if *TEST MODE OPTION* is set to ON.

INCREMENT
This parameter is used to adjust the temperature increment of the test mode. If this parameter is set to a value other than 0, the *TEMPERATURE* will change by this value each time the *DELAY* has elapsed.

LOW LIMIT
This parameter is used to set the low temperature limit of the test mode. If *TEMPERATURE* drops to the value of this parameter, *INCREMENT* inverts its sign to become positive.

HIGH LIMIT
This parameter is used to set the high temperature limit of the test mode. If *TEMPERATURE* rises to the value of this parameter, *INCREMENT* inverts its sign to become negative.

DELAY
This parameter is used to set the time after which *INCREMENT* will be applied on *TEMPERATURE*.

TIME LIMIT
This parameter is used to set the maximum time for which test mode can be used with *INCREMENT*.

HUMIDITY
This parameter is used to adjust humidity when the *TEST MODE OPTION* is set to ON.

FEEDERS

FEEDER RUN TIME
These parameters display the amount of time during which the feeder has been activated for the current day.

FEEDER INPUT STATE
These parameters display the requested state of the feeder input. The feeder input can be ON or OFF.

FEEDER OUTPUT STATE
These parameters display the requested state of the feeder outputs. Each feeder output can be ON or OFF.

PROXIMITY SWITCH # STATE
These parameters display the current state of the proximity switches.

CHAIN DISK SECURITY # INPUT STATE
These parameters display the current state of the chain disk security #.

ACTUAL CONDITION
These parameters display the actual condition of the feeder. Conditions can be:

- No Demand: the feeder does not have an activation demand.
- Activation Demand: the feeder receives an activation demand and no other condition prevents its activation.
- Maximum Alarm Stop: the feeder has an activation demand, but the maximum alarm condition cancels this activation.
- Weekly Schedule Stop: the feeder has an activation demand, but the weekly schedule cancels this activation.
- Grouping Stop: the feeder has an activation demand, but the grouping cancels this activation.
- Bin Fill Stop: the feeder has an activation demand, but the associated bin filling cancels this activation.
- Proximity Switch Stop: the feeder has an activation demand, but the proximity switch cancels this activation.
- Lights Stop: the feeder has an activation demand, but no light is active in the zone, which cancels the activation demand.
- Chain Disk Security Stop: the feeder has an activation demand, but the chain disk security cancels this activation.
- Max Current Stop: the feeder has an activation demand, but relay's current to which it is associated to is superior to the maximum current defined and the stop on max current is enabled. Because of this, the activation demand is cancelled.

VALUE REINITIALIZATON
These parameters are used to reset the actual feeder count. If this parameter is pressed, FEEDER RUN TIME will be reset to zero.

ALARM REINITIALIZATION
This parameter is used to reinitialize the feeder alarms. When a feeder alarm situation occurs, it will remain active until this parameter is pressed. When there is no feeder alarm, pressing on this parameter will only reinitialize the high/low timers of the feeders' alarms.

FEEDER SETTINGS

FEEDER RUN TIME
These parameters display the amount of time for which the feeder has been activated for the current day.

FEEDER INPUT STATE
These parameters display the requested state of the feeder input. The feeder input can be ON or OFF.

FEEDER OUTPUT STATE
These parameters display the requested state of the feeder outputs. Each feeder output can be ON or OFF.

PROXIMITY SWITCH # STATE
These parameters display the requested state of the proximity switches. Each proximity switch can be ON or OFF.

CHAIN DISK SECURITY # INPUT STATE
These parameters display the current state of the chain disk security #.

START TIME CYCLE #
These parameters are used to set the time at which the feeder cycle will begin. When the time of day reaches this time, the feeder outputs will activate.

STOP TIME CYCLE #
These parameters are used to set the time at which the feeder cycle will end. When the time of day reaches this time, the feeder output will deactivate.

RUN TIME CYCLE #
These parameters are used to set the time at which the feeder cycle will run. When the time of day reaches *FEEDER START TIME CYCLE # + FEEDER RUN TIME CYCLE #*, the feeder output will deactivate.

START TIME CYCLE #
These parameters are used to set the time at which the first repetition of the cycle will start when Mode 2 is used. When the time of day reaches this time, the cycle will activate for the first time.

DURATION CYCLE #
These parameters are used to set the duration of the feeder cycle in Mode 2. Each repetition of the cycle will have a duration equal to the value adjusted here.

REPETITION CYCLE #
These parameters are used to set the time at which the feeder cycle will repeat itself in Mode 2. When a number of hours equal to the value adjusted here has elapsed after *FEEDER START TIME CYCLE #*, the cycle repetition will begin. All repetition must begin at 23:59 (11:59P) at the latest, or else they will be cancelled.

NUMBER OF REPETITIONS CYCLE #
These parameters are used to set the number of times the cycle will repeat itself each day. Adjusting this value to 0 deactivates the cycle.

CYCLE START NON-DETECTION TIME
These parameters are used to set the time during which the proximity switch will not be checked when a cycle begins. When a cycle starts, the proximity switch input will not be checked for the time adjusted here. Once this delay has expired, the system will check the proximity switch input and a cycle will end if that input has been activated for *FEEDER # STOP CYCLE DETECTION FILTER.*

STOP CYCLE DETECTION FILTER
These parameters are used to set the time for which proximity switch needs to be activated to end a cycle. When a cycle starts, the proximity switch input will not be checked for *FEEDER # CYCLE START NON-DETECTION TIME*. Once this delay has expired, the system will check the proximity switch input and a cycle will end if that input has been activated for the time adjusted here.

FEEDER DEACTIONVATION DELAY
These parameters are used to set a delay for additional operation for feeders associated with feed augers. When the *STOP CYCLE DETECTION FILTER* delay of a feeder is reached, the feed augers associated with that feeder, if not associated with other feeders, stop functioning while the feeder continues to be activated for a period equal to duration of this parameter.

RESTART CYCLE DETECTION FILTER
These parameters are used to set the time for which proximity switch needs to be deactivated to restart a cycle. When a cycle has been deactivated by its proximity switch, it will restart when the proximity switch has not been activated for this amount of time. If this parameter is set to Never, a cycle will not restart once it has been deactivated by its proximity switch.

COPY SETTING TO FEED AUGER #
This parameter is used to select the feed auger into which the mode and time settings of the feeder are to be copied.

START COPYING SETTINGS
This parameter is used to activate the copy of the mode and time parameters of the feeder to the chosen feed auger. This parameter will display Done once the copy is completed.

FEED AUGER ACTIVATION DELAY
This parameter is used to adjust the delay between feeder activation and activation of its associated feed augers. When a feeder is activated for a duration equal to the value of this parameter, its associated feed augers will start. When the feeder stops, the associated feed augers also stop.

WEEKLY SCHEDULE

ACTUAL WEEK
This parameter displays and allows the user to adjust the current week of the weekly schedule of the lights. The weekly schedule has two weeks and the number of the week will toggle between Week 1 and Week 2 every time the day of the week changes from Saturday to Sunday. The user can change the actual week at any moment by modifying this parameter.

ACTUAL WEEK DAY
This parameter displays the actual week day in order to improve weekly schedule management and verification.

GROUP (1-4) WEEK (1-2)
These parameters are used to determine if the feeder group will be allowed to activate for a given day of the schedule. If set to Yes, the feeder outputs assigned to the group will perform its cycles for that day. If set to No, the feeder outputs assigned to the group will not activate that day.

FEEDER OPTIONS

FEEDER MODE

This parameter is used to choose the operating mode for the feeder output. If Mode 1 is chosen, the feeder output will activate according to *FEEDER START TIME CYCLE #, FEEDER STOP TIME CYCLE #* or *FEEDER RUN TIME CYCLE #* according to *FEEDER CYCLE MODE*. If Mode 2 is chosen, the feeder output will activate according to *FEEDER START TIME CYCLE #, FEEDER DURATION CYCLE #, FEEDER REPETITION CYCLE#* and *FEEDER NUMBER OF REPETITIONS CYCLE #.*

NUMBER OF CYCLES

This parameter is used to set the number of cycles that are used and displayed when using mode 1. The cycles with a number lower than the number adjusted here will disappear and not be considered.

FEEDER CYCLE MODE

This parameter is used to choose the operating mode for the feeder cycles. If Time is chosen, the feeder output will activate according to *FEEDER START TIME CYCLE #* and *FEEDER STOP TIME CYCLE #.* If Run Time is chosen, the feeder output will activate according to *FEEDER START TIME CYCLE #* and *FEEDER RUN TIME CYCLE #.*

USE PROXIMITY SWITCH ASSOCIATED WITH

These parameters are used to choose which proximity switch to be used by the feeders when they are associated with the feed augers. If this parameter is set to Feeder, the feeder, when activated, inspects the status of the associated proximity switch and stops after *CYCLE START NON-DETECTION TIME* and *STOP CYCLE DETECTION FILTER* when one of them is triggered. If this parameter is set to Feed Auger, the feeder when activated, checks the state of the proximity switch associated with the feed augers which are associated with the feeder and stops after *CYCLE START NON-DETECTION TIME* and *STOP CYCLE DETECTION FILTER* of those feed augers when one of them is triggered.

ASSOCIATED PROXIMITY SWITCH

These parameters are used to select if a proximity switch will be associated to the respective feeder. If a proximity switch input is associated to a feeder, that feeder's activation cycles can be ended when that input is activated.

CHAIN DISK SECURITY

These parameters are used to select the chain disk security inputs that will be associated with the respective feeder. If the chain disk security inputs are associated with a feeder, the latter will be deactivated if at least one of these inputs is activated.

BIWEEKLY SCHEDULE GROUP

These parameters are used to assign a group to the feeder output in order to use the weekly schedule. If this parameter is set to None, the feeder will activate each day according to its cycles. If this parameter is set to a value other than None, the feeder will activate only for the days its group allows in the weekly schedule.

REDO STOP FILL TIME

These parameters are used to determine if the time for which the feeder was stopped because its associated bin scale was being filled will be added to its activation time when the fill is completed. If this option is set to Yes, the feeder will count the time for which it had an activation demand that was cancelled because the bin was being filled and add that amount of time to its activation period.

LIGHTS SYNCHRONIZATION

This parameter is used to indicate whether the feeder operation can be stopped by lights. When a feeder is assigned to the same zone as lights, this parameter is set to ON and none of the lights are active, the feeder can no longer have an activation demand and CURRENT CONDITION displays "Light Stop".

PROXIMITY SWITCH DEACTIVATES FEEDER IN MANUAL MODE

These parameters are used to determine if the proximity switch will deactivate the feeder manual mode. If this option is set to ON, the proximity switch can deactivate feeder manual mode and toggle switch activation. The *CYCLE START NON-DETECTION TIME, STOP CYCLE DETECTION FILTER* and *RESTART CYCLE DETECTION FILTER* will be applied when manual mode is used. When the feeder returns to automatic mode, the proximity switch timers will be reset.

PROXIMITY SWITCH CUMULATIVE STOP DELAY

This parameter is used to activate cumulative stop delay mode of proximity switches assign to feeders. When this parameter is set to No, the feeder's cycle will stop when its assigned proximity switch is active for a time superior or equal *STOP CYCLE DETECTION FILTER* without interruption. When this parameter is set to yes, the feeder's cycle will stop when its assigned proximity switch is active for a cumulative time superior or equal *STOP CYCLE DETECTION FILTER*.

FEEDING TIME

FEEDER # ASSOCIATION

This parameter is used to select which proximity switches will be used to measure the feeder's feeding time. The feeding time is displayed for each proximity switch used with the feeder. It represents the time between the feeder input's first activation and the proximity switch's first activation of the day.

FEEDER # TIME

This parameter displays the feeding time for each proximity switch assigned to the feeder. The feeding represents the time between the feeder input's first activation and the proximity switch's first activation of the day.

FEED AUGERS

FEED AUGER RUN TIME

These parameters display the amount of time for which the feed auger has been activated for the current day.

FEED AUGER CONSUMPTION

These parameters display the weight of the consumed quantity by the feed auger associated to a bin scale.

FEED AUGER INPUT STATE
These parameters display the requested state of the feed auger input. The feed auger input can be ON or OFF.

FEED AUGER OUTPUT STATE
These parameters display the requested state of the feed auger outputs. Each feed auger output can be ON or OFF.

QUANTITY
This parameter displays the amount of feed counted by the feed auger according to its run time and calibration.

PROXIMITY SWITCH # STATE
These parameters display the requested state of the proximity switches. Each proximity switch can be ON or OFF.

CHAIN DISK SECURITY # INPUT STATE
These parameters display the current state of the chain disk security #.

ACTUAL FEED AUGERS GROUPING #
This parameter displays and is used to select the active feed auger in the respective grouping. The feed auger scale displayed here will be the only feed auger that can be activated. If this parameter displays None, this indicates that no feed augers are available. The actual feed auger of a grouping changes when the active feed auger reaches its *FEED AUGER MAXIMUM LIMIT*. A feed auger becomes available once more when at least one feed auger is available in its grouping and *ALARM RELAY FOR FEED AUGER ALARM* is set to OFF when the date changes or when the feed auger maximum limit alarm is reinitialized.

ACTUAL CONDITION
These parameters display the actual condition of the feed auger. Conditions can be:

- No Demand : the feed auger does not have an activation demand.
- Activation Demand: the feed auger receives an activation demand and no other condition prevents its activation.
- Maximum Alarm Stop: the feed auger has an activation demand, but the maximum alarm condition cancels this activation.
- Grouping Stop: the feed auger has an activation demand, but the grouping cancels this activation.
- Bin Fill Stop: the feed auger has an activation demand, but the associated bin filling cancels this activation.
- Proximity Switch Stop: the feed auger has an activation demand, but the proximity switch cancels this activation.
- Lights Stop: the feed auger has an activation demand, but no light is active in the zone, which cancels the activation demand.
- Chain Disk Security Stop: the feed auger has an activation demand, but the chain disk security cancels this activation.
- Max Current Stop: the feed auger has an activation demand, but relay's current to which it is associated to is superior to the maximum current defined and the stop on max current is enabled. Because of this, the activation demand is cancelled.

VALUE REINITIALIZATION
These parameters are used to reset the actual feed auger count. If this parameter is pressed, FEED AUGER RUN TIME will be reset to zero.

ALARM REINITIALIZATION
This parameter is used to reinitialize the feed auger alarms. When a feed auger alarm situation occurs, it will remain active until this parameter is pressed. When there is no feed auger alarm, pressing on this parameter will only reinitialize the feed auger alarm's actual counts and timers.

FEED AUGER SETTINGS

FEED AUGER RUN TIME
These parameters display the amount of time for which the feed auger has been activated for the current day.

FEED AUGER INPUT STATE
These parameters display the requested state of the feed auger input. The feed auger input can be ON or OFF.

FEED AUGER OUTPUT STATE
These parameters display the requested state of the feed auger outputs. Each feed auger output can be ON or OFF.

QUANTITY
This parameter displays the amount of feed counted by the feed auger according to its run time and calibration.

PROXIMITY SWITCH # STATE
These parameters display the current state of the proximity switches.

CHAIN DISK SECURITY # INPUT STATE
These parameters display the current state of the chain disk security #.

STOP QUANTITY CYCLE #
These parameters are used to adjust the amount of feed that must be distributed for the feed auger cycle to stop. When the bins using the feed auger have distributed the quantity adjusted for the respective cycle since the beginning of the cycle, the feed auger output will deactivate. Each feed auger can be associated to a group. This value can use the **Growth Function** if *CURVE OPTION WEIGHT CYCLE* is set to ON and the **Growth Day** is not set to OFF.

CURVE OPTION WEIGHT CYCLE
These parameters are used to activate or deactivate the **Growth Function** for *STOP QUANTITY CYCLE*. If this curve option is set to ON and the **Growth Day** is not set to OFF, the *STOP QUANTITY CYCLE #* will follow its **Growth Curve**.

WEIGHT CYCLE ADJUSTMENT MODE
These parameters are used to set the mode that will be used to evaluate when the feed auger must be shot off. If this parameter is set to Fixed, the system will consider the feed auger outflow to evaluate when it needs to stop. If this parameter is set to Auto-Adjust, the system will consider feed auger's compiled statistics to evaluate when it needs to stop.

START TIME CYCLE #
These parameters are used to set the time at which the feed auger cycle will begin. When the time of day reaches this time, the feed auger outputs will activate.

STOP TIME CYCLE #
These parameters are used to set the time at which the feed auger cycle will end. When the time of day reaches this time, the feed auger output will deactivate.

RUN TIME CYCLE #
These parameters are used to set the time for which the feed auger cycle will run. When the time of day reaches *FEED AUGER START TIME CYCLE # + FEED AUGER RUN TIME CYCLE #*, the feed auger output will deactivate.

START TIME CYCLE #
These parameters are used to set the time at which the first repetition of the cycle will start when Mode 2 is used. When the time of day reaches this time, the cycle will activate for the first time.

DURATION CYCLE #
These parameters are used to set the time for which the feed auger cycle will last in Mode 2. Each repetition of the cycle will have a duration equal to the value adjusted here.

REPETITION CYCLE #
These parameters are used to set the time after which the feed auger cycle will repeat itself in Mode 2. Each time a number of hours equal to the value adjusted here has elapsed after *FEED AUGER START TIME CYCLE #*, the cycle repetition will begin. All repetitions must begin at 23:59 (11:59P) at the latest, or else they will be cancelled.

NUMBER OF REPETITIONS CYCLE #
These parameters are used to set the number of times the cycle will repeat itself each day. Adjusting this value to 0 deactivates the cycle.

CYCLE START NON-DETECTION TIME
These parameters are used to set the time during which the proximity switch will not be checked when a cycle begins. When a cycle starts, the proximity switch input will not be checked for the duration adjusted here. Once this delay has expired, the system will check the proximity switch input and a cycle will end if that input has been activated for *FEED AUGER (1-12) STOP CYCLE DETECTION FILTER.*

STOP CYCLE DETECTION FILTER
These parameters are used to set the duration the proximity switch needs to be activated to end a cycle. When a cycle starts, the proximity switch input will not be checked for *FEED AUGER (1-12) CYCLE START NON-DETECTION TIME*. Once this delay has expired, the system will check the proximity switch input and a cycle will end if that input has been activated for a total amount of time adjusted here. These parameters are adjusted in 1-second increments from 1 second to 0 à 999 seconds.

RESTARTCYCLE DETECTION FILETR

These parameters are used to set the time for which the proximity switch needs to be deactivated to restart a cycle. When a cycle has been deactivated by its proximity switch, it will restart when the proximity switch has not been activated for this amount of time. If this parameter is set to Never, a cycle will not restart once it has been deactivated by its proximity switch.

FEED AUGER OPTIONS

FEEDER ASSOCIATION

This parameter is used to associate feeders to the feed auger. When one or more of the selected feeders start, the feed auger also starts. It is possible to adjust a time delay between the activation of a feeder and the feed auger.

FEED AUGER MODE

This parameter is used to choose the operating mode for the feed auger output. If Mode 1 is chosen, the feed auger output will activate according to *FEED AUGER START TIME CYCLE #, FEED AUGER STOP TIME CYCLE #* or *FEED AUGER RUN TIME CYCLE #* according to *FEED AUGER CYCLE MODE*. If Mode 2 is chosen, the feed auger output will activate according to *FEED AUGER START TIME CYCLE #, FEED AUGER DURATION CYCLE #, FEED AUGER REPETITION CYCLE #* and *FEED AUGER NUMBER OF REPETITIONS CYCLE #.* If one of these options is set to Weight, that cycle will be activated when time reaches *FEED AUGER # START TIME CYCLE #)* and will remain active until the bin(s) using the feed auger has distributed the mount of feed adjusted in the associated *FEED AUGER # STOP QUANTITY CYCLE #.* Only feed augers 1 to 4 can have the Weight option.

FEED AUGER CYCLE MODE

This parameter is used to choose the operating mode for the feed auger cycles. If Time is chosen, the feed auger output will activate according to *FEED AUGER START TIME CYCLE #* and *FEED AUGER STOP TIME CYCLE #.* If Run Time is chosen, the feed auger output will activate according to *FEED AUGER START TIME CYCLE #* and *FEED AUGER RUN TIME CYCLE #.*

NUMBER OF CYCLES

This parameter is used to set the number of cycles that are used and displayed when using mode 1. The cycles with a number lower than the number adjusted here will disappear and not be considered.

ASSOCIATED PROXIMITY SWITCH

These parameters are used to select if a proximity switch will be associated to the respective feed auger. If a proximity switch input is associated to a feed auger, that feed auger's activation cycles can be ended when that input is activated.

CHAIN DISK SECURITY

These parameters are used to select the chain disk security inputs that will be associated with the respective feed auger. If the chain disk security inputs are associated with a feed auger, the latter will be deactivated if at least one of these inputs is activated.

GROUPING
This parameter is used to determine if a feed auger is used as a part of a group of feed augers or as a standalone feed auger. If this parameter is set to None, there will be no restrictions on the activation of the feed auger. If this parameter is set to 1-2, only the active feed auger of the grouping will be allowed to activate.

QUANTITY ACCORDING TO RUNTIME
This parameter allows the display of the consumption by the feed augers that are associated to a bin scale. If a feed auger is associated to more than one bin scale, this parameter and the *FEED AUGER CONSUMPTION* parameter will be hidden and disabled for all feed augers.

LIGHTS SYNCHRONIZATION
This parameter is used to indicate whether the feed auger operation can be stopped by lights. When a feed auger is assigned to the same zone as lights, this parameter is set to ON and none of the lights are active, the feed auger can no longer have an activation demand and CURRENT CONDITION displays "Light Stop".

PROXIMITY SWITCH DEACTIVATES FEED AUGER IN MANUAL MODE
These parameters are used to determine if the proximity switch will deactivate the feed auger manual mode. If this option is set to ON, the proximity switch can deactivate feed auger manual mode and toggle switch activation. The Cycle Start Non-Detection Time, Stop Cycle Detection Filter and Restart Cycle Detection Filter will be applied when manual mode is used. When the feed auger returns to automatic mode, the proximity switch timers will be reset.

PROXIMITY SWITCH CUMULATIVE STOP DELAY
This parameter is used to activate cumulative stop delay mode of proximity switches assign to feed auger. When this parameter is set to No, the feed auger's cycle will stop when its assigned proximity switch is active for a time superior or equal *STOP CYCLE DETECTION FILTER* without interruption. When this parameter is set to yes, the feed auger's cycle will stop when its assigned proximity switch is active for a cumulative time superior or equal *STOP CYCLE DETECTION FILTER*.

WATER METER

WATER METER
These parameters display the amount of water counted by the water meter for the current day. The amount of water read is displayed to the nearest unit (litre or gallon) from 0 to 30000

WATER METER TOTAL
This parameter displays the total amount of water counted by the water meters.

LAST 24HR QUANTITY
These parameters display the total quantity of water counted by the water meter of the last 24 hours. The total quantity is updated at every hour change. The saved quantity will be erased if the water meter was removed or the controller was shut off.

WATER PER ANIMAL
These parameters display the amount of water counted today per animal for the respective group. This value is the result of the sum of all water meters assigned to the group divided by the amount animals of that group.

GLOBAL WATER PER ANIMAL
These parameters display the amount of water counted today per animal. This value is the result of the sum of all water meters divided by the amount animals.

GLOBAL WATER PER ANIMAL METER SELECTION
This parameter allows the selection of the water meters used in the GLOBAL WATER PER ANIMAL calculation.

GLOBAL WATER PER ANIMAL GROUP SELECTION
This parameter allows the selection of the animal groups used in the GLOBAL WATER PER ANIMAL calculation.

REINITIALIZE WATER METERS VALUES
These parameters are used to reset the actual water meter count. If this parameter is pressed, WATER METER will be reset to zero.

REINITIALIZE WATER METER ALARMS
These parameters are used to reset the actual water meter count. If this parameter is pressed, WATER METER will be reset to zero.

INPUT STOP FLUSH SELECTION
These parameters are used to select which water flush will stop the respective water meter input. Each time a water flush selected in this parameter is active, the water meter will stop counting and reset all its alarm counts. This will not reset a water alarm that has already been triggered.

WATER FLUSH

REQUESTED STATE
These parameters display the requested state of the respective water flush. Each water flush can be ON or OFF.

START TIME #
These parameters are used to set the time at which the respective water flush will activate. When the time of day reaches this time, the respective water flush will activate.

END TIME #
These parameters are used to set the time at which the respective water flush will deactivate. When the time of day reaches this time, the respective water flush will deactivate.

BIWEEKLY SCHEDULE GROUP
These parameters are used to assign a group to the water flush in order to use the weekly schedule. If this parameter is set to None, the water flush will activate each day at its *FLUSH START TIME* until its *FLUSH END TIME*. If this parameter is set to a value other than None, the water flush will activate only for the days its group allows in the weekly schedule.

WATER FLUSH MANUAL MODE ON TIMER

MANUAL ACTIVATION
This parameter is used to activate or deactivate the manual water flush. When this parameter is set to ON, the water flushes will activate one by one for *WATER FLUSH MANUAL ACTIVATION DURATION*. The water flush can be done in sequence or all at once. Once all water flushes have been activated once, this parameter will automatically return to OFF.

MANUAL ACTIVATION DURATION
This parameter defines the time for which each water flush will activate for a manual flush. When *WATER FLUSH MANUAL ACTIVATION* is set to ON, water flushes will activate one by one or all at once for this amount of time.

MANUAL ACTIVATION REMAINING TIME
This parameter displays the remaining time for the manual flush.

MANUAL ACTIVATION METHOD
This parameter allows the user to select if the water flush will be performed in sequence or all at once. If this parameter is set to Sequence, water flushes will activate one at a time in numerical order. If this parameter is set to All, all water flushes will activate at once.

ACTUAL MANUAL FLUSH
This parameter displays the actual water flush performed. When *MANUAL ACTIVATION METHOD* is set to Sequence, this parameter allows the user to see which water flush is being done. When *MANUAL ACTIVATION METHOD* is set to Sequence, this parameter will display All.

WEEKLY SCHEDULE

ACTUAL WEEK
This parameter displays and allows the user to adjust the current week of the weekly schedule. The weekly schedule has two weeks and the number of the week will toggle between Week 1 and Week 2 every time the day of the week changes from Saturday to Sunday. The user can change the actual week at any moment by modifying this parameter.

ACTUAL WEEK DAY
This parameter displays the actual week day in order to improve weekly schedule management and verification.

GROUP (1-4) WEEK (1-2)
These parameters are used to determine if the water flush group will be allowed to activate for a given day of the schedule. If an option is set to Yes, the water flush outputs assigned to the group will perform its cycle for that day. If an option is set to No, the water flush outputs assigned to the group will not activate that day.

LIGHT STATUS

ACTUAL INTENSITY
These parameters display the current intensity of the light outputs.

ACTUAL PERIOD
These parameters display the current light period.

ACTUAL CYCLE
These parameters display the current light cycle.

ACTUAL START TIME
These parameters display the start time of the actual cycle. If no cycle is starting, these parameters display OFF.

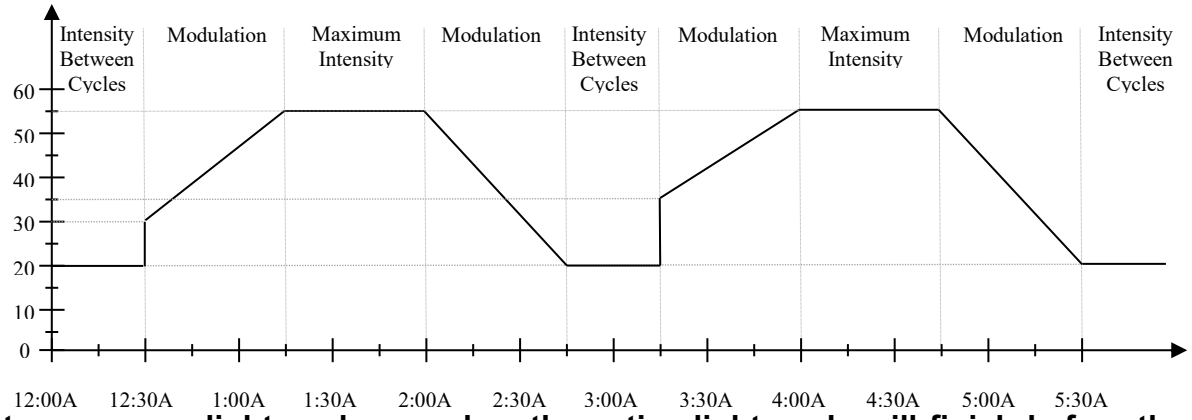
ACTUAL STOP TIME
These parameters display the stop time of the actual cycle. If no cycle is starting, these parameters display OFF.

ACTUAL LUMINOSITY LUX METER #
These parameters display the current luminosity. The luminosity can trigger an alarm if its intensity matches what is expected from light cycles.

Logic diagrams and examples

Logic Diagram 1: Light cycle operation

CYCLE 1 START = 12:30A
CYCLE 1 STOP = 2:45A
CYCLE 1 MIN = 30%
CYCLE 2 START = 3:15A
CYCLE 2 STOP = 5:30A
CYCLE 2 MIN = 35%
MAXIMUM INTENSITY = 55%
START/END MODULATION TIME = 45 minutes
INTENSITY BETWEEN CYCLES = 20%



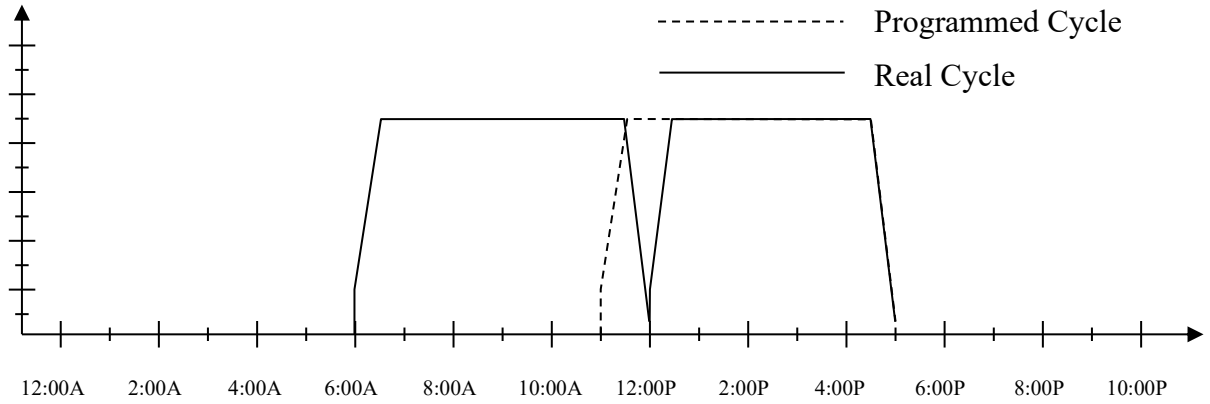
If two or more light cycles overlap, the active light cycle will finish before the new one activates. This situation may be caused by unusual programming or by a period change.

Logic Diagram 2: Programmed overlapping light cycle operation

CYCLE 1 START = 6:00A
CYCLE 2 START = 11:00A

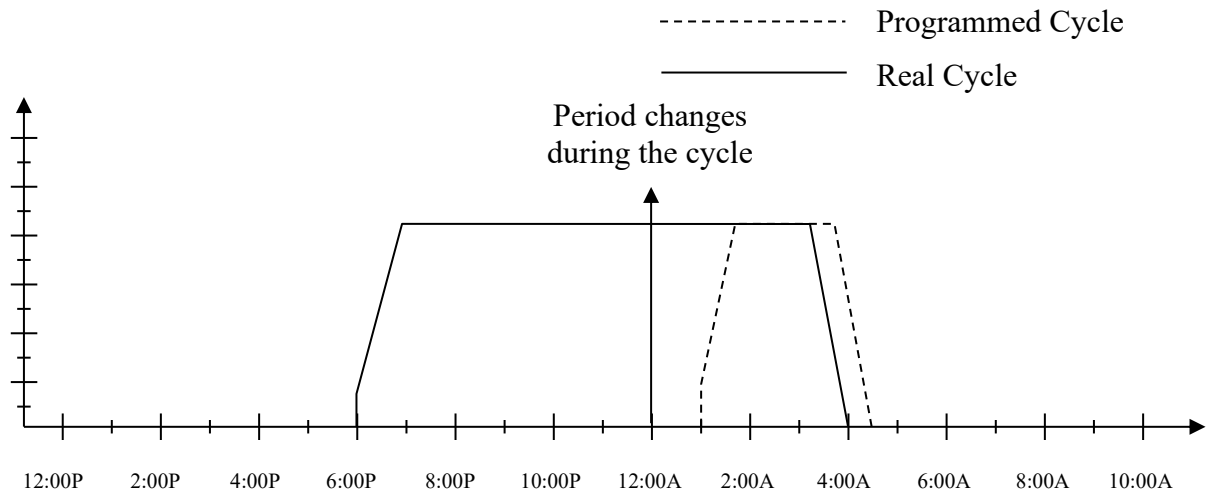
CYCLE 1 STOP = 12:00P

CYCLE 2 STOP = 5:00P



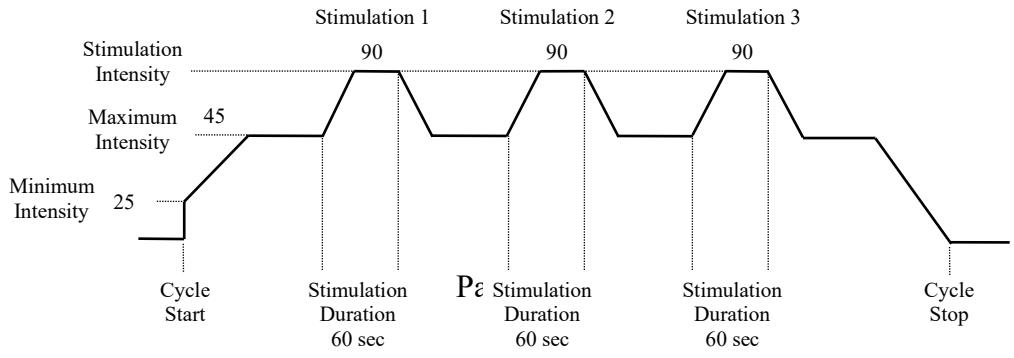
Logic Diagram 3: Period change overlapping light cycle operation

PERIOD 1 CYCLE 1 START = 6:00P
PERIOD 1 CYCLE 1 STOP = 4:00A
PERIOD 2 CYCLE 1 START = 1:00A
PERIOD 2 CYCLE 1 START = 4:30A
START/END MODULATION TIME = 45 min



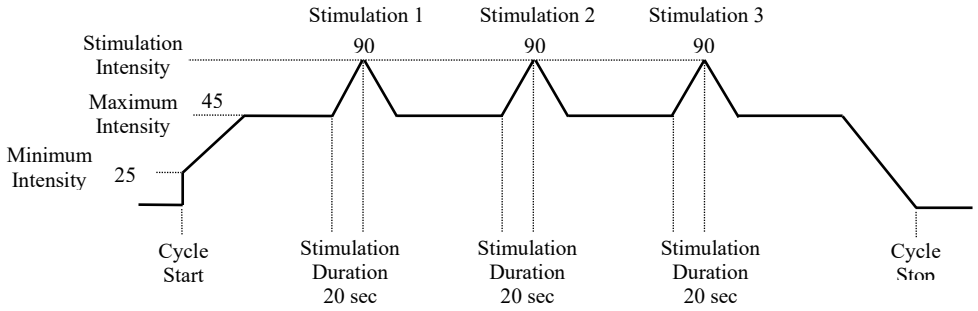
Logic Diagram 4: Light stimulation with duration greater than 20 seconds

MAXIMUM INTENSITY = 45%
STIMULATION INTENSITY = 90%
NUMBER OF STIMULATIONS = 3
MINIMUM INTENSITY = 25%
STIMULATION DURATION = 60 sec



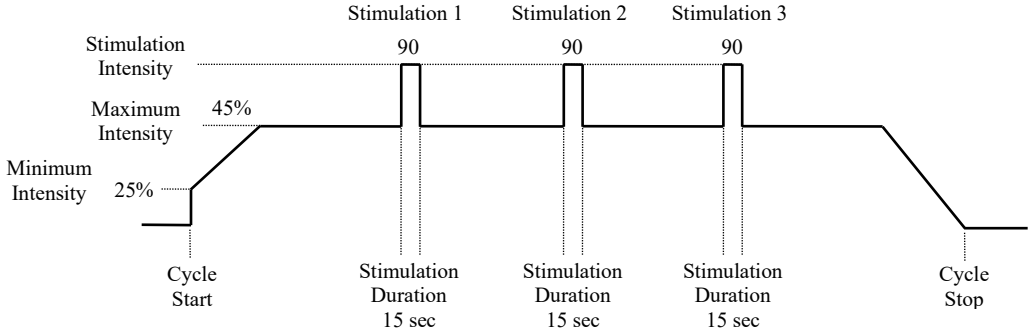
Logic Diagram 5: Light stimulation with duration of 20 seconds

MAXIMUM INTENSITY = 45%
MINIMUM INTENSITY = 25%
STIMULATION INTENSITY = 90%
STIMULATION DURATION = 20 sec
NUMBER OF STIMULATIONS = 3



Logic Diagram 6: Light stimulation with duration lesser than 20 seconds

MAXIMUM INTENSITY = 45%
MINIMUM INTENSITY = 25%
STIMULATION INTENSITY = 90%
STIMULATION DURATION = 15 sec
NUMBER OF STIMULATIONS = 3



LIGHT # PROGRAM

ACTUAL INTENSITY

These parameters display the current intensity of the light outputs.

SYSTEM

This parameter is used to activate or deactivate light program of the zone. To avoid activating lights when settings are adjusted, it is recommended to adjust this parameter to OFF. When this parameter is set to OFF, the light zone will be deactivated and the timer will be reset. As soon as this parameter is set to ON, the controller will re-evaluate all light settings of the zone.

TIMED MANUAL OPERATION
These parameters are used to activate the lights, in manual timer mode, to the *TIMED MANUAL INTENSITY* during *TIMED MANUAL OPERATION DURATION*.

INTENSITY BETWEEN CYCLES
This parameter is used to set the intensity lights will use when they are activated but no cycle is active. Lights will modulate from *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY* to this intensity at the end cycle.

SYSTEM OFF INTENSITY
This parameter is used to set the intensity lights will use when *LIGHT SYSTEM* is set to OFF.

START MODULATION TIME
This parameter is used to set the global start modulation time. If *MODULATION SETTINGS* is set to Global, lights will take this time to go from *LIGHT PERIOD # CYCLE # MINIMUM INTENSITY* to *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY*. If this parameter is set to 0, lights will go directly from *LIGHT INTENSITY BETWEEN CYCLES* to intensity *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY*, at the beginning of a cycle.

INTERMEDIATE START MODULATION TIME
This parameter is used to set the intermediate start modulation time. If *MODULATION SETTINGS* is set to Global, this time will be the time during which the lights will modulate from *LIGHT PERIOD # CYCLE # MINIMUM INTENSITY* to *INTERMEDIATE START INTENSITY* at the beginning of a cycle. If this parameter is adjusted to 0, the intermediate start modulation will not be executed.

INTERMEDIATE START INTENSITY
This parameter is used to set the value of the intermediate start intensity to which the lights will modulate at the beginning of the cycle if *INTERMEDIATE START MODULATION TIME* is set to a value other than 0.

END MODULATION TIME
This parameter is used to set the global end modulation time. If *MODULATION SETTINGS* is set to Global, lights will take this time to go from *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY* to *LIGHT PERIOD # CYCLE # MINIMUM INTENSITY* or *INTENSITY BETWEEN CYCLES* at the end of a cycle. If this parameter is set to 0, lights will go directly from *LIGHT MAXIMUM INTENSITY* to intensity *LIGHT PERIOD # INTENSITY BETWEEN CYCLES*, at the end of a cycle.

INTERMEDIATE END MODULATION TIME
This parameter is used to set the intermediate end modulation time. If *MODULATION SETTINGS* is set to Global, this time will be the time during which the lights will modulate from *LIGHT PERIOD # CYCLE # MAXIMUM INTENSITY* to *INTERMEDIATE END INTENSITY* at the end of a cycle. If this parameter is adjusted to 0, the intermediate end modulation will not be executed.

INTERMEDIATE END INTENSITY
This parameter is used to set the value of the intermediate end intensity to which the lights will modulate at the ending cycle if *INTERMEDIATE END MODULATION TIME* is set to a value other than 0.

NUMBER OF STIMULATIONS
This parameter is used to set the amount of stimulations that will be performed in each cycle of each period. Stimulations will be distributed evenly throughout the cycle. A stimulation is performed by increasing light intensity for a short period of time within the cycle.

STIMULATION INTENSITY
This parameter is used to set the intensity the lights will take during a stimulation.

STIMULATION DURATION
This parameter is used to set the amount of time for which each stimulation will last and determines if stimulation modulates or goes directly to from *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY* to *LIGHT STIMULATION INTENSITY*. When a stimulation begins, lights will modulate from *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY* to *LIGHT STIMULATION INTENSITY* throughout a 20-second period, which is included in the duration. Lights will remain at *LIGHT STIMULATION INTENSITY* for the rest of the duration and will then modulate to *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY* throughout the 20-second period, which is not included in the duration. If this setting is adjusted to any value less than the 20 seconds, no modulation will be performed.

POWER OUTAGE RECOVERY MODULATION
This parameter is used to set the minimum time that the lights will take to modulate their intensities from *PERIOD # CYCLE # MINIMUM INTENSITY* to *LIGHTS # PERIOD # MAXIMUM INTENSITY* during a power outage.

PERIOD # OPTION 24-HOUR
These parameters are used to set this period in a 24-hour cycle. Setting one of these parameters to ON results in a 24-hour cycle. That cycle will not perform any start transition, but will perform its ending transition when *PERIOD # END DAY* is reached to finish at 23:59 of that day. Note that all other cycles will be overcome by a 24-hour cycle. These parameters can be adjusted to ON or OFF.

PERIOD # NUMBER OF CYCLES
This parameter is used to adjust the amount of cycles used by the period. Deactivated cycles will not be visible through the configuration. A period might use up to 5 cycles.

PERIOD # MAXIMUM INTENSITY
These parameters are used to adjust the maximum intensity for the period. When the hour of the day reaches *LIGHT PERIOD # CYCLE # ON TIME* associated to LIGHT ACTUAL PERIOD, lights will activate to *LIGHT PERIOD # CYCLE # MINIMUM INTENSITY* and will modulate to this value for an amount of time equal to *LIGHT START MODULATION TIME*.

PERIOD # END DAY
These parameters are used to adjust the end day for the period. This day is the last day at which the controller will consider to be in its related period. The last activated period does not have end day and will be continuously used when the last day is reached.

PERIOD # CYCLE # MINIMUM INTENSITY
These parameters are used to adjust the minimum cycle intensity. When the hour of the day reaches *LIGHT PERIOD # CYCLE # ON TIME* related to LIGHT ACTUAL PERIOD, lights will activate to this intensity and will modulate to *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY* for an amount of time equal to *LIGHT START MODULATION TIME*.

PERIOD # CYCLE # MAXIMUM INTENSITY
These parameters are used to adjust the maximum intensity for this period's cycle. When hour of day reaches *LIGHT PERIOD # CYCLE # ON TIME* associated to LIGHT ACTUAL PERIOD, lights will activate to *LIGHT PERIOD # CYCLE # MINIMUM INTENSITY* and will modulate to this value for an amount of time equal to *LIGHT START MODULATION TIME*.

PERIOD # CYCLE # START MODULATION TIME
This parameter is used to set the cycle start modulation time. If *MODULATION SETTINGS* is set to Per Cycle, lights will take this time to go from *LIGHT PERIOD # CYCLE # MINIMUM INTENSITY* to *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY*. If this parameter is set to 0, lights will go directly from *LIGHT INTENSITY BETWEEN CYCLES* to intensity *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY* at the beginning of a cycle.

PERIOD # CYCLE # END MODULATION TIME
This parameter is used to set the cycle end modulation time. If *MODULATION SETTINGS* is set to Per Cycle, lights will take this time to go from *LIGHT PERIOD # (CYCLE #) MAXIMUM INTENSITY* to *LIGHT PERIOD # CYCLE # MINIMUM INTENSITY* or *INTENSITY BETWEEN CYCLES* at the end of a cycle. If this parameter is set to 0, lights will go directly from *LIGHT MAXIMUM INTENSITY* to intensity *LIGHT PERIOD # INTENSITY BETWEEN CYCLES* at the end of a cycle.

PERIOD # CYCLE # ON TIME
These parameters are used to set the time at which the cycle will start. When the hour of day reaches the hour of the start related to the LIGHT ACTUAL PERIOD cycle, this cycle begins.

PERIOD # CYCLE # OFF TIME
These parameters are used to set the time at which the cycle will start. When the hour of day reaches the hour of the stop related to the LIGHT ACTUAL PERIOD cycle, this cycle ends.

LIGHT OPTIONS

WEEKLY SCHEDULE
These parameters are used to assign a weekly schedule to the light output. If this parameter is set to No, the light will activate each day when its daily cycles require it. If this parameter is set to Yes, the light will activate only for the days its weekly schedule allows.

NUMBER OF PERIODS
This parameter is used to adjust the amount of periods used by the zone. Deactivated periods will not be visible thorough the configuration. A zone might use up to 15 periods.

MODE
This parameter is used to set the light logic to use. A light program can use either a cycle logic or a stage logic.

LIGHT STIMULATION
This parameter allows *LIGHT NUMBER OF STIMULATIONS*, *LIGHT STIMULATION INTENSITY* and *LIGHT STIMULATION DURATION* to be used and displayed.

MAXIMUM INTENSITY SETTINGS
This parameter allows the user to choose if the light maximum intensity setting is adjusted for the period or for each cycle of the period. If this adjustment is set to Per Period, the same maximum intensity will be used throughout the period. If this adjustment is set to Per Cycle, the maximum intensity will have to be set for each cycle of each period.

MAXIMUM INTENSITY SETTINGS
This parameter allows the user to choose if the light maximum intensity setting is adjusted for the period or for each cycle of the period. If this adjustment is set to Per Period, the same maximum intensity will be used throughout the period. If this adjustment is set to Per Cycle, the maximum intensity will have to be set for each cycle of each period.

MODULATION SETTINGS
This parameter allows the user to choose if the start and end modulation settings are adjusted for the period or for each cycle of the period. If this adjustment is set to Global, the same start and end modulation settings will be used throughout all cycles and periods. If this adjustment is set to Per Cycle, the start and end modulation settings will have to be set for each cycle of each period.

END MODULATION
This parameter allows the user to select the intensity the lights will target for the end modulation phase. If this parameter is set to Minimum Intensity, the lights will modulate towards *PERIOD # CYCLE # MINIMUM INTENSITY* at the end of the cycle. If his parameter is set to Intensity between cycles, the lights will modulate towards *INTENSITY BETWEEN CYCLES* at the end of the cycle.

DARKNES STIMULATION
These parameters are used to select which lights will use darkness stimulation. When a light uses dark stimulation, it will turn off at certain times during its cycles. These stimulations do not occur during start and end modulation. Stimulation begins with a gradual decrease of light intensity from maximum intensity to 0% for an adjustable time equal to *DARKNESS STIMULATION DECREASING DURATION*. Then, the light remains off for a time equal to *DARKNESS STIMULATION DURATION*. Finally, the intensity of the light increases from 0 to its maximum intensity for a duration equal to the *DARKNESS STIMULATION INCREASING DURATION*. These stimulations occur each time a delay equal to *DARKNESS STIMULATION FREQUENCY* is elapsed. In addition, for stimulations to occur, *DARKNESS STIMULATION NUMBER OF DAYS* must be at a value other than Off.

DARKNESS STIMULATION FREQUENCY
These parameters are used to choose at which frequencies the darkness stimulations occur for each light program. Stimulations occur each time a delay equal to *DARKNESS STIMULATION FREQUENCY* is elapsed.

DARKNESS STIMULATION DECREASING DURATION
These parameters are used to choose the duration of the dark stimulation descent phase. When a stimulation starts, the intensity of the light gradually decreases to 0%. This modulation occurs over a time equal to the value of this parameter.

DARKNESS STIMULATION DURATION

These parameters are used to choose how long the light stays off during dark stimulation. Following the descent time, the intensity of the light remains at 0% for a time equal to this parameter.

DARKNESS STIMULATION INCREASING DURATION

These parameters are used to choose the duration of the rise time of the dark stimulation. When stimulation ends, the intensity of the light increases gradually from 0% to the cycle's maximum intensity. This modulation occurs on a time equal to the value of this parameter.

DARKNESS STIMULATION NUMBER OF DAYS

These parameters are used to choose and display the number of remaining days where there may be darkness stimulation. If this parameter is Off, there will be no dark stimulation for corresponding light. If this parameter is a value other than Off, there will be black stimulations during the corresponding light's cycles

TIMED MANUAL MODE INTENSITY

TIMED MANUAL OPERATION DURATION

These parameters are used to adjust the manual timer mode duration of the variable lights. When the value of this parameter is different to OFF, the light can be activated in manual timer mode, via the *TIMED MANUAL OPERATION* parameter, to the intensity of the *TIMED MANUAL INTENSITY* parameter, without starting modulation and for a period equal to the value of this parameter. At the end of this time, the light goes out of manual timer mode without any end modulation.

TIMED MANUAL INTENSITY

These parameters are used to adjust the intensity of the variable lights in manual timer mode. When this mode is activated using the *TIMED MANUAL OPERATION* parameter, the lights will have the intensity set at this parameter.

TIMED MANUAL OPERATION

These parameters are used to activate the lights, in manual timer mode, to the *TIMED MANUAL INTENSITY* during *TIMED MANUAL OPERATION DURATION*.

LIGHTS STAGE

ACTUAL LIGHT INTENSITY

These parameters display the current intensity of the light outputs.

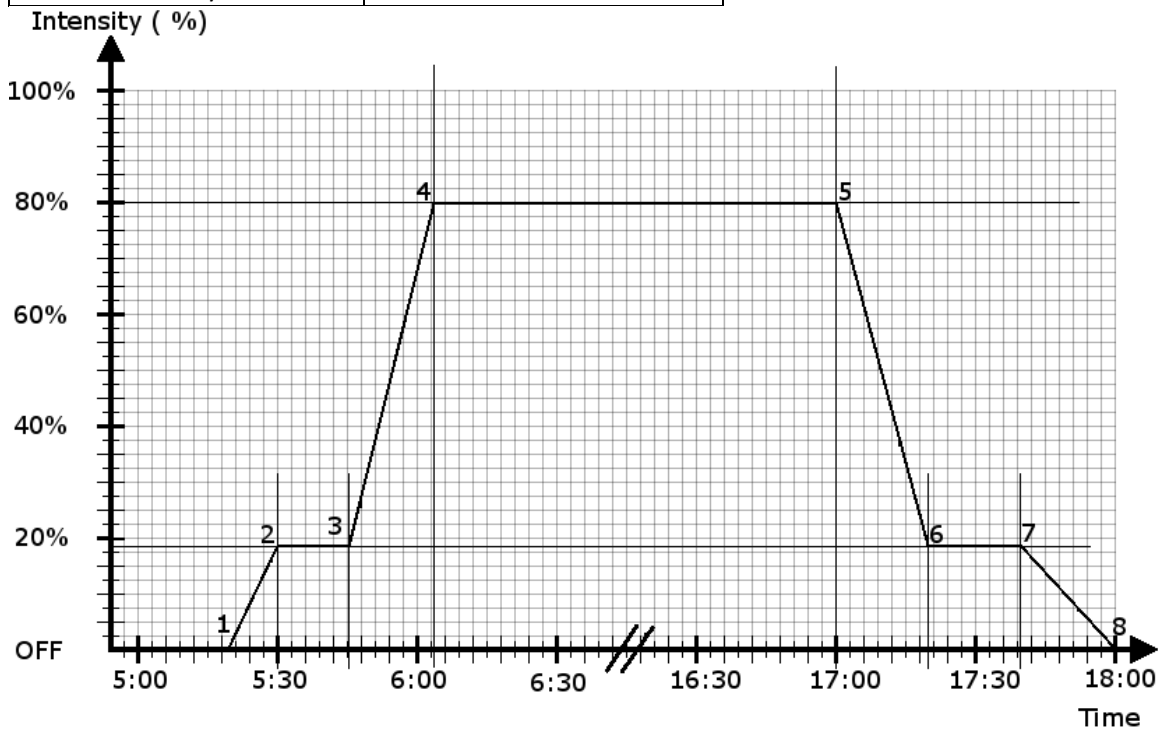
ACTUAL PERIOD

These parameters display the current light period.

Logic diagrams and examples

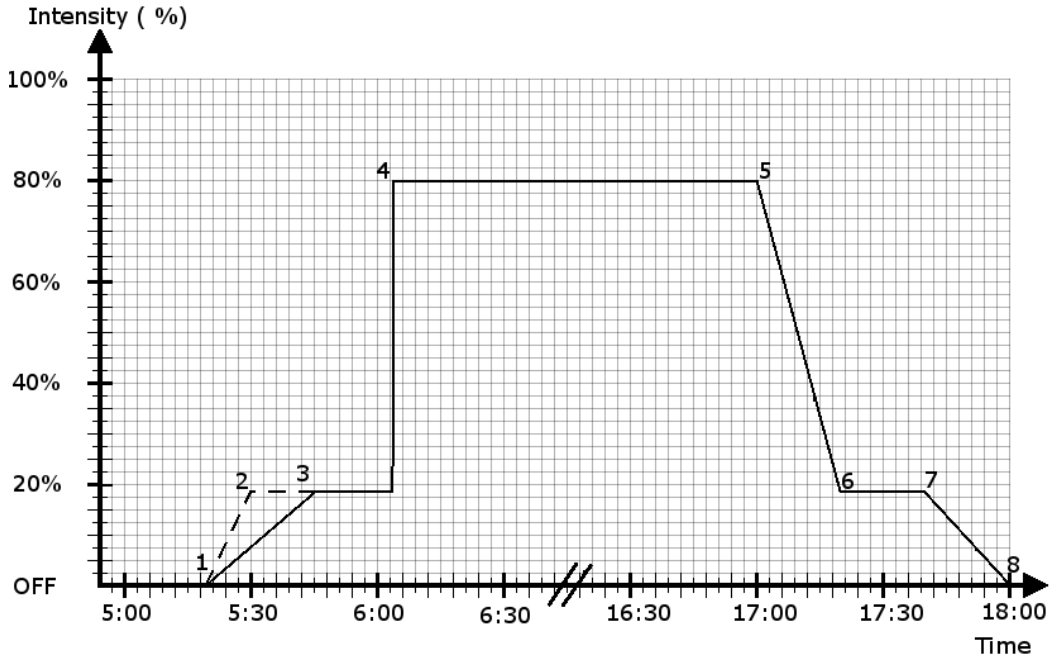
Logic Diagram 1: Light Operations within Periods

Point 1	Point 2	Point 3
TIME 1: 5:20A (5:20) *INTENSITY 1:* 0% *OPTION 1:* Var/On	*TIME 2: 5:30A (5:30)* *INTENSITY 2:* 18% *OPTION 2:* Var	*TIME 3: 5:45A (5:45)* *INTENSITY 3:* 18% *OPTION 3:* Var/On
Point 4	Point 5	Point 6
TIME 4: 6:05A (6:05) *INTENSITY 4:* 80% *OPTION 4:* Var	*TIME 5: 5:00P (17:00)* *INTENSITY 5:* 80% *OPTION 5:* Var/On	*TIME 6: 5:20P (17:20)* *INTENSITY 6:* 18% *OPTION 6:* Var
Point 7	Point 8	
TIME 7: 5:40P (17:40) *INTENSITY 7:* 18% *OPTION 7:* Var/On	*TIME 8: 6:00P (18:00)* *INTENSITY 8:* 0% *OPTION 8:* Var	



Logic Diagram 2 : Light Operation Behavior When Option Parameter is On or Off

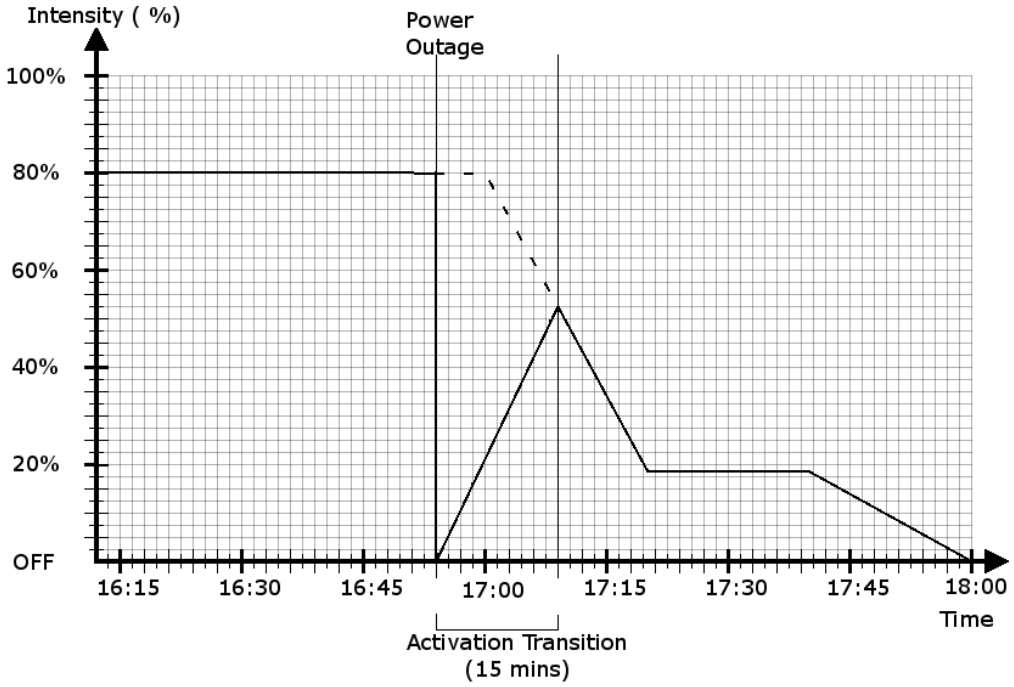
Point 1	Point 2	Point 3
TIME 1: 5:20A (5:20) *INTENSITY 1:* 0% *OPTION 1:* Var/On	*TIME 2: 5:30A (5:30)* *INTENSITY 2:* 18% *OPTION 2:* Off	*TIME 3: 5:45A (5:45)* *INTENSITY 3:* 18% *OPTION 3:* Var
Point 4	Point 5	Point 6
TIME 4: 6:05A (6:05) *INTENSITY 4:* 80% *OPTION 4:* On	*TIME 5: 5:00P (17:00)* *INTENSITY 5:* 80% *OPTION 5:* Var/On	*TIME 6: 5:20P (17:20)* *INTENSITY 6:* 18% *OPTION 6:* Var
Point 7	Point 8	
TIME 7: 5:40P (17:40) *INTENSITY 7:* 18% *OPTION 7:* Var/On	*TIME 8: 6:00P (18:00)* *INTENSITY 8:* 0% *OPTION 8:* Var	



Logic Diagram 3 : Activation Transition After Power Outage

TRANSITION ACTIVATION MIN: 15 min

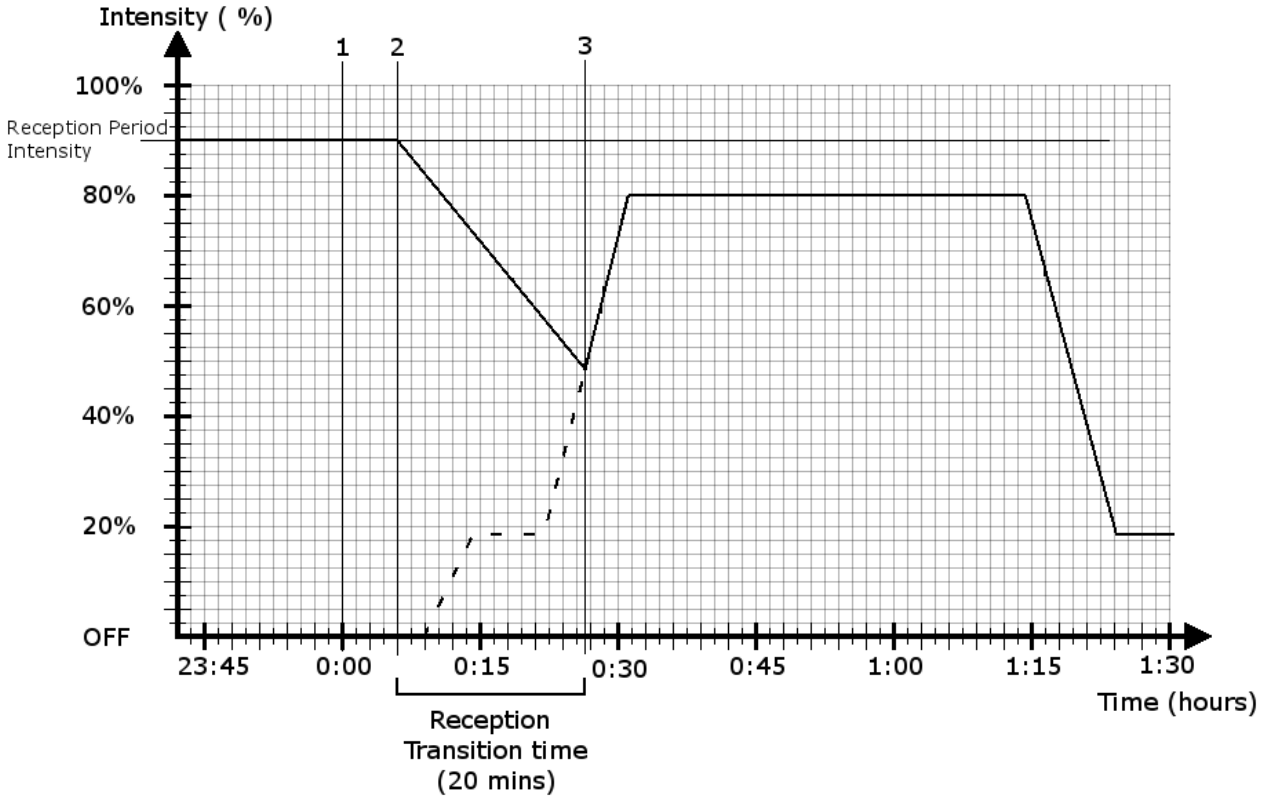
After a power outage, the controller will evaluate the intensity demand at the end of the activation transition and modulate from 0 to that intensity.



Logic Diagram 4: Transition from Reception Period to Period 1

RECEPTION PERIOD INTENSITY: 90%
RECEPTION PERIOD END TIME: 12:06A (0:06)
RECEPTION TRANSITION TIME: 20 min

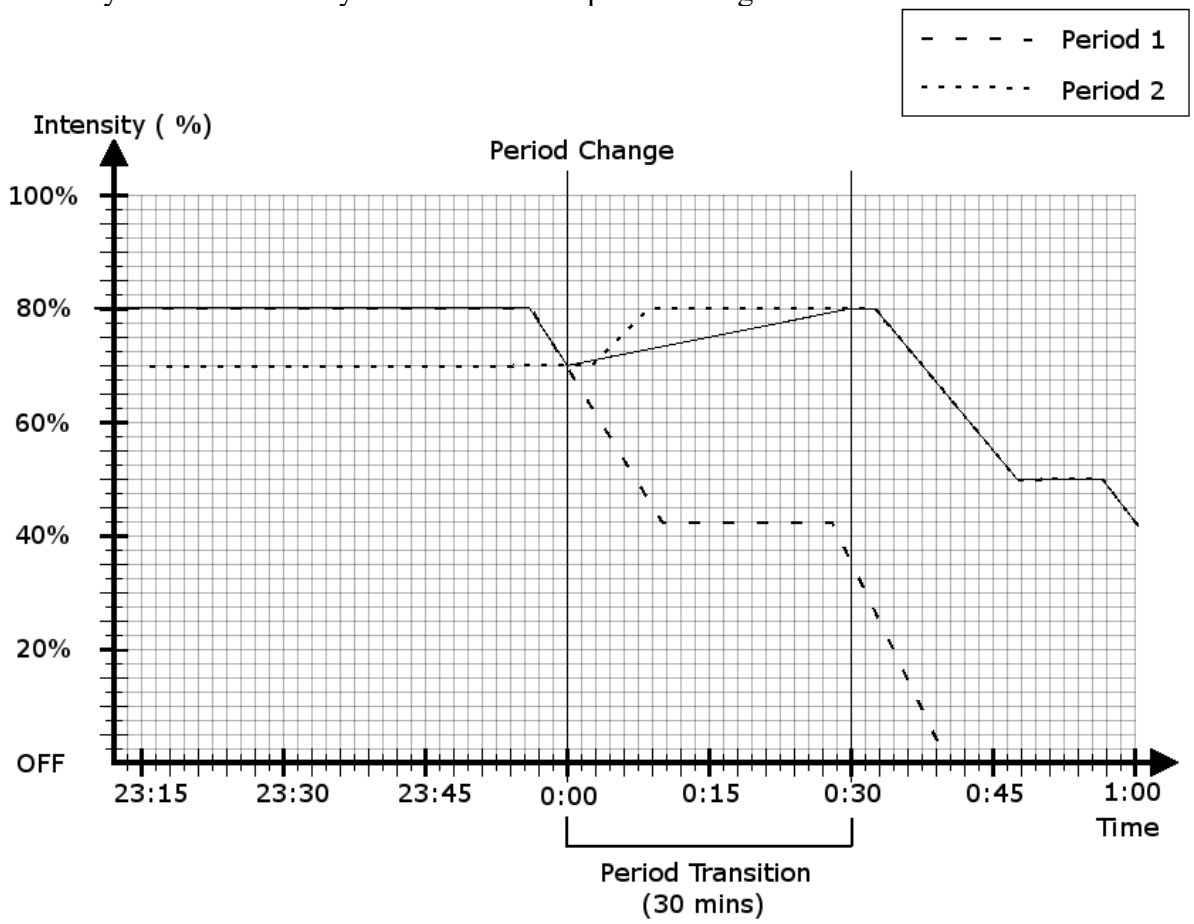
1 – At midnight, *CURRENT DAY* is now equal to *PERIOD 1 START DAY*.
2 – Once *RECEPTION PERIOD END TIME* is reached, the controller will evaluate the light demand at the end of *RECEPTION TRANSITION TIME* and modulate to that intensity from *RECEPTION PERIOD INTENSITY.*
3 – At the end of the transition, the controller follows Period 1 configuration.



Logic Diagram 5 : Period Transition

PERIOD TRANSITION MIN: 30 min

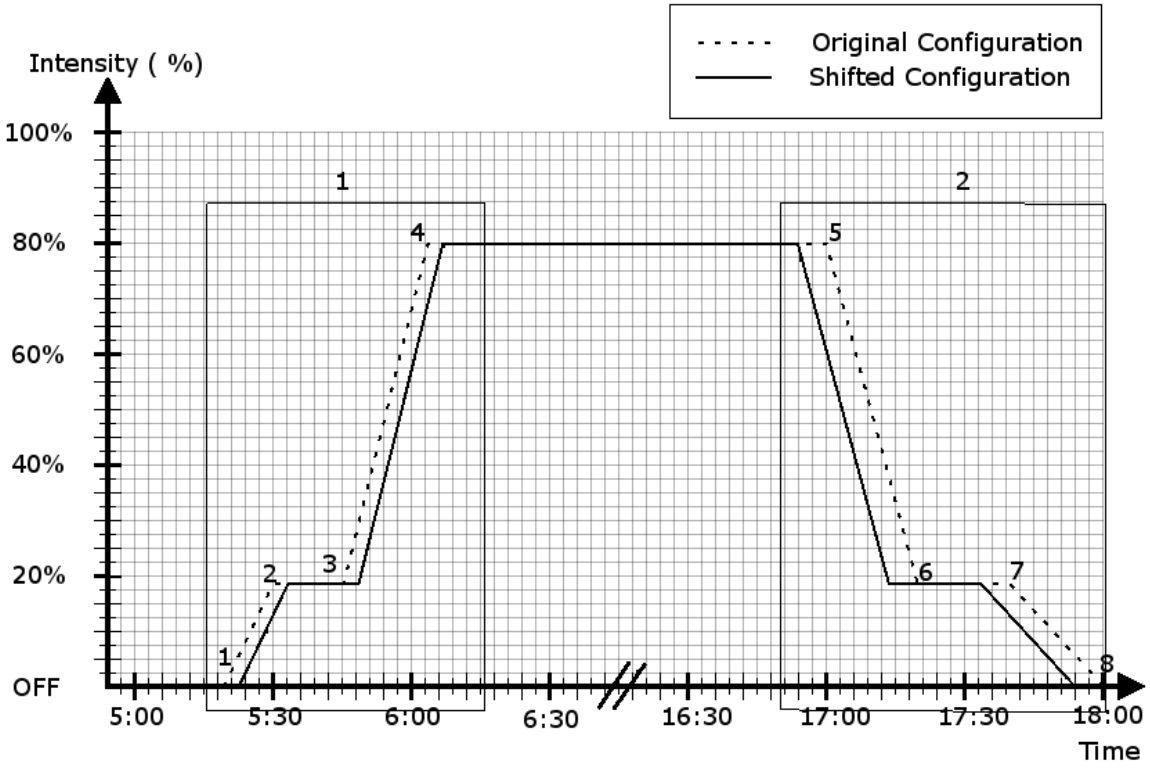
At midnight, *CURRENT DAY* is now equal to *PERIOD 2 START DAY*. The controller evaluates the light demand at the end of *PERIOD TRANSITION MIN* and modulates to that intensity from the intensity at the time of the period change.



Logic Diagram 6: Morning and Evening Shift

MORNING SHIFT: 3	*MORNING SHIFT SET:* add
EVENING SHIFT: 6	*EVENING SHIFT SET:* subtract

1 – Point 4 is the first point with the highest intensity of the period. Points 1, 2, 3 and 4 are included in the morning shift.
2 – Point 5 is the last point with the highest intensity of the period. Points 5, 6, 7 and 8 are included in the evening shift.



LIGHT # STAGE PROGRAM

ACTUAL INTENSITY

These parameters display the current intensity of the light outputs.

SYSTEM

This parameter is used to activate of deactivate the light program. To avoid activating lights when settings are adjusted, it is recommended to adjust this parameter to OFF. When this parameter is set to OFF, the lights will be deactivated. As soon as this parameter is set to ON, the controller will re-evaluate all light settings.

PERIOD # TIME

These parameters are used to set the time at which the lights will be at the intensity defined in the associated *PERIOD # INTENSITY* parameter.

PERIOD # INTENSITY

These parameters are used to set the intensity of the lights at the time defined in the associated *PERIOD # TIME* parameter.

PERIOD # OPTION

These parameters are used to set the manner in which the intensity defined in the associated period # intensity parameter will be reached. If set to OFF, this point will not be taken into consideration in the evaluation of the light activation requirement. If set to VAR, the light intensity demand will be linearly evaluated between the intensity of the previous point and the intensity of the current point. If set to ON, the light intensity demand will remain at the intensity of the previous point until the time parameter of the current point has been reached, at which point the light intensity demand will change for the intensity of the current point. This parameter can be set to OFF, VAR or ON.

START DAY PERIOD

These parameters are used to set the start day of each period. This day is the first for which the controller will consider being in the associated period. The last activated period will be used continuously once it has started.

ACTIVATION TRANSITION

This parameter is used to set the time required for the activation transition to complete. The lights will be in activation transition after a power outage or after *SYSTEM* is cycled from OFF to ON. In this case, the light intensity demand will vary linearly from 0% at the beginning of the activation transition to the evaluated light intensity demand at the end of the activation transition. The lights will also be in activation transition after a period change if *PERIOD TRANSITION* is set to MIN. In this case, the light intensity demand will vary linearly between the intensity at the start of the transition and the evaluated light intensity demand at the end of the transition.

PERIOD TRANSITION
This parameter is used to set the time required for a period transition to complete. If this parameter is set to MIN, a period transition will occur if *GROWTH DAY* is at least equal to the start day of the period following *ACTUAL PERIOD* and *ACTUAL INTENSITY* is equal or lower than the intensity defined in *MINIMUM INTENSITY*. At that moment, the lights will enter an activation transition. Otherwise, a period transition will occur when *GROWTH DAY* is equal to the start day of the period following *ACTUAL PERIOD*. At that moment, the light intensity demand will vary linearly between the light intensity at the beginning of the period transition and the evaluated intensity at the end of the period transition.

MINIMUM INTENSITY
This parameter is used to set the intensity threshold under which *ACTUAL INTENSITY* must be for a period transition to occur if *PERIOD TRANSITION* is set to MIN.

PERIOD TO SHIFT
This parameter is used to choose to which period a morning or evening shift is to be applied.

MORNING SHIFT
This parameter is used to select how much time is to be added to or subtracted from the time parameters of the points included in the morning shift. The points included in the morning shift are all the points, starting from the first point of the period selected in *PERIOD TO SHIFT*, up to and including the first point with the highest intensity of the aforementioned period.

MORNING SHIFT OPERATION
This parameter is used to select the operation for the morning shift, which can be either to add the time adjusted in *MORNING SHIFT* to the time parameters or to subtract the adjusted time from the time parameters. This parameter can be set either to Subtract or Add.

APPLY MORNING SHIFT
This parameter is used to apply the morning shift. When this parameter is pressed, a confirmation message will appear. When the confirmation is performed, the morning shift will be applied.

EVENING SHIFT
This parameter is used to select how much time is to be added to or subtracted from the time parameters of the points included in the evening shift. The points included in the evening shift are all the points, starting from the last point with the highest intensity of the period selected in *PERIOD TO SHIFT* to the last point of the aforementioned period.

EVENING SHIFT OPERATION
This parameter is used to select the operation for the evening shift, which can be either to add the time adjusted in *EVENING SHIFT* to the time parameters or to subtract the adjusted time from the time parameters. This parameter can be set either to Subtract or Add.

APPLY EVENING SHIFT
This parameter is used to apply the evening shift. When this parameter is pressed, a confirmation message will appear. When the confirmation is performed, the evening shift will be applied.

RECEPTION PERIOD INTENSITY
This parameter is used to set the intensity the lights will adopt during the reception period.

RECEPTION PERIOD END TIME
This parameter is used to set the time at which the reception period will end. The reception period will always end on the same day as *START DAY PERIOD 1*.

RECEPTION PERIOD TRANSITION TIME
This parameter is used to set the time it will take for the intensity of the lights to transition from *RECEPTION PERIOD INTENSITY* to the evaluated light activation demand. This transition will start at *RECEPTION PERIOD END TIME*. If this parameter is set to OFF, the intensity of the lights will be re-evaluated immediately once *RECEPTION PERIOD END TIME* has been reached.

LIGHT # DARKNESS PROGRAM

ACTUAL INTENSITY
These parameters display the current intensity of the light outputs.

SYSTEM
This parameter is used to activate of deactivate the light program. To avoid activating lights when settings are adjusted, it is recommended to adjust this parameter to OFF. When this parameter is set to OFF, the lights will be deactivated. As soon as this parameter is set to ON, the controller will re-evaluate all light settings.

DARKNESS START TIME
This parameter is used to set the time at which the lights will be at the intensity defined in *PERIOD # MINIMUM INTENSITY*.

ASCENT TIME
This parameter is used to set the delay for which the lights will modulate from *PERIOD # MINIMUM INTENSITY* to *PERIOD # MAXIMUM INTENSITY* when the darkness period ends.

DESCENT TIME
This parameter is used to set the delay for which the lights will modulate from *PERIOD # MAXIMUM INTENSITY* to *PERIOD # MINIMUM INTENSITY* before the darkness period begins.

ACTIVATION TRANSITION
This parameter is used to set the time required for the activation transition to complete. The lights will be in activation transition after a power outage or after *SYSTEM* is cycled from OFF to ON. In this case, the light intensity demand will vary linearly from 0% at the beginning of the activation transition to the evaluated light intensity demand at the end of the activation transition.

PERIOD # START DAY
These parameters are used to set the start day of each period. This day is the first for which the controller will consider being in the associated period. The last activated period will be used continuously once it has started. The first period does not have this option and will be used by the controller when the current breeding day is before the start day of the second period.

PERIOD # MINIMUM INTENSITY
These parameters are used to set the minimum intensity for the lights for a given period. The lights will be at the intensity set here during the darkness period.

PERIOD # MAXIMUM INTENSITY
These parameters are used to set the maximum intensity for the lights for a given period. The lights will be at the intensity set here during the day period.

PERIOD # DARKNESS DURATION
These parameters are used to set the duration of the darkness period. The lights will be in the darkness period starting at *DARKNESS START TIME* and until the delay set here has passed.

ON/OFF LIGHTS

REQUESTED STATE
These parameters display the requested state of the ON/OFF light output.

ACTUAL LUMINOSITY LUX METER #
These parameters display the current luminosity.

NUMBER OF CYCLES
These parameters are used to select the amount of cycles per day that the ON/OFF light will use.

START TIME CYCLE #
These parameters are used to set the time at which the respective cycle will start. When the time of the day reaches a cycle start time, that cycle will begin. Setting *START TIME CYCLE #* to the same value as the corresponding *STOP TIME CYCLE #* will deactivate the cycle.

STOP TIME CYCLE #
These parameters are used to set the time at which the respective cycle will end. When the time of day reaches a cycle end time, that cycle will end. Setting *START TIME CYCLE #* to the same value as the corresponding *STOP TIME CYCLE #* will deactivate the cycle.

LIGHT STAGE OPTIONS

NUMBER OF PERIODS
This parameter is used to adjust the amount of periods used by the light program. Deactivated periods will not be visible throughout the configuration. A light program can use up to 10 periods.

MODE
This parameter is used to set the light logic. A light program can use either a cycle logic or a stage logic.

WEEKLY SCHEDULE
These parameters are used to assign a weekly schedule to the light output. If this parameter is set to No, the light will activate without restriction in regard to the days of the week. If this parameter is set to Yes, the light will activate only for the days its weekly schedule allows.

WEEKLY SCHEDULE

ACTUAL WEEK

This parameter displays and allows the user to adjust the current week of the weekly schedule. The weekly schedule has two weeks and the number of the week will toggle between Week 1 and Week 2 every time the day of the week changes from Saturday to Sunday. The user can change the actual week at any moment by modifying this parameter.

ACTUAL WEEK DAY

This parameter displays the actual week day in order to improve weekly schedule management and verification.

LIGHT # DAY WEEK (1-2)

These parameters are used to determine if the light will activate for a given day of the schedule. If set to Yes, the light will perform its cycles for that day. If set to No, the light will not activate that day.

LUX METER

ACTUAL LUMINOSITY

These parameters display the current luminosity. The luminosity can trigger an alarm if it does not match what is expected from light cycles.

LIGHT ASSOCIATION

This parameter is used to select which lights the lux meter will monitor. The light output selected here will determine when the different light thresholds are evaluated.

NO CYCLE MAXIMUM LUMINOSITY

This parameter is used to set the threshold at which the alarm will be triggered when the associated light is not in a lighting cycle. For light stage, this parameter is used when the light intensity is below its minimum intensity. If the luminosity is above this value when no light cycle is active for the associated light, the high luminosity alarm will be triggered.

CYCLE ACTIVE MINIMUM LUMINOSITY

This parameter is used to set the threshold at which the alarm will be triggered when the associated light is in a lighting cycle. For light stage, this parameter is used when the light intensity is over its minimum intensity. If the luminosity read is below this value when a light cycle for the associated light is in its maximum intensity phase, the low luminosity alarm will be triggered.

LUX METER RANGE

This parameter is used to select the range of the lux meter. The selected range must match the range the lux meter can read and the wiring used.

EXTINCTION LUMINOSITY

This parameter determines the maximum luminosity at which the lights associated with the lux meter will turn off. When the luminosity measured by the lux meter reaches or exceeds this value, the lights associated with this lux meter turn off. If this parameter is set to OFF, the lights associated with this lux meter will not turn off.

REACTIVATION LUMINOSITY
This parameter sets the minimum luminosity required to activate the lights associated with the lux meter. When the luminosity detected by the lux meter is equal to or lower than this value, the lights associated with this lux meter turn on.

ALARM OPTION
This parameter is used to determine if the alarm can be triggered by a lux meter problem or not. If this parameter is set to ON, the alarm will sound when a problem is detected on a lux meter. If this parameter is set to OFF, only a message will be logged when a problem is detected on a lux meter.

STATE READING

ACTUAL STATE
This parameter displays the current state of the input. Each state reading can be ON or OFF.

RUN TIME
This parameter displays the run time for the state reading input for the current day.

REINITIALIZATION
This parameter is used to reset the activation time for the state reading input. If this parameter is pressed, RUN TIME will be reset to 0.

BINTRAC

UNIT ID
This parameter is used to select the communication ID of the BinTrac unit that is connected to the MBUS module.

NUMBER OF BIN SCALES
This parameter is used to set the amount of bin scales that are monitored by the BinTrac. A deactivated bin scale will not be shown through the configuration. The BinTrac can monitor up to 4 bins.

GENERATOR DGC2020

ACTUAL MODE
This parameter displays the actual state of the generator. The state can be AUTO, MAN ON or MAN OFF.

FUEL LEVEL
This parameter displays the level of fuel of the generator as a percentage of its full capacity, as reported by the unit connected to the MBUS module.

POWER
This parameter displays the power provided by the generator, as reported by the unit connected to the MBUS module.

FREQUENCY
This parameter displays the frequency at which the generator is operating, as reported by the unit connected to the MBUS module.

OIL PRESSURE
This parameter displays the oil pressure of the generator, as reported by the unit connected to the MBUS module.

TEMPERATURE
This parameter displays the temperature of the generator, as reported by the unit connected to the MBUS module.

ALARM
This parameter displays the state of alarm of the generator, as reported by the unit connected to the MBUS module.

PRE-ALARM
This parameter displays the pre-alarm state of the generator, as reported by the unit connected to the MBUS module.

UNIT ID
This parameter is used to select the communication ID of the unit that monitors the generator and is connected to the MBUS module.

APM402 GENERATOR

RUN TIME
This parameter displays the generator's run time.

OIL PRESSURE
This parameter displays the oil pressure of the generator, as reported by the unit connected to the MBUS module.

FUEL LEVEL
This parameter displays the level of fuel of the generator as a percentage of its full capacity, as reported by the unit connected to the MBUS module.

POWER
This parameter displays the power provided by the generator, as reported by the unit connected to the MBUS module.

TEMPERATURE
This parameter displays the temperature of the generator, as reported by the unit connected to the MBUS module.

CURRENT
This parameter displays the 3 phases current of the generator, as reported by the unit connected to the MBUS module.

BATTERY VOLTAGE
This parameter displays the battery voltage of the generator, as reported by the unit connected to the MBUS module.

UNIT ID
This parameter is used to select the communication ID of the unit that monitors the generator and is connected to the MBUS module.

DYNAGEN GENERATOR

RUN TIME
This parameter displays the generator's run time.

OIL PRESSURE
This parameter displays the oil pressure of the generator, as reported by the unit connected to the MBUS module.

FUEL LEVEL
This parameter displays the level of fuel of the generator as a percentage of its full capacity, as reported by the unit connected to the MBUS module.

TEMPERATURE
This parameter displays the temperature of the generator, as reported by the unit connected to the MBUS module.

CURRENT
This parameter displays the 3 phases current of the generator, as reported by the unit connected to the MBUS module.

BATTERY VOLTAGE
This parameter displays the battery voltage of the generator, as reported by the unit connected to the MBUS module.

UNIT ID
This parameter is used to select the communication ID of the unit that monitors the generator and is connected to the MBUS module.

MBUS CONFIGURATION

COMMUNICATION PORT
This parameter is used to set the communication port on which the MBUS module is connected.

COMMUNICATION ID
This parameter is used to set the communication ID to which the MBUS module is set.

COMMUNICATION ERROR ALARM
This parameter is used to determine if the alarm will be activated when the MBUS module has not communicated with the controller for 5 minutes.

UNIT COMMUNICATION ERROR ALARM
This parameter is used to determine if the alarm will be activated when the unit connected to the MBUS module has not communicated with the MBUS module for 5 minutes.

UNIT ALARM
This parameter is used to determine if the alarm will be activated when the unit connected to the MBUS module reports an alarm or a pre-alarm.

COMMANDES PERSONALISÉES
These parameters are reserved for the technical support staff

NUMBER OF SUCCESSFUL COMMUNICATIONS
This parameter displays the amount of successful communications between the MBUS module and the connected unit.

NUMBER OF COMMUNICATION ERRORS
This parameter displays the amount of communication errors between the MBUS module and the connected unit.

ALARMS SETTINGS

RELAY
This parameter is used to activate or deactivate the alarm relays. If this setting is set to OFF, no alarm relay will be activated but messages will still appear in the alarm history. If this parameter is set to ON, alarm relays will activate when an alarm condition occurs. A message will be logged every time the alarm relay is activated or deactivated. **It is not recommended to deactivate the alarm relay.**

ALARME STATE
These parameters display the actual state of the alarm relay. When *ALARM RELAY* is set to OFF, this parameter will display Deactivated. Otherwise, this parameter will display the state of the alarm, either ON or OFF.

RESET ALARMS
This parameter is used to reset all active alarms. When this parameter is pressed, a confirmation question will appear. When the confirmation is completed, all the active alarms will be reset.

ALARM RELAY DEACTIVATED DURING NIGHT
This parameter is used to activate or deactivate the deactivation of the alarm relay between *DEACTIVATED RELAY PERIOD START* and *DEACTIVATED RELAY PERIOD END* for feeder, feed auger, water meter and air inlet alarms.

DEACTIVATED RELAY PERIOD START
This parameter is used to set the time at which the alarm relay deactivation period will start.

DEACTIVATED RELAY PERIOD END
This parameter is used to set the time at which the alarm relay deactivation period will end.

TEMPERATURE ALARMS

ZONE TEMPERATURE ALARM
This parameter is used to activate or deactivate the alarm for the zone. If this setting is set to OFF, no temperature alarms will be detected for the zone. If this parameter is set to ON, zone temperature will be monitored. **It is not recommended to deactivate the zone alarm for a prolonged period of time.**

PROBES CHECKED FOR HIGH/LOW ALARM
This parameter is used to check which probes will be checked for the high and low temperature alarms. A probe that is selected in this parameter will trigger the alarm if it is outside the ALARM LOW ACTUAL TEMPERATURE and ALARM HIGH ACTUAL TEMPERATURE or *ALARM LOW CRITICAL TEMPERATURE* and *ALARM HIGH CRITICAL TEMPERATURE*. A probe that is not selected here will not be checked for high and low temperature alarms.

LOW (DAY) TEMPERATURE
This parameter adjusts the low temperature alarm. The value adjusted here will be affected by a change to the *MAIN SET POINT*. Setting this parameter to OFF deactivates the low temperature alarm.

LOW ACTUAL TEMPERATURE
These parameters display the low temperature set point. The low alarm temperature may change according to the time of day if the night set point is used. If a temperature is under this setting, an alarm will occur.

LOW NIGHT TEMPERATURE
These parameters display the low set point temperature when *MAIN SET POINT* is affected by *NIGHT SET POINT*. Because *MAIN SET POINT* is changing depending on the hour of the day, it is important to know which temperature alarm will occur at different periods.

HIGH (DAY) TEMPERATURE
This parameter adjusts the high temperature alarm. The value adjusted here will be affected by a change to the *MAIN SET POINT*. Setting this parameter to OFF deactivates the low temperature alarm.

HIGH ACTUAL TEMPERATURE
These parameters display the high temperature set point. The high alarm temperature may change according to the time of day if the night set point is used. If a temperature is above this parameter, an alarm will occur.

HIGH NIGHT TEMPERATURE
These parameters display the high temperature set point when *MAIN SET POINT* is affected by *NIGHT SET POINT*. Because *MAIN SET POINT* is changing depending on the time of day, it is important to know which temperature alarm will occur at different periods.

LOW CRITICAL TEMPERATURE
This parameter is used to set the temperature at which a critical low temperature alarm condition will occur. If the *CRITICAL* option is set to ON, the alarm will be activated when the AVERAGE TEMPERATURE is lower than this parameter. The critical low temperature alarm does not consider the *MAIN SET POINT* **Ramping Function**.

HIGH CRITICAL TEMPERATURE **(Curve Available)**
This parameter is used to set the temperature at which a critical high temperature alarm condition will occur. The critical high temperature alarm does not consider the OUTSIDE TEMPERATURE or the *MAIN SET POINT* **Ramping Function**.

HIGH TEMPERATURE SHUTOFF CURVE
These parameters are used to activate or deactivate the growth curve of the *HIGH CRITICAL TEMPERATURE* parameter. If this option is set to ON and the *GROWTH DAY* is not set to OFF, values of *HIGH CRITICAL TEMPERATURE* will follow their **Growth Curve** and will no longer be adjustable. If this value is set to OFF, *HIGH CRITICAL TEMPERATURE* parameter will not be affected by the *GROWTH DAY*.

PROBES CHECKED FOR DEFECT ALARM
This parameter is used to check which probes will be checked for the defect probe alarms. A probe that is selected in this parameter will trigger the alarm if it is outside the rage of values [-58.0°F(-50.0°C), 131.0°F(55.0°C)]. A probe that is not selected here will not be checked for the defect probe alarms.

INFLUENCE OUTSIDE TEMPERATURE
This parameter is used to set the value that will be added to the OUTSIDE TEMPERATURE to calculate the high alarm set point when the OUTSIDE TEMPERATURE exceeds the *MAIN SET POINT*. When this is the case, the OUTSIDE TEMPERATURE will replace the *MAIN SET POINT* to determine the high temperature alarm threshold.

PRESSURE ALARMS

LOW STATIC PRESSURE
This parameter is used to adjust the pressure at which the low pressure critical alarm will activate.

HIGH STATIC PRESSURE
This parameter is used to adjust the pressure at which the high pressure critical alarm will activate.

STATIC PRESSURE LOW DELAY
This parameter is used to set the amount of time before the low pressure alarm will be activated. If the zone pressure reaches values lower than *LOW STATIC PRESSURE* for a time greater than or equal to the delay set here, the alarm will be triggered. This parameter is adjusted in 1 second increments from 0 to 300:59 seconds.

STATIC PRESSURE HIGH DELAY
This parameter is used to set the amount of time before the high pressure alarm will be activated. If the zone pressure reaches values higher than *HIGH STATIC PRESSURE* for a time greater than or equal to the delay set here, the alarm will be triggered. This parameter is adjusted in 1 second increments from 0 to 300:59 seconds.

REINITIALIZATION STATIC PRESSURE
This parameter is used to reset the pressu0.
re alarm zone.

WATER PRESSURE ALARMS

LOW PRESSURE ALARM
These parameters are used to adjust the water pressure at which a critical low water pressure alarm will be activated. The parameters are set to OFF by default and can be set at values ranging from 0 to 100 PSI.

HIGH PRESSURE ALARM

These parameters are used to adjust the water pressure at which a critical high water pressure alarm will be activated. The parameters are set to OFF by default and can be set at values ranging from 0 to 100 PSI.

LOW PRESSURE ALARM DELAY

This parameter is used to set the amount of time before the low water pressure alarm will be activated. If the water pressure reaches values lower or equal to *LOW PRESSURE ALARM* for a time greater than or equal to the delay set here, the alarm will be triggered. This parameter is adjusted in 1 second increments from 0 to 300:59 minutes.

STATIC PRESSURE HIGH DELAY

This parameter is used to set the amount of time before the high water pressure alarm will be activated. If the water pressure reaches values higher or equal to *HIGH PRESSURE ALARM* for a time greater than or equal to the delay set here, the alarm will be triggered. This parameter is adjusted in 1 second increments from 0 to 300:59 minutes.

CO2 ALARMS

LOW CO2 ALARM

These parameters are used to adjust the PPM at which a critical low CO2 alarm will be activated when the PPM is inferior or equal to the alarm's value. The parameters are set to OFF by default and can be set at values ranging from 0 to 10000 PPM.

HIGH CO2 ALARM

These parameters are used to adjust the PPM at which a critical high CO2 alarm will be activated when the PPM is superior or equal to the alarm's value. The parameters are set to OFF by default and can be set at values ranging from 0 to 10000 PPM.

BINWATCH ALARMS

RFL ALARM OPTION

These parameters allow the activation or deactivation of the communication issue alarm with the GE-RFL. If this option is set to ON, the alarm relay will activate when there is a communication loss with the GE-RFL. If this option is set to OFF, only the alarm message will be recorded in the alarm history.

BINWATCH ALARMS OPTION

These parameters allow the activation or deactivation of the low limit alarm for bins. If this option is set to ON and the bin weight is below the *LOW LIMIT ALARM*, the alarm relay will activate. If this option is set to OFF, only a message will be added to the alarm history when the bin weight falls below the *LOW LIMIT ALARM*.

LOW LIMIT ALARM

These parameters allow setting the low limits for bins, below which alarm messages will be displayed. If the BIN WEIGHT is lower than the value of this parameter, a low level alarm message will be shown in the alarm list.

WATER METER ALARMS

***WATER METER CONSUMPTION* (Curve available)**
These parameters are used to set the water consumption on which the water meter alarm limits will be based. The adjusted percentage of low limit will be reduced by this value and the adjusted percentage of the limit will be added to this value to form the high/low limits. This parameter is influenced by its **Growth Function** when *WATER METER CURVE OPTION* is set to ON and *GROWTH DAY* is not set to OFF.

WATER METER CURVE OPTION
These parameters are used to activate or deactivate the water meter alarm **Growth Function**. If this curve option is set to ON and the **Growth Day** is not set to OFF, the *ALARM WATER METER CONSUMPTION* will follow its **Growth Curve**.

WATER METER LOW LIMIT
These parameters are used to adjust the minimum number of gallons or litres (in percentage). The adjusted value is a percentage that will be subtracted from the *ALARM WATER METER CONSUMPTION* to form the minimum quantity the controller may count within a time period of *ALARM WATER METER LOW CHECK RATE* without activating the alarm. Adjusting this parameter to OFF deactivates the low consumption alarm.

WATER METER HIGH LIMIT
These parameters are used to adjust the maximum number of gallons or litres (in percentage). The adjusted value is a percentage that will be added to the *ALARM WATER METER CONSUMPTION* to form the maximum quantity the controller may count within a time period of *ALARM WATER METER HIGH CHECK RATE* without activating the alarm. Adjusting this parameter to OFF deactivates the high consumption alarm.

WATER METER CALCULATED LOW LIMIT
These parameters display the calculated low water alarm limit. If the number of units is under this limit, the alarm will activate for the water meter.

WATER METER CALCULATED HIGH LIMIT
These parameters display the calculated high water alarm limit. If the number of units exceeds this limit, the alarm will activate for the water meter.

REINITIALIZATION WATER METER
This parameter is used to reinitialize the water meter alarms. When there is a water alarm, press on this parameter. This reinitialization does not affect other alarms.

WATER METER HIGH CHECK RATE
This parameter is used to adjust the time period for the high limit consumption alarm. If the number of units exceeds the WATER METER CALCULATED HIGH LIMIT within this time period, the alarm will activate.

WATER METER LOW CHECK RATE
This parameter is used to adjust the time period for the low limit consumption alarm. If the number of units is below the WATER METER CALCULATED LOW LIMIT within this time period, the alarm will activate.

OUTSIDE TEMPERATURE FOR WATER METER HIGH INCREASE
This parameter is used to set the OUTSIDE TEMPERATURE at which the high limit of water consumption will be increased by *WATER METER HIGH INCREASE FOR OUTSIDE TEMPERATURE*. This increase will not be displayed in the calculated limit. A fixed **Differential** of 1.0° is used with this logic

WATER METER HIGH INCREASE FOR OUTSIDE TEMPERATURE
This parameter allows the user to set the increase that will be applied on high limit consumption of water meters when OUTSIDE TEMPERATURE is equal to or above *OUTSIDE TEMPERATURE FOR WATER METER HIGH INCREASE*. This increase will not be displayed in calculated limit.

DEACTIVATE LOW WATER METER ALARM AT NIGHT
This parameter allows the user to deactivate the low water consumption alarm when lights from the selected zone are not in an activation cycle. If this parameter is set to ON, the low water consumption alarm will be suspended when the zone is not in an activation cycle. If this parameter is set to OFF, the low water consumption alarm will not be affected by the lights program.

DEACTIVATE LOW WATER METER ALARM BEFORE DAY
This parameter allows the user to deactivate the low water consumption alarm when *GROWTH DAY* is lower than the value adjusted here. If *GROWTH DAY* is under the value set here, the low water consumption alarm will not be checked. If this parameter is set to OFF, the low water consumption alarm will not be affected by *GROWTH DAY*.

HIGH WATER METER ALARM INCREASE AFTER DARKNESS
This parameter allows the user to increase the high water consumption limit when the night period ends. A night period ends when at least one of the zone's light programs starts and none were activated prior to this moment. At that moment, the high water consumption limit is increased by the value of this parameter. This change lasts for *DURATION HIGH WATER METER ALARM INCREASE AFTER DARKNESS*. At the end of this period, the count and high consumption limit delay will be reinitialized. This increase will not be displayed in the calculated limit.

DURATION HIGH WATER METER ALARM INCREASE AFTER DARKNESS
This parameter allows the user to set the time at which the increase will be applied on the high consumption limits of the water meter when a night period ends.

HIGH WATER METER ALARM INCREASE BEFORE DARKNESS
This parameter allows the user to increase the high water consumption limit before a darkness period. A darkness period starts when all the zone's lights turn off. The limit increase is applied before darkness starts for the time period of *DURATION HIGH WATER METER ALARM INCREASE BEFORE DARKNESS*. During this period, the high water limit consumption is increased by the value of this parameter. This increase will not be displayed in the calculated limit.

DURATION HIGH WATER METER ALARM INCREASE BEFORE DARKNESS
This parameter allows the user to set the time at which the increase will be applied on the high consumption limits of the water meter before a darkness period.

WATER METER REDUCED PERIOD
This parameter is used to activate or deactivate the reduced alarm period for the water counters. If this option is set to ON, a period of time can be assigned as the reduced period.

REDUCED ALARM PERIOD START
This parameter is used to set the time at which the reduced water alarm period starts. When the time of day is between the time adjusted here and *REDUCED ALARM PERIOD END*, the reduced limits and check rates will be used.

REDUCED ALARM PERIOD END
This parameter is used to set the time at which the reduced water alarm period ends. When the time of day is between *REDUCED ALARM PERIOD START* and the time adjusted here, the reduced limits and check rates will be used.

WATER METER REDUCED HIGH CHECK RATE
This parameter is used to adjust the time period for the high limit consumption alarm during the reduced period. If the number of units exceeds the *WATER METER REDUCED HIGH LIMIT* within this time period, the alarm will activate.

WATER METER REDUCED LOW CHECK RATE
This parameter is used to adjust the time period for the low limit consumption alarm during the reduced period. If the number of units is lower than *WATER METER REDUCED LOW LIMIT* within this time period, the alarm will activate.

WATER METER REDUCED LOW LIMIT
This parameter is used to adjust the reduced low water alarm limit. If the number of units is under this limit inside the *WATER METER REDUCED LOW CHECK RATE* during the reduced water alarm period, the alarm will activate for the water meter.

WATER METER REDUCED HIGH LIMIT
This parameter is used to adjust the reduced high water alarm limit. If the number of units is over this limit inside the *WATER METER REDUCED HIGH CHECK RATE* during the reduced water alarm period, the alarm will activate for the water meter.

ALARM RELAY DEACTIVATED DURING NIGHT
These parameters are used to determine whether the alarm relay will be activated during the alarm relay deactivation period for water meter alarms. If set to Yes, the alarm relay will not be activated in the event of a water meter alarm. The alarm will nonetheless be noted in the alarm list. If this parameter is set to No, the alarm relay will be activated in the event of a water meter alarm which requires the alarm relay to be activated.

HIGH WATER METER ALARM RELAY
These parameters are used to select which high water meter alarm relay (s) will be activated when a high water meter alarm occurs. A relay selected here will activate when a high water meter alarm occurs.

WATER ALARM RELAY NORMAL STATE
This parameter is used to set the normal state of the water alarm relays. If this parameter is set to NO (Normally Open) the relays that are set to the High Wat Alm will be open in a normal situation and close when required to activate for a high water alarm. If this parameter is set to NC (Normally Closed) the relays that are set to the High Wat Alm will be closed in a normal situation and open when required to activate for a high water alarm.

FEEDER ALARMS

***FEEDER STOP LIMIT* (Curve available)**
These parameters are used to set the amount of time after which the feeder can be inactive for a cycle. If the feeder is not activated for the time set here during a feeder activation period, an alarm will occur. Setting this parameter to OFF deactivates the alarm.

FEEDER STOP LIMIT CURVE OPTION
These parameters are used to activate or deactivate the *ALARM FEEDER STOP LIMIT* **Growth Function**. If the curve option is set to ON and *GROWTH DAY* is not set to OFF the *ALARM FEEDER STOP LIMIT* will follow its **Growth Curve**.

FEEDER MAXIMUM LIMIT
These parameters are used to set the amount of time after which the feeder will activate the alarm if it is activated continuously. If the feeder is active for the time set here, an alarm will occur. Furthermore, when this alarm occurs, feeder relays will be deactivated. Setting this parameter to OFF deactivates the alarm.

REINITIALIZATION FEEDER
This parameter is used to reinitialize the feeder alarms. When a feeder alarm situation occurs, it will remain active until this parameter is pressed. When there is no feeder alarm, pressing on this parameter will only reinitialize the feeder alarm's actual counts and timers.

ALARM RELAY FOR MAX FEEDER ALARM
This parameter is used to determine if the alarm relay will be activated when a maximum feeder alarm condition occurs. If this option is set to ON, the alarm relay will activate on this condition. If this option is set to OFF, the alarm relay will not activate on this condition. In both cases, the concerned output that has triggered the alarm will deactivate and a message will be logged in the alarm history.

DEACTIVATE LOW FEEDER ALARM AT NIGHT
This parameter is used to set if light program can deactivate the feeder stop alarm. If this parameter is set to ON, the feeder stops the alarm when the zone is not in a light activation cycle. If this parameter is set to OFF, the feeder stop alarm will always be calculated.

ALARM RELAY DEACTIVATED DURING NIGHT
These parameters are used to determine whether the alarm relay will be activated during the alarm relay deactivation period for feeder alarms. If set to Yes, the alarm relay will not be activated in the event of a feeder alarm. The alarm will nonetheless be noted in the alarm list. If this parameter is set to No, the alarm relay will be activated in the event of a feeder alarm which requires the alarm relay to be activated.

CHAIN DISK SECURITY ALARM
This parameter is used to determine whether there will be an alarm when the feeder is stopped by the chain disk security. If this parameter is set to ON, and a chain disk security input associated with the feeder by the *CHAIN DISK SECURITY* parameter is activated, the FEEDER # STOP CHAIN DISK SECURITY alarm message will be displayed, and the alarm relay will be activated.

FEED AUGERS ALARMS

***FEED AUGER STOP LIMIT* (Curve available)**
These parameters are used to set the amount of time after which a feed auger can be inactive for a cycle. If the feed auger is not activated for the time set here during a feed auger activation period, an alarm will occur. Setting this parameter to OFF deactivates the alarm.

FEED AUGER STOP LIMIT CURVE
These parameters are used to activate or deactivate the *ALARM FEED AUGER STOP LIMIT* **Growth Function**. If curve option is set to ON and *GROWTH DAY* is not set to OFF the *ALARM FEED AUGER STOP LIMIT* will follow its **Growth Curve**.

FEED AUGER MAXIMUM LIMIT
These parameters are used to set the amount of time after which the feed auger will activate the alarm if it is activated continuously. If the feed auger is active for the time set here, an alarm will occur. Furthermore, when this alarm occurs, feed auger relays will be deactivated. Setting this parameter to OFF deactivates the alarm.

REINITIALIZATION FEED AUGER
This parameter is used to reinitialize the feed auger alarms. When a feed auger alarm situation occurs, it will remain active until this parameter is pressed. When there is no feed auger alarm, pressing on this parameter will only reinitialize the feed auger alarm's actual counts and timers.

ALARM RELAY FOR MAX FEED AUGER ALARM
This parameter is used to determine if the alarm relay will be activated when a maximum feed auger alarm condition occurs. If this option is set to ON, the alarm relay will activate on this condition. If this option is set to OFF, the alarm relay will not activate on this condition. In both cases, the concerned output that has triggered the alarm will deactivate and a message will be logged in the alarm history.

DEACTIVATE LOW FEED AUGER ALARM IN DARKNESS
This parameter is used to set if the light program can deactivate the feed auger stop alarm. If this parameter is set to ON, the feed auger stop alarm will not be verified when the zone is not in a light activation cycle. If this parameter is set to OFF, feeder stop alarm will always be calculated.

ALARM RELAY DEACTIVATED DURING NIGHT
These parameters are used to determine whether the alarm relay will be activated during the alarm relay deactivation period for feed auger alarms. If set to Yes, the alarm relay will not be activated in the event of a feed auger alarm. The alarm will nonetheless be noted in the alarm list. If this parameter is set to No, the alarm relay will be activated in the event of a feed auger alarm which requires the alarm relay to be activated.

CHAIN DISK SECURITY ALARM
This parameter is used to determine whether there will be an alarm when the feed auger is stopped by the chain disk security. If this parameter is set to ON, and a chain disk security input associated with the feed auger by the *CHAIN DISK SECURITY* parameter is activated, the FEED AUGER # STOP CHAIN DISK SECURITY alarm message will be displayed, and the alarm relay will be activated.

HEAT PAD ALARMS

ALARM OPTION

This parameter is used to activate or deactivate the alarm for the heat pad. If this setting is set to OFF, no temperature alarms will be detected for the heat pad. If this parameter is set to ON, heat pad temperature will be monitored. **It is not recommended to deactivate the heat pad alarm for a prolonged period of time.**

LOW ALARM SETPOINT

This parameter adjusts the low temperature alarm. The value adjusted here will be affected by a change to the *HEAT PAD SET TEMPERATURE*. Setting this parameter to OFF deactivates the low temperature alarm.

HIGH ALARM SETPOINT

This parameter adjusts the high temperature alarm. The value adjusted here will be affected by a change to the *HEAT PAD SET TEMPERATURE*. Setting this parameter to OFF deactivates the high temperature alarm.

CURRENT ALARMS – MASTER VARIABLE MAX CURRENT ALARMS

REINITIALISATION

This parameter reinitializes the maximum current alarms.

***VARIABLE #* (Type) (Current) (Delay)(Stop)**

The *Type* column parameters display the type of the respective output. The *Current* column parameters are used to set the current limit of the respective output. The *Delay* column parameters are used to set the time delay before the alarm activates for the respective output. When the measured current is over the limit for the chosen delay, the alarm is activated.

CURRENT ALARMS – MASTER RELAY MAX CURRENT ALARMS

REINITIALISATION

This parameter reinitializes the maximum current alarms.

***RELAY #* (Type) (Current Level 1) (Differential Level 1) (Current Level 2) (Delay) (Stop Level 1) (Alarm Level 1) (Assoc.)**

The *Type* column parameters display the type of the respective output. The *Current Level 1 and 2* column parameters are used to set the current limit of the respective output. The Differential Level 1 allows hysteresis operation of the associated relays when Stop Level 1 of the master relay is OFF. The *Delay* column parameters are used to set the time delay before the alarm activates for the respective output. When the measured current is over the limit for the chosen delay, the alarm is activated. The *Stop Level 1* column parameters are used to force the deactivation of this relay when the high current alarm is active after the current exceeds the threshold *Current Level 1*. When the output's current is greater than the *Current Level 2* threshold, the output is automatically deactivated after its *Delay*. The *Alarm Level 1* option when it is set to OFF, it is used to prevent the activation of the alarm when the current exceeds the level 1 threshold without reaching the level 2 threshold, however, if it is set to ON, there will be no restriction on activating the current alarm. The *Assoc*. column is used to associate this relay with another. When this other relay has a high current alarm, this relay will deactivate. This relay will reactivate when the current of the other relay falls under its current threshold unless its stop option is activated, in which case the alarm must be reinitialized for this relay to reactivate.

CURRENT ALARMS – SLAVE # VARIABLE MAX CURRENT ALARMS

REINITIALISATION

This parameter reinitializes the maximum current alarms.

***EXTERNAL VARIABLE* # (Type) (Current) (Delay) (Stop)**

The *Type* column parameters display the type of the respective output. The *Current* column parameters are used to set the current limit of the respective output. The *Delay* column parameters are used to set the time delay before the alarm activates for the respective output. When the measured current is over the limit for the chosen delay, the alarm is activated. The stop option is used to stop the output when its maximum current alarm is activated.

CURRENT ALARMS – SLAVE # RELAY MAX CURRENT ALARMS

REINITIALISATION

This parameter reinitializes the maximum current alarms.

***EXTERNAL RELAY* # (Type) (Current Level 1) (Current Level 2) (Delay) (Stop Level 1) (Alarm Level 1) (Assoc.)**

The Type column parameters display the type of the respective output. The *Current Level 1 and 2* column parameters are used to set the current limit of the respective output. The Differential Level 1 allows hysteresis operation of the associated relays when Stop Level 1 of the master relay is OFF. The Delay column parameters are used to set the time delay before the alarm activates for the respective output. When the measured current is over the limit for the chosen delay, the alarm is activated. The stop option is used to stop the output when its maximum current alarm is activated. The *Stop Level 1* column parameters are used to force the deactivation of this relay when the high current alarm is active after the current exceeds the threshold *Current Level 1*. When the output's current is greater than the *Current Level 2* threshold, the output is automatically deactivated after its *Delay*. The *Alarm Level 1* option when it is set to OFF, it is used to prevent the activation of the alarm when the current exceeds the level 1 threshold without reaching the level 2 threshold, however, if it is set to ON, there will be no restriction on activating the current alarm. The *Assoc*. column is used to associate this relay with another. When this other relay has a high current alarm, this relay will deactivate. This relay will reactivate when the current of the other relay falls under its current threshold unless its stop option is activated, in which case the alarm must be reinitialized for this relay to reactivate.

CURRENT ALARMS – MASTER VARIABLE MIN CURRENT ALARMS

REINITIALISATION

This parameter reinitializes the current alarms.

***VARIABLE* # (Type) (Current) (Delay) (Stop)**

The TYPE column parameters display the type of the respective output. The *CURRENT* column parameters are used to set the minimum current limit of the respective output. The *DELAY* column parameters are used to set the time delay before the alarm activates for the respective output. When the measured current is under the *CURRENT* parameter for a delay equals to *DELAY* parameter, the alarm is activated. The stop option is used to stop the output when its maximum current alarm is activated.

CURRENT ALARMS – MASTER RELAY MIN CURRENT ALARMS

REINITIALISATION

This parameter reinitializes the minimum current alarms.

***RELAY* # (Type) (Current) (Delay) (Stop)**

The TYPE column parameters display the type of the respective output. The *CURRENT* column parameters are used to set the minimum current limit of the respective output. The *DELAY* column parameters are used to set the time delay before the alarm activates for the respective output. When the measured current is under the *CURRENT* parameter for a delay equals to *DELAY* parameter, the alarm is activated. The stop option is used to stop the output when its maximum current alarm is activated.

CURRENT ALARMS – SLAVE # VARIABLE MIN CURRENT ALARMS

REINITIALISATION

This parameter reinitializes the minimum current alarms.

***EXTERNAL VARIABLE* # (Type) (Current) (Delay) (Stop)**
The TYPE column parameters display the type of the respective output. The *CURRENT* column parameters are used to set the minimum current limit of the respective output. The *DELAY* column parameters are used to set the time delay before the alarm activates for the respective output. When the measured current is under the *CURRENT* parameter for a delay equals to *DELAY* parameter, the alarm is activated. The stop option is used to stop the output when its maximum current alarm is activated.

CURRENT ALARMS – SLAVE # RELAY MIN CURRENT ALARMS

REINITIALISATION
This parameter reinitializes the minimum current alarms.

***EXTERNAL RELAY* # (Type) (Current) (Delay) (Stop)**
The TYPE column parameters display the type of the respective output. The *CURRENT* column parameters are used to set the minimum current limit of the respective output. The *DELAY* column parameters are used to set the time delay before the alarm activates for the respective output. When the measured current is under the *CURRENT* parameter for a delay equals to *DELAY* parameter, the alarm is activated.

MANUAL OVERRIDE - MASTER CONTROLLER

***VARIABLE* # (Type) (Zone)**
These parameters are used to manually control the variable output. When one of these parameters is set to AUTO, the corresponding output will take the intensity calculated by the configuration according to user settings. When one of these parameters is set to OFF, the corresponding output will be deactivated. When one of these parameters is set to a value from 1%-100%, the corresponding output will take the adjusted intensity.

***RELAY* # (Type) (Zone)**
These parameters are used to manually override the calculated activation demand to activate the relay output at the value adjusted here. When the value is AUTO, the associated relay output will be activated according to the configuration's parameters and the measured temperature. When the value is OFF, the relay output will be deactivated. When the value is ON, the relay output will be activated.

MANUAL OVERRIDE - SLAVE MODULE

***EXTERNAL VARIABLE* # (Type) (Zone)**
These parameters are used to manually control the external variable output. When one of these parameters is set to AUTO, the corresponding output will take the intensity calculated by the configuration according to user settings. When one of these parameters is set to OFF, the corresponding output will be deactivated. When one of these parameters is set to a value from 1% to 100%, the corresponding output will take the adjusted intensity.

***EXTERNAL RELAY* # (Type) (Zone)**
These parameters are used to manually override the calculated activation demand to activate the external relay output at the value adjusted here. When the value is AUTO, the associated relay output will be activated according to the configuration's parameters and the measured temperature. When the value is OFF, the relay output will be deactivated. When the value is ON, the relay output will be activated.

MANUAL OVERRIDE - VARIABLE MODULE

***V4 VARIABLE* # (Type) (Zone)**
These parameters are used to manually control the V4 module variable output. When one of these parameters is set to AUTO, the corresponding output will take the intensity calculated by the configuration according to user settings. When one of these parameters is set to OFF, the corresponding output will be deactivated. When one of these parameters is set to a value from 1% to 100%, the corresponding output will take the adjusted intensity.

V2#LED # OUT # (TYPE) (ZONE)
These parameters are used to manually control the V2/Led output. When one of these parameters is set to AUTO, the corresponding output will take the intensity calculated by the configuration according to user settings. When one of these parameters is set to OFF, the corresponding output will be deactivated. When one of these parameters is set to a value from 1% to 100%, the corresponding output will take the adjusted intensity.

MANUAL OVERRIDE - 0-10 VOLTS

***0-10V OUT#* (Type) (Zone)**
These parameters are used to manually control the internal 0-10 Volt output. When one of these parameters is set to AUTO, the corresponding output will take the intensity calculated by the configuration according to user settings. When one of these parameters is set to OFF, the corresponding output will be deactivated. When one of these parameters is set to a value from 1% to 100%, the corresponding output will take the adjusted intensity.

***MS-10 OUT#* (Type) (Zone)**
These parameters are used to manually control the external 0-10 Volt output. When one of these parameters is set to AUTO, the corresponding output will take the intensity calculated by the configuration according to user settings. When one of these parameters is set to OFF, the corresponding output will be deactivated. When one of these parameters is set to a value from 1% to 100%, the corresponding output will take the adjusted intensity.

***V(2-4)/M # OUT#* (Type) (Zone)**
These parameters are used to manually control the V(2-4)/M output. When one of these parameters is set to AUTO, the corresponding output will take the intensity calculated by the configuration according to user settings. When one of these parameters is set to OFF, the corresponding output will be deactivated. When one of these parameters is set to a value from 1% to 100%, the corresponding output will take the adjusted intensity.

MANUAL OVERRIDE - GE-MGCB/485

***MODULE OUTPUT* # (Type) (Zone) (Manual)**
These parameters allow manual operation of the output of the GE-EC module. They also display the type and zone of this output. When this parameter is set to AUTO, the ventilator of the GE-EC module will activate according to the configuration settings. When set to OFF, the ventilator of the GE-EC module will be deactivated. When set to a value between 1% and 100%, the ventilator of the GE-EC module will activate at the selected speed.

***MODULE INTAKE OUTPUT* # (Type) (Zone) (Manual)**
These parameters allow manual operation of the intake output of the GE-HEBUS module. They also display the type and zone of this output. When this parameter is set to AUTO, the intake ventilator of the GE-HEBUS module will activate according to the configuration settings. When set to OFF, the intake ventilator of the GE-HEBUS module will be deactivated. When set to a value between 1% and 100%, the intake ventilator of the GE-HEBUS module will activate at the selected speed.

***MODULE EXHAUST OUTPUT* # (Type) (Zone) (Manual)**
These parameters allow manual operation of the exhaust output of the GE-HEBUS module. They also display the type and zone of this output. When this parameter is set to AUTO, the exhaust ventilator of the GE-HEBUS module will activate according to the configuration settings. When set to OFF, the exhaust ventilator of the GE-HEBUS module will be deactivated. When set to a value between 1% and 100%, the exhaust ventilator of the GE-HEBUS module will activate at the selected speed.

***MODULE RELAY* # (Type) (Zone) (Manual)**
These parameters allow manual operation of the valve relay of the GE-HEBUS module and display its type. When this parameter is set to AUTO, the valve relay will activate according to the configuration settings. When set to OFF, the valve relay will be deactivated. When set to ON, the valve relay will activate.

CURRENT DETECTOR – VARIABLE OUTPUTS

***VARIABLE* # (Type) (Zone)**
These parameters display the current, the zone and the type of the respective variable output. If the current cannot be read, this parameter will display "---".

CURRENT DETECTOR – RELAY OUTPUTS

***RELAY* # (Type) (Zone)**
These parameters display the current, the zone and the type of the respective relay output. If the current cannot be read, this parameter will display "---".

CURRENT DETECTOR – SLAVE # VARIABLE OUTPUTS

***EXTERNAL VARIABLE* # (Type) (Zone)**
These parameters display the current, the zone and the type of the respective external variable output. If the current cannot be read, this parameter will display "---".

CURRENT DETECTOR – SLAVE # RELAY OUTPUTS

***EXTERNAL RELAY* # (Type) (Zone)**
These parameters display the current, the zone and the type of the respective external relay output. If the current cannot be read, this parameter will display "---".

TURKEY/CHICKEN SCALES

MANUEL AVERAGE WEIGHT
This parameter allows the user to enter the weight of the birds manually. If a non-compatible scale is used to measure bird weight, the user can still enter a weight value in order to allow calculations in which the weight is used. This value returns to « --- » automatically when the date changes to indicate that no weight value has been entered for the day. However, the controller considers the last entered weight to perform its calculations. To use this parameter, *WEIGHT ACQUIREMENT METHOD* must be set to Manual.

LAST MANUAL ENTRY
This parameter displays the date at which the last manual entry was made. If no entry has been made, this parameter will display ---.

STATUS
This parameter displays the actual status of the scale.

NUMBER WEIGHED
This parameter displays the amount of birds weighed by the controller for the current day. A weight is only recorded if it is between respective SCALE # TARGET WEIGHT +/- *SCALE # HIGH/LOW TOLERANCE*.

DAY AVERAGE WEIGHT
These parameters display the average weight of the respective scale recorded for the actual day. If a scale has not recorded a weight during the actual day, the respective parameter will display ----.

AVERAGE WEIGHT EVALUATION PERIOD
These parameters display the average weight of the respective scale recorded for the evaluation period, as defined by *SCALE # TARGET EVALUATION FREQUENCY*. If a scale has not recorded a weight during the actual evaluation period, the respective parameter will display ----.

WEIGHT LAST WEIGHED
This parameter displays the weight of the last valid weighing, if no weighing is valid, this parameter displays « --- ».

ACTUAL WEIGHT
This parameter displays the actual weight read by the bird scale module. The scale must have been calibrated to obtain a significant value.

TARGET WEIGHT
This parameter displays the actual target weight of the scale. The target weight can be determined by DAY AVERAGE WEIGHT, AVERAGE WEIGHT EVALUATION PERIOD or the *GROUP # START WEIGHT* of its associated group. When a batch is started, the target weight will be set to *GROUP # START WEIGHT*. If *AVERAGE WEIGHT TARGET EVALUATION* is set to Day, the target weight will be DAY AVERAGE WEIGHT, increased according to the respective *SCALE # CURVE ADD WEIGHT AGE (0-249)* parameter. This value will be evaluated at a frequency determined by *SCALE # TARGET EVALUATION FREQUENCY*. If *AVERAGE WEIGHT TARGET EVALUATION* is set to Period, the target weight will be AVERAGE WEIGHT EVALUATION PERIOD. If the flock of the respective scale has not been started, this parameter will display ----.

ACTUAL GAIN
This parameter displays the weight gain. The weight gain is the difference between SCALE # YESTERDAY AVERAGE WEIGHT and today's average weight. If a scale has not recorded a weight during the actual day or the preceding one, the gain cannot be calculated and the respective parameter will display ----.

UNIFORMITY
This parameter displays the uniformity calculated by the respective scale module for the current day. The uniformity represents the percentage of the birds that are within 10% of the SCALE # TARGET WEIGHT. If the version of the scale is 7 or higher, the uniformity represents the percentage of birds that are within SCALE # TARGET WEIGHT +/- *SCALE # HIGH/LOW TOLERANCE.* If no birds have been weighed during the current day, this parameter displays ---.

STANDARD DEVIATION
This parameter displays the standard deviation calculated by the respective scale. The standard deviation is a measure of the uniformity of a group of birds. For example, if a standard deviation of 30.0 grams is calculated, this indicates that 68% of the birds have a weight within 30.0 grams of the SCALE # AVERAGE WEIGHT. This value also indicates that 95% have a weight within 60.0 grams (standard deviation x2) of the SCALE # AVERAGE WEIGHT. If less than two birds have been weighed during the current day, this parameter displays -----.

REINITIALIZE
This parameter is used to reinitialize all values for the respective scale. When this button is pressed, actual values of the respective scale will be reinitialized.

WEIGHT AVERAGE (1-4)
These parameters display the average weight of the selected scales. If a scale has not recorded a weight during the actual day, the respective parameter will display ----.

CHICKEN/TURKEY SCALE SETTINGS

LOW TOLERANCE
This parameter is used to set the valid low weight limits for the scale. To make sure all weights recorded are valid, the scale will only record weights that are within the actual target weight - *SCALE # TOLERANCE LOW* and the actual target weight + *SCALE # TOLERANCE HIGH*.

HIGH TOLERANCE
This parameter is used to set the valid high weight limits for the scale. To make sure all weights recorded are valid, the scale will only record weights that are within the actual target weight - *SCALE # TOLERANCE LOW* and the actual target weight + *SCALE # TOLERANCE HIGH*.

LOW UNIFORMITY
This parameter is used to set the uniform low weight limits for the scale. The scale will only consider the weight of a bird uniform only if it is within the actual target weight - *SCALE # UNIFORMITY LOW* and the actual target weight + *SCALE # UNIFORMITY HIGH*. This parameter is only visible if the scale is version 7 or superior.

HIGH UNIFORMITY
This parameter is used to set the uniform low weight limits for the scale. The scale will only consider the weight of a bird uniform if it is within the actual target weight - *SCALE # UNIFORMITY LOW* and the actual target weight + *SCALE # UNIFORMITY HIGH*. This parameter is only visible if the scale is version 7 or superior.

PRECISION+ METHOD
This parameter is used to activate or deactivate Precision+ mode which allows to automatically adjust the poultry average weight. If this mode is activated, *CORRECTION FACTOR* parameters will not be visible; therefore, the average weight correction using this mode will not be available. This parameter can be set to « ON » or « OFF ».

CORRECTION FACTOR
This parameter is used to fix the percentage that will be added to the average weight measured by the respective scale when flock age reaches *SCALE # CORRECTION FACTOR AGE*.

CORRECTION FACTOR AGE
This parameter is used to set the age at which *SCALE # CORRECTION FACTOR* will be applied on the average weight measured by the scale. When the flock reaches this age, the average weight recorded will be the weight measured by the scale, added to this percentage.

EVALUATION OF WEIGHT METHOD
This parameter is used to select the method used to determine the SCALE (1-2) TARGET WEIGHT. If the Evolution method is used, the target weight will be equal to last period's average weight (or the target weight adjusted by the user when flock is started) plus the respective *SCALE # CURVE ADD WEIGHT AGE (0-249)*. If the Chart method is used, the target weight for a given age will be determined by the corresponding weight adjusted in the growth curve of the respective scale. This parameter may only be adjusted when all scales are deactivated.

AVERAGE WEIGHT TARGET EVALUATION

This parameter is used to determine how the TARGET WEIGHT will be assigned. If this parameter is set to Day, the target weight will be DAY AVERAGE WEIGHT, increased according to the respective *SCALE # CURVE ADD WEIGHT AGE (0-249)* parameter. This value will be evaluated at a frequency determined by *SCALE # TARGET EVALUATION FREQUENCY*. If this parameter is set to Period, the target weight will be AVERAGE WEIGHT EVALUATION PERIOD. In both cases, there must have been a number of birds weighed equal to or above *MINIMUM NUMBER WEIGHED TARGET EVALUATION* in order to change the target weight.

TARGET EVALUATION FREQUENCY

These parameters are used to set the time rate at which the SCALE # TARGET WEIGHT of the respective scale will be evaluated during the day. The day will be divided into periods defined by the respective parameter. If the SCALE # NUMBER WEIGHED has reached the *SCALE # MINIMUM NUMBER WEIGHED TARGET EVALUATION*, the SCALE # TARGET WEIGHT will be evaluated according to the actual SCALE # AVERAGE WEIGHT and the corresponding *SCALE # ADD WEIGHT AGE (0-249)*. Each time a new period of the day is entered, the evaluation will be performed.

MINIMUM NUMBER WEIGHED TARGET EVALUATION

These parameters are used to set the minimum number of weights required to evaluate the SCALE # TARGET WEIGHT during the day. If the SCALE # NUMBER WEIGHED has not reached this amount, the SCALE # TARGET WEIGHT will not be evaluated when a new time period defined by *SCALE # TARGET EVALUATION FREQUENCY* is reached.

CALIBRATION WEIGHT

This parameter allows the user to set the weight used for the calibration process. When calibrating the gain, the weight on the scale must be exactly the same as the one set here. The heavier the weight is, the better the precision will be.

ZERO CALIBRATION

This parameter allows the user to start a calibration process that will determine the weight at which the scale will consider the weight to be zero (grams or pounds). To correctly evaluate the weight on the scale, the exact weight read when nothing is on the scale must be known. The scale must be emptied of all matter and this parameter pressed, at which point the message of this parameter will change to indicate the status of the zero calibration sequence.

GAIN CALIBRATION

This parameter allows the user to start a calibration process that will determine the gain of the scale. To correctly evaluate the gain of the scale, the variation of the electrical signal according to two known weights must be known, i.e. weight when the scale is empty and the *SCALE # CALIBRATION WEIGHT*. A weight precisely equal to the *SCALE # CALIBRATION WEIGHT* must be placed on the scale and this parameter activated to start a gain calibration sequence, at which point the message of this parameter will change to indicate the status of the gain calibration.

WEIGHING START TIME
This parameter is used to set the time at which weighing will be allowed for the respective poultry scale. When the time of day reaches this value, the poultry scale will register weights and will cease to record them when time of day reaches *CHICKEN/TURKEY SCALE # WEIGHING END TIME*. Setting this value to the sane value as *CHICKEN/TURKEY SCALE # WEIGHING END TIME*, will remove weighing time restrictions.

WEIGHING END TIME
This parameter is used to set the time at which weighing will no longer be allowed for the respective poultry scale. When the time of day reaches this value, the poultry scale will cease to register weights. It will record weights once again when time of day reaches *CHICKEN/TURKEY SCALE # WEIGHING START TIME*. Setting this value to the sane value as *CHICKEN/TURKEY SCALE # WEIGHING START TIME* will remove weighing time restrictions.

MANUAL TARGET WEIGHT
This parameter is used to set the target weight manually. If anomalies occur during the breeding, it may be necessary to set the target weight to a different value. Setting this parameter to a value other than AUTO will set the target weight to that value. This parameter returns to AUTO when the date changes.

FIX TARGET WEIGHT FOR THE FIRST WEEK
This parameter is used to choose if the scale will use the poultry chart to determine its target weight. When this parameter is set to YES, the target weight will be determined by the poultry chart for the first week of the flock. When this parameter is set to NO, the chart will have no effect on the target weight.

CURVE CHICKEN/TURKEY SCALE #

TARGET WEIGHT MALE AGE (0-249)
These parameters allow the user to adjust the SCALE # TARGET WEIGHT of a male flock for a given age. Each weight can be individually adjusted to allow the user to create his customized target weight chart. If the *SCALE # EVALUATION OF WEIGHT METHOD* is set to Evolution, this chart will only be used as a reference if the user desires so. However, if the *SCALE # EVALUATION OF WEIGHT METHOD* is set to Chart, the SCALE # TARGET WEIGHT of a male bird of a given age will be determined by this chart.

TARGET WEIGHT FEMALE AGE (0-249)
These parameters allow the user to adjust the SCALE # TARGET WEIGHT of a female flock for a given age. Each weight can be individually adjusted to allow the user to create his customized target weight chart. If the *SCALE # EVALUATION OF WEIGHT METHOD* is set to Evolution, this chart will only be used as a reference if the user desires so. However, if the *SCALE # EVALUATION OF WEIGHT METHOD* is set to Chart, the SCALE # TARGET WEIGHT of a female bird of a given age will be determined by this chart.

ADD WEIGHT MALE AGE (0-249)

These parameters are used to calculate the SCALE # TARGET WEIGHT for male birds when the *SCALE # EVALUATION OF WEIGHT METHOD* is set to Evolution. These values will be added to the SCALE # AVERAGE WEIGHT of the last evaluation period to define the new SCALE # TARGET WEIGHT for the actual day. If *SCALE # TARGET EVALUATION FREQUENCY* is set to a value other than 24h, the added weight will be divided by the number of evaluations per day. Each value should represent the anticipated weight increase for the respective day for male birds.

ADD WEIGHT FEMALE AGE (0-249)

These parameters are used to calculate the SCALE # TARGET WEIGHT for female birds when the *SCALE # EVALUATION OF WEIGHT METHOD* is set to Evolution. These values will be added to the SCALE # AVERAGE WEIGHT of the last evaluation period to define the new SCALE # TARGET WEIGHT for the actual day. If *SCALE # TARGET EVALUATION FREQUENCY* is set to a value other than 24h, the added weight will be divided by the number of evaluations per day. Each value should represent the anticipated weight increase for the respective day for female birds.

CURVE CHICKEN/TURKEY OPTIONS

WEIGHT ACQUIREMENT METHOD

These parameters are used to determine by which method the bird weight will be acquired. If this parameter is set to Automatic, the bird weight will be obtained by using OPTI-GAIN 1 modules which must be connected to the controller. If this parameter is set to Manual, the user will enter the weight to indicate to the controller which value to use for its calculations.

WEIGHT AVERAGE SCALE SELECTION (1-4)

These parameters are used to select which scale will be used to compute the weight average.

7 DAYS CHICKEN/TURKEY SCALE CHART

TARGET WEIGHTAGE (0-7)

These parameters are used by the user to set the different values of the scales chart. This is only used if *FIX TARGET WEIGHT FOR THE FIRST WEEK* is set to YES. When used, this chart has only effect the first 7 days of a flock.

CURVE CHICKEN/TURKEY SCALE

TARGET WEIGHT AGE (0-149)

These parameters allow the user to adjust the SCALE # TARGET WEIGHT of a male flock for a given age. Each weight can be individually adjusted to allow the user to create his customized target weight chart. If the *SCALE # EVALUATION OF WEIGHT METHOD* is set to Evolution, this chart will only be used as a reference if the user desires so. However, if the *SCALE # EVALUATION OF WEIGHT METHOD* is set to Chart, the SCALE # TARGET WEIGHT of a male birds of given age will be determined by this chart.

PIG SORTER

NUMBER WEIGHED

This parameter displays the amount of pigs weighed for the respective scale. A weight is only recorded if it is above PIG SORTER # WEIGHT PIG PRESENCE and has remained stable a long enough period according to PIG SORTER # NUMBER WEIGHT SAMPLES and PIG SORTER # WEIGHT SAMPLES DEVIATION, and has dropped below PIG SORTER # WEIGHT PIG ABSENCE.

LAST WEIGHT

This parameter displays the last weight recorded by the scale. For a weight to be recorded, it must have been above PIG SORTER # WEIGHT PIG PRESENCE and have remained stable a long enough period according to PIG SORTER #. If PIG SORTER # NUMBER WEIGHED is equal to 0, this parameter will display ---. Otherwise, this value is displayed to the nearest 0.1 unit (kg or lb).

AVERAGE WEIGHT

This parameter displays the average weight for the respective scale for the current day or since the controller was reset. If PIG SORTER # NUMBER WEIGHED is equal to 0, this parameter displays ---. This weight is displayed according to WEIGHT UNIT with a precision of 0.1 unit (kg or lb).

SORTER DOOR STATE

This parameter displays the actual sorting position for the pig sorter. This parameter displays RIGHT or LEFT.

DOOR MODE

This parameter is used to remotely change the pig sorter mode. Available modes are: Sorting, Training and Test. In sorting mode, the pig sorter activates entry and exit doors as well as the sorter door according to the configuration settings, performs weights and sorts in groups. In training mode, the pig sorter opens the entry and exit doors, and will alternate between sorter doors according to the training mode for a certain number of days. In test mode, the pig sorter stays in the last state and cannot be changed unless through the use of the module faceplate. The mode may also be changed by using the module faceplate and a change made on it or on the controller will affect the faceplate and vice-versa.

SORTING ACTIVATION

This parameter activates the pig sorter sorting mode. If this parameter is set to Run, the doors of the pig sorter will operate to send the animals in the direction determined by animal weight and weight parameter adjustments. If this parameter is set to Stop, the doors of the pig sorter will take the state determined by *(ENTRY-EXIT-SORT) DOOR PIG SORTER STOPPED*. When *DOOR MODE* is set to Training, this parameter will automatically be set to Stop.

FORCED SORTING

This parameter is used to enable or disable forced sorting. If this parameter is set to ON, the pigs designated by *PIGS FORCED SORTING* will take the exit indicated by *DEFAULT DOOR* while the other pigs will be sorted according to their weight.

PIGS FORCED SORTING
This parameter is used to indicate which pigs category that will be forced to take the *DEFAULT DOOR* exit. If this parameter is set to WITH TAG, the pigs that wear TAGs will be forced to take the *DEFAULT DOOR* exit and those do not wear TAGs will be sorted according to their weight. If this parameter is set to WITHOUT TAG, the pigs that do not wear TAGs will be forced to take the *DEFAULT DOOR* exit, while those do not wear TAGs will be sorted according to their weight.

PIG SORTER GROUPS

NUMBER RETAINED
This parameter displays the amount of retained animals for the zone. Every time a pig is weighed for Group I, the value displayed will be increased. If this value reaches *ZONE # LIMIT*, the scale may stop sorting and/or trigger an alarm. This value may be reduced when animals are shipped or transferred. This value is reset only when the retained limit is set to OFF and when the retained animals are reset.

NUMBER RETAINED SCALE
This parameter displays the amount of animals retained by the scale. This value will not be reduced when animals are shipped or transferred.

NUMBER WEIGHED GROUP (I-IV)
This parameter displays the number of pigs weighed for each group of the respective scale for the current day or since the controller has reset. A weight is only recorded if it is between *PIG SORTER # MAXIMUM WEIGHT GROUP (II-IV)* and the preceding group. All weights greater than *PIG SORTER # MAXIMUM WEIGHT GROUP II* will be classified to Group I and all weights lower than *PIG SORTER # MAXIMUM WEIGHT GROUP IV* will be classified to Group IV.

AVERAGE WEIGHT GROUP (I-IV)
This parameter displays the average weight of pigs weighed for each group of the respective scale for the current day or since the controller has reset. If PIG SORTER # NUMBER WEIGHED GROUP (I-IV) is equal to 0, this parameter displays ---. This weight is displayed according to WEIGHT UNIT with a precision of 0.1 unit (kg or lb).

OVERLOAD WEIGHT COUNT
This parameter displays the number of weighings where the weight is above the overload weight since the last scale reinitialization.

REINITIALIZE RETAINED
This parameter is used to reinitialize the retained animals for the grouping. A grouping can be a zone, a group or a pig sorter scale.

REINITIALIZE SCALE
This parameter is used to reinitialize all values for the respective scale. When this button is pressed, all values for the respective pig sorter will be reset to zero. This does not affect retained animals.

TRAINING

NUMBER OF TRAINING DAYS

This parameter is used to adjust the number of days for which the training function for the respective scale will last. When the scale is in training mode, this value will be reduced each time the date changes until it reaches 0, at which point the scale mode will automatically go from training mode to sorting mode.

DELAY SORTER DOOR

This parameter is used to adjust the amount of time between the alternations of sorting positions for the training mode. When the scale uses training mode, the sorter door will alternate between left and right positions (for a scale using 2 exits) or the exits selected at *PIG SORTER # TRAINING PATH* (for scales using 3 exits).

PIG SORTER ALARMS

ALARM OPTION

This parameter is used to determine if the alarm can be triggered by a pig sorter problem or not. If this parameter is set to ON, the alarm will sound when a problem is detected on a pig sorter. If this parameter is set to OFF, only a message will be logged when a problem is detected on a pig sorter.

ALARM ON LIMIT

This parameter is used to set if the alarm will trigger when a zone reaches its limit. If this parameter if set to Yes, the alarm will trigger when ZONE # NUMBER RETAINED reaches *ZONE # RETAINED LIMIT*. If this parameter is set to No, the alarm will not trigger when the pig sorters and groups reach the *ZONE # RETAINED LIMIT*.

NO WEIGHT PERIOD CHECKED

This parameter is used to activate or deactivate the no weight verification. If this parameter is set to Yes, there will be messages and/or alarms when no weighing has been performed for the defined period. If this parameter is set to No, there will be no messages or alarms when no weighing is detected.

START DAY

This parameter is used to set the time at which the day period begins. If the respective pig sorter is in sorting mode and no pig has been weighed for PIG SORTER # DELAY NO WEIGHT DAY, an alarm will trigger.

START NIGHT

This parameter is used to set the time at which the night period begins. If the respective pig sorter is in sorting mode and no pig has been weighed for PIG SORTER # DELAY NO WEIGHT NIGHT, an alarm will trigger.

DELAY NO WEIGHT DAY

This parameter is used to set the time before the alarm will trigger when no pig has been weighed. During the day, if the pig sorter is using sorting mode and no pig has been weighed for a time equal to the value set at this parameter, an alarm will trigger. If this parameter is set to OFF, the no weighed alarm will not trigger during the day.

DELAY NO WEIGHT NIGHT
This parameter is used to set the time before the alarm is triggered when no pig has been weighed. During the night, if the pig sorter is using sorting mode and no pig has been weighed for a time equal to the value set at this parameter, an alarm will be triggered. If this parameter is set to OFF, the no weighed alarm will not be triggered during the night.

TEST MODE MAXIMUM TIME
This parameter is used to set the maximum time of the test mode. If the pig sorter is in the test mode for a time greater than the value this parameter, the alarm *TEST MODE MAXIMUM TIME REACHED PIG SORTER #* will be triggered.

PRESSURE ALARM
This parameter is used to set the low pressure limit for the respective pig sorter. If PIG SORTER # PRESSURE drops below this value, the low pressure alarm of the respective pig sorter will be triggered. Setting this parameter to OFF deactivates the low pressure alarm for the respective pig sorter.

PRESSURE
This parameter displays the actual pressure for the respective pig sorter. If this value drops below *PIG SORTER # PRESSURE ALARM*, the low pressure alarm will occur.

DOOR BLOCKED CHECKED
This parameter is used to activate or deactivate the door blocked verification. If this parameter is set to Yes, there will be messages and/or alarms when a door is blocked. If this parameter is set to No, there will be no messages or alarms for blocked doors.

REINITIALIZE ALARMS
This parameter is used to reinitialize all alarm conditions for the respective pig sorter. When pressing on this parameter, all alarms for the respective scale will be reinitialized.

GROUPS SETTINGS

RETAINED LIMIT
This parameter is used to set the limit of animals to gather in the expedition zone. When this parameter is not set to OFF, ZONE # NUMBER RETAINED will be visible and count the number of animals weighed in the groups selected at *GROUP FOR RETAINED*. When ZONE # NUMBER RETAINED reaches the value adjusted here, the pig sorter may stop sorting the animals if *PIG SORTER # STOP ON LIMIT* is set to Yes, and/or trigger an alarm if *PIG SORTER # ALARM ON LIMIT* is set to Yes.

SHIPPED ANIMALS REDUCES RETAINED GROUP
This parameter is used to choose if the pig sorter will reduce its number of retained animals according to the number of shipped animals. Setting this parameter to No will deactivate this function. If this parameter is set to Yes, PIG SORTER # NUMBER RETAINED will be REDUCED by the zone or group TOTAL SHIPPED value.

TRANSFERRED ANIMALS REDUCES RETAINED GROUP
This parameter determines if the pig sorter will reduce its number of retained animals according to the number of transferred animals. Setting this parameter to No will deactivate this function. If this parameter is set to Yes, PIG SORTER # NUMBER RETAINED will be REDUCED by the zone or group TOTAL TRANSFERRED value.

GROUP FOR RETAINED
This parameter is used to select which group can send animals to the expedition zone.

OVERLOAD WEIGHT
This parameter is used to establish the weight at which the scale will consider its reading to be too high to be valid. When a weight equal to or above this value is read, the scale will not increase its number weighed value and the average weight will not be affected. Furthermore, the sort door will position itself to its default position when the overload value is reached.

MAXIMUM WEIGHT GROUP (II-IV)
This parameter is used to establish the maximum weight for the respective group. A weight is recorded in a named group when it is equal to or below the respective *PIG SORTER # MAXIMUM GROUP (II-IV)* and above the maximum weight of the preceding group. All weights greater than *PIG SORTER # MAXIMUM WEIGHT GROUP II* will be classified to Group I and all weights lower than *PIG SORTER # MAXIMUM WEIGHT GROUP IV* will be classified to Group IV.

DAILY ADDED WEIGHT
This parameter is used to set a weight which will be added to the *MAXIMUM WEIGHT GROUP (II - IV)*. If this parameter is set to a value other than OFF, the set value will be added to the weight groups at midnight.

STOP ON LIMIT
This parameter is used to set if the scale will stop sorting the animals when the PIG SORTER # NUMBER RETAINED reaches *PIG SORTER # RETAINED LIMIT*. If this option is set to Yes, the pig sorters' doors will behave according to the position adjusted *AT PIG SORTER # DOOR (ENTRY-EXIT-SORT) STOP PIG SORTER* and the Sorting LED of the pig sorter will blink. If this option is set to No, the pig sorter will assign the animals of this group in the default exit, but will continue to normally sort other groups when the limit of a group is reached.

DOOR GROUP (I-IV)
This parameter is used to establish what position will be taken by the sorter doors for the respective group. When a pig is placed into a group, the position of door sorting will be the same as adjusted here for this group. This parameter can be adjusted to Right or Left.

MARKER GROUP (I-IV)
This parameter is used to establish for which groups the marker output will activate. If this option is set to ON, the marker output will activate when an animal is weighed in the respective group.

UPDATE IMMEDIATELY
This parameter is used to immediately update all changes made in the groups' settings to make them effective.

DELAY AND DOOR SETTINGS

MARKING TIME

This parameter is used to establish the amount of time for which the marker will be activated when an animal is in the cage. When *AIR JET/MARKER* option is set to Marker, the painting marker will be activated for an amount of time equal to this parameter when the pig sorter detects that an animal has entered the cage.

MAXIMUM TIME DOOR

This parameter is used to set the amount of time for which a door may be activated before establishing that the door position is faulty and another action is necessary. This amount of time is used in test mode and during the training mode. During a strike sequence, configuration delays of the strike sequence are applied. If the door sensor is not used, after a state change the module will wait this amount of time before performing another action.

DOORS OPENING TIME

This parameter is used to set the amount of time for which the front and the exit doors may be activated when the animal does not leave the cage.

EXIT TIME

This parameter is used to adjust the exit time of the pig sorter. This is the time allowed for the animal to exit the cage. The exit door will remain open for the amount of time adjusted here after the pig sorter has detected that the animal is no longer on the scale.

DEFAULT DOOR

This parameter is used to adjust the default position of sorter doors for the pig sorter. This position will be taken in sorting mode after the pig sorter has sorted an animal or when the weight does not correspond to a group. This position will also be taken if the sorter doors fail to correctly position themselves according to the sensors. For a pig sorter using 2 exits, this parameter can be set to Right or Left. For a pig sorter using 3 exits, this parameter can be set to Right, Left or Center.

(ENTRY-EXIT-SORT) DOOR PIG SORTER STOPPED

This parameter is used to set the state that will be taken by the respective door when the pig sorter is stopped. If *PIG SORTER # STOP ON LIMIT* is set to Yes and PIG SORTER # NUMBER RETAINED reaches *ZONE # LIMIT*, all doors for the respective pig sorter will take the position set here.

DELAY BEFORE DOORS OPENNING

This parameter is used in marker mode when the animal does not leave the cage, to adjust the waiting time before setting the sorting door to *DEFAULT DOOR* and opening at the same time the front and the exit doors.

DELAY BEFORE AIR JET

This parameter is used to establish the amount of time before an air jet will be activated when the animal is still in the cage. When a weight has been recorded and the pig sorter still detects the presence of the animal after the delay set here, the air jet will be activated for an amount of time equal to *PIG SORTER AIR JET DURATION*.

AIR JET DURATION

This parameter is used to establish the amount of time for which the air jet will be activated to encourage the animal to leave the cage. When a weight has been recorded and the pig sorter still detects the presence of the animal after the *PIG SORTER DELAY BEFORE JET*, the air jet will be activated for an amount of time equal to this parameter. After a first air jet, if the pig sorter still detects the presence of the animal, it will wait for the *PIG SORTER DELAY BETWEEN TWO AIR JETS* and the air jet will be activated again for an amount of time equal to this parameter.

DELAY BETWEEN TWO AIR JETS

This parameter is used to establish the amount of time between two air jets. After an air jet has been performed by a pig sorter, a delay equal to this parameter will separate the following air jet. When the delay has elapsed, the pig sorter will activate another air jet for an amount of time equal to *PIG SORTER AIR JET DURATION*.

DELAY BEFORE STRIKE

This parameter is used to establish the amount of time before the pig sorter performs a strike sequence to encourage the animal to enter the cage of a pig sorter. If a pig sorter detects the presence of an animal and the door fails to close for an amount of time equal to this parameter, it will perform a first strike sequence. If the door sensor is not used, there will never be a strike sequence.

STRIKE OPEN DOOR

This parameter is used to establish the amount of time for which the door will open to strike, to encourage the animal to enter the cage. When a strike must be given, the entry door will open for an amount of time equal to this parameter, and then close for an amount of time equal to *PIG SORTER STRIKE CLOSE DOOR*.

STRIKE CLOSE DOOR

This parameter is used to establish the amount of time for which the door will close to strike, to encourage the animal to enter the cage. When a strike must be given, the entry door will open for an amount of time equal to this parameter, and then close for an amount of time equal to *PIG SORTER STRIKE OPEN DOOR*.

NUMBER OF STRIKES

This parameter is used to set the number of strikes given for a cycle. When the pig sorter detects an animal and the entry door did not successfully close for an amount of time equal to *PIG SORTER DELAY BEFORE STRIKE*, the entry door will open and then close a number of times equal to the parameter set here.

DELAY BETWEEN CYCLES

This parameter is used to establish the amount of time for which the entry door will try to close after a strikes cycle. When a strikes cycle is done, the entry door will close for the amount of time set here. If the pig sorter detects that the entry has succeeded to close before this delay has elapsed, the strikes sequence will stop. If the entry door fails to close and this delay has elapsed, another cycle will begin.

NUMBER OF STRIKE CYCLES
This parameter is used to set the amount of strikes cycles given to encourage the animal to enter the cage. If the entry door fails to close, it will perform a number of strike cycles equal to the value of this parameter. If the door still fails to close after this number of strike cycles, it will open again and will be considered in position error.

RELEASE TIME
This parameter is used to establish the amount of time for which an entry door will open after a strike cycle. If the pig sorter detects that the entry door failed to close after a strike cycle, it will open for the amount of time adjusted here to give the animal a chance to enter the cage.

PIG SORTERS SETTINGS

WEIGHT PIG PRESENCE
This parameter is used to set the weight indicating to the pig sorter that a pig is present on the pig sorter. If the weight does not reach this value, the entry door will not close and no weight will be recorded. If the weight is above this value for an amount of time equal to *PIG SORTER # PIG PRESENCE TIME*, the entry door will try to close and, if the door closes successfully and the weight is stable, the weight will be recorded.

WEIGHT PIG ABSENCE
This parameter is used to set the weight indicating to the pig sorter that the pig is no longer present. If the weight drops to this value, the exit door will try to close and, if the closure succeeds, the pig sorter will be ready for a new weighing.

DIFFERENCE TOLERANCE LOAD CELL
This parameter is used to set the acceptable difference between two load cells of the pig sorter. If the difference between two load cells is greater than the percentage set here, the weight on the pig sorter will not be considered.

PIG PRESENCE TIME
This parameter is used to establish the amount of time for which a weight must be above *WEIGHT PIG PRESENCE* before the pig sorter tries to close the entry door and, if the closure succeeds and the weight is stable, the weight will be recorded.

PIG ABSENCE TIME
This parameter is used to establish the amount of time for which a weight must be below *WEIGHT PIG ABSENCE* before the pig sorter tries to close the entry door and, if the closure succeeds and the weight is stable, the pig sorter will be ready for a new weight.

CALIBRATION WEIGHT GAIN
This parameter indicates the calibration weight on the scale to calibrate the gain. Before calibrating the weight, the zero must be calibrated. To do so, on the pig sorter, you must open the exit door of the sorter and close the entry door. When the pig sorter screen displays zero, open the entry door and close the exit door. If the pig sorter seems to have a gap with an external reference, it is possible to modify its calibration by placing a known weight on the scale and performing a calibration using the button located on the module faceplate. The weight on the scale must be exactly the same as the one here before pressing the calibration button on the module. The weight gradually changes as long as the button is pressed and until the weight calibration is reached. This parameter has no effect if the calibration button on the module is not pressed.

NUMBER OF WEIGHT SAMPLES
This parameter is used to set the amount of valid samples that must be read by the pig sorter before a weight is recorded. The pig sorter reads in rapid succession the number of weight samples adjusted here and, if they are inside the *WEIGHT SAMPLE DEVIATION*, the weight is recorded. If the pig sorter fails to perform regular weights, it is possible to reduce this value to speed up the process. The more a scale takes samples, the more accurate a weight will be.

WEIGHT SAMPLE DEVIATION
This parameter is used to set the maximum deviation between two valid weight samples. If the pig sorter fails to perform regular weights, it is possible to increase this value to accept more values during the process. The lower the deviation value, the more accurate each weight will be. If the pig sorter fails to perform regular weights, it is possible to reduce this value to speed up the process.

LOAD CELL GAIN
This parameter is used to set the gain of the load cell. This should be set according to the load cell specifications.

LOAD CELL MAXIMUM WEIGHT
This parameter is used to set the maximum weight of the load cell. This should be set according to the load cell specifications.

SORTING OUTPUT INACTIVE SIGNAL DIRECTION
This parameter is used to determine the direction that animals will take when the sorting output receives an inactive signal. When animals need to be sent in the direction adjusted here, the pig sorter will send an inactive signal. When animals need to be sent in the opposite direction, the pig sorter will send an active signal.

OUTPUT LOGIC DOOR EXIT
This parameter is used to choose if the output for the exit door will be activated when it receives an active or inactive signal. If this option is set to NO, the output will be Normally Open and will therefore be active when it receives an active signal. If this option is set to NC, the output will be Normally Closed, and therefore will be active when it receives an inactive signal. This parameter must be adjusted according to the physical configuration of the cage.

SENSOR OPTION DOOR SORT
This parameter is used to choose if the sensor for the sort door will be used. If this option is set to ON, the respective pig sorter will read the sensor state for the sort door and establish if the door is correctly positioned. If this option is set to OFF, the respective pig sorter will not read the sensor state and therefore the door will never be defective.

RF ID OPTION
This parameter is used to activate or deactivate the RF ID function on the pig sorter.

CLEAR DAILY
This option is used to determine if the scale data will be reset each day or not. If this option is set to ON, the amount of animals weighed will be reset each day. If this option is set to OFF, the amount of animals weighed will only be reset when the user uses the RESET parameter.

RESET
This parameter is used to reinitialize all values for the respective pig sorter. When this button is pressed, actual values for the respective scale will be reinitialized.

UPDATE IMMEDIATELY
This parameter is used to immediately update all changes made in the pig sorters settings to make them effective.

AIR JET/MARKER
This parameter is used to choose if an air jet or a marker will be used with the pig sorters.

FLOOR SCALE

NUMBER OF ANIMALS
This parameter is used to adjust the amount of animals on the floor scale. This value can also be modified on the AW-FS1 module. Changing the value here will change the value on the module and vice versa.

BAND
This parameter is used to set a reference number for the group of animals weighed during the day. This number will be recorded in the history and can be used later for comparison,

LAST WEIGHING AVERAGE WEIGHT
This parameter displays the average weight of the last weighing. When a new weighing is performed, this value will change to reflect the average weight of that weighing and will remain at that value until another weighing is recorded.

DAY AVERAGE WEIGHT
This parameter displays the average weight of the day. When a new weighing is performed, this value will change to reflect the average weight of all animals weighed today. This value is reset when the date changes.

NUMBER OF WEIGHTINGS
This parameter displays the amount of weightings for the day. When a new weighing is performed, this value will increase by one. This value is reset when the date changes.

TOTAL NUMBER OF ANIMALS WEIGHED
This parameter displays the amount of animals weighed for the day. When a new weighing is performed, this value will increase by the number of animals weighed. This value is reset when the date changes.

TOTAL WEIGHT
This parameter displays the total weight of all animals weighed for the day. When a new weighing is performed, this value will increase by the total weight of all animals weighed. This value is reset when the date changes.

AVERAGE WEIGHT WEIGHING #
These parameters display the average weight for each weighing made by the floor scale for the current day. There can be up to 50 weightings performed each day. These values are reset when the date changes.

CALIBRATION WEIGHT

This parameter indicates the calibration weight on the scale to calibrate the gain. Before calibrating the weight, the zero must be calibrated. To do so, on the floor scale you must press the button on the module's faceplate. When the floor scale screen displays zero and nothing is on the scale, the zero calibration was performed correctly. If the floor scale seems to have a gap with an external reference, it is possible to modify its calibration by placing a known weight on the scale and perform a calibration by using the button located on the module faceplate. The weight on the scale must be exactly the same as the one here before pressing the calibration button on the module. The weight gradually changes as long as the button is pressed and until the weight calibration is reached. This parameter has no effect if the calibration button on the module is not pressed.

AMOUNT OF MEASURMENTS

This parameter is used to set the amount of valid samples that must be read by the floor scale before a weight is recorded. The floor scale reads in rapid succession the number of weight samples adjusted here and if they are inside the acceptable range the weight is recorded. If the floor scale fails to perform regular weights, it is possible to reduce this value to speed up the process. The more samples a scale takes, the more accurate a weight will be.

REINITIALIZE

This parameter is used to reinitialize all values for the floor scale. When this button is pressed, actual values for the scale will be reinitialized.

BINWATCH STATUS

BIN WEIGHT

These parameters display the current measured weight for the respective bin. The current weight is calculated based on the estimated volume. If the bin quantity has reached a minimum level, the BIN WEIGHT will display Low.

BIN POURCENTAGE

These parameters display the fill percentages of the bins relative to the maximum volume the bins can hold.

GRAIN HEIGHT

These parameters display the grain height in the bins, measured from the lowest point inside each bin.

LAST READING TIME

These parameters display the time of the last weight measurement for each bin.

MANUAL READING

These parameters allow a manual reading of each bin. During the reading, these parameters display *In Progress*. After filling, during the *TIME WITHOUT MEASUREMENT AFTER FILLING* period, manual reading cannot be performed, and these parameters display *Impossible!* if a manual reading is attempted.

BINWATCH CONFIGURATION

NUMBER 24 MEASUREMENTS BEFORE CLEANING

The BinWatch can rotate the lens holder using a motor to reach a small brush for cleaning. This operation consumes energy and should be performed as infrequently as possible. Cleaning only occurs during measurement. An internal counter in the BinWatch counts down the number of measurements before triggering the cleaning. The configuration allows this number to be set in multiples of 24. For example, if this parameter is set to 1 hour, cleaning will occur every 24 measurements, or every 24 hours. If measurements are taken every 2 hours, cleaning will occur every 48 hours.

MEASUREMENTS TAKING

This parameter can be set to *Auto* or *Table*. When set to *Auto*, measurements are taken at regular intervals defined by the *INTERVAL BETWEEN MEASUREMENTS*. When set to *Table*, measurements are taken at specific times defined by the *MEASUREMENT TIME #*. A delay of 2 minutes is required to validate the measurement.

NUMBER OF MEASUREMENTS

This parameter sets the number of measurements the BinWatch performs in a day when the *MEASUREMENTS TAKING* mode is set to *Table*.

MEASUREMENT TIME #

This parameter is used to define the measurement times for the BinWatch. When the regulator's clock matches one of the specified times, the BinWatch initiates a measurement. A delay of 2 minutes is required to validate the measurement.

INTERVAL BETWEEN MEASUREMENTS

This parameter sets the interval between measurements when the *MEASUREMENTS TAKING* mode is set to *Auto*. When the regulator's clock is a multiple of this parameter's value, the BinWatch initiates a measurement. A delay of 2 minutes is required to validate the measurement. When this parameter is set to OFF, the BinWatch will not perform any measurements in automatic mode.

HYSTERESIS CONSUMPTION

This parameter adjusts the sensitivity to fluctuations in measurement values. It defines the number of centimeters that the grain level must decrease to register a new value. Since there can be variations between two measurements, this parameter helps filter out these fluctuations to prevent them from being considered.

HYSTERESIS FILLING

This parameter defines the number of centimeters that the grain level must increase to register a new value. Since variations can occur between two measurements, this parameter helps filter out these fluctuations and ignore them if they are below the defined value.

FILLING PRESSURE THRESHOLD
This parameter defines the pressure variation threshold indicating that a filling is in progress. The pressure is measured every 2 minutes. If the pressure variation exceeds a certain threshold in a short period, it may indicate that a filling is occurring, causing a pressure increase. During the filling process, as well as during the delay defined by the *TIME WITHOUT MEASUREMENT AFTER FILLING*, measurements are paused to allow dust to settle. If this parameter is set to OFF, no pressure check will be performed, and thus no filling will be detected.

TIME WITHOUT MEASUREMENT AFTER FILLING
This parameter sets the duration during which any measurement requests are canceled after a filling, to allow dust to settle and prevent the BinWatch lens from getting dirty.

BINWATCH ID
This parameter is used to configure the unique number of the BinWatch.

BIN TYPE BINWATCH
This parameter is used to select the type of bin in which the BinWatch is installed. Three options are available: A, B, and C, with each type corresponding to specific dimensions and shape of the bin.

MEASURING ANGLE
This parameter is used to adjust the orientation of the BinWatch lenses. Ideally, the direction should be perpendicular, or 90 degrees, if the installation is done in the bin cover. This angle is adjusted during the measurement process.

CORRECTION ANGLE
This parameter is used to determine the ideal measurement angle. When this parameter is set to ON, the BinWatch lens holder positions itself at the measurement angle and then performs slight rotations on each side of this angle to find the optimal perpendicular measurement angle.

VOLUME MASS
This parameter defines the volume mass of the feed. It is the density in kg/m³, which, when multiplied by the volume, provides an estimate of the feed's weight.

BIN TYPES

BIN # HEIGHT OF BINWATCH
This parameter is used to configure the height at which the BinWatch is installed in the bin. It is the height of the BinWatch measured from the lowest point inside the bin.

BIN # TOP CONE HEIGHT
This parameter defines the height of the upper cone of the bin. It is the height of the conical section at the top of the bin.

BIN # CYLINDER HEIGHT
This parameter is used to configure the height of the cylindrical part of the bin.

BIN # BOTTOM CONE HEIGHT
This parameter is used to configure the height of the lower cone of the bin. It is the height of the conical section at the bottom of the bin.

BIN # DIAMETER
This parameter is used to configure the diameter of the cylindrical part of the bin.

BIN SCALES

STATUS
These parameters display the actual status of the respective bin scale.

ACTUAL WEIGHT
These parameters display the current weight measured for the respective bin. The current weight is the gross weight of the bin, minus the tare weight of that bin. If the tare weight has never been established, this value will be equal to the gross weight. If there is a communication problem with the bin's module, the weight read is not stable enough or a load cell is defective, the associated parameter will display ---.

CONSUMPTION
These parameters display the consumption of the respective bin.

FILL TIME OF DAY
These parameters display the time of day at which the last fill occurred for the respective bin. If no fill has been detected since the last initialization, this parameter will display --/--/--.

LAST FILL DATE
These parameters display the date at which the last fill occurred for the respective bin. If no fill has been detected since the last initialization, this parameter will display --/--/--.

FILL WEIGHT
This parameter displays the total amount that has been measured for all fills that were done at the LAST FILL DATE. If no fill has been detected since the last initialization, this parameter will display ---.

TOTAL BATCH FILL WEIGHT
This parameter displays the total amount that has been measured for all fills since the beginning of the batch for the respective bin. If no fill has been detected since the last initialization, this parameter will display ---.

EMPTY TIME OF DAY
This parameter displays the time at which the bin scale became empty. If the bin scale has not been empty during the day, this parameter will display ---.

COMBINED WEIGHT (1-2)
These parameters display the total weight of the bin scales selected in *COMBINED WEIGHT BIN SCALE SELECTION (1-2)*. This parameter will only be visible if bin scales are selected in the associated *COMBINED WEIGHT BIN SCALE SELECTION (1-2)* parameter.

TOTAL BATCH START COMBINED CONSUMPTION (1-2)
These parameters display the cumulative consumption since the beginning of the breeding of the bins selected in the parameter *COMBINED WEIGHT BIN SCALE SELECTION (1-2)*. This parameter will not be visible if no bin is selected in the associated *COMBINED WEIGHT BIN SCALE SELECTION* (1-2) parameter.

COMBINED CONSUMPTION (1-2)
These parameters display the cumulative consumption since the beginning of the day for the bins selected in the parameter *COMBINED WEIGHT BIN SCALE SELECTION (1-2)*. These parameters will not be visible if no bin is selected in the associated *COMBINED WEIGHT BIN SCALE SELECTION* (1-2) parameter.

REINITALISE BIN CONSUMPTION
These parameters are used to reinitialize the respective bin consumption value. When this parameter is pressed, the BIN # CONSUMPTION value will be reset to zero.

ACTUAL BIN GROUPING (1-2)
This parameter displays and is used to select the active bin in the respective grouping. The bin scale displayed here will be the only bin whose feed augers can be activated. If this parameter displays None, it indicates that no bin scales are available and no feed augers of this grouping will be allowed to activate. The actual bin scale of a grouping changes when the active bin's weight drops to or below *CHANGE BIN GROUPING THRESHOLD* or if one of the feed augers associated to the bin reaches *FEED AUGER MAXIMUM LIMIT*. A bin becomes available once more when a fill is detected on that bin. A message will be added in the alarm history when the actual bin in a grouping changes. If the user changes the value of this parameter, all bins in the grouping will be made available.

BIN SCALE SETTINGS

ALARM OPTION
This parameter is used to determine if the alarm can be triggered by a bin scale problem or not. If this parameter is set to ON, the alarm will sound when a problem is detected on a bin scale. If this parameter is set to OFF, a message will only be logged when a problem is detected on a bin scale.

TOLERANCE
This parameter is used to set the tolerance of the bin. The tolerance is the value used to validate a tare sequence, to end a fill sequence and accept an unexpected weight increase.

FILL THRESHOLD
This parameter is used to set the weight increase that will trigger a fill sequence. When the weight of the bin increases by this value within a time period of *FILL TIME*, the fill sequence will begin.

FILL TIME
This parameter is used to set the time within which the weight must increase to trigger a fill sequence or remain stable to end the fill sequence. When the weight of the bin increases by *FILL THRESHOLD* within this time period, the fill sequence will begin. When the weight of the bin does not increase by *TOLERANCE* within this time period, the fill sequence will end.

ASSOCIATED FEEDERS
These parameters are used to determine which feeder inputs will be associated to the respective bin. The quantity read by the feeder input will be considered when calculating fill values.

ASSOCIATED FEED AUGER

These parameters are used to determine which feed inputs will be associated to the respective bin. The quantity read by the feed input will be considered when calculating fill values.

TARE

These parameters are used to activate the tare sequence on the respective bin. If this parameter is pressed, the tare sequence will begin. This parameter displays the state of the tare sequence. When the tare sequence begins, the message displayed will be PLEASE WAIT..., indicating that the tare sequence is being performed. If a communication error occurs during the tare sequence the message displayed will be ERROR(Comm.). If a load cell is defective during the tare sequence the message displayed will be ERROR(LC). When the tare sequence ends, the message displayed will be ERROR(Tol.) if the weight variation was too great during the tare sequence or SUCCESS if the tare sequence has successfully been completed. This message will remain displayed for a few seconds after the tare sequence ends. When the tare sequence has successfully been completed, the tare weight will be recorded in the controller and used to calculate the actual weight of the contents of the bin.

LAST TARE DATE

This parameter displays the date of the last tare sequence. When a tare sequence has been successfully completed, this parameter will display the date at which it was performed. If no tare has been performed since the last initialization, this parameter will display --/--/--.

LAST TARE TIME OF DAY

This parameter displays the time of the last tare sequence. When a tare sequence has been successfully completed, this parameter will display the time at which it was performed. If no tare has been performed since the last initialization, this parameter will display --.

LOAD CELL GAIN

These parameters are used to set the gain of the load cells of the respective bin scale. This value is the gain in mV for each Volt of excitement and must correspond to the load cell manufacturer's specifications.

LOAD CELL MAXIMUM WEIGHT

These parameters are used to set the maximum weight of the load cells of the respective bin scale. This value is the greatest weight the load cell can read and must correspond to the load cell manufacturer's specifications.

LOW LIMIT ALARM

This parameter is used to set the inferior weight limit of the respective bin. When the measured weight is inferior to this limit, a low limit alarm will activate. Setting this parameter to OFF will disable the low limit alarm. This parameter is adjustable by increments of 0.5kgx1000 (0.5lbx1000), from 0.5 kgx1000 up to 30.0kgx1000 (30.0lbx1000).

DISPLAY LOAD CELLS PERCENTAGES

These parameters enable or disable the percentage display of the weight measured by the load cells of each bin scale.

STOP FEEDER ON FILL
This parameter is used to determine if the feeders and feed augers associated to the feed inputs used with the respective bin will stop when a fill is detected on that bin. If this option is set to Yes, all feeders and feed augers using a feed input selected in *BIN # ASSOCIATED FEEDER INPUTS* will deactivate for the duration of the fill operation.

STOP FEED AUGER ON FILL
This parameter is used to determine if the feeders and feed augers associated to the feed inputs that are used with the respective bin will stop when a fill is detected on that bin. If this option is set to Yes, all feeders and feed augers using a feed input selected in *BIN # ASSOCIATED FEED AUGER INPUTS* will deactivate for the duration of the fill operation.

GROUPING
This parameter is used to determine if a bin scale is used as part of a group of bin scales or as a standalone bin scale. If this parameter is set to Individual, there will be no restrictions on the activation of the feed augers associated to this bin scale. If this parameter is set to Grouping (1-2), only the feed augers associated to the active bin scale of the grouping will be allowed to activate.

CHANGE BIN GROUPING THRESHOLD
This parameter allows the user to set the threshold at which the bin will no longer be available for its grouping. If this parameter is set to a value other than OFF, the bin will no longer be available when its weight is equal to or lesser than this value. At this moment, the bin of the grouping will change for the next available bin scale. The bin will be made available again when a fill is detected on it. If this parameter is set to OFF, the active bin of the grouping will change when a feed auger associated to the bin scale has run for its *FEED AUGER MAXIMUM LIMIT*. A message will be logged in the alarm history when the active bin of a grouping changes.

ALARM OPTION GROUPING (1-2)
This parameter is used to determine if an alarm will activate when there are no more available bin scales in the grouping. If this parameter is set to ON, the alarm will be triggered when there are no available bin scales in the grouping. If this parameter is set to OFF, only a message will be logged in the alarm history in this situation.

COMBINED WEIGHT BIN SCALE SELECTION (1-2)
These parameters are used to select which bin scales will be included in the evaluation of the combined weight. For *COMBINED WEIGHT 1 BIN SCALE SELECTION* to be visible, at least two (2) bin scales need to be in use. For *COMBINED WEIGHT 2 BIN SCALE SELECTION* to be visible, four (4) bin scales need to be in use.

LOAD CELLS PERCENTAGES

ACTUAL WEIGHT
These parameters display the current weight measured for the respective bin. The current weight is the gross weight of the bin, minus the tare weight of that bin. If the tare weight has never been established, this value will be equal to the gross weight. If there is a communication problem with the bin's module, the weight read is not stable enough or a load cell is defective, the associated parameter will display ---.

LOAD CELL #
These parameters display the percentage of the weight measured on each load cell. If there is a communication problem with the bin's module or one of the load cells is not operating properly, the concerned parameters will display ---.

BATCH WEIGHING SYSTEM

ACTUAL WEIGHT
This parameter displays the weight measured by the batch weighing system scale. This weight is measured according to the zero and gain calibrations.

CYCLE WEIGHT
This parameter displays the weight that has been distributed for the cycle. When this weight reaches the ACTUAL TARGET WEIGHT, the cycle will end.

ACTUAL TARGET WEIGHT
This parameter displays the weight that the batch weighing system must distribute for the current cycle. When CYCLE WEIGHT reaches the weight displayed here, the cycle will end. The target weight is determined according to the actual week and *BATCH WEIGHING SYSTEM DROP # WEIGHT WEEK #.*

QUANTITY DROP #
This parameter displays the quantity distributed to each drop for the current day.

TOTAL QUANTITY
This parameter displays the quantity distributed to all drops for the current day.

ACTUAL DROP
This parameter displays the drop to which the batch weighing system is distributing. The Drop # relay will activate when this parameter displays the same number.

ACTUAL PHASE
This parameter displays the actual phase of the batch weighing system. The phases are:

- **Inactive**. The batch weighing system does not activate any relays.
- **Fill**. The batch weighing system activates *DROP # BIN FEED AUGER, DROP # DISTRIBUTION FEED AUGER* and the actual drop relay. This phase ends when the batch weighing system scale detects a weight equal to or greater than *MAXIMUM WEIGHT* or when the ACTUAL TARGET WEIGHT is reached for the cycle. The batch weighing system then changes the actual phase to Fill Weigh. If the remaining weight for the cycle is less than twice the *MAXIMUM WEIGHT*, the last two weightings will be equal to half the remaining amount.
- **Fill Weigh**. The batch weighing system activates *DROP # DISTRIBUTION FEED AUGER* and the actual drop relay. It saves the measured weight as the fill weight. This phase lasts 5 seconds. After this delay, the batch weighing system then changes the actual phase to Transfer.
- **Transfer**. The batch weighing system activates *DROP # DISTRIBUTION FEED AUGER*, *DROP # FEEDER* and the actual drop relay, as well as the Distribution Panel. This phase ends when the batch weighing system scale detects a weight equal to or lesser than *MINIMUM WEIGHT*. After this phase, the batch weighing system will go to the Empty Weigh phase.

- **Empty Weigh.** The batch weighing system records the difference between the fill weight and the actual weight and will add this amount to the DROP # QUANTITY. All relays activated during the Transfer phase will remain active. This phase lasts for *EMPTY WEIGH DELAY*. After this delay, the batch weighing system changes the actual phase to fill if the target weight is not satisfied or Distribution if the target weight is reached.
- **Distribution.** The batch weighing system activates *DROP # DISTRIBUTION FEED AUGER*, *DROP # FEEDER* and the actual drop relay. This phase lasts for *DROP # DISTRIBUTION DURATION*. After this delay, the batch weighing system goes to the Feeder phase.
- **Feeder.** The batch weighing system activates *DROP # FEEDER* and the actual drop relay. This phase lasts for *DROP # FEEDER DURATION*. After this delay, the batch weighing system cycle will be complete.
- **Pause.** The batch weighing system is in the pause state, no relay related to the system will be activated during this state.

ACTUAL CYCLE
This parameter displays the current cycle. Each drop can have up to 10 cycles per day.

NEXT DROP
This parameter displays the next drop that will be activated.

TIME NEXT DROP
This parameter displays the time at which the next drop will activate.

BATCH LOADER SETTINGS

NUMBER OF DROPS
This parameter is used to set the number of drops that will be used by the batch weighing system. A relay must be assigned to a drop to direct the distribution of the batch weighing system.

MINIMUM WEIGHT
This parameter is used to set the weight at which the transfer phase will end. When the ACTUAL WEIGHT measured by the batch weighing system scale is equal to or lesser than this value, the transfer phase will end.

PRECISION
This parameter is used to adjust the weighing accuracy of the batch loader scales. The weighing is considered valid when the weight reaches the target weight with an accuracy equal to the value set in this parameter.

ZERO CALIBRATION
This parameter allows the user to start a calibration process that will determine the weight at which the scale will consider the weight to be zero (grams or pounds). To correctly evaluate the weight on the scale, the exact weight read when nothing is on the scale must be known. The scale must be emptied of all matter and this parameter pressed. This parameter's message will change to indicate the status of the zero calibration sequence.

GAIN CALIBRATION
This parameter allows the user to start a calibration process that will determine the gain of the scale. To correctly evaluate the gain of the scale, the variation of the electrical signal according to two known weights must be known, i.e. the weight when the scale is empty and the *CALIBRATION WEIGHT*. A weight precisely equal to the *CALIBRATION WEIGHT* must be placed on the scale and this parameter pressed to start a gain calibration sequence. This parameter's message will change to indicate the status of the gain calibration.

CALIBRATION WEIGHT
This parameter allows the user to set the weight used for the calibration process. When calibrating the gain, the weight on the scale must be exactly the same as the one set here. The heavier the weight is, the better the precision will be.

END FILL WEIGHT
This parameter is used to set the weight at which the batch weighing system will start evaluating each feed auger activation to attain increased precision. When the amount of weights needed to complete the drop cycle reaches the weight set at this parameter, the batch weighing system will activate the bin feed auger for a small amount of time, after which it will verify the weight again and repeat until the weight for the cycle is fully distributed.

END FILL TIME
This parameter is used to determine the minimum bin feed auger activation time during the end fill period. When there remains a feed weight equal to or lower than *END FILL WEIGHT* to complete the cycle, the bin feed auger will activate for a short period and verify the scale weight. The activation time will be equal to or greater than the time set here.

END FILL ALARM
This parameter is used to activate or deactivate the end fill alarm. If the batch loader is executing the end fill period for a duration superior to the feed auger maximum limit, the feed auger maximum limit alarm will activate.

MAXIMUM PHASE TIME
This parameter is used to set the maximum amount of time a batch weighing system phase can last before triggering the alarm. If the batch weighing system remains at a phase other than Inactive for this amount of time, the Batch Loader Sequence Error alarm will be triggered.

WEIGHT MANAGEMENT
This parameter is used to set the weight management by cycle or by drop. If set by cycle, the target weight will have to be configured for each cycle of each drop.

BIN FEED AUGER MANAGEMENT
This parameter is used to set the bin feed auger management by cycle or by drop. If set by cycle, the bin feed augers will have to be configured for each cycle of each drop.

REINITIALIZE SEQUENCE
This parameter is used to reinitialize the batch weighing system sequence. When this parameter is pressed, the batch weighing system will re-evaluate its actual drop and cycle according to the time of day and will start the appropriate cycle.

REINITIALIZE VALUES
This parameter is used to reinitialize the batch weighing system values. When this parameter is pressed, all batch weighing system values will be reinitialized.

BATCH WEIGHING PAUSE
This parameter is used to pause the batch weighing system sequence. When this parameter is pressed, the system stops evaluating drops and cycles as well as any inputs and outputs related to this system. Pressing this button again allows the system to resume operation as it was left when it was suspended.

DISTRIBUTION FEED AUGER DURING FILLING
This is used to either activate or deactivate the distribution feed auger during the two filling phases. When this parameter is set to ON, the distribution feed auger's output will be activated during the two filling phases.

DROP SETTINGS

USAGE MODE
This parameter is used to choose if the schedule and or manual mode will be used. If this option is set to Schedule, *DROP # START TIME CYCLE #*will be used to determine the times at which the different drops will distribute feed or if activation will be done manually. If this option is set to Manual, the batch weighing system will activate the drops once when MANUAL ACTIVATION is pressed.

DIVIDE WEIGHT
This parameter is used to determine the method with which the target weight will be divided to the drops. The weight can be set globally, per zone or per drop. If the weight is set globally or per zone, a percentage must be entered to distribute the weight for each individual drop.

WEIGHT METHOD
This parameter is used to determine the method with which the target weight of the drops will be evaluated. If this parameter is set to Total, the batch weighing system will distribute the adjusted weight. If this parameter is set to Per Animal, the batch weighing system will multiply the weight adjusted by the number of animals that are served by the respective drop to determine the weight it must distribute in a cycle. It is important to properly assign zones to the drop when the Per Animal method is used.

NUMBER OF CYCLES
This parameter is used to set the number of cycles that a drop will execute each day. When a cycle is activated here, its start time will be visible in the drop schedule.

MAXIMUM WEIGHT
This parameter is used to set the maximum weight the batch weighing system can put in the batch weighing scale for that drop. When a cycle's target weight is lesser than the weight adjusted here, it will be distributed in a single sequence. When a cycle's target weight is greater than the weight adjusted here, it will be distributed in multiple sequences, each one distributing the amount adjusted here. Distributing weight in multiple sequences allows for greater precision in regards to the total weight distributed.

MINIMUM TIME BETWEEN TRANSFERS
This parameter is used to set the minimum time between two transfers. If the batch weighing system has filled its scale and is ready to transfer, it will evaluate the minimum time that has elapsed since the last transfer. If the time since the last transfer is less than the value adjusted here, it will wait until the time value set for this parameter has elapsed before moving to the transfer phase.

DISTRIBUTION DURATION
This parameter is used to set the time for which the distribution phase will last. This time must be sufficient to allow the distribution feed auger to distribute all the feed in its drop.

FEEDER ADDITIONAL TIME
This parameter is used to set the time for which the feeder phase will last. This time allows the drop's feeder to be activated after the distribution phase.

EMPTY WEIGH DELAY
This parameter is used to set the time for which the empty weigh phase will last.

DISTRIBUTION FEED AUGER ON DELAY
This parameter is used to set the time for which the distribution feed auger will be active when it has an activation demand.

DISTRIBUTION FEED AUGER OFF DELAY
This parameter is used to set the time for which the distribution feed auger will be inactive when it has an activation demand. The feed auger will be continuously active when it has an activation demand if this parameter is set to 0:00.

BIN FEED AUGER
This parameter is used to select the feed augers used during the fill phase of the batch weighing system.

DISTRIBUTION FEED AUGER
This parameter is used to select the feed auger used during the distribution phase of the batch weighing system.

FEEDER
This parameter is used to select the feeder used during the distribution and feeder phases of the batch weighing system.

DROP CYCLE SCHEDULE

START TIME CYCLE #
This parameter is used to set the time at which each cycle of each drop will start. The cycle ends when the required quantity has been distributed to the drop.

WEIGHT CYCLE #
This parameter is used to set the target weight for the respective cycle. This parameter is only visible if the *WEIGHT MANAGEMENT* option is set by cycle.

BIN FEED AUGER CYCLE #
This parameter is used to set the bin feed augers for the respective cycle. This parameter is only visible if the *BIN FEED AUGER MANAGEMENT* option is set by cycle.

DROP WEIGHT SETTINGS

TARGET WEIGHT

This parameter is used to set the weight that will be distributed by the batch weighing system in schedule mode. If the weight is entered globally or per zone, the weight can be entered as a total quantity or a quantity per animal. In this case, a percentage must be entered for each drop. If *DIVIDE WEIGHT* is set to Per Drop, the weight must be entered as a total quantity for that drop.

TARGET WEIGHT TO THE TENTH

This parameter is used to set the precision of the weight to be distributed when the weight distribution is per drop. If *TARGET WEIGHT TO THE TENTH* is Yes, the precision of the *TARGET WEIGHT* will be to the tenth of a kilogram, otherwise, it will be to the nearest one kilogram.

QUANTITY INCREASE

This parameter is used to set the amount by which the *TARGET WEIGHT* will increase each time an amount of days equal to *INCREASE FREQUENCY* has passed. If *INCREASE FREQUENCY* is not set to OFF, the *TARGET WEIGHT* will increase by this amount every time a number of days equal to *INCREASE FREQUENCY* has gone by.

INCREASE FREQUENCY

This parameter is used to set the frequency at which the *TARGET WEIGHT* will increase. If *INCREASE FREQUENCY* is set to OFF, this function will be disabled. Otherwise, the *TARGET WEIGHT* will increase by *QUANTITY INCREASE* every time a number of days equal to this parameter has gone by.

DIVIDE WEIGHT BY DROP

These parameters are used to set the weight division between the drops. When *DIVIDE WEIGHT* is set to Global or Per Zone, each drop will distribute a percentage of the *TARGET WEIGHT* according to the value adjusted here.

CALCULATED WEIGHT

This parameter displays the weight for the drop, calculated according to the different settings. This weight is the weight that will be distributed each cycle by the respective drop.

WEEKLY SCHEDULE

FEED DAY WEEK (1-2)

These parameters are used to determine if the batch weighing system will feed for a given day of the schedule. If an option is set to Yes, the batch weighing system will perform its cycles for that day. If an option is set to No, the batch weighing system will not distribute any feed in Schedule mode that day.

ACTUAL WEEK

This parameter displays and allows the user to adjust the current week of the weekly schedule. The weekly schedule has two weeks and the number of the week will toggle between Week 1 and Week 2 every time the day of the week changes from Saturday to Sunday. The user can change the actual week at any moment by modifying this parameter.

ACTUAL WEEK DAY
This parameter displays the actual week day in order to improve weekly schedule management and verification.

MANUAL OPERATION

MANUAL ACTIVATION
This parameter is used to activate the batch weighing system when the schedule is not used. When this parameter is pressed, the batch weighing system will distribute the amount of feed assigned for each drop once. During distribution, this parameter will display CYCLES IN PROGRESS. Once each drop has distributed its amount of feed, this parameter will display CYCLES COMPLETED. It will display ACTIVATE CYCLES when the date changes.

TARGET WEIGHT
This parameter is used to set the weight that will be distributed by the batch weighing system in manual mode. If the weight is entered globally or per zone, the weight can be entered as a total quantity or a quantity per animal. In this case, a percentage must be entered for each drop. If *DIVIDE WEIGHT* is set to Per Drop, the weight must be entered as a total quantity for that drop.

DIVIDE WEIGHT BY DROP
These parameters are used to set the weight division between the drops. When *DIVIDE WEIGHT* is set to Global or Per Zone, each drop will distribute a percentage of the *TARGET WEIGHT* according to the value adjusted here.

CALCULATED WEIGHT
This parameter displays the weight for the drop, calculated according to the different settings. This weight is the weight that will be distributed in manual operation by the respective drop.

BIN FEED AUGER
This parameter is used to select the bin feed auger which will be activated for the selected drop when in manual operation.

MULTI-FEED SYSTEM

SYSTEM STATUS
This parameter shows the state of the system, either ON or OFF. When the system is OFF, no cycle can start. When the system status changes from OFF to ON, the cycles whose activation time has already passed will not be executed.

PROXIMITY SWITCH # STATE
These parameters display the current state of the proximity switches.

ACTUAL CYCLE
This parameter shows the number of the currently active cycle. If there is no cycle currently active, the parameter displays NONE.

ACTUAL BIN
This parameter shows the number of the bin currently active. If there is no bin currently active, the parameter displays NONE.

POSITIONER REQUESTED POSITION
These parameters display the requested position of the positioner. Note that this is the requested position and not necessarily the actual position of the positioner.

POSITIONER ACTUAL POSITION
These parameters display the actual position of the positioner. The actual positions are displayed to the nearest 1% from -99% to 127%. However, if the controller cannot read the position, the corresponding parameter will display ERROR.

ACTUAL PHASE
This parameter displays the phase at which the cycle's actual bin is. If there is no bin currently active, the parameter displays NONE.

REINITIALIZE
This parameter is used to reinitialize the multi-feed sequence. When the multi-feed system is reinitialized, all cycles whose start time has already passed will not be executed.

MULTI-FEED SETTINGS

CYCLES USED
This parameter is used to decide if the cycle will be used by the system. When the parameter is set to ON, the cycle will be used by the system. If this parameter is set to OFF, the cycle will not be considered by the controller.

CYCLE START
This parameter is used to select the start time of the cycle. When the time of day reaches this value, the respective cycle will start.

ACTIVE BINS
These parameters are used to select which bins will be used during the cycle. A bin that is not selected will not activate for the respective cycle.

FEEDER
These parameters are used to select which feeder will be associated to the respective cycle. The feeder will activate during the Feeding, Feeder and Purge phases.

FEEDER TIMER
This parameter is used to adjust the run time of the feeder after the feeding phase. During that time, only the feeder is activated.

PURGE TIMER
This parameter is used to adjust the time given the feeder to purge the left over. During that time, only the feeder is activated.

ALARM OPTION
This parameter is used to determine if the alarm can be triggered by a multi-feed system problem or not. If this parameter is set to ON, the alarm will sound when a problem is detected on the multi-feed system. If this parameter is set to OFF, only a message will be logged when a problem is detected on the multi-feed system.

MULTI-FEED BINS

FEED TIMER

These parameters are used to set the time of the feeding timers for each bin. This time represents the maximum time to fill a feeder. If a feed auger is active for at least this amount of time and the corresponding micro-switch is still active, an alarm is activated and the bin will be considered unusable. The multi-feed system will use the backup bin or move on to the next bin in the cycle according to user settings.

FEED ON PERIOD

These parameters are used to adjust the length of the bin's ON periods during the feeding phase. If the sum of ON periods is greater than the feeding timer delay, the alarm will start.

FEED OFF PERIOD

These parameters are used to adjust the length of the bin's OFF periods during the feeding phase. During this period, the feed auger is stopped. If this parameter is set to 0, the bin will continuously be ON.

FEED AUGER

These parameters are used to select which feed auger will be used with the respective bin. The feed auger will be activated during the ON time of the feed timer.

PROXIMITY SWITCH

These parameters are used to select which proximity switch will be used with the respective bin. The proximity switch determines the end of the Feeding phase.

WAITING TIMER

This parameter is used to adjust the time given to animals to finish eating.

CYCLE START NON-DETECTION TIME

These parameters are used to set the time during which the proximity switch will not be checked when a Feeding phase begins. When a Feeding phase starts, the proximity switch input will not be checked for the time adjusted here. Once this delay has expired, the system will check the proximity switch input and a Feeding phase will end if that input has been activated for *STOP CYCLE DETECTION FILTER.*

STOP CYCLE DETECTION FILTER

These parameters are used to set the time for which proximity switch needs to be activated to end a Feeding phase. When a Feeding phase starts, the proximity switch input will not be checked for *CYCLE START NON-DETECTION TIME*. Once this delay has expired, the system will check the proximity switch input and a Feeding phase will end if that input has been activated for the time adjusted here.

BIN POSITION

These parameters are used to set the position of the positioner when the corresponding bin is active.

BACKUP BIN

These parameters are used to select the backup bin for each bin. If the parameter value is ---, the bin has no backup. If the minimum time alarm or the maximum time alarm is active for a feed auger, the backup bin will be used instead of the faulty feed auger's bin. If there is a problem with the backup bin, its backup will be used. If a faulty bin has no bin or its backup bin has already been used as a backup during the cycle, the system will wait for the feeding timer to stop, the alarm will start and the system will stop. When a backup bin is used, the position of the positioner, the time of the feeding timer, ON/OFF periods and the waiting timer will be those of the faulty bin. This parameter can be set to --- or a value from 1 to 4.

MULTI-FEED POSITIONERS

MANUAL OVERRIDE

This parameter is used to manually operate the positioner. When this parameter is set to a value other than AUTO, the positioner will take the corresponding state/position.

PRECISION

This parameter is used to adjust the precision of the positioner. If the positioner performs unnecessary small movements, increase this value until acceptable stability is obtained. When this value is increased, a greater difference between the actual position and the requested position will be required to make the positioner move.

POTENTIOMETER ALARM

This parameter is used to determine if the alarm will be activated when the positioner's potentiometer value cannot be read. If this option is set to ON and the positioner's potentiometer has an out of range reading, the alarm relay will activate. If this option is set to OFF, only an alarm message will be logged in the alarm history in the case of a potentiometer problem.

MAXIMUM RUN TIME

This parameter is used to set the maximum run time of the positioner within a ten-minute period. When a positioner has moved for a time greater than the value of this parameter within a ten-minute period, the module will not activate the open or close relays until the positioner has had time to cool down and an alarm message is logged in the alarm history. This value should be set according to the manufacturer's specifications. Setting this value to OFF will deactivate the module cool down function. If the air positioner is already in cool down mode when this parameter is set to OFF, it will finish the cool down period before deactivating the function. It is possible to cancel the cool down sequence immediately by powering off the controller and powering it back on. Make sure this parameter is set to OFF before powering down to cancel the cool down sequence.

LOW LIMIT CALIBRATION

This parameter is used to set the low potentiometer limit for the positioner. This will define the lowest value the positioner's potentiometer can reach. To obtain this value, completely close the positioner using the manual override switch. Once the positioner is completely closed, press on this parameter. The displayed text will change to *Low Limit Saved* if the operation was successful, *Cannot Save Low Limit* if the potentiometer value could not be saved, or *Error, Check Potentiometer* if the potentiometer has an out of range value. In the two last cases, the calibration must be performed again once the situation is corrected.

HIGH LIMIT CALIBRATION

This parameter is used to set the low potentiometer limit for the positioner. This will define the lowest value the positioner's potentiometer can reach. To obtain this value, completely open the positioner using the manual override switch. Once the positioner is completely closed, press on this parameter. The displayed text will change to *High Limit Saved* if the operation was successful, *Cannot Save High Limit* if the potentiometer value could not be saved or *Error, Check Potentiometer* if the potentiometer has an out of range value. In the two last cases, the calibration must be performed again once the situation is corrected.

POTENTIOMETER INPUT

This parameter is used to select which potentiometer input the positioner will use. A positioner can have a feedback potentiometer assigned to operate it. The positioner calibration must be performed after the potentiometer is assigned. If this value is set to "---", the positioner will be used in time mode.

TOTAL RUN TIME

This parameter is used to determine the total run time of the positioner. The total run time is the time the positioner takes to go from a completely closed position to a completely open position. Time Mode positioners will use this value to convert the requested position (in percentage) to a requested run time.

EGG COUNTER

QUANTITY

These parameters display or allow the user to adjust the amount of eggs counted by the egg counter for the current day. If an egg counter is selected as a type on one of the controller's input, its count will be displayed. If an egg counter is used in manual mode by activating *EGG COUNTER # MANUAL MODE*, the value will be adjustable from 0 to 999999 eggs. If the egg counter is not used in manual mode, it will be displayed to the nearest egg from 0 to 999999 eggs.

EGG COUNTER TOTAL

This parameter displays the total amount of eggs of the automatic and manual egg counters.

GLOBAL LAYING PERCENTAGE

This parameter displays the egg laying percentage of all the remaining animals. Its value is the result of (*EGG COUNTER TOTAL* / Sum of all remaining animals in each group) * 100.

EGGS MANUAL WEIGHT 1-5

These parameters allow the user to adjust the total weight of the eggs counted by the egg counters. The values of these parameters are displayed with a resolution of 0.01kg/lb from 0.00 to 327.37 kg/lb.

REINITIALIZE

This parameter is used to reset the quantity of the respective egg counter. When this parameter is pressed, the quantity of the respective egg counter will be reset to 0, the egg counter total will be adjusted accordingly, and this parameter will display Done at the end of the operation.

CONVEYOR STATE

This parameter displays the actual state of the egg conveyor.

CONVEYOR COUNT
This parameter displays the number of eggs counted by the conveyor since its last activation.

EGG COUNTER OPTIONS

EGG COUNTER # MANUAL
These parameters are used to activate or deactivate the manual count feature for the respective egg counter. Each egg counter can be used in manual mode, in which case the amount of eggs in QUANTITY will become adjustable.

EGG COUNTERS SELECTION FOR TOTAL
This parameter is used to select the egg counters that will be considered to count the total number of eggs per period and per count.

AMOUNT OF EGGS ACTIVATE CONVEYOR
This parameter is used to set the amount of eggs that must be counted by the conveyor to cause it to activate. Each time the number of eggs counted by the egg counters selected at *CONVEYOR COUNTER SELECTION* reaches this value, the conveyor will activate for *CONVEYOR ACTIVATION TIME*.

CONVEYOR ACTIVATION TIME
This parameter is used to set the time during which the conveyor will activate. Every time the number of eggs counted by the egg counters selected at *CONVEYOR COUNTER SELECTION* reaches *AMOUNT OF EGGS ACTIVATE CONVEYOR*, the conveyor will activate for this amount of time.

CONVEYOR COUNTER SELECTION
This parameter is used to select which egg counters will be included in the egg conveyor count. If an egg counter is selected here, the amount of eggs it counts will be included in the CONVEYOR COUNT.

EGG MANAGEMENT

EGG STRAP REQUESTED SPEED
These parameters display the requested speed for the respective egg strap output.

EGG ELEVATOR REQUESTED SPEED
These parameters display the requested speed for the respective egg elevator output.

EGG CONVEYOR REQUESTED SPEED
These parameters display the requested speed for the respective egg conveyor output.

ACTIVATE PICKING
Pressing this parameter when the “Start Picking” message is visible activates the egg picking for the respective conveyor. It is also possible to prematurely stop the egg picking by pressing on this parameter when the “Stop Picking” message is visible. The “Stop Picking” message will be visible as long as the picking is active, after which the “Start Picking” message will be visible again.

PRE-PICKING PER EGG STRAP
This parameter is used to activate the pre-picking per egg strap mode where each egg strap has start and end times, run and idle times, speeds and elevator and conveyor associations.

PRE-PICKING

PRE-PICKING STATUS

This parameter displays the current status of the pre-picking. “Inactive” indicates that no pre-picking is ongoing. “In Progress” indicates that a pre-picking is ongoing and running normally. “Security Stop” indicates that the ongoing pre-picking was stopped by one of the pre-picking safeties. “Conveyor Alarm” indicates that no pre-picking is ongoing but the conveyor alarm is active. A pre-picking cannot be started while the conveyor alarm is active.

PRE-PICKING START TIME1-5

This parameter is used to set the time at which pre-picking will begin. When the time of day reaches this value, the egg straps, egg conveyors and egg elevators will activate at their pre-picking speed for *PRE-PICKING RUN DURATION* and then deactivate for *PRE-PICKING IDLE DURATION*. This cycle continues until *PRE-PICKING END TIME* is reached.

PRE-PICKING END TIME1-5

This parameter is used to set the time at which pre-picking will end. When the time of day reaches this value, the egg straps, egg conveyors and egg elevators will no longer be activated for pre-picking.

PRE-PICKING RUN DURATION

This parameter is used to set the run time for the pre-picking cycle. When the time of day reaches *PRE-PICKING START TIME*, the egg straps, egg conveyors and egg elevators will activate for this amount of time and remain inactive for *PRE-PICKING IDLE DURATION*.

PRE-PICKING IDLE DURATION

This parameter is used to set the idle time for the pre-picking cycle. When the time of day reaches *PRE-PICKING START TIME*, the egg straps, egg conveyors and egg elevators will activate for *PRE-PICKING RUN DURATION* and then remain inactive for this amount of time.

EGG STRAP PRE-PICKING SPEED

These parameters display the speed the respective egg strap output will take during the run time of the pre-picking cycle.

ELEVATOR ASSOCIATION

These parameters are used to associate egg elevators to the egg strap when the pre-picking mode is per egg strap. The elevators selected here will be activated at the speed defined at *EGG ELEVATOR PRE-PICKING SPEED* during the run time of the pre-picking.

EGG ELEVATOR PRE-PICKING SPEED

These parameters display the speed the respective egg elevator output will take during the run time of the pre-picking cycle.

CONVEYOR ASSOCIATION

These parameters are used to associate egg conveyors to the egg strap when the pre-picking mode is per egg strap. The conveyors selected here will be activated at the speed defined at *EGG CONVEYOR PRE-PICKING SPEED* during the run time of the pre-picking.

EGG CONVEYOR PRE-PICKING SPEED

These parameters display the speed the respective egg conveyor output will take during the run time of the pre-picking cycle.

EGG PICKING - EGG PICKING

EGG STRAP SELECTION
This parameter is used to select which of the active egg straps are to be assigned to the respective egg picking.

EGG CONVEYOR SELECTION
This parameter is used to select which of the active egg conveyors are to be assigned to the respective egg picking.

STOP QUANTITY
This parameter is used to set the maximum number of eggs counted by all the egg straps assigned to the respective egg picking, after which the egg picking will end.

STOP TIME
This parameter is used to set the maximum duration for which the amount of eggs counted can be below *STOP QUANTITY.* After this duration, the egg picking will end. If the amount of eggs counted is under *STOP QUANTITY* when this duration has been reached, the conveyors as well as all the egg straps assigned to the egg picking will continue at their current speed for *ADDITIONAL TIME* after which they will stop.

ADDITIONAL TIME
This parameter is used to set the maximum duration the conveyor will continue to operate when *CONVEYOR STOP TIME* is reached.

EGG PICKING - EGG STRAP

EGG COUNTER SELECTION
This parameter is used to select which of the active egg counters are to be assigned to the respective egg strap.

EGG ELEVATOR SELECTION
This parameter is used to select which of the active egg elevators are to be assigned to the respective egg strap. The elevators selected here will always be activated at the speed of the egg strap to which they are assigned.

EGG TARGET
This parameter is used to set the desired hourly egg count for each egg strap.

EVALUATION FREQUENCY
This parameter is used to set the frequency at which the egg count for the respective egg strap will be evaluated. The speed of the egg strap will be evaluated in terms of the number of eggs counted since the last evaluation compared to *EGG STRAP EGG TARGET.*

TOLERANCE
This parameter is used to set an hourly egg count tolerance for the respective egg strap.

MINIMUM SPEED
This parameter is used to set the minimum speed for the egg strap. The speed of the egg strap will not go down below this value.

MAXIMUM SPEED
This parameter is used to set the maximum speed for the egg strap. The speed of the egg strap will not go over this value.

ACCELERATION
This parameter is used to set the speed percentage increase of the respective egg strap when the egg count for the egg strap is lower than *EGG STRAP EGG TARGET - EGG STRAP TOLERANCE*.

DECELERATION
This parameter is used to set the speed percentage decrease of the respective egg strap when the egg count for the egg strap is higher than *EGG STRAP EGG TARGET + EGG STRAP TOLERANCE*.

ADDITIONAL TIME
This parameter is used to set the duration during which the respective egg strap will continue to operate when *CONVEYOR STOP TIME* is reached but before *CONVEYOR STOP QUANTITY* is reached.

EGG COUNT PER PERIOD

TOTAL
This parameter displays the total amount of eggs counted in each period of each count.

CURRENT COUNT
These parameters display the cumulative amount of eggs counted during each period of each respective count.

TIME # START
These parameters are used to set the time at which the Egg Count Period will start.

TIME # END
These parameters are used to set the time at which the Egg Count Period will end.

TIME # EGG STRAP SPEED #
These parameters are used to set the speed of the egg strap during the period. If this parameter is set to OFF, the controller will disregard this parameter when evaluating egg strap speed.

TIME # EGG ELEVATOR SPEED #
These parameters are used to set the speed of the egg elevator during the period. If this parameter is set to OFF the controller will disregard this parameter when evaluating egg elevator speed.

TIME # EGG CONVEYOR SPEED #
These parameters are used to set the speed of the egg conveyor during the period. If this parameter is set to OFF, the controller will disregard this parameter when evaluating egg conveyor speed.

ACTIVATE PICKING
Pressing this parameter when the “Start Picking” message is visible activates manual egg picking. To stop manual egg picking, press on this parameter when the “Stop Picking” message is visible.

MANUAL MODE EGG STRAP SPEED #
These parameters are used to set the speed of the egg strap during the manual activation.

MANUAL MODE EGG ELEVATOR SPEED #
These parameters are used to set the speed of the egg elevator during the manual activation.

MANUAL MODE EGG CONVEYOR SPEED #
These parameters are used to set the speed of the egg conveyor during manual activation.

PRE-PICKING SAFETY

STATE READING ASSOCIATION
This parameter is used to associate a state reading # input to the given egg conveyor for the broken egg conveyor detection.

TIME FOR BROKEN CONVEYOR ALARM
This parameter is used to set a consecutive duration for which the associated input must be active for the conveyor to be detected as being defective. No pre-picking sequence can be activated while the conveyor alarm is active.

GENERIC COUNTER ASSOCIATION
This parameter is used to associate a generic counter input to the pre-picking.

PRE-PICKING SAFETY STOP
This parameter is used to set an amount of eggs detected by the associated generic counter which will stop the current pre-picking.

REINITIALIZE
This parameter is used to reinitialize the state of the pre-picking safeties. A pre-picking period stopped by one of the safeties can only be reactivated by reinitializing the pre-picking safeties.

EGG SAVER

REQUESTED STATE
This parameter displays the requested state for the egg saver.

START TIME CYCLE #
These parameters are used to set the time at which the respective egg saver cycle will start.

END TIME CYCLE #
These parameters are used to set the time at which the respective egg saver cycle will end.

RUN TIME CYCLE #
This parameter is used to set the run time for the egg saver cycle. When the time of day reaches *START TIME CYCLE #* the egg saver will activate for this amount of time and then remain inactive for *IDLE TIME CYCLE #.*

IDLE TIME CYCLE #
This parameter is used to set the idle time for the egg saver cycle. When the time of day reaches *START TIME CYCLE #*, the egg saver will activate for *RUN TIME CYCLE #* and then remain inactive for this amount of time.

GENERIC COUNTER

GENERIC COUNTER
These parameters display the amount counted by each of the generic counter for the current day.

REINITIALIZE GENERIC COUNTER VALUES
These parameters are used to reset each generic counter. If this parameter is pressed, GENERIC COUNTER will be reset to zero.

ENERGY COUNTER

ENERGY COUNTER
This parameter displays the energy measered by the energy counter for the current day.

REINITIALIZE ENERGY COUNTER VALUE
This parameter is used to reset the energy counter. If this parameter is pressed, ENERGY COUNTER will be reset to zero.

WATER RESERVOIR

ACTUAL VOLUME
This parameter displays the actual volume as calculated by the level probe.

RESERVOIR VALVE REQUESTED STATE
This parameter displays the requested state for the respective reservoir valve.

RESERVOIR PUMP REQUESTED STATE
This parameter displays the requested state for the respective reservoir pump.

VALVE MODE
This parameter is used to determine if the valves will activate one at a time or all at once. If this parameter is set to *All*, all the valves will activate when a fill request is active. If this parameter is set to Sequence, the valves will activate one at a time for the respective *VALVE RUN TIME* when a fill request is active.

ACTIVE VALVE
This parameter displays the active valve that is used for the fill request in sequence mode. In sequence mode, when a fill request occurs, the valve that will activate is the valve displayed here. The active valve changes when it has completed its run time or when there is no longer a fill request. The user can manually change the active valve by changing the value of this parameter.

VALVE RUN TIME
This parameter is used to set the activation time for the respective valve when the valves are used in sequence mode. In sequence mode, when a fill request occurs, the *ACTIVE VALVE* will be activated for its run time. After the run time, the next valve will activate for its run time and so on.

TIME START FILL
This parameter is used to set the time at which fill requests will be allowed.

TIME END FILL
This parameter is used to set the time at which fill requests will no longer be allowed.

VOLUME START FILL
This parameter is used to set the volume at which a fill request will be active. If the ACTUAL VOLUME read by the level probe is equal to or less than the value adjusted here, a fill request will occur.

VOLUME END FILL
This parameter is used to set the volume at which a fill request will no longer be active. If the ACTUAL VOLUME read by the level probe is equal to or greater than the value adjusted here, the fill request will become inactive.

PUMP TURN ON VOLUME
This parameter is used to adjust the level of the reservoir from which the pump will be activated. If the ACTUAL VOLUME read by the level probe is greater than or equal to the value of this parameter, the reservoir pump will be activated.

PUMP SHUTOFF VOLUME
This parameter is used to adjust the level of the reservoir from which the pump will be deactivated. If the ACTUAL VOLUME read by the level probe is less than or equal to the value of this parameter, the reservoir pump will be deactivated.

VOLUME LOW ALARM
This parameter is used to set the volume at which a low alarm will occur. If the ACTUAL VOLUME read by the level probe is less than this parameter, the Reservoir Level Low alarm will be triggered.

VOLUME HIGH ALARM
This parameter is used to set the volume at which a high alarm will occur. If the ACTUAL VOLUME read by the level probe is greater than this parameter, the Reservoir Level High alarm will be triggered.

LEVEL PROBE

ACTUAL VOLUME
This parameter displays the actual volume as calculated by the level probe.

MINIMUM VOLUME
This parameter is used to set the minimum volume for level probe calibration. The controller will use this value to calculate its ACTUAL VOLUME.

MAXIMUM VOLUME
This parameter is used to set the maximum volume for level probe calibration. The controller will use this value to calculate its ACTUAL VOLUME.

MINIMUM CALIBRATION
This parameter is used to calibrate the minimum volume. When this parameter is pressed, the controller will record the *MINIMUM VOLUME* and associate that value to its actual current in order to calculate its ACTUAL VOLUME.

MAXIMUM CALIBRATION
This parameter is used to calibrate the maximum volume. When this parameter is pressed, the controller will record the *MAXIMUM VOLUME* and associate that value to its actual current in order to calculate its ACTUAL VOLUME.

WATER PRESSURE

ACTUAL VALUE
This parameter displays the actual water pressure as read by the assigned probe.

PH PROBE

PH READING
This parameter displays the actual pH as read by the probe.

CHLORINE PROBE

CHLORINE READING
This parameter displays the actual chlorine(mg/L) as read by the probe.

ATM

ROTATIONS PER MINUTE
This parameter displays the rotation speed as reported by the ATM module.

FARMGUARD - STATUS

EPS # TEMPERATURE
This parameter displays the electrical panel temperature as reported by the EPS module.

EPS # ROOM TEMPÉRATURE
This parameter displays the room temperature as reported by the EPS module.

EPS # CURRENT
This parameter displays the current as reported by the current sensor of the EPS module.

EPS # HEAT DETECTOR STATUS
This parameter is used to display the actual heat detector status read by the input of the active EPS modules. “FIRE” indicates that the contact input of the active EPS modules is shorted. “OK” indicates that the input contact of the active EPS modules is connected to a resistor of 1Kohms or 2Kohms. “ERROR” indicates that the input contact of the active EPS modules is open.

EPS # POWER DETECTOR STATUS
This parameter is used to display the actual power detector status read by the input contact of the active EPS modules. “FIRE” indicates that the input contact of the active EPS modules is shorted. “OK” indicates that the input contact of the active EPS modules is connected to a resistor of 1Kohms or 2Kohms. “ERROR” indicates that the input contact of the active EPS modules is open.

REINITIALIZE ALARMS CURRENT >500MA >1000MA
This parameter is used to reset the high current alarms >500mA and >1000mA. When one of these alarms occurs, press the parameter. This reset does not affect other alarms.

FARMGUARD - SETTTINGS

ACCESS CODE
This parameter is used to enter the code required to display the settings.

EPS SETTINGS

This parameter is used to display or hide the EPS settings. When the correct code is entered and the user presses on this parameter, the text of this parameter changes for "Hide", the access code is no longer visible and the EPS settings are now visible. Pressing on "Hide" will hide the settings and display the access code parameter. The settings will automatically be hidden after 10 minutes.

EPS # TEMPERATURE OPTION

This parameter is used to activate or deactivate the electrical panel temperature readings. If this option is set to ON, the TEMPERATURE will be visible and its value can be read. If this option is set to OFF, the TEMPERATURE will not appear.

EPS # HIGH TEMPERATURE ALARM

This parameter is used to adjust the high temperature limit. When the TEMPERATURE is greater than the *HIGH TEMPERATURE ALARM* value, the high temperature alarm will occur. Increase this value over the maximum value display "OFF". With this specific setting, this alarm will be disabled.

EPS # *HIGH RELATIVE TEMPERATURE ALARM*

This parameter is used to adjust the high relative temperature limit. When the TEMPERATURE is greater than the *HIGH RELATIVE TEMPERATURE ALARM* + ROOM TEMPERATURE value, the high temperature alarm will occur. Increase this value over the maximum value display "OFF". With this specific setting, this alarm will be disabled.

EPS # ROOM TEMPERATURE OPTION

This parameter is used to activate or deactivate the room temperature readings. If this option is set to ON, the ROOM TEMPERATURE will be visible and its value can be read. If this option is set to OFF, the ROOM TEMPERATURE will not appear.

EPS # HIGH ROOM TEMPERATURE ALARM

This parameter is used to adjust the high room temperature limit. When the ROOM TEMPERATURE is greater than the *HIGH ROOM TEMPERATURE ALARM* value, the high room temperature alarm will occur. Increase this value over the maximum value display "OFF". With this specific setting, this alarm will be disabled.

EPS # CURRENT OPTION

This parameter is used to activate or deactivate the current readings. If this option is set to ON, the CURRENT will be visible and its value can be read. If this option is set to OFF, the CURRENT will not appear.

EPS # HIGH CURRENT ALARM > 300MA

This parameter is used to adjust, for each module, the upper limit of a first current alarm level; this limit is set by default to 300mA. When the CURRENT is greater than the *HIGH CURRENT ALARM > 300MA* parameter value for at least *HIGH CURRENT ALARM DELAY*, the *EPS # Current # Too High > 300mA* alarm will occur. This parameter is adjustable in 1mA increments from 10mA to 15000mA. Increase this value over the maximum value display "OFF". With this specific setting, this alarm will be disabled.

EPS # HIGH CURRENT ALARM > 500MA
This parameter is used to adjust, for each module, the upper limit of a second current alarm level; this limit is set by default to 500mA. When the CURRENT is greater than the *HIGH CURRENT ALARM > 500MA* parameter value for at least *HIGH CURRENT ALARM DELAY*, the *EPS # Current # Too High > 500mA* alarm will occur. This parameter is adjustable in 1mA increments from 10mA to 15000mA. Increase this value over the maximum value display "OFF". With this specific setting, this alarm will be disabled.

EPS # HIGH CURRENT ALARM DELAY
This parameter is used to set the time delay for which the current reading must be higher than *HIGH CURRENT ALARM* for the high current alarm to activate.

EPS # HEAT DETECTOR OPTION
This parameter is used to indicate if heat detector is used. If this option is set to ON, the heat detector will be used and the HEAT DETECTOR STATUS will be visible. If this option is set to OFF, the heat detector will not be used.

GE-MGCB/485 STATUS

ID
This parameter displays the configured ID for the communication of the GE-EC or GE-HEBUS module.

MODULE
This parameter displays the type of module, which can be GE-EC or GE-HEBUS.

OUTPUT TYPE
This parameter displays the selected output type used to control the ventilator of the GE-EC module.

OUTPUT MANUAL MODE
This parameter defines the operating mode of the GE-EC ventilator. If set to Auto, the ventilator operates according to the demand from the logic assigned to *OUTPUT TYPE* or to manual operation settings. If set to OFF, the ventilator will stop. If set to MIN, the ventilator will run at the speed configured in *MINIMUM SPEED MANUAL MODE*. If set to MAX, the ventilator will run at full speed.

INTAKE OUTPUT TYPE
This parameter displays the selected output type used to control the intake ventilator of the GE-HEBUS module.

EXHAUST OUTPUT TYPE
This parameter displays the selected output type used to control the exhaust ventilator of the GE-HEBUS module.

RELAY TYPE
This parameter displays the selected output type used to control the valve relay of the GE-HEBUS module.

ZONE
This parameter displays the zone in which the various logics of the GE-EC or GE-HEBUS module will operate.

OUTPUT ACTUAL SPEED
This parameter displays the current speed (in RPM) of the GE-EC module ventilator.

INTAKE OUTPUT ACTUAL SPEED
This parameter displays the current speed (in RPM) of the intake ventilator of the GE-HEBUS module.

EXHAUST OUTPUT ACTUAL SPEED
This parameter displays the current speed (in RPM) of the exhaust ventilator of the GE-HEBUS module.

RELAY STATE
This parameter displays the status of the valve relay of the GE-HEBUS module.

OUTPUT POWER
This parameter displays the power output of the GE-EC module ventilator motor at its current speed.

INTAKE OUTPUT POWER
This parameter displays the power output of the intake ventilator motor of the GE-HEBUS module at its current speed.

EXHAUST OUTPUT POWER
This parameter displays the power output of the exhaust ventilator motor of the GE-HEBUS module at its current speed.

MOTOR OUTPUT TEMPERATURE
This parameter displays the current temperature of the GE-EC module ventilator motor.

INTAKE MOTOR OUTPUT TEMPERATURE
This parameter displays the current temperature of the intake ventilator motor of the GE-HEBUS module.

EXHAUST MOTOR OUTPUT TEMPERATURE
This parameter displays the current temperature of the exhaust ventilator motor of the GE-HEBUS module.

INPUT TEMPERATURE PRB1
This parameter displays the temperature from the PRB1 sensor of the GE-EC or GE-HEBUS module.

PRB1 INPUT TYPE
This parameter displays the type of PRB1 sensor, which can be Read-Only, Temperature #, or Recuperator Temperature.

OUTPUT STATUS (ERROR CODE)
This parameter displays the error code of the GE-EC module ventilator motor. The list of error codes is as follows :

Code	Description	Code	Description
0	normal	21	Motor Phase short circuit
1	DC-link over-voltage	22	Output phase lack
2	DC-link under-voltage	31	Communication error with master

3	DC-link voltage is too low	41	Current sensor circuit error
4	IPM over-current software protection	42	Inrush current preventing relay error
5	IPM over-current hardware protection	51	IPM temperature sensor circuit error
10	Electric-thermally protection for motor over-load	59	The motor is not responding.
11	Motor over speed	60	Motor rotor lock
13	IPM over temperature	61	DSP ROM error
16	Motor out of step	62	DSP RAM error
20	Earth short circuit	63	DSP watchdog error

INTAKE OUTPUT STATUS (ERROR CODE)

This parameter displays the error code of the intake ventilator motor of the GE-HEBUS module. The list of error codes is as follows :

Code	Description	Code	Description
0	normal	21	Motor Phase short circuit
1	DC-link over-voltage	22	Output phase lack
2	DC-link under-voltage	31	Communication error with master
3	DC-link voltage is too low	41	Current sensor circuit error
4	IPM over-current software protection	42	Inrush current preventing relay error
5	IPM over-current hardware protection	51	IPM temperature sensor circuit error
10	Electric-thermally protection for motor over-load	60	Motor rotor lock
11	Motor over speed	61	DSP ROM error
13	IPM over temperature	62	DSP RAM error
16	Motor out of step	63	DSP watchdog error
20	Earth short circuit	255	The motor is not responding

EXHAUST OUTPUT STATUS (ERROR CODE)

This parameter displays the error code of the exhaust ventilator motor of the GE-HEBUS module. (See the error codes in the previous table.)

SYSTEM CONFIGURATION

INSTALLATION MODE

This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

TYPE OF BREEDING

This parameter is used to select the type of breeding that will be managed by the controller. The type of breeding will determine which options will appear throughout the configuration. The type of breeding can be Gestation Pig, Maternity Pig, Boar Stud, Egg Breeder Pullet, Egg Breeder Layer, Broiler Chicken, Commercial Egg Pullet, Commercial Layer, Egg Breeder Turkey Poult, Egg Breeder Turkey, Broiler Turkey, Dairy Cow, Milk-Fed Veal, Grain-Fed Veal or Other.

Pork breeding types

Name	Day/Week	Pig Sorter
Gestation Pig	Day	No
Maternity pig	Day	No
Finisher pig	Day	Yes
Nursery pig	Day	No
Boar Stud	Day	No

Poultry breeding table

Name	Gain Chart	Ages	Day/Week	Poultry Scale	Egg Counter	Batch Weighing System
Egg breeder pullets	Yes	0-21	Week	Yes	No	Yes
Egg breeder layers	No	19-70	Week	Yes	Yes	Yes
Broiler chicken	Yes	0-100	Day	Yes	No	No
Commercial egg Pullet	Yes	0-21	Week	Yes	No	No
Commercial Layer	No	19-70	Week	Yes	Yes	No
Egg breeder turkey poults	Yes	0-30	Week	Yes	No	Yes
Egg breeder turkeys	No	26-70	Week	Yes	Yes	Yes
Broiler turkeys	Yes	0-24	Week	Yes	No	No

Bovine breeding table breeding table

Name
Dairy Cows
Milk-Fed Veal
Grain-Fed Veal

MODEL

This parameter is used to select the control type that will be used with the configuration. The first digit of the number represents the number of variable outputs physically installed on the controller while the last two represent the amount of ON/OFF outputs used. The available control types are Compact, 2 Variables 10 Relays, 2 Variables 15 Relays, 2 Variables 20 Relays, 2 Variables 25 Relays, 2 Variables 30 Relays, 4 Variables 10 Relays, 4 Variables 15 Relays, 4 Variables 20 Relays, 4 Variables 25 Relays, 4 Variables 30 Relays, 0 Variables 40 Relays, 0 Variables 35 Relays, 0 Variables 30 Relays, 0 Variables 25 Relays, 0 Variables 20 Relays, 0 Variables 15 Relays and 0 Variables 10 Relays.

NUMBER OF ZONES

This parameter is used to select the number of zones that will be managed by the controller. If a zone is activated here, it will be visible and selectable throughout the configuration. If a zone is not activated here, it will not be displayed or selectable. This parameter can be adjusted from 1 to 4 zones.

NUMBER OF GROUPS

This parameter is used to select the number of groups that will be managed by the controller. A group represents a set of animals that have the same age and weight. The age of a group will determine the values of all elements associated to that group that are using the **Ramping Function**. This parameter can be adjusted from 1 to 4 groups.

MORTALITY TYPE

This parameter is used to configure the mortality type to Simple or Detailed. If the type of mortality is set to simple, the inventory of animal mortality will be the sum of the *MORTALITIES* of all the zones, groups or pig sorters. When this parameter is configured to Detailed, the calculation of the total number of dead animals will be the sum of the *MORNING MORTALITIES*, *EVENING MORTALITIES* and *CULL MORTALITIES* of all the zones, groups or pig sorters.

INVENTORY MANAGEMENT TYPE

This parameter is used to select if the inventory will be managed by zone or by group. If this parameter is set to Zone, the quantity of animals, mortalities, added animals and shipped animals must be entered for each zone. If this parameter is set to Zone, the quantity of animals, mortalities, added animals and shipped animals can be entered for each group.

INITIAL AMOUNT OF ANIMALS REINITIALIZATION

This option is used to activate or deactivate the *INITIAL AMOUNT OF ANIMALS* parameter resetting when a breeding starts. If this option is set to ON, all *INITIAL AMOUNT OF ANIMALS* parameters of the zones, groups or pig sorters assigned to the group whose breeding is started, are reset to zero.

BLINK ON TOGGLE SWITCH MANUAL MODE

This parameter is used to select if the output LEDs will blink when an output is operated manually using its toggle switch. If this option is set to Yes, an output's LED will blink when the toggle switch is in a position other than AUTO. If this option is set to No, an output's LED will light up when the toggle switch is in the ON position and will shut off when the toggle switch is in the OFF position.

MULTI-FEED SYSTEM

This parameter allows the user to synchronise the different inputs and outputs to create the multi-feed system. If this parameter is set to ON, feeders, feed augers, positioners and feed bins can be grouped together to act like a multi-feed system.

HIDE FEEDERS/FEED AUGERS GROUPS WITH MULTI-FEED

This parameter is used to hide the Feeders/Feed Augers' groups. If this parameter is set to Yes, the groups of Feeders/Feed Augers will not appear but their different logics continue to work.

CONFIGURABLE VENTILATION STAGES

This parameter allows the user to activate the configurable ventilation stage feature. If this option is set to ON, the controller will consider outputs as ventilators instead of ventilation stages and the user will have to activate ventilation stages on the Options group of the respective zone and assign ventilators to every ventilation stage in order to activate the outputs.

AIRFLOW SETTINGS

This parameter is used to select the airflow setting that is to be used. If set to None, airflow will not be used. If set to Per Stage, it will be possible to set an airflow to each ventilation stage. If set to Per Ventilator, it will be possible to set an airflow to each ventilator assigned to a relay or variable output. **Note: This airflow logic is not compatible with Airflow Compare or Ventilation Stage Set Points inlet temperature compensation. The Per Ventilator setting is only compatible with the configurable ventilation stages logic.**

CFM+ VENTILATION

This parameter allows the user to activate CFM+ ventilation. If this option is set to ON, ventilation will be controlled through animal age, animal weight and outside temperature. CFM+ ventilation mode is available only for broiler chicken and broiler turkey.

CFM+ ventilation, Configurable Stages, per Stage Airflow

- The speed of the configurable stage is evaluated proportionally to the airflow capacity of the stage and the current ventilation requirement.
- The stages' progressive ventilators will be activated at the evaluated speed.
- Note 1: since the airflow is set for each stage, the controller cannot determine the airflow capacity of each individual ventilator when multiple ventilator selections are combined. The use of per ventilator airflow is suggested for such a configuration. For a more accurate evaluation of the airflow that a variable stage can provide, set the maximum and minimum speed of the stage depending on the ventilator selection used.
  - E.g. If only timer ventilators are used, set the maximum speed at the same value as the minimum speed.
    If only maximum speed ventilators are used, set the minimum speed at the same value as the maximum speed.
- Note 2: CFM+ timer is not compatible with this mode.

CFM+ ventilation, Configurable Stages, per Ventilator Airflow

- **Ventilator activation order to satisfy airflow requirement:**
  1. Ventilators assigned to a maximum speed selection are activated at the maximum speed of the stage.
  2. If the airflow requirement is not satisfied by the maximum speed ventilators, the speed of the ventilators assigned to a timer selection is, if applicable, evaluated from the stages' minimum to maximum speed in order to satisfy the requirement. The ventilators cannot be activated at a lower speed than the stages' minimum speed, even if the requirement is already satisfied.

3. If the airflow requirement is not satisfied by the timer ventilators, the speed of the ventilators assigned to a progressive speed selection is evaluated from the stages' minimum to maximum speed in order to satisfy the requirement. The ventilators cannot be activated at a lower speed than the stages' minimum speed, even if the airflow requirement is already satisfied.
4. If the airflow requirement is not satisfied by the progressive ventilators, the ON time of the CFM+ timer is evaluated from the minimum time to the maximum time in order to satisfy the requirement. The ON time of the CFM+ timer cannot be lower than the *TIMER MINIMUM TIME* nor can it be higher than the *TIMER MAXIMUM TIME*.

- If a timer 1-4 is used, step 4 is not performed since the activation time of timers 1-4 is not variable.

CFM+ ventilation, Non Configurable Stages, CFM+ timer

- The CFM+ timer is used when the airflow provided by the first ventilation stage at the stages' minimum speed exceeds the airflow requirement.
  - E.g. CURRENT REQUIREMENT: 2000 CFM
    Variable Stage 1 *AIRFLOW*: 10000 CFM
    Variable Stage 1 *MINIMUM SPEED*: 25%
    Minimum Airflow: 10000 * 25% = 2500 CFM
    Minimum Airflow exceeds airflow requirement, hence CFM+ timer is used.
- **Operation:**
  - As long as the minimum airflow of the first ventilation stage exceeds the requirement, all the stages using the CFM+ timer activate according to the timer.
    1. With the ON time of the timer set to *TIMER MINIMUM TIME*, the speed of the stages using the timer is evaluated from the minimum speed to the maximum speed of the respective stage in order to satisfy the requirement.
    2. If the requirement is not satisfied when the stages are at their *MAXIMUM SPEED* and the timer is activated for its minimum time, the ON time of the CFM+ timer is evaluated between *TIMER MINIMUM TIME* and *TIMER MAXIMUM TIME* in order to satisfy the requirement.

- When the minimum airflow of the first ventilation stage is lower than the requirement, the variable and ON/OFF stages are activated consecutively in order to satisfy the requirement. At this point, the CFM+ timer no longer affects operation of the stages.

- Note 1: the "Per Ventilator" *AIRFLOW SETTING* is not available in non-configurable stages.
- Note 2: when the minimum airflow of the first ventilation stage exceeds the requirement, only the stages that use the timer can be activated.

CFM+ ventilation, Non Configurable Stages, Timer 1-4

- In this mode, the first variable stage is always activated at least at its minimum speed.
- All the stages using a timer will be activated at least at their minimum speed for the ON time of the timer used, as long as they are not activated continuously to satisfy the airflow requirement. A stage activated continuously is not affected by timers.
- The variable and ON/OFF stages are activated consecutively in order to satisfy the airflow requirement that the timer activated stages do not satisfy.

EGG MANAGEMENT SYSTEM
This parameter is used to activate or deactivate egg management system.

TRANSFER BOX
This parameter is used to activate the Transfer Box. If this option is set to ON, the Transfer Box group will appear and the module will be checked for alarms.

MBUS OPTION
This parameter is used to activate the MBUS module and determine which type of device is connected to it. If this option is set to DCG-2020, the MBUS will monitor the DGC-2020 device and display the Generator Module group. If this option is set to BinTrac, the MBUS will monitor the BinTrac device and display the Bin Scales group.

CHANGE TEMPERATURE UNIT
This parameter is used to proceed with the temperature unit change. When the value of this parameter is changed, a confirmation question will appear. If the modification is confirmed, temperature unit change will be performed.

WATER METER UNIT
This parameter is used to select the water unit that will be used by the controller. The water meter unit can be either Litres or Gallons.

CHANGE STATIC PRESSURE UNIT
This parameter is used to proceed with the static pressure unit change. When the value of this parameter is changed, a confirmation question will appear. If the modification is confirmed, static pressure unit change will be performed.

WIND SPEED UNIT
This parameter is used to select the wind speed unit. The wind speed unit can be either km/h or mph.

AIRFLOW UNIT
This parameter is used to select the airflow unit that will be used. The airflow unit can be either CFM or M3H.

WEIGHT UNIT
This parameter is used to select the weight unit that will be used. The weight unit can be either gram or pound.

REVISION
This parameter displays the minor revision number of the current version of the program.

CURRENT DATE
This parameter displays the current date of the controller.

CURRENT TIME
This parameter displays the current time of the controller.

OUTPUT CONFIGURATION - MASTER CONTROLLER

INSTALLATION MODE
This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

VARIABLE SWITCH ALARM
This parameter is used to determine if the alarm will be triggered when a variable output's toggle switch (from the master controller) is set to a value other than AUTO. If this parameter is set to ON, a message will be logged and the alarm will be activated each time a variable output's toggle switch from the master controller is set to a value other than AUTO.

RELAY SWITCH ALARM
This parameter is used to determine if the alarm will be triggered when a relay output's toggle switch (from the master controller) is set to a value other than AUTO. If this parameter is set to ON, a message will be logged and the alarm will be activated each time a relay output's toggle switch from the master controller is set to a value other than AUTO.

(TYPE-ZONE-AIRFLOW) VARIABLE #
This parameter is used to assign a type and a zone to the variable output. The outputs that are not activated and their logics will be removed. The available outputs on this board are: Unused, Variable Stage #, Variable Stir Fan #, Lights #, Variable Heater #, Pressure fan #, Egg Strap #, Egg Elevator # or Egg Conveyor #. The airflow is visible and can be set only when the airflow setting is set to Per Ventilator and Variable Stage Type is used.

CURVE VARIABLE #

These parameters are used to change the motor curve of the variable output. This curve can vary according to the brand and the capacity of the motor. The different available motors have been regrouped in eight categories and a different curve has been programmed in the controller for each of these categories. The appropriate curve must be selected to ensure the voltage supplied by the controller is adequate. Refer to the annex section for more information on motor curves.

(TYPE-ZONE-AIRFLOW) RELAY #

These parameters are used to assign a type and a zone to the relay. The available outputs on all relays are: None, Ventilation Stage #, Stir Fan #, Heater #, Air Blust Heater #, A.B. Heater # Burner Cutoff, Floor Heater #, Clock #, Sprinkler #, Feeder #, Feed Auger #, High Water Alarm #, Water Flush #, Internal 0-10 Volt Relay #, Inflatable Inlet # Blower #, Drop #, Distribution Panel, Egg Conveyor, Cooling, Humidifier #, Dehumidifier, Disinfection, Reservoir Valve # and Reservoir Pump. Odd numbered relays will also have Inlet # Open, Trap Door# Open and Nest # Open as available output types, while even numbered relays will also have Inlet # Close, Trap Door# Close and Nest # Close as available output types. The airflow is visible and can be set only when the airflow setting is set to Per Ventilator and Ventilation Stage Type is used.

LOAD DELAY

This parameter is used to adjust the load delay of all relays set to the types ON/OFF ventilation stage or ON/OFF stir fan. The load management prevents any two relays from activating at the same time. The amount of time adjusted for the load delay will separate the activation of two or more relays.

OUTPUT CONFIGURATION - SLAVE MODULE #

INSTALLATION MODE

This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

VARIABLE SWITCH ALARM

This parameter is used to determine if an alarm will be triggered when a variable output's toggle switch (from the slave module) is set to a value other than AUTO. If this parameter is set to ON, a message will be logged and the alarm will be activated each time a variable output's toggle switch from the slave module is set to a value other than AUTO.

RELAY SWITCH ALARM

This parameter is used to determine if the alarm will be triggered when a relay output's toggle switch (from the slave module) is set to a value other than AUTO. If this parameter is set to ON, a message will be logged and the alarm will be activated each time a relay output's toggle switch from the slave module is set to a value other than AUTO.

(TYPE-ZONE-AIRFLOW) EXTERNAL VARIABLE #

This parameter is used to assign a type and a zone to the variable output. The outputs that are not activated and their logics will be removed. The available outputs on this board are: Unused, Variable Stage #, Variable Stir Fan #, Lights #, Variable Heater #, Pressure fan #, Egg Strap #, Egg Elevator # or Egg Conveyor #. The airflow is visible and can be set only when the airflow setting is set to Per Ventilator and Variable Stage Type is used.

CURVE EXTERNAL VARIABLE #

These parameters are used to change the motor curve of the variable output of the slave # module. This curve can vary according to the brand and the capacity of the motor. The different motors have been regrouped in eight categories and a different curve has been programmed in the controller for each of these categories. The appropriate curve must be selected to ensure the voltage supplied by the controller is adequate. Refer to the annex section for more information on motor curves.

(TYPE-ZONE-AIRFLOW) EXTERNAL RELAY (1-40)

These parameters are used to assign a type and a zone to the relay of the slave # module. The relay outputs that are not activated, as well as their logics, will be removed. The available outputs on all relays are: None, Ventilation Stage #, Stir Fan #, Heater #, Air Blust Heater #, A.B. Heater # Burner Cutoff, Floor Heater #, Clock #, Sprinkler #, Feeder #, Feed Auger #, High Water Alarm #, Water Flush #, Internal 0-10 Volt Relay #, Inflatable Inlet # Blower #, Drop #, Distribution Panel, Egg Conveyor, Cooling, Humidifier #, Dehumidifier, Disinfection, Reservoir Valve # and Reservoir Pump. Odd numbered relays will also have Inlet 1-16 Open as an available output type, while even numbered relays will also have: Inlet 1-16 Close as an available output type. The airflow is visible and can be set only when the airflow setting is set to Per Ventilator and Ventilation Stage Type is used.

LOAD DELAY

This parameter is used to adjust the load delay of all relays set to the types ON/OFF ventilation stage or ON/OFF stir fan. The load management prevents any two relays from activating at the same time. The amount of time adjusted for the load delay will separate the activation of two or more relays by the parameter's value.

OUTPUT CONFIGURATION - VARIABLE MODULES

INSTALLATION MODE

This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

V4 # SWITCH ALARM

This parameter is used to determine if an alarm will be triggered when a toggle switch of the respective V4 module is set to a value other than AUTO. If this parameter is set to ON, a message will be logged and the alarm will be activated each time a toggle switch of the respective V4 is set to a value other than AUTO.

(TYPE-ZONE-AIRFLOW) V4 # OUT #

This parameter is used to assign a type and a zone to the V4 module's variable output. The outputs that are not activated, as well as their logics, will be removed. The available outputs on this board are: Unused, Variable Stage #, Variable Stir Fan #, Lights #, Pressure fan #, Variable Heater # and Heat pad. The airflow is visible and can be set only when the airflow setting is set to Per Ventilator and Variable Stage Type is used.

V2/LED # OUT #

These parameters are used to assign the outputs and configure the zone variable outputs of the variable module. The available settings are: None, Lights #.

CURVE V4 # OUT #

These parameters are used to change the motor curve of the V4 module's variable output. This curve can vary according to the brand and the capacity of the motor. The different available motors have been regrouped in eight categories and a different curve has been programmed in the controller for each of these categories. The appropriate curve must be selected to ensure the voltage supplied by the controller is adequate. Refer to the annex section for more information on motor curves.

PROGRAMMABLE LIGHT CURVE V4 #

These parameters are used to activate or deactivate the programmable light curve for the respective V4 module. If this option is set to ON, the light curve will be composed of the values adjusted at *LIGHT CURVE MINIMUM/MEDIAN/MAXIMUM POINT V4 #*. If this option is set to OFF, lights will use the linear curve (curve 9). The programmable light curve requires a V4 module of version 3 or greater.

LIGHT CURVE MINIMUMEDIUM/MAXIMUM POINT V4 #

These parameters are used to set the points of the programmable light curve for the respective V4 module. When *PROGRAMMABLE LIGHT CURVE V4 #* is ON, lights of the respective V4 module will be powered according to the three points adjusted here. The controller will extrapolate the required power in a linear manner when the required intensity is between two points.

PROGRAMMABLE HEAT PAD CURVE V4 #

These parameters are used to activate or deactivate the heat pad programmable curve for the respective V4 module. If this option is set to ON, the heat pad curve will be composed of the values adjusted at *HEAT PAD CURVE MINIMUM/MEDIAN/MAXIMUM POINT V4 #*. If this option is set to OFF, the heat pad will use the linear curve (curve 9). The programmable the heat pad curve requires a V4 module of version 3 or greater.

HEAT PAD CURVE MINIMUMEDIUM/MAXIMUM POINT V4 #

These parameters are used to set the points of the programmable the heat pad curve for the respective V4 module. When *PROGRAMMABLE HEAT PAD CURVE V4 #* is ON, the heat pad of the respective V4 module will be powered according to the three points adjusted here. The controller will extrapolate the required power in a linear manner when the required intensity is between two points.

OUTPUT CONFIGURATION - 0-10 VOLTS

INSTALLATION MODE

This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

(TYPE-ZONE-SLOPE-AIRFLOW) INTERNAL 0-10V (X1201) OUT#

This parameter is used to assign outputs to the 0-10 Volt outputs located on the Output Board. The variable outputs that are not activated, as well as their logics, will be removed. The available outputs on this board are: Unused, Variable Stage #, Variable Stir Fan #, Lights #, Pressure fan #, Variable Heater #, Inlet #, Heat Pad and A.B. Heater Fan #. The airflow is visible and can be set only when the airflow setting is set to Per Ventilator and Variable Stage Type is used.

(TYPE-ZONE-SLOPE-AIRFLOW) MS-10 OUT#
This parameter is used to assign outputs to the MS-10 outputs located on the MS-10 module. The outputs that are not activated, as well as their logics, will be removed. The available outputs on this module are: Unused, Variable Stage #, Variable Stir Fan #, Lights #, Pressure fan #, Variable Heater #, Inlet #, Heat Pad and A.B. Heater Fan #. The airflow is visible and can be set only when the airflow setting is set to Per Ventilator and Variable Stage Type is used.

(TYPE-ZONE-SLOPE-AIRFLOW) V(2-4)/M # OUT#
This parameter is used to assign outputs to the V(2-4)/M outputs located on the V(2-4)/M module. The outputs that are not activated, as well as their logics, will be removed. The available outputs on these modules are: Unused, Variable Stage #, Variable Stir Fan #, Lights #, Pressure fan #, Variable Heater #, Inlet #, Heat Pad and A.B. Heater Fan #. The airflow is visible and can be set only when the airflow setting is set to Per Ventilator and Variable Stage Type is used.

V(2-4)/M VOLTAGE 0-50-100
This parameter is used to set the voltage the outputs of the module will produce when a 0%, 50% or 100% demand is present for its outputs. If a demand falls between two percentages, the module will produce a voltage according to a linear calculation between the two nearest points.

SLOPE
This parameter is used to set the slope for the 0-10V output. If the slope is set to Positive, the output will modulate from 0 V at 0% to 10 V at 100%. If the slope is set to Negative, the output will modulate from 10 V at 0% to 0 V at 100%.

OUTPUT CONFIGURATION - SETTINGS V2/LED

V2/LED # CURVE 11 POINT
This parameter is used to set the 6 programmable points for curve 11 of the respective module. The adjustable points are 1%, 20%, 40%, 60%, 80% and 100%.

V2/LED # CURVE 12 POINT
This parameter is used to set the 6 programmable points for curve 12 of the respective module. The adjustable points are 1%, 20%, 40%, 60%, 80% and 100%.

V2/LED # OUT # CURVE SELECTION
This parameter is used to select the desired curve for the respective output of the respective module. Each module has two programmable curves: curve 11 and curve 12.

V2/LED # OUT # STIMULATION START
This parameter is used to set the desired amount of start stimulations. Start Stimulations happen when the variable output goes from 0% to a state other than 0%.

OUTPUT CONFIGURATION - GE-MGCB/485

INSTALLATION MODE
This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

ID
This parameter configures the communication *ID* of the module selected in the *MODULE* parameter. The *ID* is defined by a jumper and a 16-position encoder on the GE-EC and GE-HEBUS boards. If the *ID* is set to OFF, the MODBUS system does not activate and does not communicate for this module.

MODULE
This parameter defines the module currently used for activation and communication via the selected ID. It can be set to GE-EC for an exchanger system, GE-HEBUS for a recovery system, or None if no system should be active.

OUTPUT TYPE
This parameter selects the control logic of the exchanger ventilator in the GE-EC module within the configured zone. It can be set to None, Variable Stage #, Stir Variable #, or Static Pressure Ventilator #. Inactive logics will be automatically removed from the zone.

INTAKE OUTPUT TYPE
This parameter defines the control logic of the intake ventilator in the GE-HEBUS module within the configured zone. It can be set to None or Variable Stage #. This parameter also allows selecting which stage will be used as the intake ventilation for the recuperator system. When a ventilation stage is assigned here, it will operate normally when the recuperator system is in Exhaust mode. However, when the recovery system is in Recuperator mode, the ventilation stage will stop following the variable stage settings and will instead activate according to the intake ventilator settings.

EXHAUST OUTPUT TYPE
This parameter determines the control logic of the exhaust ventilator in the GE-HEBUS module within the configured zone. It can be set to None or Variable Stage #. This parameter also allows selecting which stage will be used as the exhaust ventilation for the recuperator system. When a ventilation stage is assigned here, it will operate normally when the recuperator system is in Exhaust mode. However, when the recuperator system is in Recuperator mode, the ventilation stage will stop following the variable stage settings and will instead activate according to the exhaust ventilator settings.

RELAY TYPE
This parameter assigns an output to the relay of the GE-HEBUS module within the selected zone. Inactive outputs and their associated logics will be removed. Available outputs are : None and Recuperator Valve #.

ZONE
This parameter configures the zone associated with the various input and output logics selected for the GE-EC and GE-HEBUS modules.

PRB1 INPUT TYPE
This parameter defines the type of temperature assigned to the configured zone. Available options are : Read-Only, Temperature #, or Recuperator Temperature. If Read-Only is selected, the probe value will simply be read without influencing the operation of different logics. However, if Temperature # or Recuperator Temperature is selected and these inputs are not assigned and no other input module uses them, their values will be considered for the configured zone.

MINIMUM SPEED MANUAL MODE
This parameter defines the minimum speed value in manual mode for the GE-EC module.

ALARM RELAY ON ERROR CODE
This parameter enables or disables the alarm relay in case of an error detected on the motors of the GE-EC and GE-HEBUS modules.

OUTPUT CONFIGURATION - OPTIONS

INSTALLATION MODE
This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

FULL START VARIABLE STAGE
This parameter is used to determine if the variable stages will perform a full start upon activation. If this option is set to ON, variable stages will be activated at full speed for the first few seconds following an activation demand.

FULL START STIR FAN
This parameter is used to determine if the variable stir fans will perform a full start upon activation. If this option is set to ON, variable stir fans will be activated at full speed for the first few seconds following an activation demand.

V4 # MODULE OPTION
This parameter is used to deactivate or activate the respective variable module and choose its communication port and ID. The port number is indicated on the board and on the wiring diagrams in the Installation Guide. The ID is defined by the jumper on the module and indicated on the wiring diagrams in the Installation Guide.

INTERNAL 0-10V (X1201)
This parameter is used to deactivate or activate the internal 0-10 Volt module. The number of available 0-10 Volt outputs will increase if the internal 0-10 Volt module is used.

MS-10
This parameter is used to deactivate or activate the MS-10 and choose its communication port. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

V2/M-V4/M MODULE #
This parameter is used to deactivate or activate the respective 0-10 Volt module, choose its model and choose its communication port and ID. The port number is indicated on the board and on the wiring diagrams in the Installation Guide. The ID is defined by the jumper on the module and indicated on the wiring diagrams in the Installation Guide.

V2/LED MODULE #
This parameter is used to activate or deactivate the respective variable module, choose its communication port and communication ID. The port number is indicated on the board and on the wiring diagrams in the Installation Guide. The ID is defined by the jumper on the module and indicated on the wiring diagrams in the Installation Guide.

SLAVE MODULE # OPTION

This parameter is used to deactivate or activate the respective slave module, choose its model and choose its communication port. The first digit of the number represents the number of variable outputs physically installed on the controller, while the last two represent the amount of ON/OFF outputs used. Types beginning with SL are small slave units and only have relays. The available control types are SL10, SL15, SL20, 2 Variables 10 Relays, 2 Variables 15 Relays, 2 Variables 20 Relays, 2 Variables 25 Relays, 2 Variables 30 Relays, 4 Variables 10 Relays, 4 Variables 15 Relays, 4 Variables 20 Relays, 4 Variables 25 Relays, 4 Variables 30 Relays, 0 Variables 40 Relays, 0 Variables 35 Relays, 0 Variables 30 Relays, 0 Variables 25 Relays, 0 Variables 20 Relays, 0 Variables 15 Relays and 0 Variables 10 Relays. Setting this parameter to OFF will deactivate the respective slave module.

RELAY CURRENT DETECTOR

This parameter is used to activate or deactivate the relay current detectors on the main controller. If this option is set to ON, the master relay board outputs' current will be measured and displayed. If this option is set to OFF, current detectors will be deactivated for the master relay board's outputs.

VARIABLE CURRENT DETECTOR

This parameter is used to activate or deactivate the current detectors on the main controller. If this option is set to ON, the master variable board outputs' current will be measured and displayed. If this option is set to OFF, current detectors will be deactivated for the master variable board's outputs.

SLAVE # RELAY CURRENT DETECTOR

This parameter is used to activate or deactivate the relay current detectors on the respective slave module. If this option is set to ON, the slave relay board outputs' current will be measured and displayed. If this option is set to OFF, current detectors will be deactivated for the slave relay board's outputs.

SLAVE # VARIABLE CURRENT DETECTOR

This parameter is used to activate or deactivate the current detectors on the respective slave module. If this option is set to ON, the slave variable board outputs' current will be measured and displayed. If this option is set to OFF, current detectors will be deactivated for the slave variable board's outputs.

UPDATE IMMEDIATELY

This parameter is used to immediately update all changes made in the output configuration to make them effective.

SCALE CONFIGURATION

INSTALLATION MODE

This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

BATCH WEIGHING SYSTEM

This parameter is used to determine if the batch weighing system will be used by the controller.

NUMBER OF POULTRY SCALES
This parameter is used to set the amount of poultry scales that will be used by the controller. A deactivated poultry scale will not be shown through the configuration. The controller can use up to 4 poultry scales.

NUMBER OF PIG SORTERS
This parameter is used to select the number of pig sorters that will be used by the controller. A deactivated pig sorter will not be shown through the configuration. The controller can use up to 8 pig sorters.

FLOOR SCALE OPTION
This parameter is used to determine if the floor scale will be used by the controller.

NUMBER OF BINWATCH
This parameter is used to choose the number of BinWatch that will be used.

NUMBER OF BIN SCALES
This parameter is used to set the amount of bin scales that will be used by the controller. A deactivated bin scale will not be shown through the configuration. The controller can use up to 8 bin scales.

NUMBER OF RF READERS OW
This parameter is used to select the number of RF Reader OW that will be used by the controller. The controller can use up to 4 RF Reader OW.

FLOOR SCALE
This parameter is used to choose the floor scale communication port. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

PIG SORTER
This parameter is used to choose the pig sorter communication port. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

GE-RFL (BINWATCH)
This parameter is used to select the communication port for the GE-RFL module. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

BIN SCALE #
This parameter is used to choose the respective bin scale's communication port and ID. The port number is indicated on the board and on the wiring diagrams in the Installation Guide. The ID is defined by the jumper on the module and indicated on the wiring diagrams in the Installation Guide.

POULTRY SCALE #
This parameter is used to choose the respective poultry scale's communication port, ID and communication speed. The port number is indicated on the board and on the wiring diagrams in the Installation Guide. The ID is defined by the jumper on the module and indicated on the wiring diagrams in the Installation Guide. If the module is of version 50+, the communication speed is defined by a jumper on the module. If it is not, the module communication speed is 2400. The speed choices are 2400 and 19200.

BATCH WEIGHER SCALE
This parameter is used to choose the batch weighing scale's communication port and ID. The port number is indicated on the board and on the wiring diagrams in the Installation Guide. The ID is defined by the jumper on the module and indicated on the wiring diagrams in the Installation Guide. If the module is of version 50+, the communication speed is defined by a jumper on the module. If it is not, the module communication speed is 2400. The speed choices are 2400 and 19200.

RF READER OW #
This parameter is used to choose the respective RF Reader OW communication port. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

GE-MGCB/485
This parameter allows enabling or disabling the GE-MGCB/485 module and selecting its communication port.

UPDATE IMMEDIATELY
This parameter is used to immediately update all changes made in the scale configuration to make them effective.

INPUT CONFIGURATION - SENSOR COMM BOARD

INSTALLATION MODE
This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

TEMPERATURE INPUT (PRB1-10)
These parameters are used to assign a type and a zone to the temperature input. A temperature input can be used as an inside temperature probe # of an active zone (A-D), as an outside temperature probe or Duct Temperature or A.B. Core Temperature.

DURATION INPUT (PRB11-14)
These parameters are used to assign a type to the duration input. A duration input can be assigned as feeder input #, feed auger input #, proximity switch #, chain disk security # or state reading #.

4-20MA INPUT (PRB15-16)
These parameters are used to assign a type to the 4-20 mA input. A 4-20 mA input can be used as the static pressure probe of a zone (A-D), ammonia #, CO_2 #, pH, chlorine probe, generic probe or External Exhaust Signal.

IMPULSE INPUT (PRB17-20)
These parameters are used to assign a type to the impulse. An impulse input can be used as water meter # or as egg counter #.

NO/NC
These parameters are used to determine if the proximity switch input is normally open or normally closed. If this parameter is set to NO, the proximity switch will be normally opened and active when the input is short-circuited. If this parameter is set to NC, the proximity switch will be normally closed and active when the input is an open circuit.

INPUT CONFIGURATION - 8 INPUT BOARD

INSTALLATION MODE

This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

TEMPERATURE INPUT (PRB1-4)

These parameters are used to assign a type and a zone to the temperature input. A temperature input can be used as an inside temperature probe # of an active zone (A-D), as an outside temperature probe or Duct Temperature or A.B. Core Temperature.

DURATION INPUT (PRB5-6)

These parameters are used to assign a type to the duration input. A duration input can be assigned as feeder input #, feed auger input #, proximity switch #, chain disk security # or state reading #.

4-20MA INPUT (PRB7)

These parameters are used to assign a type to the 4-20 mA input. A 4-20 mA input can be used as the static pressure probe of a zone (A-D), ammonia #, CO_2 #, pH, chlorine probe, generic probe or External Exhaust Signal.

IMPULSE INPUT (PRB8)

These parameters are used to assign a type to the impulse. An impulse input can be used as water meter # or as egg counter #.

NO/NC

These parameters are used to determine if the proximity switch input is normally open or normally closed. If this parameter is set to NO, the proximity switch will be normally opened and active when the input is short-circuited. If this parameter is set to NC, the proximity switch will be normally closed and active when the input is an open circuit.

INPUT CONFIGURATION - MGCB 8 INPUT BOARD

INPUT MUTLIFONCTION (PRB1-6)

These parameters are used to assign a type and a zone to the multifunction input. A multifunction input can be used as the inside temperature probe # of an active zone (A-D), an outside temperature probe, feeder input #, feed auger input #, proximity switch #, chain disk security #, a state reading #, water meter #, as an egg counter # or Duct Temperature or A.B. Core Temperature.

INPUT MUTLIFONCTION 4-20MA (PRB7-8)

These parameters are used to assign a type and a zone to the multifunction input. A multifunction input can be used as the inside temperature probe # of an active zone (A-D), an outside temperature probe, feeder input #, feed auger input #, proximity switch #, chain disk security #, the static pressure probe of a zone (A-D), water meter #, egg counter #, lux meter #, pH, chlorine probe, generic probe, Duct Temperature, A.B. Core Temperature or External Exhaust Signal.

NO/NC
These parameters are used to determine if the proximity switch input is normally open or normally closed. If this parameter is set to NO, the proximity switch will be normally opened and active when the input is short-circuited. If this parameter is set to NC, the proximity switch will be normally closed and active when the input is an open circuit.

INPUT CONFIGURATION – PRESS+ PROBES

PRESS+ #(1-4)
These parameters are used to assign a zone to the press+ inputs. The input type is not editable and is set to static pressure.

INPUT CONFIGURATION – CDC-4 CONFIGURATION

MODULE # - INPUT FILTER #
These parameters are used to set the filter for each CDC-4 input of each module. This filter corresponding to the number of readings needed to confirm a variation of voltage. For high speed applications, like water meters or egg counters, a small filter is recommended. For a CSD-1, a filter value of 255 is recommended.

INPUT CONFIGURATION - INPUT OPTIONS

INSTALLATION MODE
This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

8-INPUT BOARD (X1200)
This parameter is used to deactivate or activate the 8-input board (X1200). If this option is set to ON, the 8-input board will be visible and its assigned inputs will be active. If this option is set to ON, the 8-input board will not appear.

MGCB 8-INPUT BOARD (X1399) #
This parameter is used to deactivate or activate the respective MGCB 8-input board (X1399) and choose its communication port and ID. The port number is indicated on the board and on the wiring diagrams in the Installation Guide. The ID is defined by the jumper on the module and indicated on the wiring diagrams in the Installation Guide.

HUMIDITY PROBE #
These parameters are used to activate or deactivate the respective humidity probe and choose its communication port. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

WEATHER STATION USED
This parameter is used to activate or deactivate the weather station and choose its communication port. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

OUTSIDE TEMPERATURE ADDITIONAL FORMAT
This parameter is used to activate or deactivate the display of the outside temperature in the unit that is not chosen for the rest of the configuration.

CDC-4 #
This parameter is used to deactivate or activate each CDC-4 modules and choose their communication ports. The port number is indicated on the board and on the wiring diagrams of the Installation Guide.

PRESS+ #
These parameters are used to activate each Press+ modules and choose their communication ports. Port numbers are indicated on the board and on the wiring diagram in the Installation Guide.

HUM+ #
These parameters are used to activate or deactivate the respective HUM+ probe and choose its communication port. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

HUM+ # INSIDE TEMPERATURE
These parameters allow usage of the HUM+ probe as an inside temperature probe. The HUM+ probe must be activated at the *HUM+ #* parameter before this functionality can be used. A temperature probe assigned to a dedicated input will have precedence over the reading from the HUM+ probe.

OUTSIDE HUM+
These parameters are used to activate or deactivate the outside HUM+ probe and choose its communication port. This parameter can also replace the outside temperature probe when activated. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

ATM MODULE
This parameter is used to activate or deactivate the ATM module. The port number is indicated on the board and on the wiring diagrams in the Installation Guide.

EPS MODULE #
This option is used to deactivate or activate the respective EPS module, choose its model and its communication port.

INPUT TYPE AMMONIA PROBE
This parameter is used to set the type of Ammonia probe used for the NH3 reading on the 1399 card. When this parameter is set to 4-20mA, the Ammonia probe to be used is the one that reads in the 4 to 20mA range, if it's set to 0-10V, the DOL-53 probe should be used for NH3 reading.

UPDATE IMMEDIATELY
This parameter is used to immediately update all changes made in the input configuration to make them effective.

TEMPERATURE CALIBRATION

TEMPERATURE #
These parameters display the probe reading with its corresponding calibration.

ADJUSTMENT
These parameters are used to adjust the probe reading and are adjusted in 0.1° increments from -20.0° to 20.0°.

OUTSIDE TEMPERATURE
These parameters display the outside probe reading with its corresponding calibration.

OUTSIDE TEMPERATURE ADJUSTMENT
This parameter is used to adjust the outside probe reading.

SOLARWALL TEMPERATURE
These parameters display the solarwall probe reading with its corresponding calibration.

SOLARWALL TEMPERATURE PROBE ADJUSTMENT
This parameter is used to adjust the solarwall probe reading.

HEAT PAD TEMPERATURE
These parameters display the heat pad probe reading with its corresponding calibration.

HEAT PAD TEMPERATURE PROBE ADJUSTMENT
This parameter is used to adjust the heat pad probe reading.

DUCT TEMPERATURE
This parameter displays the duct probe reading with its corresponding calibration.

DUCT TEMPERATURE PROBE ADJUSTMENT
This parameter is used to adjust the duct probe reading.

HUMIDITY CALIBRATION

HUMIDITY
These parameters display the actual humidity of the probe with its calibration. The humidity is displayed to the nearest 1RH% from 0RH% to 100RH%. The control may also display ERR if the humidity probe has not responded for five minutes.

HUMIDITY ADJUSTMENT
This parameter is used to adjust the humidity reading.

HUM+ CALIBRATION

HUM+
These parameters display the actual humidity of the HUM+ probe with its calibration. The HUM+ humidity is displayed to the nearest 1RH% from 0RH% to 100RH%. The control may also display ERR if the HUM+ humidity probe has not responded for five minutes.

HUM+ ADJUSTMENT
This parameter is used to adjust the HUM+ humidity reading.

OUTSIDE HUM+
This parameter displays the actual reading of the outside HUM+ probe with its calibration. The HUM+ humidity is displayed to the nearest 1RH% from 0RH% to 100RH%. The control may also display ERR if the outside HUM+ humidity probe has not responded for five minutes.

OUTSIDE HUM+ ADJUSTMENT
This parameter is used to adjust the HUM+ humidity reading.

STATIC PRESSURE CALIBRATION

STATIC PRESSURE
This parameter displays the actual static pressure probe with its calibration.

STATIC PRESSURE ADJUSTMENT
This parameter is used to adjust the static pressure probe reading.

WATER METER CALIBRATION

ADJUSTMENT
These parameters are used to adjust the water meter by adding or reducing percentage.

1-PULSE CALIBRATION
These parameters are used to set the number of units (litres or gallons) counted each time a pulse is read at the water counter input.

GENERIC COUNTER CALIBRATION

1-PULSE CALIBRATION
These parameters are used to set the number of units counted each time a pulse is received by a generic counter input.

ENERGY COUNTER CALIBRATION

1-PULSE CALIBRATION
This parameter is used to set the energy counted each time a pulse is received by the energy counter input.

FEED AUGER CALIBRATION

1-MINUTE CALIBRATION
These parameters are used to calibrate the feed input. Each minute of activation read by the feed input will add the amount of units (kg or lb) adjusted here to the associated feeder or feed auger count.

PH PROBE CALIBRATION

POINT #
These parameters are used to set a pH value and record the associated value as read by the probe for the calibration

CALIBRATE
This parameter is used to apply the calibration. To calibrate the probe reading, all the pH points must have been properly recorded during the current day.

CHLORINE PROBE CALIBRATION

POINT #
These parameters are used to set a chlorine(mg/L) value and record the associated value as read by the probe for the calibration

CALIBRATE
This parameter is used to apply the calibration. To calibrate the probe reading, all the chlorine points must have been properly recorded during the current day.

GENERIC 4-20MA PROBE CALIBRATION

POINT 1-2
These parameters are used to set two current values that will be used to calibrate the current of the generic 4-20mA probe.

POINT 1-2 CALIBRATION
These parameters are used to set the values corresponding to *POINT 1-2* of the phenomenon to be measured by the generic 4-20mA probe.

SECURITY

CHANGE PARAMETER STATE
This parameter is used to change the parameter state from locked to unlocked or vice versa. When this parameter is pressed, *ENTER PASSWORD* will appear and the text displayed here will change to Validate Password. If the correct password is entered and this parameter is pressed, the parameter state will change from locked to unlocked or vice versa and the result of the operation will be displayed here. If an incorrect password is entered at *ENTER PASSWORD*, this parameter will display Wrong Password.

ENTER PASSWORD
This parameter is used to enter the password that is used to lock or unlock the parameters. When the user wants to change the parameter state, the password must be entered here and validated using CHANGE PARAMETER STATE. The default password is 0.

CHANGE PASSWORD
This parameter is used to change the password that is used to lock or unlock the parameters. When this parameter is pressed, *ENTER NEW PASSWORD*, *CONFIRM NEW PASSWORD* and *ENTER ACTUAL PASSWORD* will appear and the text displayed here will change to Validate Changes. If the passwords entered at *ENTER NEW PASSWORD* and *CONFIRM NEW PASSWORD* are identical and the value entered at *ENTER ACTUAL PASSWORD* corresponds to the actual password, the password will be changed when this parameter is pressed. If the passwords entered at *ENTER NEW PASSWORD* and *CONFIRM NEW PASSWORD* are different or the value entered at *ENTER ACTUAL PASSWORD* is not the actual password, this parameter will display Wrong Password.

ENTER NEW PASSWORD
This parameter is used to enter the new password that will be recorded if the change is correctly completed.

CONFIRM NEW PASSWORD
This parameter is used to confirm the new password that will be recorded if the change is correctly completed.

ENTER ACTUAL PASSWORD
This parameter is used to validate the password change by entering the actual password.

TECH PARAM

CODE 1-4
These parameters are reserved for the manufacturer's technical support personnel.

TECH PARAM
These parameters are reserved for the manufacturer's technical support personnel.

CFM+ VENTILATION

CODE 1-4
These parameters are reserved for the manufacturer's technical support personnel.

CFM+ VENTILATION
These parameters are reserved for the manufacturer's technical support personnel.

ASSIGNMENT

INSTALLATION MODE
This parameter indicates to the controller that changes are being made in the installation. Changes will not be considered when this parameter is OFF.

STATUS
This parameter displays the state of the different assignments. If all elements are associated in a typical fashion, curves will be available for all elements that have a **Ramping Function** and this parameter will display OK. If this parameter displays Non Standard, this indicates that one or more elements will not be able to use their **Ramping Function**. **Ramping Functions** cannot be calculated for an element if that element is assigned to a zone that belongs to more than one group, since **Ramping Functions** are based on the age of the animals. Following the same logic, a zone that is assigned to more than one group will not be able to use its **Ramping Functions**.

ANIMAL GROUPS
These parameters are used to determine which zones will be included in the animal group. Each zone that is assigned to a group will use that group's age to determine the value of that zone's **Ramping Function**. If a zone is included in more than one group, curves will not be functional and ASSIGNMENT STATUS will display Non Standard.

BIN SCALES
These parameters are used to determine which zones will be served by the respective bin scale. The feed distributed by the feed bin will be counted for the group of animals that contains the same zones as the bin scale. If a feed bin serves more than one group, ASSIGNMENT STATUS will display Non Standard.

WATER METER
These parameters are used to determine which zones will be served by the respective water meter. The water counted by the water meter will be assigned to the group of animals using the same zones. If a water meter serves more than one group, its curves will not be available and ASSIGNMENT STATUS will display Non Standard.

POULTRY SCALE
These parameters are used to determine which zones will be served by the respective poultry scale. The weight measured by the poultry scale will be assigned to the group of animals using the same zones. If a poultry scale is assigned to more than one group, that poultry scale will not be able to evaluate its target weight and ASSIGNMENT STATUS will display Non-Standard.

PIG SORTER
These parameters are used to determine which zones will be served by the respective pig sorter. The weight measured by the pig sorter will be assigned to the group of animals using the same zones. If a pig sorter is assigned to more than one group, that pig sorter will not be able to evaluate its target weight and ASSIGNMENT STATUS will display Non-Standard.

FEEDER
These parameters are used to determine which zones will be served by the respective feeder. The activation time counted by the feeder will be assigned to the group of animals using the same zones. If a feeder serves more than one group, its curves will not be available and ASSIGNMENT STATUS will display Non Standard.

FEED AUGER
These parameters are used to determine which zones will be served by the respective feed auger. The activation time counted by the feed auger will be assigned to the group of animals using the same zones. If a feed auger serves more than one group, its curves will not be available and ASSIGNMENT STATUS will display Non Standard.

LIGHTS
These parameters are used to determine which zones will be served by the respective light output. A zone assigned to the same group as a light output will use that light output's light cycles to determine darkness periods. Lights will follow the animal age of the group using the same zones to determine which period it will use. If a light output serves more than one group, it will not be able to determine its period and ASSIGNMENT STATUS will display Non Standard.

DROPS
These parameters are used to determine which zones will be served by the respective batch weighing system drop. The amount of feed distributed by the drop will be assigned to the group of animals using the same zones. If a drop serves more than one group, unexpected behaviour may occur.

HUMIDITY
These parameters are used to determine which zones will be served by the respective humidity probe. The humidity of a zone will be equal to the average of all humidity probes assigned to it.

AMMONIA
These parameters are used to determine which zones will be served by the respective ammonia probe. The ammonia of a zone will be equal to the average of all ammonia probes assigned to it.

CO2
These parameters are used to determine which zones will be served by the respective CO_2 probe. The CO2 of a zone will be equal to the average of all CO_2 probes assigned to it.

RF READER ID OW
These parameters are used to determine which zones will be served by the respective RF Reader OW probe. The controller will associate all of the device's RF data to the assigned zone.

HUM+
These parameters are used to determine which zones will be served by the respective hum+ probe. The HUM + probe will associate its readings with the zone of its assignation.

PH PROBE
These parameters are used to determine which areas are served by the respective pH probe. The pH probe will associate its readings with the zone assigned to it.

CHLORINE PROBE
These parameters are used to determine which zones are served by the respective chlorine probe. The chlorine probe will associate its readings with the zone assigned to it.

TRANSFER BOX

BACKUP UNIT
This parameter is used to indicate to the controller if it is the main unit or the backup unit. If this parameter is set to Yes, the parameters of the transfer box will appear and the main set point read in the transfer box will be taken by the controller. If this parameter is set to No, the controller will provide its main set point to the transfer box so that the other units may read it.

COMMUNICATION PORT
This parameter is used to indicate to the controller which port the Transfer Box is connected to.

BLINK DELAY
This parameter is used to set the time after which the LED will blink to indicate that there is no communication. If the Transfer Box has not received communication from its units for this amount of time, the LED will blink.

COMMUNICATION DELAY
This parameter is used to set the delay time after which the Transfer Box will execute its backup actions when it detects no communication. If the Transfer Box has not received communication from its units for this amount of time, backup actions will be performed.

ALARM MESSAGE TABLE

Situational Alarm Message List

These alarms will activate the alarm relay when the condition is present and when the situation is corrected. A specific action must be performed to deactivate the alarm.	
Message	**Cause**
Zone # Temperature Too High	- The ZONE # TEMPERATURE is above the ALARM HIGH ACTUAL TEMPERATURE. - The ZONE # TEMPERATURE is above OUTSIDE TEMPERATURE + *ALARM HIGH RELATIVE TEMPERATURE* and OUTSIDE TEMPERATURE is above the *MAIN SET POINT*. - The ZONE # TEMPERATURE is above *ALARM HIGH CRITICAL TEMPERATURE*.
Zone # Temperature Too Low	- The AVERAGE TEMPERATURE is under ALARM LOW ACTUAL TEMPERATURE. - The ZONE # TEMPERATURE is under *ALARM LOW CRITICAL TEMPERATURE*.
Probe # Zone # Too High	- The probe is above the ALARM HIGH ACTUAL TEMPERATURE. - The probe is above the OUTSIDE TEMPERATURE + *ALARM HIGH RELATIVE TEMPERATURE* and the OUTSIDE TEMPERATURE is above the *MAIN SET POINT*. - The probe is above the *ALARM HIGH CRITICAL TEMPERATURE* and the *ALARM CRITICAL* option is set to ON.
Probe # Zone # Too Low	- The probe is under the ALARM LOW ACTUAL TEMPERATURE.
Probe # Zone # Defective	- The probe is absent, not connected properly, or defective (short-circuit or open circuit).
Zone # Heat Pad Too Low	- The probe is under *HEAT PAD ALARMS LOW TEMPERATURE*.
Zone # Heat Pad Too High	- The probe is above *HEAT PAD ALARMS HIGH TEMPERATURE*.
Zone # Heat Pad Probe Defective	- The probe is absent, not connected properly, or defective (short-circuit or open circuit).
Recuperator Temperature Zone # Too Low	- The recuperator probe is under *LOW ALARM SETPOINT*.
Recuperator Temperature Zone # Too High	- The recuperator probe is under *HIGH ALARM SETPOINT*.
Recuperator Temperature Zone # Defective	- The recuperator probe is absent, not connected properly, or defective (short-circuit or open circuit).
Outside Probe Defect.	- The outside temperature probe is absent, not connected properly or defective (short-circuit or open circuit).
A.B. Core Probe # Zone # Defective	- The air blast core temperature probe is absent, not connected properly, or defective (short-circuit or open circuit).
Solarwall # Zone # Probe Defective	- The solarwall probe is absent, not connected properly or defective (short-circuit or open circuit).
Inlet # Zone # Potentiometer Defective	- The mentioned inlet's potentiometer has an out of range value or is unreadable and the *INLET # POTENTIOMETER ALARM* is set to ON.

No Probe Assigned	- At least one activated output has no probes assigned in its probe selection parameter.
Problem Relay Control	- The relay output control board has not communicated with the controller for 5 minutes.
Problem Relay Control Slave #	- The slave relay module has not communicated with the controller for 5 minutes.
Problem Variable Control	- The variable output control board has not communicated with the controller for 5 minutes.
Problem Variable Control Slave #	- The slave variable module has not communicated with the controller for 5 minutes.
V4 # Not Responding	- The V4 variable output module has not communicated with the controller for 5 minutes.
V(2-4)/M # Not Responding	- The V(2-4)/M 0-10 Volt module has not communicated with the controller for 5 minutes.
MSTAT-1 Not Responding	- The weather station has not communicated with the controller for 5 minutes.
8-Input MGCB # Board Not Responding	- The 8-Input MGCB Board has not communicated with the controller for 5 minutes.
0-10V # Not Responding	- 0-10V ID # chip is missing. - Output board is defective or unplugged.
Press+ # Not Responding	- The Press+ # module has not communicated with the controller for 5 minutes.
GE-RFL (BinWatch) Not Responding	- The GE-RFL module is activated has not communicated with the main controller for a period of at least 5 minutes, and the BINWATCH ALARMS # *RFL ALARM OPTION* is set to ON.
BinWatch # Level Too Low	- The weight of the bin measured by the BinWatch is below the *LOW LIMIT ALARM* of the respective BinWatch, and the BINWATCH ALARMS # *BINWATCH ALARMS OPTION* is set to ON.
GE-EC ## Not Responding	- The GE-EC module has not communicated with the controller for at least 5 minutes.
GE-HEBUS ## Not Responding	- The GE-HEBUS module has not communicated with the controller for at least 5 minutes.
Motor Error GE-EC Module ##	- The motor of the GE-EC module has encountered an error, and *ALARM RELAY ON ERROR CODE* is set to ON.
Motor Error GE-HEBUS Module ##	- The motor of the GE-HEBUS module has encountered an error, and *ALARM RELAY ON ERROR CODE* is set to ON.
Communication Error Bin #	- The mentioned bin module is activated and has not communicated with the main controller for a 5-minute period and *BIN SCALE # ALARM OPTION* is set to ON.
Problem Bin #	- The mentioned bin's FBT module cannot provide a stable weight value and *BIN SCALE # ALARM OPTION* is set to ON.

Load Cell # Bin # Defect	- The mentioned load cell of the mentioned bin is defective or unplugged for a 5-minute period and *BIN SCALE # ALARM OPTION* is set to ON.
No Distribution Bin Grouping #	- The mentioned bin grouping has no available bins for feed distribution.
Bin # Level Too Low	- The weight of the mentioned bin is inferior to the *LOW LIMIT ALARM* of its respective bin.
No Feed Auger Grouping #	- The mentioned feed auger grouping has no available feed auger for feed distribution.
Feeder # Stop Chain Disk Security	- A chain disk security input associated with the feeder is activated.
Feed Auger # Stop Chain Disk Security	- A chain disk security input associated with the feed auger is activated.
MS-10 Not Responding	- The MS-10 module has not communicated with the controller for 5 minutes.
Alarm Communication Pig Sorter #	- The pig sorter has not communicated with the controller for 5 minutes.
Alarm Max Limit Pig Sorter #	- The limit of the respective pig sorter has been reached and the *PIG SORTER # ALARM ON LIMIT* is set to Yes.
Alarm Entry door blocked Pig Sorter #	- The pig sorter has failed to position its entry door.
Alarm Exit Door Pig Sorter #	- The pig sorter has failed to position its exit door.
Alarm Sorter Door Blocked Pig Sorter #	- The pig sorter has failed to position one of its sorter doors.
Low Pressure Pig Sorter #	- The current detected in the 4-20 mA INPUT for the respective pig sorter is below *PIG SORTER # PRESSURE ALARM*.
Alarm Load Cell # Pig Sorter #	- The mentioned load cell of the mentioned pig sorter is defective or unplugged.
Test Mode Maximum Time Reached Pig Sorter #	- The mentioned pig sorter has been operating on test setting for *TEST MODE MAXIMUM TIME*.
Alarm No Weighing Pig Sorter #	- The pig sorter has not detected a weight for an amount of time equal to *DELAY NO WEIGHT DAY* during the day period. - The pig sorter has not detected a weight for an amount of time equal to *DELAY NO WEIGHT NIGHT* during the night period.
RF Reader # Not Responding	- The RF Reader OW # module has not communicated with the controller for 5 minutes.
Batch Loader Sequence Error	- A phase of the batch weighing system has lasted for more than *MAXIMUM PHASE TIME*.
Batch Loader Scale Not Responding	- The CBW module has not communicated with the controller for 5 minutes.
Luminosity Too Low Lux Meter #	- The lux meter read a luminosity lower than *CYCLE ACTIVE MINIMUM LUMINOSITY* when the light cycle is active for the associated light.
Luminosity Too High Lux Meter #	- The lux meter read a luminosity higher than *NO CYCLE MAXIMUM LUMINOSITY* when the associated light is not in a light cycle.

CDC-4 # Not Responding	- The CDC-4 # module has not communicated with the controller for 5 minutes.
MBUS Module Not Responding	- The MBUS module has not communicated with the controller for 5 minutes
MBUS Unit # Error	- The mentioned unit has not communicated with the MBUS module for 5 minutes
MBUS Unit # Alarm	- The mentioned unit has indicated an alarm status to the MBUS module.
MBUS Unit # Pre-Alarm	- The mentioned unit has indicated a pre-alarm status to the MBUS module.
Wrong Module P# *or* Wrong Module HUM Port	- A module other than the expected module has been connected to the mentioned communication port.
Floor Scale Not Responding	- The floor scale has not communicated with the controller for 5 minutes.
Floor Scale Load Cell # Defective	- The floor scale's mentioned load cell is defective or unplugged.
Multi-Feed System Positioner # Potentiometer Defective	- The multi-feed system's mentioned positionner's potentiometer has an out of range value or is unreadable and the *POSITIONNER POTENTIOMETER ALARM* is set to ON.
Multi-Feed System Positioner # Cool Down	- The multi-feed system's mentioned positionner's cool down function was activated at the specified date and time and the *POSITIONNER POTENTIOMETER ALARM* is set to ON.
Transfer Box Not Responding	- The transfer box module has not communicated with the controller for 5 minutes.
V2/Led # Not Responding	- The V2/Led module has not communicated with the controller for 5 minutes.
Master Relay Switch # ON	- The mentioned relay's switch has been set to the ON position and *RELAY SWITCH ALARM* is set to ON.
Master Relay Switch # OFF	- The mentioned relay's switch has been set to the OFF position and *RELAY SWITCH ALARM* is set to ON.
Slave # Relay Switch # ON	- The slave's mentioned relay's switch has been set to the ON position and *RELAY SWITCH ALARM* is set to ON.
Slave # Relay Switch # OFF	- The slave's mentioned relay's switch has been set to the OFF position and *RELAY SWITCH ALARM* is set to ON.
Master Variable Switch # ON	- The mentioned variable's switch has been set to the ON position and *VARIABLE SWITCH ALARM* is set to ON.
Master Variable Switch # OFF	- The mentioned variable's switch has been set to the OFF position and *VARIABLE SWITCH ALARM* is set to ON.
Slave # Variable Switch # ON	- The slave's mentioned variable's switch has been set to the ON position and *VARIABLE SWITCH ALARM* is set to ON.
Slave # Variable Switch # OFF	- The slave's mentioned variable's switch has been set to the OFF position and *VARIABLE SWITCH ALARM* is set to ON.
V4 # Switch # ON	- The V4 module's mentioned switch has been set to the ON position and *VARIABLE SWITCH ALARM* is set to ON.
V4 # Switch # OFF	- The V4 module's mentioned switch has been set to the OFF position and *VARIABLE SWITCH ALARM* is set to ON.
Reservoir Level Low	- The reservoir level is lower than *VOLUME LOW ALARM*.
Reservoir Level High	- The reservoir level is higher than *VOLUME HIGH ALARM*.

HUM+ Probe # Not Responding	- HUM+ probe is active and has not communicated with the controller for 5 minutes.
Outside Humidity Probe Not Responding	- Outside HUM+ probe is active and has not communicated with the controller for 5 minutes.
ATM Module Not Responding	- ATM module is active and has not communicated with the controller for 5 minutes.
EPS # Not Responding	- EPS module is active and has not communicated with the controller for 5 minutes.
EPS # Temperature # Too High	- The electrical panel temperature recorded by the EPS is higher than the set limit.
EPS # Temperature Probe # Defect	- The EPS # temperature probe # is absent, not connected properly or defective (short-circuit or open circuit).
EPS # Room Temperature Too High	- The room temperature recorded by the EPS is higher than the set limit.
EPS # Room Temperature Probe Defect	- The EPS # room temperature probe is absent, not connected properly or defective (short-circuit or open circuit).
EPS # Relative Temperature # Too High	- The EPS # Temperature is greater than (EPS # Room Temperature + EPS # High Relative Temperature Alarm)
EPS # Current # Too High > 300mA	- The current read by the EPS is greater than *EPS # HIGH CURRENT ALARM > 300MA* for at least the *EPS # HIGH CURRENT ALARM DELAY*.
EPS # Current Probe # Defect	- The EPS # current probe # is absent, not connected properly or defective (short-circuit or open circuit).
EPS # Fire detected by Heat Detector	- A fire is detected by the EPS # Heat Detector probe.
EPS # Heat Detector Disconnected	- The EPS # Heat Detector is disconnected.
EPS # Fire detected by Power Detector	- A fire is detected by the EPS # Power Detector probe.
EPS # Power Detector Disconnected	- The EPS # Power Detector is disconnected.
Error Code 1	- The system has rebooted 5 times within a 3-minute period or 10 times within a 15-minute period. This situation will be considered resolved if the system does not reboot for 15 minutes. If this situation persists, contact your distributor.
Error Code 2-5	- If one or more of these error codes appear, contact your distributor.
Power Backup in use	- The controller is indicating that the external 12V power backup is in use.
Water Pressure # Too High	- The water pressure's ACTUAL VALUE is over the pressure defined in *HIGH PRESSURE ALARM.*

Water Pressure # Too Low	- The water pressure's ACTUAL VALUE is under the pressure defined in *LOW PRESSURE ALARM.*

Continuous Alarm Message List

These alarms will activate the alarm relay when the condition is present and when the situation is corrected. A specific action must be performed to deactivate the alarm relay.	
Message	**Cause**
High Limit Water # Alarm	- The amount of units counted by the water meter has exceeded the ALARM WATER METER # CALCULATED HIGH LIMIT during the *ALARM WATER METER HIGH CHECK RATE*.
Low Limit Water # Alarm	- The amount of units counted by the water meter is under the ALARM WATER METER # CALCULATED LOW LIMIT during the *ALARM WATER METER LOWCHECK RATE*.
Feeder # Max Limit	- The feeder input has detected feed for more than *ALARM FEED # MAXIMUM LIMIT* during a feeder activation period.
Feeder # Min Limit	- The feeder input has not detected feed for more than *ALARM FEED # STOP LIMIT* during a feeder activation period.
Feed Auger # Max Limit	- Feed auger input has detected a consecutive amount of time above *ALARM FEED AUGER # MAXIMUM LIMIT*.
Feed Auger # Stop Limit	- Feed auger input has not detected a consecutive amount of time equal to *ALARM FEED AUGER # STOP LIMIT*.
Static Press Zone # Too High	- The static pressure of the zone has been above *ALARM HIGH STATIC PRESSURE* throughout the *ALARM STATIC PRESSURE DELAY*.
Static Press Zone # Too Low	- The static pressure of the zone has been under *ALARM HIGH STATIC PRESSURE* throughout the *ALARM STATIC PRESSURE DELAY*.
Multi-Feed System Bin # Error Max Limit	- The multi-feed system's proximity switch was not activated and the bin's associated feed auger was activated for a total time equal to *FEED TIMER*.
Master High Current Relay #	- The measured current on relay # of the master controller is over the limit.
Master High Current Variable #	- The measured current on variable output # of the master controller is over the limit.
Slave # High Current Relay #	- The measured current on relay # of the slave # module is over the limit.
Slave # High Current Variable #	- The measured current on variable output # of the slave # module is over the limit.
Master Low Current Relay #	- The measured current on relay # of the master controller is too low.
Master Low Current Variable #	- The measured current on variable output # of the master controller is too low.
Slave # Low Current Relay #	- The measured current on relay # of the slave # module is too low.
Slave # Low Current Variable #	- The measured current on variable output # of the slave # module is too low.

Inlet # Zone # Position Error	- The air inlet # *CURRENT POSITION* of the zone # is different from the *REQUESTED POSITION* by a value greater than *TOLERANCE ERROR POSITION* for at least *MAXIMUM TIME ERROR POSITION.*
Inlet # Zone # Blocked	- The inlet did not move while receiving a demand. (This can only happen for an inlet without potentiometer).
Inlet Zone # Airflow Unreachable	- The airflow capacity of the zone's inlets is lower than the current airflow requirement.
Airflow Requirement Zone # Not Satisfied	- The airflow capacity of the zone's ventilators is lower than the current airflow requirement.
EPS # Current # Too High > 500mA	- The current read by the EPS is greater than *EPS # HIGH CURRENT ALARM > 500MA* for at least the *EPS # HIGH CURRENT ALARM DELAY*.
EPS # Current # Too High > 1000mA	- The current read by the EPS is greater than 1000mA for at least the *EPS # HIGH CURRENT ALARM DELAY*.

Event Message List

These entries are not alarms, but events that occurred at a given time and date.	
Message	**Cause**
Humidity Probe # Not Responding	- Humidity probe is unplugged. Check wiring. - Sensor & Comm. board is defective or unplugged.
GE-RFL (BinWatch) Not Responding	- The GE-RFL module is activated has not communicated with the main controller for a period of at least 5 minutes, and the BINWATCH ALARMS # *RFL ALARM OPTION* is set to OFF.
BinWatch # Level Too Low	- The weight of the bin measured by the BinWatch is below the *LOW LIMIT ALARM* of the respective BinWatch, and the BINWATCH ALARMS # *BINWATCH ALARMS OPTION* is set to OFF.
BinWatch # Communication Loss	The BinWatch module has not communicated with the GE-RFL for a period of at least 30 minutes.
Motor Error GE-EC Module ##	- The motor of the GE-EC module has encountered an error, and *ALARM RELAY ON ERROR CODE* is set to OFF.
Motor Error GE-HEBUS Module ##	- The motor of the GE-HEBUS module has encountered an error, and *ALARM RELAY ON ERROR CODE* is set to OFF.
Communication Error Bin #	- The mentioned bin module is activated and has not communicated with the main controller for a 5-minute period and *BIN SCALE # ALARM OPTION* is set to OFF.
Problem Bin #	- The mentioned bin's FBT module cannot provide a stable weight value and *BIN SCALE # ALARM OPTION* is set to OFF.
Load Cell # Bin # Defect	- The mentioned load cell of the mentioned bin is defective or has been unplugged for a 5-minute period and *BIN SCALE # ALARM OPTION* is set to OFF.
Relay Control Test ON	- The test mode of the relay board is activated.
Relay Control Slave # Test ON	- The test mode of the slave relay board is activated.
Inlet # Zone # Cool Down	- The mentioned inlet's cool down function was activated at the specified date and time.
Poultry Scale # Not Responding	- The poultry scale is active and has not communicated with the controller for 5 minutes.
Inlet # Zone # Potentiometer Defective	- The mentioned inlet's potentiometer has an out of range value or is unreadable and the *INLET # POTENTIOMETER ALARM* is set to OFF.
Power Failure	- The controller has recovered from a power failure at the mentioned date and time.
Temperature Test Mode Zone # Activated	- The *TEST MODE OPTION* is set to ON.
Bin Changed Grouping #	- The bin for the mentioned grouping has changed for feed distribution.

Multi-Feed System Positioner # Potentiometer Defective	- The multi-feed system's mentioned positionner's potentiometer has an out of range value or is unreadable and the *POSITIONNER POTENTIOMETER ALARM* is set to OFF.
Multi-Feed System Positioner # Cool Down	- The multi-feed system's mentioned positionner's cool down function was activated at the specified date and time and the *POSITIONNER POTENTIOMETER ALARM* is set to OFF.

Motor curve table

TYPE OF MOTOR				
CURVE	**BRAND**	**MODEL**	**VOLTAGE**	**HEIGHT**
1	Multifan	4E40	230 V.	16
2	Multifan	2E20	230 V.	8
2	Multifan	4E35	230 V.	14
2	Multifan	4E50	230 V.	20
2	Multifan	AF24M'E	230 V.	24
2	Multifan	6E63	230 V.	24
2	Multifan	6E71	230 V.	28
2	Multifan	8E92	230 V.	36
2	Ziehl		230 V.	
2	Performa	V52-7105P	230 V.	18
3	Multifan	2E30	230 V.	12
3	Multifan	4E45	230 V.	18
3	Multifan	6E56	230 V.	22
3	Multifan/AF	AF36M	230 V.	36
3	Aerotech-F	AT242	230 V.	24
3	Performa	V52-7106P	230 V.	20
3	Performa	V52-7108P	230 V.	24
4	Multifan	2E25	230 V.	10
4	Marathon 1/4HP		230 V.	16
4	Marathon 1/3HP		230 V.	18
4	Performa	V52-7102P	230 V.	12
5	GE Motor	5KCP39…	230 V.	12
5	Leeson 1/4HP	AF12L	230 V.	12
5	GE Motor	5KCP39…	230 V.	14
5	Emerson	K55HXJ…	230 V.	14
6	Oversized motors			
7	Multifan	4E30	230 V.	12
7	Multifan	2E35	230 V.	14
7	Performa	V52-7104P	230 V.	16
8	Multifan	4E25	230 V.	10
8	Performa	V52-7103P	230 V.	14