Configuration Manual

Touch Controller Version 8

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-H) 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 4*	Bin Scale	Up to 8
Outside Temperature	Up to 1	Feed Auger	Up to 8
Heat Pad Temperature	Up to 2*	Proximity Switch	Up to 12
Humidity	Up to 8	Static Pressure	Up to 1*
Feeder	Up to 8	Water Meter	Up to 8
EPS-1	Up to 8	Chain Disk Security	Up to 10
EPS-4	Up to 8	Water Pressure	Up to 4

*Per Zone

Output Table

Outputs	Quantity	Outputs	Quantity
Variable Stage	Up to 4*	Heat Pad	Up to 1*
Variable Stir Fan	Up to 2*	High Water Alarm	Up to 8
On/Off Stir Fan	Up to 4*	Sprinkler/Mist	Up to 1*
On/Off Stage	Up to 4*	Clock	Up to 1*
Heater	Up to 4*	Feeder	Up to 8
Variable Heater	Up to 4*	Feed Auger	Up to 8
Air Inlet	Up to 1*	Alarm	1

*Per Zone

Required Equipment**

Quantity	Description
1	Controller
2	Relay Board (X1184) or Relay Board with Current Detector (X1414-X1417)
2	Switch Board (X1192)
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
32	Temperature Probe 2004-10k
8	HUM+ Humidity Probe
2	Static Pressure Probe
4	Water Pressure Probe
8	Press+ Probe (X1455)
8	Water Meter
8	Feeder
8	Feed Auger
12	Proximity Switch
8	Slave Module
4	FBT / LIM
2	V4 (4 Variable Output Module)
2	V2/M (X1429) (2 0-10 Volts Output Module)
2	V4/M (X1429) (4 0-10 Volts Output Module)
8	EPS-1
8	EPS-4
1	GE-MGCB/485
31	GE-EC

Configuration Version

Version	Date	Min. Proc. Version	Modification
CA2iT08V0	09/30/2020	3	- New.
CA2iT08V1	17/02/2021	3	- Add 4 bin scales (total 8). - Correction of the MSP curve activation of the zone G and H. - Correction of the display of the ON/OFF heaters Dehumidification Option. - Correction of the loss of sensor zone assignments after upload/download. - Add associated relay stop on high current. - Add the type of breeding Finisher Pig. - Add a second alarm threshold for the max currents. - Correction of the redirections in the building view. - Correction of the set point curve activation of the heat pad in zone H. - Correction of the HUM+ Calibration group's display. - Correction of the Soaking Duration and Soaking Time Left parameters' display.

Version	Date	Min. Proc. Version	Modification
CA2iT08V2	29/11/2021	3	- Correction of the application of the motor curve to the variable outputs. - Add feeder and feed auger runtime evaluation by current reading. - Add GE-V2/M and GE-V4/M support for heat pads. - Add a delay to deactivate the feeder when the proximity switch is reached. - Correction of the deactivation of feed augers associated with a feeder when the proximity switch is reached. - Add the possibility to have an average of probes for heat pads. - Correction of the Low/High Alarm Setpoint values display of the Heat Pad Alarms in the zones E to H. - Add confirmation messages when resetting feeders/feed augers values and alarms. - Correction of the run time resetting of the feeders/feed augers assigned to relays with current reading. - Add 7 breeding groups (total 8). - Correction of the display of the groups in Breeding Day Warnings group. - Add a curve to the Humidity Set Point. - Make the display of HUM + in Input Configuration independent of the number of active zones. - Add the Alarm Level 1 option to Max Current Alarms. - Modification of the choices in Maximum Variable Stage and Maximum On/Off Stage. - 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 a chain disk security. - Add a differential level 1 to the max current alarms.

Version	Date	Min. Proc. Version	Modification
CA2iT08V3	28/02/2022	3	- Add 4 feed augers (total 8). - Correction of the groups 2 to 8 display in the Identification of the system view. - Add current temperature display of air inlets in Air Inlets Position Mode. - Add a maximum current stop for feeder and feed auger outputs and a display for this condition. - Add Multi-feed system. - Correction of the high temperature alarm activation when no probe is assigned to the zone. - Add 4 water meter (total 8). - Correction of the feeders/feed augers inputs state when they are no longer assigned to the inputs. - Add support for 2 GE-V4/S.
CA2iT08V4	09/09/2022	3	- Add a second X1276 (P17-P24). - Add variable heaters to the 0-10V outputs. - Add a group and water meter selection for the calculation of Global Water per Animal. - Add support for the SP1 pressure probe on the PRB4 multifunction input of GE-MOD modules. - Add a display of static pressure values in the Summary group. - Add the main set points of the zones and total heater run time in the Summary group. - Corrected display of the parameters and groups names related to breeding groups.
CA2iT08V5	07/02/2023	3	- Add FarmGuard (EPS-1 and EPS-4 Modules). - Make the activation of the alarm relay by FarmGuard alarms independent of the configuration of this relay.
CA2iT08V5M1	21/02/2023	3	- Correction of the EPS temperatures and currents reading following a configuration installation with parameters saving.
CA2iT08V5M2	18/04/2023	3	- Include the heat pad sensors which are in high/low alarm in the calculation of the heat pad sensor average.

Version	Date	Min. Proc. Version	Modification
CA2iT08V6	05/07/2023	3	- Add water pressure probe. - Add the proximity switch state display in Multi-Feed System. - Add 6 EPS-1/EPS-4 modules (total 8). - Remove breeding day warnings.
CA2iT08V6M1	21/11/2023	3	- Correction of the configuration of the air inlet and multi-feed potentiometers.
CA2iT08V6M2	19/01/2024	3	- Correction of the display of negative values of temperature probes assigned to slave inputs.
CA2iT08V7	18/12/2024	3	- Add 3 water pressure probes (total 4). - Add a high/low pressure alarm for the water pressure probes. - Add an option to hide Feed Augers/Feeders' groups when Multi-Feed is enabled. - Change the default precision value to 1.0% for the Multi-Feed positioners. - Correction of the EPS alarms activating after a certain number of communication errors. - Correction of the conversion of static pressure into inches of water read by the Press+ sensors. - Add current alarms >500mA and >1000mA for the FarmGuard. - Add FarmQuest display of FarmGuard alarm types. - Change the defective probe detection lower limit of the inside temperature to -50 degrees Celsius.
CA2iT08V7M1	09/01/2025	3	- Reintegrate the modifications from versions CA2iT08V6M1 and CA2iT08V6M2 into version CA2iT08V7M1.
CA2iT08V8	29/10/2025	3	- Add a display of the current date and time in System Configuration. - Added support for GE-MGCB/485 and GE-EC, modules. - Correction of animal inventory and batch status, after an update with saved parameters. - Removed the alternate speed check when a communication error occurs with the modules. - Adjusted the update frequency (from 1 hour to 1 day) for the minimum and maximum average zone temperatures.

Ventilation System Overview

The controller can be used to operate up to 8 zones, amongst which the available inputs and outputs are divided. Each zone can act independently and use its own temperature probes, humidity probe, static pressure sensor and target temperature.

The controller can be used alone or with slave modules. The controller itself can control 10 relay outputs. The controller can also use slave modules to increase its capacity to a total of 32 variable outputs and 74 relay outputs.

The variables outputs can be used as a variable ventilation stage, a variable stir fan, a variable heater or a heating pad, while the 0-10 Volt outputs can be used as heating pad.

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 or an air inlet.

The inputs are located on a 20-input board and 8 slaves module with 4 inputs each. There are five different available input types: Temperature, Duration, 4-20 mA, Pulse, and Multifunction. A Temperature input can be assigned as the inside temperature of any zone or as an outside temperature. A Duration input can be assigned as a feeder, a feed auger, proximity switch or chain disk security. A 4-20mA input can be assigned to static pressure. A Pulse input can be used as a water meter. A Multifunction input can be used as any type of input, except water pressure. Four humidity probes can also be used.

The controller can work with up to 4 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 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.

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*, 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.

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 the **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*.

BATCH MANAGEMENT

GROWTH DAY
This parameter is used to adjust the **Growth Day**. The **Growth Day** affects all parameters that are using a **Ramping Function**.

START AGE
These parameters are used to set the age the animals have at the start of the 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.

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 or by zone. 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 batch. This value represents the ratio between MORTALITY TOTAL and *INITIAL AMOUNT OF ANIMALS* plus 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. The value adjusted here will reduce the REMAINING ANIMALS. This value will be automatically reset with each day change.

MORTALITY TOTAL
This parameter displays the total amount of mortalities 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 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.

HEAT PAD TEMPERATURE #
These parameters display the actual temperatures read by the heat pad's probes.

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.

OUTPUTS

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.

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.

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
This parameter displays 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*.

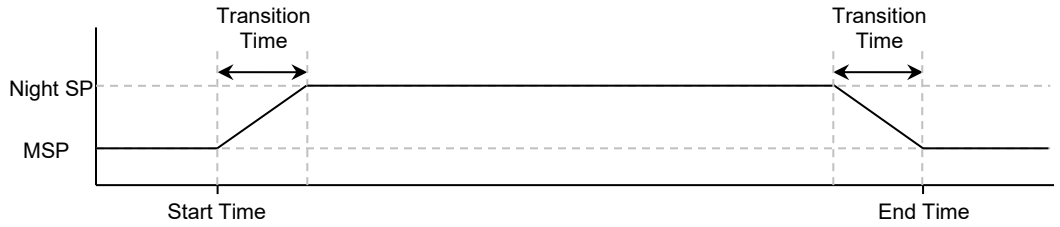
NIGHT SET POINT TIME BEGIN
This parameter is used to adjust the time at which the night period will begin. When this time is reached, the ACTUAL MAIN SET POINT will begin to modulate towards the *NIGHT SET POINT* if *NIGHT SET POINT ACTIVE* is set to Yes.

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:



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 **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

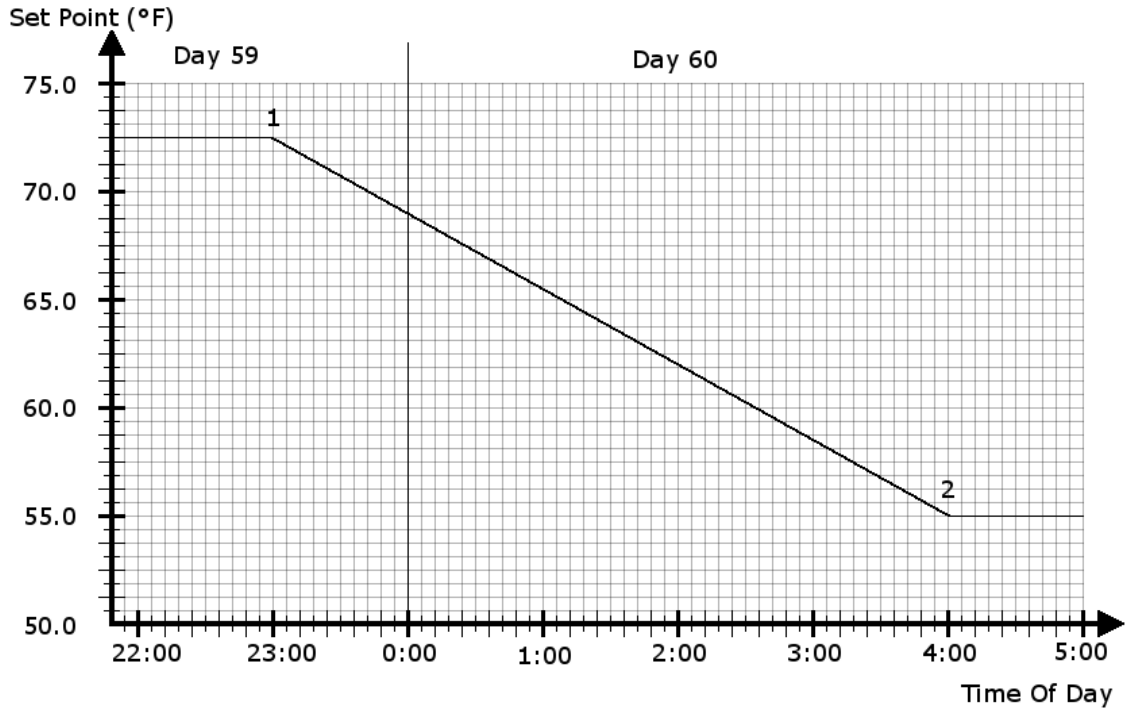
This parameter is used to set the time of day at which the **Main Set Point** will start to decrease towards the *SHIPPING SET POINT*.

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



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.

ACTUAL SPEED
These parameters display the actual speed of the variable stages.

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*.

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.

TIMER CYCLE
This parameter is used to set the total run time for the airflow 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 *TIMER MAXIMUM TIME* and *TIMER MINIMUM TIME*.

TIMER MAXIMUM TIME
This parameter is used to set the maximum amount of time for which the airflow timer can be in its ON period.

TIMER MINIMUM TIME
This parameter is used to set the minimum amount of time for which the airflow timer can be in its ON period.

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*.

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.

ACTIVE IN NATURAL MODE

These parameters are used to determine if the variable stages are allowed to be activated when the Natural Mode is active. If this parameter is set to No, the variable stage will never be allowed to activate when the system is in Natural Mode. If this parameter is set to Yes, the variable stage will be allowed to activate when the system is in Natural Mode.

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.

ON/OFF STAGES

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

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

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.

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.

ACTIVE IN NATURAL MODE
These parameters are used to determine if the stages are allowed to be activated when the Natural Mode is active. If this parameter is set to No, the stage will never be allowed to activate when the system is in Natural Mode. If this parameter is set to Yes, the stages will be allowed to activate when the system is in Natural Mode.

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.

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.

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
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.

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.

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.

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.

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 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.

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*.

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*.

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*

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*.

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***.**

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.

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*.

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.

AIR INLETS SETUP

TYPE
These parameters are used to set the mode according to which the inlet will operate. The available modes are Position, Natural Position, Natural Time, Time and Static Pressure.

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.

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.

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*.

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.

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.

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* 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* 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
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
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.

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.*

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.

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.

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*.

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.

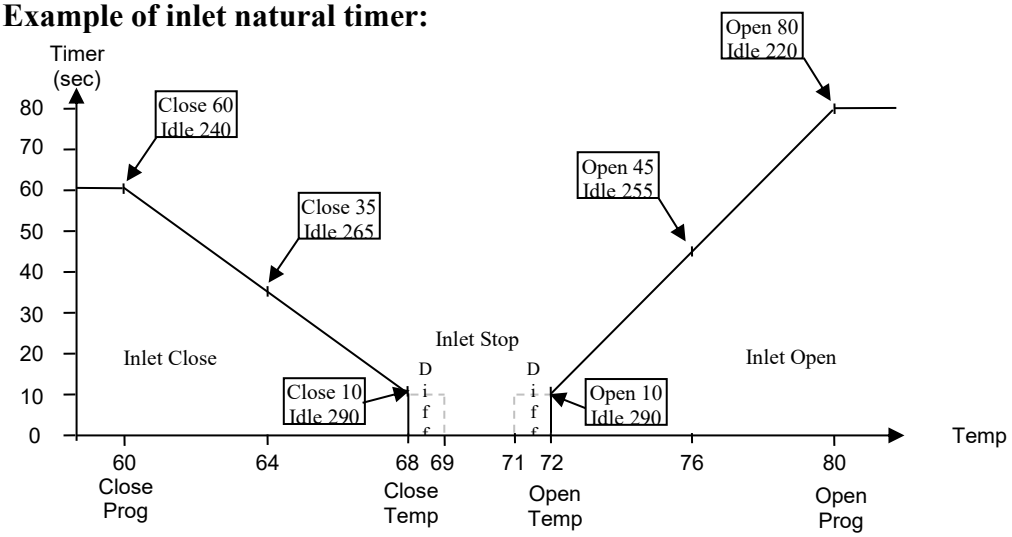
MAXIMUM CLOSING TIME
This parameter is used to set the maximum active portion of the closing timer. When the assigned temperature drops to *INLET # CLOSING TEMPERATURE - INLET # PROGESSIVE CLOSING*, the ON portion of the closing timer will be equal to this value.

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 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 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.

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 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 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.

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.

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.

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 average of the temperatures read by the heat pad temperature probes. When one of the heat pad probes is low, high or defective, it will not be considered for the average calculation. If no probe is configured for the heat pad or if all the probes are in alarm state, 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**.

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.

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.

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.

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 an inlet using natural mode have an opening demand, 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.

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 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.

VARIABLE STAGE TIMER
This parameter allows *VARIABLE STAGE # TIMER* to be used and displayed.

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.

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 #.*

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.

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.

INLET OPENING PRIORITY
This parameter is used to stage the order used to evaluate the position of inlets in position mode. 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 have priority on 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.

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.

MAXIMUM VARIABLE STAGE
This parameter determines whether variable fan stages should be enabled or disabled. If this parameter is OFF, there will be no restriction on the activation of variable fan stages. If, on the other hand, this parameter is set to None, 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 the one selected can be activated (in our example, Variable Stage 1 to Variable Stage 9 can be activated).

MAXIMUM ON/OFF STAGE
This parameter determines whether ON/OFF fan stages should be enabled or disabled. If this parameter is OFF, there will be no restriction on the activation of ON/OFF fan stages. If, on the other hand, this parameter is set to None, 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 the one selected can be activated (in our example ON/OFF 1 Stage to ON/OFF 20 Stage can be activated).

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.

DISPLAY VARIABLE STAGES DIFFERENTIAL
This parameter is used to display differential parameter in variable stages module.

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.
- 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. 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 #.*

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.

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 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.
- 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.

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.

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 PRESSURE

ACTUAL VALUE
This parameter displays the actual water pressure as read by the assigned probe.

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
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**.

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 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.

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.

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.

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.

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.

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.

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.

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.

MANUAL OVERRIDE - MASTER CONTROLLER

***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.

MANUAL OVERRIDE - 0-10 VOLTS

***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 GE-EC module output. 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.

CURRENT DETECTOR

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 "---".

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.

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.

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 ---.

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.

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 contact input of the active EPS modules. “FIRE” indicates that the 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.

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 # INPUT CONTACT OPTION
This parameter is used to indicate whether the heat or the power detector is used. If this option is set to HEAT, the heat detector will be used and the HEAT DETECTOR STATUS will indicate its status. If this option is set to POWER, the power detector will be used and the POWER DETECTOR STATUS will indicate its status. If this option is set to OFF, the heat detector and the power detector will not be used.

GE-MGCB/485 STATUS ##

ID
This parameter displays the configured ID for the communication of the GE-EC module.

MODULE
This parameter displays the type of module, which can be GE-EC.

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.

ZONE
This parameter displays the zone in which the various logics of the GE-EC module will operate.

OUTPUT ACTUAL SPEED
This parameter displays the current speed (in RPM) of the GE-EC module ventilator.

OUTPUT POWER
This parameter displays the power output of the GE-EC module ventilator motor at its current speed.

MOTOR OUTPUT TEMPERATURE
This parameter displays the current temperature of the GE-EC module ventilator motor.

INPUT TEMPERATURE PRB1
This parameter displays the temperature from the PRB1 sensor of the GE-EC module.

PRB1 INPUT TYPE
This parameter displays the type of PRB1 sensor, which can be Read-Only or 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

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, Nursery Piglet, Finisher Pig or Other.

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.

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**.

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.

SLAVE MODULE

This parameter is used to deactivate or activate slave modules and choose their communication port.

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, *INITIAL AMOUNT OF ANIMALS* parameters, when breeding is started, is 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.

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.

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.

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) 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 #, Clock, Sprinkler, Feeder #, Feed Auger #, High Water Alarm. Odd numbered relays will also have Inlet # Open as available output type, while even numbered relays will also have Inlet # Close as available output type.

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) 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 #, Variable Heater # or Heat Pad.

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) EXTERNAL 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 #, Clock, Sprinkler, Feeder #, Feed Auger #, High Water Alarm. Odd numbered relays will also have Inlet # Open as available output type, while even numbered relays will also have Inlet # Close as available output type.

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) 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 #, Variable Heater # and Heat pad.

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 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) 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 Heater # and Heat Pad.

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.

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 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 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 # or Stir Variable #. Inactive logics will be automatically removed from the zone.

ZONE
This parameter configures the zone associated with the various input and output logics selected for the GE-EC modules.

PRB1 INPUT TYPE
This parameter defines the type of temperature assigned to the configured zone. Available options are : Read-Only or Temperature #. If Read-Only is selected, the probe value will simply be read without influencing the operation of different logics. However, if 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 modules.

BACKUP MODE
This parameter defines the operating mode that the GE-EC module should automatically adopt in the event of a communication loss with the controller. When set to ***Keep Speed***, the ventilator continues to operate at its last known speed if communication is interrupted for a duration equal to or greater than the value defined by the *DELAY BEFORE BACKUP MODE ACTIVATION* parameter. When set to ***Follow Temperature***, the ventilator modulates its speed based on the temperature measured by the PRB1 sensor and the parameters *TRIGGER TEMPERATURE, MINIMUM TRIGGER SPEED*, and *MODULATION BAND*. If the temperature is less or equal to the *TRIGGER TEMPERATURE*, the ventilator operates at the *MINIMUM TRIGGER SPEED*. If the temperature reaches *TRIGGER TEMPERATURE* + *MODULATION BAND*, it runs at full speed. Between these two thresholds, the ventilator speed increases linearly.

TRIGGER TEMPERATURE
This parameter sets the temperature threshold at which the ventilator of the GE-EC module starts operating in ***Follow Temperature*** backup mode. When the temperature measured by the PRB1 sensor is less than or equal to this value, the ventilator runs at the speed defined by the *MINIMUM TRIGGER SPEED*. This value also serves as the starting point for gradually increasing the ventilator speed as the temperature rises above the threshold.

MINIMUM TRIGGER SPEED
This parameter defines the speed at which the ventilator operates in ***Follow Temperature*** backup mode when the temperature measured by the PRB1 sensor is less than or equal to the *TRIGGER TEMPERATURE*. This speed is also used to calculate the ventilator's modulated speed when the temperature exceeds the *TRIGGER TEMPERATURE*.

MODULATION BAND
This parameter defines the temperature range over which the ventilator speed increases linearly from the *MINIMUM TRIGGER SPEED* to full speed (100%). This band is added to the *TRIGGER TEMPERATURE* to form an upper threshold. Thus, if the temperature measured by the PRB1 sensor exceeds *TRIGGER TEMPERATURE* + *MODULATION BAND*, the ventilator runs at maximum speed.

DELAY BEFORE BACKUP MODE ACTIVATION
This parameter defines the amount of time the GE-EC module waits after losing communication with the controller before switching to backup mode. If communication is not restored before the delay expires, the module automatically adopts the behavior defined by the selected backup mode: either ***Follow Temperature*** or ***Keep Speed***. This mechanism prevents unnecessary triggering during brief or unstable communication interruptions.

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.

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.

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.

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.

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.

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.

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-H), as an outside temperature probe or as Heat Pad 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 # or chain disk security #.

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-H).

IMPULSE INPUT (PRB17-20)
These parameters are used to assign a type to the impulse. An impulse input can be used as water meter #.

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 - SLAVE INPUT

INPUT MUTLIFONCTION (PRB1-4)
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-H), an outside temperature probe, Heat Pad Temperature #, feeder input #, feed auger input #, proximity switch #, chain disk security # or as water meter #.

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 - 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.

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.

EPS MODULE #
This option is used to deactivate or activate the respective EPS module, choose its model and its communication port.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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 Temperature # Too Low	- The probe is under *HEAT PAD ALARMS LOW TEMPERATURE*.
Zone # Heat Pad Temperature # 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).
Outside Probe Defect.	- The outside temperature 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 Slave #	- The slave variable module has not communicated with the controller for 5 minutes.

Slave # Input Not Responding	- The slave input 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.
Press+ # Not Responding	- The Press+ # module has not communicated with the controller for 5 minutes.
GE-EC ## Not Responding	- The GE-EC 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.
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.
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.
Wrong Module P# *or* Wrong Module HUM Port	- A module other than the expected module has been connected to the mentioned communication port.
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.
Master Relay Switch # ON	- The mentionned 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.

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.
HUM+ Probe # Not Responding	- HUM+ probe 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.

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 Low Current Relay #	- The measured current on relay # of the master controller 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.*
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.
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.
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