AVS Touch Configuration Manual

Version 1.0

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.

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 the temperature increases, but 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 the **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**.
Outside Temperature	This is the temperature read by the outside temperature probe.

Ventilation System Overview

The variables can be used as ventilation fans or light dimmers. 0-10 Volt outputs can also be used as variable fans or light dimmers.

The relays can be used as ventilation stages, heaters/brooders, sidewall fans, tunnel fans, evap cool/fog, stir fans, egg room coolers, egg room heaters, feeders, lights or clocks. The controller can also operate a vent inlet, tunnel inlet and attic inlet.

The controller can work with up to 12 inside temperature probes that it can use to compute an inside average. All outputs will follow the probes selected by the user. When one temperature probe is defective (short or open circuit), the controller will not consider it when computing the average and an alarm will be triggered. An **Outside Temperature** can be used.

The controller can monitor up to 2 water meters, 6 feeders, 2 fill systems and trigger alarms in the case of abnormal readings.

The controller can also operate up to 1 light zone and 2 bird scales.

Other features, including night set point, **Ramping Function** and history for alarms, probes, heaters, feeders, water meter and main set point are also included.

ACTUAL CONDITIONS

AVERAGE TEMPERATURE
This parameter displays the actual average temperature of the probes.

TEMPERATURE (1-12)
These parameters display the sensor readings available in the control. Up to 12 inside sensors are available if no outside, attic or breaker sensors are used. If there are only 4 inside probes selected, only the first 4 inside probes will be shown.

USED FOR AVERAGE
This column indicates which sensor is used to calculate the actual average temperature. Each sensor used for the average will be marked with a "*".

BACKUP PROBE
This parameter column indicates the backup sensor used for the respective inside sensor that is defective. The backup sensor will not be shown until this sensor is considered defective, otherwise a "*" will appear if the respective probe is included in the alarm.

VENTILATION LEVEL
This parameter displays the current ventilation level. This parameter is only displayed in precision mode.

BREAKER TEMPERATURE
This parameter displays the breaker temperature.

ATTIC TEMPERATURE
This parameter displays the attic temperature.

OUTSIDE TEMPERATURE
This parameter displays the outside temperature.

STATIC PRESSURE
This parameter displays the actual reading of the static pressure sensor.

HUMIDITY
These parameters display the actual humidity for the zone. ERROR will be displayed if the humidity probe has not communicated with the controller for 5 minutes.

FEEDER QUANTITY
This parameter displays the total amount of feed in pounds (lbs) distributed by the respective feeder since last midnight. This amount is incremented each time a pound of food is distributed depending on the *FEED (1-6) CALIBRATION (LBS/MIN)*.

FILL SYSTEM QUANTITY
This parameter displays the total amount of filling in pounds (lbs) distributed by the respective fill system since last midnight. This amount is incremented each time a pound of food is distributed depending on the *FILL SYSTEM (1-2) CALIBRATION (LBS/MIN)*.

WATER METER
This parameter displays the number of gallons that have been accumulated since last midnight by the respective water counter. The number of gallons counted with each pulse can be set with the *WATER (1-2) (GAL/PULSE)*.

ACTUAL LIGHT INTENSITY
This parameter displays the luminosity percentage of the light logic. If "ADJ." is displayed here, this means that light activity is suspended for adjustments by the *AUTO/ADJUST* parameter in **LIGHT RAMPING** screen. This parameter can also display an ON/OFF light status if only a light relay is used. This parameter is displayed to the nearest 1% from 0% to 100%.

LIGHT RELAY
This parameter displays the light status if the relay is used. This parameter displays an ON/OFF light status if only a light relay is used.

SCALE ACTUAL AVERAGE WEIGHT
These parameters display the average weight of the respective scale recorded for the actual day. If a scale has not recorded an average weight during the actual day, the respective parameter will display "0.000". The average weight values are displayed from 0.001 to 9.999 pounds.

RAMPING START DAY
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 SETPOINT* will change according to its **Growth Curve**.

ON TIME
This parameter displays the minimum ventilation timer ON time count. Minimum ventilation timer settings are updated at the end of an ON or OFF portion. In precision mode, this parameter displays the current ventilation level's timer ON time count.

ON PERIOD
This parameter displays the minimum ventilation timer ON time period. Minimum ventilation timer settings are updated at the end of an ON or OFF portion. In precision mode, this parameter displays the current ventilation level's timer ON time period.

OFF TIME
This parameter displays the minimum ventilation timer OFF time count. Minimum ventilation timer settings are updated at the end of an ON or OFF portion. In precision mode, this parameter displays the current ventilation level's timer OFF time count.

OFF PERIOD
This parameter displays the minimum ventilation timer OFF time period. Minimum ventilation timer settings are updated at the end of an ON or OFF portion. In precision mode, this parameter displays the current ventilation level's timer OFF time period.

SET POINTS

AVERAGE TEMPERATURE
This parameter displays the actual average temperature of the probes.

ACTUAL MAIN SETPOINT
This parameter displays the actual calculated main setpoint.

***MAIN SETPOINT* (Curve Available)**
This parameter is used to set the temperature goal and it is also the reference temperature for all relative settings. This parameter can follow a ramping curve function and cannot be modified if *MAIN SETPOINT CURVE* is set to ON and *RAMPING START DAY* is not set to OFF.

GROWTH DAY
This parameter displays the growth day, which is incremented (if not set to OFF) each time the clock passes midnight. The **Growth Day** may be adjusted to any value from OFF, day 0 to day 365 using 1-day increments.

RAMPING START DAY
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 SETPOINT* will change according to its **Growth Curve**.

MAIN SETPOINT CURVE
This parameter is used to set the ramping curve function ON or OFF. If this parameter is set to ON and *RAMPING STARTDAY* is not set to OFF, the *MAIN SET POINT* will follow the curve function and the user will not be able to modify it nor the *DAY* points and *MSP* points.

MSP DROP TIME ON
This parameter is used to set the time at which the *MSP* will start to drop. When the time of day reaches this value, the effective *MSP* will decrease by 1.0°F per minute until it has dropped by *MSP DROP TEMPERATURE*. The effective *MSP* will remain at *MSP* - *MSP DROP TEMPERATURE* until the time of day reaches *MSP DROP TIME OFF*.

MSP DROP TIME OFF
This parameter is used to set the time at which the *MSP* will start to rise after having dropped. When the time of day reaches this value, the effective MSP will start to modulate towards *MSP* throughout the *MSP RAISE RATE*.

MSP DROP TEMPERATURE
This parameter is used to set the maximum value that will be subtracted from the adjusted *MSP* during the MSP drop period. When the time of day reaches *MSP DROP TIME ON*, the effective MSP will decrease by 1.0°F per minute until it has dropped by the value adjusted here. If this value is set to OFF, the MSP drop function will be deactivated.

MSP DROP RATE
This parameter is used to set the time the effective MSP will take to go from *MSP* to *MSP* - *MSP DROP TEMP*. When the time of day reaches *MSP DROP TIME ON*, the effective MSP will start to modulate from *MSP* to *MSP* - *MSP DROP TEMP* throughout this amount of time.

MSP RAISE RATE
This parameter is used to set the time the effective MSP will take to go from MSP - *MSP DROP TEMP* to MSP. When the time of day reaches *MSP DROP TIME OFF*, the effective MSP will start to modulate from MSP - *MSP DROP TEMP* to MSP throughout this amount of time.

TARGET LIST

TARGET LIST (1-70)
This column displays the output associated to the set points on right (except for target temp and tunnel curtain; there is no output relay associated to these device names). In Precision mode, it also shows the ventilation levels used by the system.

TEMP
This column set points list is in ascending numerical order. These parameters are linked to the device name beside them. In precision mode, it also shows the activation temperature of each ventilation levels used by the system and the set points of tunnel, sidewall and variable fan are not displayed.

TIMER
This column indicates which portion of the minimum ventilation timer the output uses (applies only to sidewall and tunnel fans).

TRAN
This column indicates which fan is selected for tunnel fan transition. (T for TUN or S for STOP). In precision mode, it shows which ventilation level will trigger Tunnel mode.

ANIMAL INVENTORY

ACTUAL AMOUNT OF ANIMALS
This parameter displays the number of remaining animals according to INITIAL AMOUNT OF ANIMALS and MORTALITY TOTAL.

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.

DAY/EVENING/SELECTION MORTALITIES
These parameters are used to adjust the number of mortalities of the respective category for the current day. The value adjusted here will reduce the ACTUAL AMOUNT OF ANIMALS. This value will be automatically reset with each day change.

MORTALITIES
This parameter displays the number of mortalities for the current day. The value displayed here is the sum of all mortality types. 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 is used to calculate the ACTUAL AMOUNT OF ANIMALS. This value can be reset with the RESET REMAINING ANIMALS parameter.

RESET ANIMAL INVENTORY
This parameter is used to reset the animal livestock. When this parameter is pressed, all relative livestock parameters for the zone will be reset except the INITIAL AMOUNT OF ANIMALS.

STATIC PRESSURE

ACTIVE INLET
This parameter displays the actual active inlet. The active inlet changes according to ventilation mode, static pressure and the static pressure ramping. The active inlet can either be “Attic Inlet”, “Vent Inlet”, “Tunnel Inlet” or “Attic & Vent”.

STATIC PRESSURE
This parameter displays the actual reading of the static pressure sensor.

ACTUAL TARGET
This parameter displays the actual static pressure target. This value changes according to ventilation mode, static pressure ramping and the active inlet.

MIN VENT TARGET
This parameter is used to set the high and low static pressure set points when the control is in minimum ventilation mode and the attic inlet is not used or when the active inlet is the vent inlet. The *DIFFERENTIAL* will be added and subtracted to this parameter to have the high and low set points. If static pressure is below *MIN VENT TARGET − DIFFERENTIAL*, the ventilation and tunnel inlets will close. If static pressure is above *MIN VENT TARGET + DIFFERENTIAL*, the ventilation and attic inlets will open and the active inlet will become the tunnel inlet.

ATTIC TARGET
This parameter is used to set the high and low static pressure set points when the control uses the attic inlet to maintain static pressure. The *DIFFERENTIAL* will be added and subtracted to this parameter to have the high and low set points. If static pressure is below *ATTIC TARGET − DIFFERENTIAL*, the ventilation, tunnel and/or attic inlets will close. If static pressure is above *ATTIC TARGET + DIFFERENTIAL*, the attic inlet will open and the active inlet will become the ventilation inlet.

TUNNEL TARGET
This parameter is used to set the high and low static pressure set points when the control is in tunnel mode. The *DIFFERENTIAL* will be added and subtracted to this parameter to have the high and low set points. If static pressure is below *TUNNEL TARGET − DIFFERENTIAL*, the tunnel inlet will close. If static pressure is above *TUNNEL TARGET + DIFFERENTIAL*, the tunnel inlet will open and the transition delay output will be activated.

DIFFERENTIAL
This parameter establishes the differential for static pressure targets. This value will be added and subtracted from the actual static pressure target to get high and low static pressure set points.

RAMPING
This parameter indicates which pressure settings are used by the control. If *RAMPING* is set to OFF, *MIN VENT INLET TARGET* and *TUNNEL TARGET* will be used. If *RAMPING* is set to INSIDE, the static pressure target will be determined by the average temperature and inside parameters. If an outside sensor is used, one more option (OUTSIDE) is available. If *RAMPING* is set to OUTSIDE, the control will use the outside settings and functions.

LOW STATIC PRESSURE RELAY
This parameter is used to set the alarm relay ON or OFF on a low-pressure alarm. Even if this option is set to OFF, the alarm is triggered in the alarm list except that the alarm relay is not activated.

LOW STATIC PRESSURE
This parameter is used to establish the low-pressure alarm limit. When pressure is above *LOW STATIC PRESSURE*, the *LOW ALARM DELAY* is activated. This parameter can also be modified in the **ALARM** screen.

LOW STATIC PRESSURE DELAY
This parameter is used to set a delay that allows the pressure to exceed the limit *LOW STATIC PRESSURE* without activating the alarm. There is an alarm satisfy time fixed at 5 seconds that allows the static pressure to return above *LOW STATIC PRESSURE* without reinitializing the delay *STATIC PRESSURE LOW DELAY*.

Ex: *LOW STATIC PRESSURE* = 0.020“WC;
LOW STATIC PRESSURE DELAY = 300 seconds;
When static pressure is below 0.020“WC, the *LOW STATIC PRESSURE DELAY* is activated. If the static pressure stays below 0.020“WC throughout the *LOW STATIC PRESSURE DELAY*, the alarm will activate. If static pressure returns above *LOW STATIC PRESSURE* for more than 5 seconds, the low-pressure alarm (or *LOW STATIC PRESSURE DELAY*) will be reinitialized. Sidewall fans are affected by the low-pressure alarm. They will turn back ON if previously forced to stop by tunnel transitions such as STOP (Min Fan Stop) or START (Tunnel Start). They will turn back OFF when the low static pressure alarm condition disappears.

HIGH STATIC PRESSURE
This parameter is used to establish the high-pressure alarm limit. When pressure is below *HIGH STATIC PRESSURE*, the *HIGH ALARM DELAY* is activated. This parameter can also be modified in the **ALARM** screen. The *HIGH STATIC PRESSURE* is adjusted in 0.001“WC increments from 0.050“WC to 0.200“WC.

HIGH STATIC PRESSURE DELAY
This parameter is used to set a delay that allows the pressure to exceed the limit *HIGH STATIC PRESSURE* without activating the alarm.

Ex: *HIGH STATIC PRESSURE* = 0.100“WC;
HIGH STATIC PRESSURE DELAY = 60 seconds;
When static pressure is above 0.100“WC, the *HIGH STATIC PRESSURE DELAY* is activated. If the static pressure stays above 0.100“WC throughout *HIGH STATIC PRESSURE DELAY*, the alarm will activate.

DELAY BEFORE SWITCHING OPEN/CLOSE
This parameter is used to set the delay before the ventilation and tunnel inlets change states from halt to open or close, open to close or close to open. This delay does not affect tunnel inlet when it follows a curtain.

ATTIC VENTILATION SELECT
This parameter is used to adjust which mode the attic inlet will use. If this parameter is set to "Attic First", the attic inlet will maintain static press according to the *ATTIC TARGET* and the ventilation inlet will close. In this mode, if the attic ventilation inlet cannot maintain static pressure, it will transfer to the ventilation inlet. In this mode, if vent inlet cannot maintain static pressure, it will transfer to the tunnel inlet. If this parameter is set to "Attic & Vent", the attic inlet and the ventilation inlet will both react according to the *VENT TARGET*. If this parameter is set to "Vent Only", the attic ventilation inlet will close continuously and the ventilation inlet will react according to the *MIN VENT TARGET*.

AUTO-ADJUST OPTION
This parameter is used to activate or deactivate the auto-adjust option for the vent inlet when the static pressure is below or above the static pressure set point and the vent inlet is active inlet. When the static pressure is below or above the static pressure target, the temperature is below all the fan's RSP and min vent timer is used on at least one fan and this parameter is set to ON, the active inlet will open according to the *CURRENT CALCULATED TIME* during the OFF period of the min vent timer. This parameter can either be set to ON or OFF.

INITIAL OPEN TIME BEFORE FAN ON
This parameter allows the user to set the value for *VENT OPEN TIME BEFORE FAN ON* when *RESET/MAN OVERR VENT ON TIME* is set to CLEAR.

CURRENT *CALCULATED* TIME
When the temperature is below all the fans' RSPs and min vent timer is used on at least one fan, the actual inlet will follow the static pressure sensor and the parameter *VENT OPEN TIME BEFORE FAN ON*. In precision mode, this will only happen when the sidewall fan and tunnel fan are only activated through the timer. The min vent timer has an ON time and an OFF time. If the actual inlet is vent, the inlet will start opening during the min vent OFF time and will stop once the OFF time has expired or the fan has started. As the ON time begins, the fans will be activated and the vent inlet will operate according to the static pressure sensor. If Attic & Vent mode is used, both the vent and attic will open during their respective period. The *VENT OPEN TIME BEFORE FAN ON* value is modified by the control according to the static pressure samples taken as the vent or attic inlet returns to pressure mode after the transition from OFF to ON in a minimum ventilation cycle. If any fans are active on temperature demand, no sampling or adjustments will be done. The *VENT OPEN TIME BEFORE FAN ON* is displayed to the nearest second from 1 to 120 seconds and will never be outside those limits.

AVERAGE FAN CYCLES
This parameter allows the user to choose the number of fan cycles for which the static pressure will be sampled to adjust the *VENT OPEN TIME BEFORE FAN ON* time. The control will keep a number of static pressure samples equal to the number set in this parameter in memory to make adjustments until an adjustment is made or STATIC PRESSURE sample is within limits. The control will then make an average out of these samples to calculate the compensation necessary to maintain ideal static pressure. If one or more samples are within ACTUAL TARGET − *DIFFERENTIAL* OR ACTUAL TARGET + *DIFFERENTIAL*, no adjustments will be made. If all samples are outside those same points, *VENT OPEN TIME BEFORE FAN ON* will be adjusted.

STATIC PRESSURE RANGE
This parameter represents the amount of static pressure that will add or subtract one second from the *VENT OPEN TIME BEFORE FAN ON*. When the average of the static pressure samples exceeds ACTUAL TARGET + *DIFFERENTIAL*, the control will divide the difference between the SP and the average of the samples by *STATIC PRESSURE RANGE* and add that many seconds (+ 1 if there is a remainder) to *VENT OPEN TIME BEFORE FAN ON*. When STATIC PRESS is lower than ACTUAL TARGET – *DIFFERENTIAL*, the control will divide the difference between the SP and the sample by *STATIC PRESSURE RANGE* and subtract that many seconds (+ 1 if there is a remainder) to *VENT OPEN TIME BEFORE FAN ON*.

RESET/MANUAL OVERRIDE TIME ON
This parameter can be used to reset or manually override the current *VENT ON TIME BEFORE FAN ON* value. If set to CLEAR, *VENT OPEN TIME BEFORE FAN ON* is reset to the value set at *VENT ON TIME RESET VALUE*. This is necessary in case the sensor becomes unplugged or defective and the value of *VENT OPEN TIME BEFORE FAN ON* is modified by these incorrect readings. Press on this parameter and a confirmation text and choice will appear.

ATTIC CLOSE TIME AFTER FAN ON
This parameter is used to set the time the attic inlet will close at the end of the On phase during minimum ventilation. This will only happen when the temperature is below all the fans' RSPs, the min vent timer is used on at least one fan and the active inlet is the attic inlet. In Precision mode, this will only happen when the sidewall fan and tunnel fan are only activated by the timer.

ATTIC INLET TRANSITION DELAY
This parameter establishes the delay for which the active tunnel will go from attic inlet to the next assigned inlet when the static pressure is above *ATTIC TARGET*. When the static target is above *ATTIC TARGET + DIFFERENTIAL* for an amount of time equal to this parameter, the active inlet will become the ventilation inlet if it used, otherwise it will become the tunnel inlet if it is used. If the ventilation inlet and tunnel are not used, the active inlet will remain the same.

MIN VENT INLET TRANSITION DELAY
This parameter establishes the delay for which the active tunnel will go from the ventilation inlet to the tunnel inlet when the static pressure is above *MIN VENT TARGET* or from ventilation inlet to attic inlet when the static pressure is below *MIN VENT TARGET*. When the static target is above *MIN VENT TARGET + DIFFERENTIAL* for an amount of time equal to this parameter, the active inlet will become the tunnel inlet if it is used, otherwise it will remain the same. If the static pressure is below *MIN VENT TARGET – DIFFERENTIAL* for an amount of time equal to this parameter, the active inlet will become the attic inlet if it used, otherwise it will remain the same.

TUNNEL INLET TRANSITION DELAY
This parameter establishes the delay before the active inlet goes from tunnel inlet to ventilation inlet when the static pressure is below *MIN VENT/TUNNEL TARGET − DIFFERENTIAL.* It is also the delay that will activate the transition delay output when the static pressure is above *TUNNEL TARGET + DIFFERENTIAL*. When the static pressure is above *TUNNEL TARGET + DIFFERENTIAL* for an amount of time equal to this parameter, the transition delay output will activate if it is used. If the static pressure is below *MIN VENT/TUNNEL TARGET − DIFFERENTIAL* for an amount of time equal to this parameter, the transition delay will be deactivated and the active inlet will become the vent inlet. If the vent inlet is not used, the active inlet will become the attic inlet if it is used, otherwise the active inlet will remain the tunnel inlet.

ATTIC INLET CLOSE TEMPERATURE
This parameter is used to adjust the temperature at which the attic ventilation inlet will close continuously and the ventilation inlet will maintain static pressure. If the attic ventilation inlet's temperature is at or above this temperature, the attic ventilation inlet will close continuously and the ventilation inlet will react according to the *MIN VENT TARGET*.

ATTIC INLET CLOSE TEMPERATURE
This parameter is used to adjust the temperature at which the attic ventilation inlet will close continuously and the ventilation inlet will maintain static pressure. If the attic ventilation inlet's temperature is at or above this temperature, the attic ventilation inlet will close continuously and the ventilation inlet will react according to the *MIN VENT TARGET*. This parameter is adjusted in 0.1°F increments from *MAIN SETPOINT* + 0.0°F to *MAIN SETPOINT* + 40.0°F.

ATTIC INLET CLOSE DIFFERENTIAL
This parameter is used to set the differential on the *ATTIC INLET CLOSE TEMPERATURE*. When the average temperature decreases to *ATTIC VENT CLOSE TEMPERATURE − ATTIC INLET CLOSE DIFFERANTIAL* the attic inlet will close continuously and vent inlet will maintain static pressure. This parameter is adjusted in 0.1°F increments from 0.5°F to 10.0°F.

ATTIC INLET PROBE SELECT
This parameter is used to assign a temperature to the attic inlet. The temperature associated to this output is a combination of the temperatures measured by the inside probes that are selected.

ATTIC WEIGHT INLETS
This parameter is used to activate or deactivate Weight mode for the attic inlet. When this mode is activated, the attic inlet will open continuously. The only exception is when the Attic Close Temp is reach, which will cause the attic inlet to close.

ATTIC CLOSE AFTER FAN ON
This parameter is used to set the time the attic inlet will close at the end of On phase during minimum ventilation. This will only happen when the temperature is below all the fans' RSPs and min vent timer is used on at least one fan. In precision mode, this will only happen when sidewall fans and tunnel fans are only activated on timer.

ATTIC AUTO-AJUST OPTION

This parameter is used to activate or deactivate the auto-adjust option for the attic inlet when the static pressure is below or above the static pressure set point. When the static pressure is below or above the static pressure target, the temperature is below all the fan's RSP, the min vent timer is used on at least one fan and this parameter is set to ON, the attic inlet will open according to the CURRENT CALCULATED TIME. In precision mode, this will happen when the sidewall fans and tunnel fans are only activated on timer. If the active inlet is the attic inlet or attic & vent, it will open during the ON period of the current timer.

ATTIC INITIAL OPEN TIME

This parameter allows the user to set the value for ATTIC OPEN TIME when RESET/MAN OVERR VENT ON TIME is used.

ATTIC CURENT CALCULATED TIME

When the temperature is below all the fans' RSPs and min vent timer is used on at least one fan, the attic inlet will follow the static pressure sensor and the parameter ATTIC OPEN TIME BEFORE FAN ON. In Precision mode, this will only happen when sidewall fan and tunnel fan are only activated on timer. The min vent timer has an ON time and an OFF time. If the actual inlet is attic, the inlet will open for ATTIC OPEN TIME when a fan has started and then will operate according to the static pressure sensor. The ATTIC OPEN TIME value is modified by the control according to the static pressure samples taken as vent or attic inlet returns to pressure mode after the transition from OFF to ON in a minimum ventilation cycle. If any fans are active on temperature demand, no sampling or adjustments will be done The ATTIC OPEN TIME BEFORE FAN ON is displayed to the nearest second from 1 to 120 seconds and will never be outside those limits.

ATTIC AVERAGE FAN CYCLES

This parameter allows user to choose the number of fan cycles for which static pressure will be sampled to adjust the ATTIC OPEN TIME. The control will keep a number of static pressure samples equal to the number set in this parameter in memory to make adjustments until an adjustment is made or STATIC PRESSURE sample is within limits. The control will then make an average out of these samples to calculate the compensation necessary to maintain ideal static pressure. If one or more samples are within ACTUAL TARGET - DIFFERENTIAL OR ACTUAL TARGET + DIFFERENTIAL, no adjustments will be made. If all samples are outside those same points, ATTIC OPEN TIME will be adjusted.

ATTIC STATIC PRESSURE RANGE

This parameter represents the amount of static pressure that will add or subtract one second from the ATTIC OPEN TIME. When the average of the static pressure samples exceeds ACTUAL TARGET + DIFFERENTIAL, the control will divide the difference between the SP and the average of the samples by STATIC PRESSURE RANGE and add that many seconds (+ 1 if there is a remainder) to ATTIC OPEN TIME. When static press is lower than ACTUAL TARGET - DIFFERENTIAL, the control will divide the difference between the SP and the sample by STATIC PRESSURE RANGE and subtract that many seconds (+ 1 if there is a remainder) from ATTIC OPEN TIME.

ATTIC RESET/MANUAL OVERRIDE TIME ON
This parameter can be used to reset or manually override the *ATTIC CURRENT CALCULATED TIME*. If set to CLEAR, *ATTIC CURRENT CALCULATED TIME* is reset to the value set at *ATTIC INITIAL OPEN TIME*. This is necessary in case the sensor becomes unplugged or defective and the value of *ATTIC CURRENT CALCULATED TIME* is modified by these incorrect readings. Press on this parameter and a confirmation text and choice will appear.

INSIDE RAMPING TEMPERATURE (1-12)
These parameters are used to set the temperature at which the static pressure set point will be equal to the value of the same line. When the average temperature reaches this value, the static pressure set point will be equal to the *STATIC* set point of the same line. A fixed differential of 0.3°F is used with each temperature setting. These settings are forced into ascending order. These parameters are affected by the *MAIN SETPOINT* parameter.

INSIDE RAMPING SET POINT (1-12)
These parameters are used to set the static pressure set point that will be used when the average temperature reaches the temperature value of the same line. The *DIFFERENTIAL* parameter will be added to and subtracted from the calculated static pressure set point to obtain the high and low static pressure set points. If static pressure is below the calculated set point − *DIFFERENTIAL*, the active inlet will close. If static pressure is above the calculated set point + *DIFFERENTIAL*, the active inlet will open.

INSIDE RAMPING (1-12) USED
These parameters are used to determine if the respective inside ramping step is used or unused. When one of these parameters is set to "N", the corresponding step will be ignored. When the average temperature is below all TEMP values, the first step that has its option set to "Y" will be used. When the average temperature is above all TEMP values, the last step that has its option set to "Y" will be used. If all of these options are set to "N", the STATIC TARGET screen will be used.

OUTSIDE RAMPING START DAY
This parameter establishes the *START DAY* for the *OUTSIDE START TARGET*.

OUTSIDE RAMPING START TEMPERATURE
This parameter establishes the outside temperature set point for the *OUTSIDE START TARGET PRESSURE*.

OUTSIDE RAMPING START TARGET
This parameter establishes the target static pressure for the *OUTSIDE START DAY*.

OUTSIDE RAMPING START MAXIMUM MODULATION
This parameter establishes the maximum inches of water column the static pressure target can modulate at the *OUTSIDE RAMPING START DAY* regardless of how high or low the outside temperature reaches.

OUTSIDE RAMPING END DAY
This parameter establishes the *OUTSIDE RAMPING END DAY* for the *OUTSIDE RAMPING END TARGET*.

OUTSIDE RAMPING END TEMPERATURE
This parameter establishes the outside temperature set point for the *OUTSIDE RAMPING END TARGET PRESSURE*.

OUTSIDE RAMPING END TARGET
This parameter establishes the target static pressure for the *FINISH DAY*.

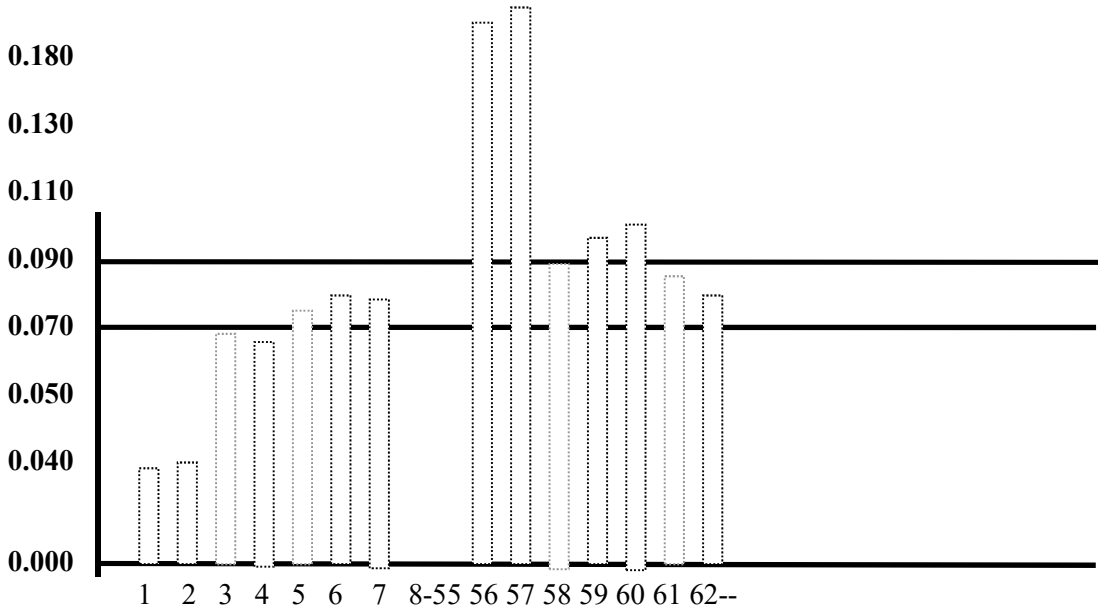
OUTSIDE RAMPING END MAXIMUM MODULATION
This parameter establishes the maximum inches of water column the static pressure target can modulate at the *FINISH DAY* regardless of how high or low the outside temperature reaches.

OUTSIDE RAMPING MODULATION BAND / 5 DEGREES
This parameter establishes number of "WC static pressure targets will modulate from the original target for every 5 degrees the outside temperature changes.

Ex 1: VENT OPEN TIME BEFORE FAN ON auto-adjustment.

ACTUAL TARGET - DIFFERENTIAL = 0.070"WC
ACTUAL TARGET + DIFFERENTIAL = 0.090"WC
ON TIME = 30 sec
CYCLE TIME = 5 minutes
AVGERAGE FAN CYCLES = 2 cycles
STATIC PRESSURE RANGE = 1 SEC = 0.010" WC
VENT OPEN TIME BEFORE FAN ON preset at 15 sec

After any 2 consecutive low or high STATIC PRESSURE samples, the control will make an adjustment to `VENT OPEN BEFORE FAN ON` to achieve the desired STATIC PRESSURE in the next minimum ventilation cycle. The minimum ventilation cycles in gray are those where the control made an adjustment:



EX 1: VENT OPEN TIME BEFORE FAN ON AUTO-ADJUSTMENT. (CONTINUED)

1 Min vent cycle 1: STATIC PRESSURE sample is 0.037"WC. (Lower than ACTUAL TARGET - *DIFFERENTIAL*)

2 Min vent cycle 2: STATIC PRESSURE sample is 0.039"WC. (Lower than ACTUAL TARGET - *DIFFERENTIAL*)

- After these 2 consecutive low STATIC PRESSURE cycles, the control will decrease VENT ON TIME BEFORE FAN ON, by 4 sec, from 15 to 11 sec.
- This is calculated as follows: **Average STATIC PRESSURE:**
  Time subtracted:
  VENT OPEN TIME BEFORE FAN ON:

(0.037 + 0.039)/2 = 0.038"WC
(0.070-0.038)/0.010 = 3,2 (4 seconds)
15 – 4 = 11 seconds

3 Min vent cycle 3: STATIC PRESSURE sample is 0.065"WC. (Lower than ACTUAL TARGET - *DIFFERENTIAL*)

4 Min vent cycle 4: STATIC PRESSURE sample is 0.063"WC. (Lower than ACTUAL TARGET - *DIFFERENTIAL*)

- After these 2 consecutive low STATIC PRESSURE cycles, control will decrease *VENT ON TIME BEFORE FAN* ON, by 1 sec, from 11 to 10 sec.
- This is calculated as follows

Average STATIC PRESSURE:
Time subtracted:
VENT OPEN TIME BEFORE FAN ON:

(0.070-0.064)/0.010 = 0,6 (1 second)
11 – 1 = 10 seconds
(0.065 + 0.063)/2 = 0.064"WC

5-7 Min vent cycle 5-7: STATIC PRESSURE sample is within ACTUAL TARGET - *DIFFERENTIAL* and ACTUAL TARGET + *DIFFERENTIAL*.

8-55 Many more Min vent cycles where STATIC PRESSURE sample is within ACTUAL TARGET - *DIFFERENTIAL* and ACTUAL TARGET + *DIFFERENTIAL*. Then user adds another fan to timer.

56 Min vent cycle 56: STATIC PRESSURE sample is 0.184"WC. (Higher than ACTUAL TARGET + *DIFFERENTIAL*)

57 Min vent cycle 57: STATIC PRESSURE sample is 0.195"WC. (Higher ACTUAL TARGET + *DIFFERENTIAL*)

After these 2 consecutive high STATIC PRESSURE cycles, control will increase *VENT ON TIME BEFORE FAN ON*, by 10 sec, from 11 to 21 sec.

- This is calculated as follows

Average STATIC PRESSURE: (0.070-0.064)/0.010 = 0,6 (1 second)
Time subtracted: 11 – 1 = 10 seconds
VENT OPEN TIME BEFORE FAN ON: (0.065 + 0.063)/2 = 0.064"WC

58 Min vent cycle 58: STATIC PRESSURE sample is within ACTUAL TARGET - *DIFFERENTIAL* and ACTUAL TARGET + *DIFFERENTIAL*.

59 Min vent cycle 59: STATIC PRESSURE sample is 0.094"WC. (Higher than ACTUAL TARGET + *DIFFERENTIAL*)

60 Min vent cycle 60: STATIC PRESSURE sample is 0.098"WC. (Higher than *ACTUAL TARGET + DIFFERENTIAL*)

After these 2 consecutive high STATIC PRESSURE cycles, control will increase VENT ON TIME BEFORE FAN ON, by 1 sec, from 21 to 22 sec.

Ex 1: VENT OPEN TIME BEFORE FAN ON auto-adjustment. (Continued)

- This is calculated as follows:

Average STATIC PRESSURE: (0.94 + 0.98)/2 = 0.096"WC

Time subtracted: (0.096-0.090)/0.010 = 0,6 (1 second)

VENT OPEN TIME BEFORE FAN ON: 21 + 1 = 22 seconds61

60 Min vent cycle 61: STATIC PRESSURE sample is within *ACTUAL TARGET* - *DIFFERENTIAL* and ACTUAL TARGET + *DIFFERENTIAL*.

Ex 2: VENT OPEN TIME BEFORE FAN ON application.

All fans are below their respective RSP;
VENT OPEN TIME BEFORE FAN ON = 40 sec;
MIN VENT TIME ON = 120 sec;
MIN VENT CYCLE TIME = 5 min,

The active inlet will react as follows:

The fans are OFF for 3 min. and ON for 2 min. The active inlet follows the static pressure sensor for all the ON time and for 2 min and 20 sec of OFF time. 40 seconds before the end of min vent time OFF (3 min - 40 sec = 2 min and 20 sec), the active inlet will open for 40 seconds (until the beginning of time ON). Fans with timer option will then activate and a static pressure sample will be taken shortly after. The Active inlet will return to pressure mode until a temperature demand.

Example:

System will function as follows:

Static pressure target will be controlled by `RAMPING` (if ramping is activated), *START&FINISH TARGET PRESSURE* and *START&FINISH OUTSIDE TEMP*. See example and chart below.

Day 1

START DAY = 1;
START OUTSIDE TEMP = 85.0°F;
START TARGET PRESSURE = 0.080"WC;
MOD BAND/5 DEG = 0.005"WC;
START MAX MODULATION = 0.005"WC;
If outside temperature is 85.0°F, static pressure target will be 0.080"WC.

If outside temperature increases to 90.0°F, static pressure target will decrease to 0.075“WC. Static pressure target cannot decrease below 0.075“WC, even if outside temperature increases to 95.0°F or above.

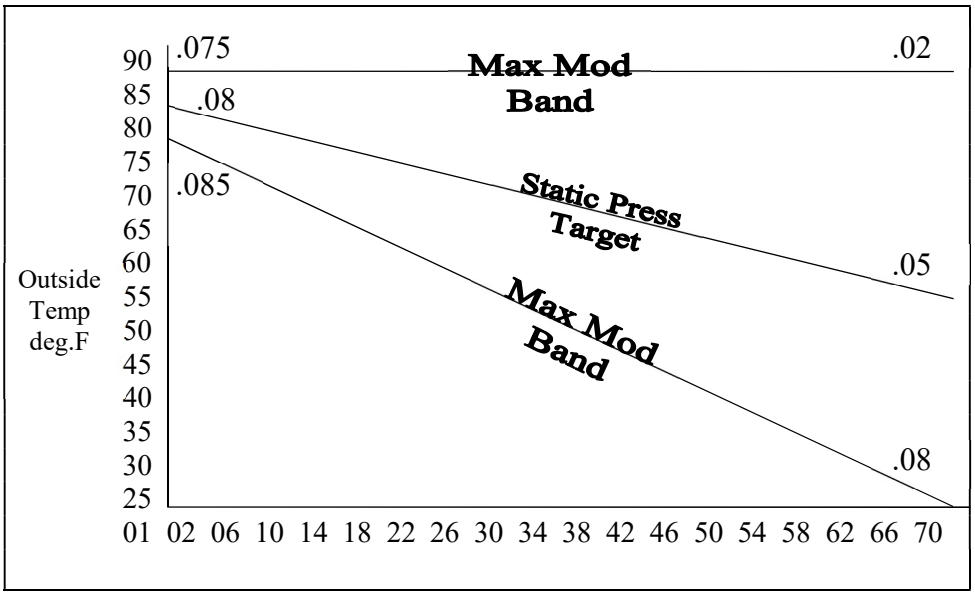
Day 70

FINISH DAY = 70;
FINISH OUTSIDE TEMP = 60.0°F;
FINISH TARGET PRESSURE = 0.050“WC;
MOD BAND/5 DEG = 0.005“WC;
FINISH MAX MODULATION = 0.030“WC;
If outside temperature is 65.0°F, static pressure target will decrease to 0.045“WC.
If outside temperature increases to 70.0°F, static pressure target will decrease to 0.040“WC.
If outside temperature increases to 75.0°F, static pressure target will decrease to 0.035“WC.
If outside temperature increases to 80.0°F, static pressure target will decrease to 0.030“WC.
If outside temperature increases to 85.0°F, static pressure target will decrease to 0.025“WC.
If outside temperature increases to 90.0°F, static pressure target will decrease to 0.020“WC.
Static pressure target cannot decrease below 0.020“WC, even if outside temperature increases to 95.0°F or above.

If outside temperature decreases to 55.0°F, static pressure target will increase to 0.055“WC.
If outside temperature decreases to 50.0°F, static pressure target will increase to 0.060“WC.
If outside temperature decreases to 45.0°F, static pressure target will increase to 0.065“WC.
If outside temperature decreases to 40.0°F, static pressure target will increase to 0.070“WC.
If outside temperature decreases to 35.0°F, static pressure target will increase to 0.075“WC.
If outside temperature decreases to 30.0°F, static pressure target will increase to 0.080“WC.
Static pressure target cannot increase above 0.080“WC, even if outside temperature decreases to 25.0°F or below.

In between Day 1 & Day 70

Static pressure target will modulate according to the values selected in; *START&FINISH DAY*, *START&FINISH OUTSIDE TEMP*, *START&FINISH TARGET PRESSURE*, *MOD BAND/5 DEG*, *START&FINISH MAX MODULATION*.



Static pressure logic description

Attic First mode

When attic inlet is the active inlet:

- If the pressure is below the *ATTIC TARGET – DIFFERENTIAL*, all of the inlets will close continuously.

- If the pressure is above the *ATTIC TARGET + DIFFERENTIAL* for more than *ATTIC TRANSITION DELAY*, the attic inlet will open continuously and the vent inlet will become the active inlet.

When vent inlet is the active inlet:

- If the pressure is below the *MIN VENT TARGET – DIFFERENTIAL* for more than *MIN VENT TRANSITION DELAY*, the vent inlet will close continuously and the attic inlet will become the active inlet.

- If the pressure is above the *MIN VENT TARGET + DIFFERENTIAL* for more than *MIN VENT TRANSITION DELAY*, the vent inlet will open continuously and the tunnel inlet will become the active inlet.

When tunnel inlet is the active inlet:

- If the pressure is above the *MIN VENT TARGET + DIFFERENTIAL* for more than *TUNNEL TRANSITION DELAY*, the tunnel inlet will open according to the static pressure target and transition delay output will be activated.

- If the pressure is below the *MIN VENT TARGET – DIFFERENTIAL* for more than *TUNNEL TRANSITION DELAY* and the transition output is activated, the transition output will be deactivated and the tunnel inlet open according to the static pressure target.

- If the pressure is below the *MIN VENT TARGET – DIFFERENTIAL* for more than *TUNNEL TRANSITION DELAY* and the transition delay output is deactivated, the tunnel inlet will close continuously and the vent inlet will become the active inlet.

During tunnel mode:

- During *DELAY BEFORE TUNNEL*, both the attic inlet and vent inlet will stay in the same state and the tunnel inlet will open continuously.
- In tunnel mode, the attic inlet and ventilation inlet will close continuously. The active inlet will become the tunnel inlet and the tunnel inlet and transition delay output will open according to the static pressure. The *TUNNEL TARGET* will also be used.
- During *DELAY AFTER TUNNEL*, both the attic inlet and vent inlet will open continuously. The active inlet will remain the same.

Attic & Vent mode

- Attic inlet and ventilation inlet follow the vent target. The sequence described above occurs with the exception that the tunnel inlet takes over as soon as the attic transition is maxed out.

Vent Only mode

- Ventilation and tunnel inlets will open and close according to the static pressure, but the attic inlet will close continuously.

Inlet behavior according to ventilation modes table:

	Attic First Mode	**Attic & Vent Mode**	**Vent Only Mode** or **Attic Vent Close Temp**
Minimum Ventilation	***Attic Inlet***, ***Vent Inlet*** and ***Tunnel Inlet*** follow static target.	***Attic Inlet*** and ***Vent Inlet*** follow vent target. ***Tunnel Inlet*** follows static target if other inlets are maxed out.	***Attic Inlet*** closes continuously. ***Vent Inlet & Tunnel Inlet*** follow static target.
Tunnel Mode	***Attic Inlet*** and ***Vent Inlet*** close continuously.		
	Tunnel Inlet follows Tunnel Target.		

Notes:

- When using Outside Ramping on static pressure, the calculated target will replace all Min Vent Targets and Tunnel Targets in this table.
- When using Inside Ramping on static pressure, the calculated target will replace all Min Vent Targets in this table.

PRECISION MODE

This mode is used to control the ventilation. Instead of having a probe selection and an activation temperature for each fan (tunnel, sidewall or variable), the system uses ventilation levels. There are 40 different ventilation levels. Each level has an activation temperature, tunnel fan selections, sidewall fan selections, variable selections and a timer with ON and OFF period. When a level is active, only the fans selected can be activated.

A ventilation level is reached when the temperature is higher than its activation temperature for a period equal to its activation delay. A ventilation level is deactivated when the temperature is lower than its activation temperature for a time equal to its deactivation delay.

The Tunnel fan and sidewall fan can be activated continuously or through a timer. When a fan is selected through a timer, it will be activated during the ON period of the timer and will be deactivated during the OFF period of the timer. When a fan is selected to be activated continuously, the fan will be activated non-stop as long as the current level stays active.

The selected variable can activate ON through a timer, on modulation or at full speed. When a variable is set to ON through a timer, it will be activated at minimum speed during the on period of the timer and will be deactivated during the off period of the timer. When a variable is selected to activate on modulation, the variable fan will modulate from its minimum speed to 100%. When a level is reached, the selected fans activate at their minimum speed. As the temperature increases, the intensity of the variable fan will increase to reach 100% when the temperature is at or above the level activation + the fan's modulation band. When a variable is selected to activate at full speed, the fan's speed will be 100% as long as the current level stays active.

PRECISION MODE SETTINGS

This group is only accessible when the system is in precision mode.

NUMBER OF VENTILATION LEVELS

This parameter is used to select de number of ventilation levels used by the system in precision mode.

COOL DOWN FACTOR

This parameter is used to determine the minimum improvement on the difference between the average temperature and the target temperature. If the difference did not decrease by this amount during the time between the ventilation level was increased and the activation delay of the next level, the active level is increased.

COOL DOWN FAST RESPONSE

This parameter is used to adjust the maximum temperature drop tolerated by the system. If the temperature drops by this amount in a one-minute period, the ventilation level will decrease by one.

TUNNEL MODE LEVEL
This parameter is used to select which ventilation level will activate the tunnel mode. When that level is reached the tunnel mode will be triggered. The system will stay in tunnel mode until it returns to a lower level.

VENTILATION LEVELS 1-10, 11-20, 21-30, 31-40
This group is only accessible when the system is in precision mode.

ACTIVATION TEMPERATURE
These parameters are used to set the activation temperature of each ventilation level. When the temperature is equal to or greater than the activation temperature of a level for more than its activation delay, the level becomes active.

ACTIVATION DELAY
These parameters are used to set the activation delay of each level. The activation delay is the time after which a ventilation level will become active once its Activation Temperature is reached.

DEACTIVATION DELAY
These parameters are used to set the deactivation delay of each level. The activation delay is the time after which a ventilation level will end once the temperature is lower than its Activation Temperature.

SIDEWALL FANS ACTIVATED ON TIMER
These parameters are used to select which sidewall fan will be activated on timer for each level.

SIDEWALL FANS ACTIVATED CONTINUOUSLY
These parameters are used to select which sidewall fan will be activated continuously for each level.

TUNNEL FANS ACTIVATED ON TIMER
These parameters are used to select which tunnel fan will be activated on timer for each level.

TUNNEL FANS ACTIVATED CONTINUOUSLY
These parameters are used to select which tunnel fan will be activated continuously for each level.

VARIABLE FANS ACTIVATED ON TIMER
These parameters are used to select which variable fan will be activated on timer for each level. When the timer is on, the selected fan will be activated at its minimum speed. When the timer is off, the selected fan will be off.

VARIABLE FANS ACTIVATED ON MODULATION
These parameters are used to select which variable fan will be activated continuously for each level. The speed of the selected fan will increase as the temperature rises.

VARIABLE FANS ACTIVATED AT FULL SPEED
These parameters are used to select which variable fan will be activated at full speed for each level. The selected fan will be activated at 100%

***TIMER ON TIME* (Curve Available for level 1-5)**
These parameters are used to set the on period for each level's timer. The fans selected to operate on timer will be activated for this amount of time.

***TIMER OFF TIME* (Curve Available for level 1-5)**
These parameters are used to set the off period for each level's timer.

TIMER CURVE
These parameters are used to set the ramping curve function ON or OFF for level timer. These parameters only exist for levels 1 to 5. If the parameter is set to ON and the *RAMPING START DAY* of the **SET POINTS** screen is not set to OFF, *TIMER ON TIME* and *TIMER OFF TIME* will follow their respective curve function and the user will not be able to manually modify those parameters nor the day points and time points.

SIDEWALL FANS

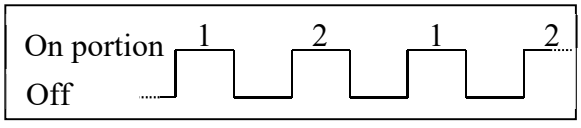
ACTUAL STATUS
These parameters display the actual status of the sidewall fans. Each sidewall fan can display OFF or 100%.

OFF TEMPERATURE
These parameters are used to set the sidewall fan differentials. The respective sidewall fan deactivates when its respective sensor(s) select average temperature decreases to *SIDEWALL FAN # OFF*. These parameters are affected by the respective *SIDEWALL FAN # ON* parameter.

ON TEMPERATURE
These parameters are used to set the sidewall fan set points. The respective sidewall fan is activated when its respective sensor(s) select average temperature increases to *SIDEWALL FAN # ON*. Changing one of these parameters will affect the respective *SIDEWALL FAN # OFF* parameter. These parameters are affected by the *MAIN SETPOINT* parameter.

TIMER
These parameters are used to establish on which portion of the minimum ventilation timer the respective sidewall fan will be activated. If a parameter is set to none, the respective sidewall fan will be activated only when it has a temperature demand. These parameters can be set to portion #1, #2 or none. If some fans (including tunnel fans) are set to portion #1 and none of them are set to portion #2 (or some fans are set to portion #2 and none of them on portion #1), fans using the timer activate on portion #1 and #2. If none of the sidewall fans and tunnel fans run on the minimum ventilation timer, the timer will stop to restart on the off portion as soon as one of these fans needs to run on minimum ventilation timer.

Minimum ventilation timer



PROBES
These parameters are used to set an individual associated temperature to the respective output. The temperatures associated to these sidewall fans are a combination of the used inside probes.

HIGH TEMPERATURE OVERRIDE OPTION
This parameter allows the user to have sidewall fans activate if *HIGH TEMPERATURE OVERRIDE* is reached, regardless of tunnel mode and timers. If the average temperature reaches the *HIGH TEMP OVERRIDE* set point, sidewall fans with the option "Y" will activate.

HIGH TEMPERATURE OVERRIDE
This parameter sets the temperature at which sidewall fans will activate, regardless of tunnel mode and timers. If the average temperature reaches this absolute temperature, sidewall fans with the *HIGH TEMPERATURE OVERRIDE OPTION* set to "Y" will activate.

LOAD DELAY
This parameter establishes the time between the activation of multiple fans. This delay allows the fans to activate with a delay between them to reduce the chance of a power shortage due to too many fans activating at the same time. This delay is not applied on timer activation.

TUNNEL FANS

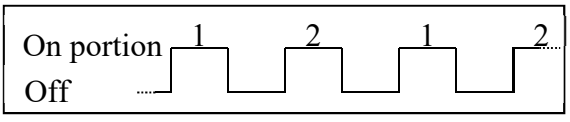
ACTUAL STATUS
These parameters display the actual status of the tunnel fans.

ON TEMPERATURE
These parameters are used to set the tunnel fan set points. The respective tunnel fan is activated when its temperature increases to *ON TEMPERATURE*. Changing one of these parameters will affect the respective *OFF TEMPERATURE* parameter.

OFF TEMPERATURE
These parameters are used to set the tunnel fan differentials. The respective tunnel fan deactivates when its temperature decreases to *OFF TEMPERATURE*. These parameters are affected by the respective *ON TEMPERATURE* parameter.

TIMER
These parameters establish on which portion of the minimum ventilation timer the respective tunnel fan will be activated. If a parameter is not set to any of the portions of the timer, the respective tunnel fan will be activated only when it has a demand. These parameters can be set to portion #1, #2 or none. If some fans (including sidewall fans) are set to portion #1 and none on portion #2 (or some fans are set on portion #2 and none on portion #1), fans using timer activate on portion #1 and #2. If none of the sidewall fans and tunnel fans run on the minimum ventilation timer then the timer will stop to restart on the off portion as soon as one of these fans needs to run on minimum ventilation timer.

Minimum ventilation timer



PROBES
These parameters are used to set an individual associated temperature to the respective output. The temperatures associated to these tunnel fans are a combination of the used inside probes.

TUNNEL TRANSITION
This parameter is used to set on which tunnel fan the tunnel transition functions will be activated. This parameter can be set to "—", 1 to 20 for tunnel fan and "Tun Curt" for the tunnel curtain.

STOP TRANSITION
This parameter is used to set on which tunnel fan the stop transition functions will be activated. This parameter can be set to "—" and 1 to 20 for tunnel fan.

DELAY BEFORE TUNNEL
This parameter establishes the delay used when entering tunnel mode. When the tunnel fan that has the transition setting "TUN" is activated, the tunnel inlet opens, sidewall fans are deactivated, tunnel fans except the tunnel fan that has the transition setting "TUN" are deactivated, the ventilation inlet holds its present state and the curtains close. After the DELAY BEFORE has expired, respective tunnel fans are reset to the state they were in before entering tunnel mode, the tunnel inlet follows static pressure sensor and the ventilation inlet and curtains close continuously. If the DELAY BEFORE is set to "OFF", no delay will be applied.

Ex: *TUNNEL FAN 1 TRANSITION* = "STOP";
TUNNEL FAN 2 TRANSITION = "TUN";
TUNNEL FAN 1 ON TEMPERATURE = 75.0°F;
TUNNEL FAN 2 ON TEMPERATURE = 78.0°F;
All *TUNNEL FAN # OFF TEMPERATURE* are set to respective *TUNNEL FAN # ON TEMPERATURE* - 1.0°F;

- At 75.0°F, all sidewall fans are deactivated.
- At 77.0°F, the ventilation inlet opens continuously and the tunnel inlet follows static pressure sensor if it is not already following the curtain 1 demand.
- At 78.0°F, *DELAY BEFORE TUNNEL* is activated; all tunnel fans are deactivated except tunnel fan 2. The ventilation inlet holds its present state, the tunnel inlet opens and the curtains close. After the *DELAY BEFORE TUNNEL* has expired, tunnel fans, evaporative cooling cells and foggers are allowed to function, the ventilation inlet closes and the tunnel inlet follows static pressure sensor. Control is now in tunnel mode.
- When the temperature decreases to 77.0°F, the ventilation inlet opens, curtain 1 and tunnel inlet will open continuously until curtain 1 has a closing demand, curtain 2 will also open continuously until it reaches a closing demand. If curtain 1 is not used, the tunnel inlet follows static pressure sensor.

- When the temperature decreases to 76.0°F, the ventilation inlet follows the static pressure sensor and the tunnel inlet closes continuously if it is not following the curtain 1 demand.
- When temperature decreases to 74.0°F, sidewall fans are allowed to reactivate.

DELAY AFTER TUNNEL MODE

This parameter establishes the time delay after which the vent inlet will open continuously when the system exits the tunnel mode. When the temperature decreases and reaches the *TUNNEL FAN # OFF* of the tunnel fan that has the transition setting "TUN", *DELAY AFTER TUNNEL* is activated and the ventilation inlet, tunnel inlet and curtains open continuously while the sidewall ventilation fans are reactivated. Once the delay has expired, the ventilation inlet follows static pressure sensor. At this point, curtain 1 and tunnel inlet will open continuously until curtain 1 has a closing demand, curtain 2 will also open continuously until it reaches a closing demand. If the *DELAY AFTER TUNNEL* is set to "OFF", no delay will be applied.

Ex:
- When the tunnel fan that has the transition setting "TUN" is turned off (exit tunnel mode), the ventilation inlet opens during the *DELAY AFTER TUNNEL*.
- Once *DELAY AFTER TUNNEL* is finished, the static pressure sensor will control the ventilation inlet.
- The time the ventilation inlet takes to open enough to prevent a static pressure surge must be set in *DELAY AFTER TUNNEL*.

LOAD DELAY

This parameter establishes the time delay between the activation of multiple fans. This delay allows the fans to activate with a delay between them to reduce the chance of a power shortage due to too many fans activating at the same time. This delay is not applied on timer activation.

HEATERS

ACTUAL STATUS

These parameters display the actual status of the heaters/brooders.

ON TEMPERATURE

These parameters are used to set the heater/brooder set points. The respective heater/brooder is activated when its respective selected sensor(s) average temperature decreases to *ON TEMPERATURE*. Changing one of these parameters will affect the respective *OFF TEMPERATURE* parameter. These parameters are affected by the *MAIN SETPOINT* parameter.

OFF TEMPERATURE

These parameters are used to set the heater/brooder differentials. The respective heater/brooder deactivates when its respective selected sensor(s) average temperature increases to *OFF TEMPERATURE*. These parameters are affected by the respective *ON TEMPERATURE* parameter.

PROBES
These parameters are used to set an individual associated temperature to the respective output. The temperatures associated to these heaters/brooders are a combination of the inside probes that are used.

EVAP COOL/FOG

TYPE
These parameters display the type for each output. They can either be "Evap Cool 1", "Evap Cool 2", "Inside Fog 1", "Inside Fog 2" or "Pump".

REQUESTED STATE
These parameters display the actual status of each output. Each output can display OFF or ON.

ACTUAL ON TEMPERATURE
These parameters display the actual On Temperature of each output. each parameter is only visible when *MINIMUM ON TEMPERATURE* is set to OFF and *ALLOWED TO FOLLOW TEMP RAMPING* is set to NO. When the *ON TEMPERATURE* is under *MINIMUM ON TEMPERATURE*, it will display the value of the *MINIMUM ON TEMPERATURE* parameter. Otherwise, it displays the value of the *ON TEMPERATURE* parameter.

ON TEMPERATURE
These parameters are used to set the evaporative cooling cell, fogger and pump set points. The respective output is activated on timer when its respective sensor(s) select average temperature increases to its respective *ON TEMPERATURE*. Changing one of these parameters will affect the respective `OFF Temperature` parameter. These parameters are affected by *THE MAIN SETPOINT* parameter when *ALLOWED TO FOLLOW TEMP RAMPING* is set to Yes. These parameters are adjusted in 0.1°F increments from *MAIN SETPOINT* to *MAIN SETPOINT* + 40.0°F when *ALLOWED TO FOLLOW TEMP RAMPING* is set to Yes. These parameters are adjusted in 0.1°F increments from 32.0°F to 120.0°F when *ALLOWED TO FOLLOW TEMP RAMPING* is set to No.

OFF TEMPERATURE
These parameters are used to set the evaporative cooling cell, fogger and pump differentials. These parameters are affected by the respective *ON TEMPERATURE* parameter.

MINIMUM ON TEMPERATURE
This parameter establishes the minimum ON temperature for each output. This parameter is only visible when *ALLOWED TO FOLLOW RAMPING* is set to Yes. When *ALLOWED TO FOLLOW RAMPING* is set to Yes, the *ON TEMPERATURE* varies accordingly to the main set point. When this parameter is not set to OFF, the output activation temperature won't be lower than the value of this parameter.

ALLOWED TO FOLLOW TEMP RAMPING

This parameter establishes if the *MAIN SETPOINT* will affect the evaporative cooling cell, fogger and pump set points. If this parameter is set to Yes, these set points will be affected by the *MAIN SETPOINT*. If this parameter is set to No, these set points will not be affected by the *MAIN SETPOINT*.

MINIMUM ON TIME
These parameters establish the respective minimum ON time of the output's timer.

MAXIMUM ON TIME
These parameters establish the respective maximum ON time of the output's timer.

CYCLE TIME
This parameter is used to establish the cycle time of the chosen output's timer. The OFF portion of a respective timer begins at *CYCLE TIME - MINIMUM TIME ON*.

HUMIDITY OFF SETPOINT
These parameters establish the high humidity for the cooling. The cooling will not start or will deactivate if actual humidity is equal to or greater than this parameter. A humidity differential of 3 RH% is set to avoid oscillations. To deactivate this option, adjust to OFF. If the humidity probe is defective or unplugged, the control will act as if the humidity was very low, so this will not affect this logic.

TIME SET
These parameters activate the respective output on its timer or continuously. If set to ON, the output follows its own timer, otherwise this output will be continuously activated if its set point has been reached.

PROBES
These parameters are used to set an individual associated temperature to the respective output. The temperatures associated to these outputs are a combination of the inside probes that are used.

TIME CHANGE PER 0.1°
This parameter is used to set the adjustment that is made to the actual ON time when the temperature is above the *ON TEMPERATURE* set point. After every cycle, the respective timer adds the *TIME CHANGE PER 0.1 DEG* to the ON time for every 0.1 degrees above the ON temperature until it reaches the *MAXIMUM TIME ON* or the *CYCLE TIME*. The same pattern is used to decrease the ON time when the respective temperature is below *ON TEMPERATURE* until it decreases to or below the *MINIMUM TIME ON*. At this point, the output will be activated one more cycle using *MINIMUM TIME ON* before it deactivates.

ALLOWED TO WORK OUTSIDE TUNNEL
This parameter allows the user to choose whether the outputs mentioned in this screen will be permitted to active all the time or only when in tunnel mode.

FILL TIME
This parameter is used to select the time it takes to fill water lines before cooling begins. For the first fill time activation, *FILL TIME* is not included in *CYCLE TIME*. After the first ON time, the respective output will be activated at the end of its OFF time for a period of time equal to *FILL TIME* before its OFF time finishes. Once this *FILL TIME* is elapsed, the output will be activated according to its respective timer.

CLOCK ON/OFF
These parameters are used to establish the time at which the cooling outputs (evaporative cooling, fogger and pump) may be activated. When the time of day is between *CLOCK ON* and *CLOCK OFF*, cooling outputs can be turned ON if there is a demand. Outside this time, cooling outputs will not be allowed to function.

LOAD DELAY
This parameter is used to adjust the amount of time all cooling outputs (evaporative cooling, fogger and pump) will wait before activating after a power failure.

ALARMS

CLEAR ALARM HISTORY
This parameter is used to clear all alarms, warning conditions and reinitialize all delays.

CLEAR ALARM LIST
This parameter is used to acknowledge and/or clear an alarm that has been triggered; this will reinitialize all alarm and warning conditions and will clear the alarm list.

LOW TEMPERATURE
This parameter is used to establish the low temperature limit. When the temperature falls below *LOW LIMIT*, an alarm occurs. This parameter is relative to the target but is displayed as absolute set points and is adjusted in 0.1°F increments from 32.0°F to 120.0°F.

HIGH TEMPERATURE
This parameter is used to establish the high temperature limit. When the temperature goes above *HIGH LIMIT*, an alarm occurs. This parameter is relative to the target but is displayed as absolute set points and is adjusted in 0.1°F increments from 32.0°F to 120.0°F.

HIGH TUNNEL TEMPERATURE
This parameter is used to establish the high temperature limit when in tunnel mode. When the temperature goes above this limit, an alarm occurs.

LOW STATIC PRESSURE
This parameter is used to set the alarm relay ON or OFF on a low-pressure alarm. Even if this option is set to "OFF", the alarm is triggered in the alarm list except that the alarm relay is not activated.

LOW STATIC PRESSURE
This parameter is used to establish the low pressure alarm limits. When static pressure is below *LOW STATIC PRESSURE*, the *STATIC PRESSURE LOW DELAY* is activated. It is possible to deactivate the *LOW STATIC PRESSURE* by setting it to OFF. This parameter can also be modified through the **STATIC PRESSURE** screen.

STATIC PRESSURE LOW DELAY
This parameter is used to set a delay that allows the pressure to exceed the limit *LOW STATIC PRESSURE* without activating the alarm. There is an alarm satisfy time fixed at 5 seconds that allows the static pressure to return above *LOW STATIC PRESSURE* without reinitializing the delay *STATIC PRESSURE LOW DELAY*.

HIGH STATIC PRESSURE
This parameter is used to establish the high pressure alarm limits. When static pressure is above *HIGH STATIC PRESSURE*, the *STATIC PRESSURE HIGH DELAY* is activated. It is possible to deactivate the *HIGH STATIC PRESSURE* by setting it to OFF. This parameter can also be modified through the **STATIC PRESSURE** screen.

STATIC PRESSURE HIGH DELAY
This parameter is used to set a delay that allows the pressure to exceed the *HIGH STATIC PRESSURE* limit without activating the alarm. There is an alarm satisfy time fixed at 5 seconds that allows the static pressure to return above *HIGH STATIC PRESSURE* without reinitializing the *STATIC PRESSURE HIGH DELAY*.

LOW STATIC PRESSURE RELAY
This parameter is used to set the alarm relay ON or OFF on a low-pressure alarm. Even if this option is set to "OFF", the alarm is triggered in the alarm list except that the alarm relay is not activated.

LOW HUMIDITY
These parameters establish the low humidity limit. When the humidity sensor is below *LOW HUMIDITY*, an alarm occurs.

HIGH HUMIDITY
These parameters establish the high humidity limit. When the humidity sensor is above *HIGH HUMIDITY*, an alarm occurs.

FEEDER 1-6 MAXIMUM LIMIT
These parameters are used to set the delay that the respective feed system is allowed to run constantly before activating the alarm. When this alarm occurs, feeder output will deactivate until this alarm is cleared in the **ALARM LIST** screen.

FILL SYSTEM 1-2 MAXIMUM LIMIT
These parameters are used to set the delay that the respective fill system is allowed to run constantly before activating the alarm. When this alarm occurs, fill system output will deactivate until this alarm is cleared in the **ALARM LIST** screen.

WATER METER HIGH LIMIT
This parameter establishes the water distribution limit in gallons per minute. Above this limit, an alarm occurs.

WATER METER 2-HOUR LIMIT
This parameter establishes the water distribution limit in gallons for a 2-hour period. Above this limit, an alarm occurs.

HIGH BREAKER TEMPERATURE
This parameter establishes the temperature limit for the breaker probe. Above this limit, an alarm occurs.

HIGH ATTIC TEMPERATURE
This parameter establishes the temperature limit for the attic probe. Above this limit, an alarm occurs.

INDIVIDUAL LOW TEMPERATURE
These parameters are used to establish the low individual temperature limits. If a sensor selected to be individually alarmed (see the **PROBE CONFIGURATION** screen) exceeds this limit, the alarm will be activated.

INDIVIDUAL HIGH TEMPERATURE
These parameters are used to establish the low individual temperature limits. If a sensor selected to be individually alarmed (see the **PROBE CONFIGURATION** screen) exceeds this limit, the alarm will be activated.

DEACTIVATE WATER ALARM WHEN LIGHTS START
This parameter is used to set the delay before water meter alarms can be triggered when lights start. If this parameter is set to OFF, water alarms can be triggered anytime. If this parameter is set to another value, water alarms can only be triggered when an amount of time equal to this parameter has passed since the activation of a light period.

SILENCE ALARM
This parameter shuts off the alarm for 5 minutes. When this parameter is pressed, all alarms will be shut off for 5 minutes.

CLOCKS

TYPE
These parameters display the actual type of the outputs. Clock relays 1-6 and 9-10 can be "Clock 1-6", "Hen Feed", "Water", "CC Light" or "Fill Sys", clock relays 7-8 can be "Clock 7-8", "Rooster D" or "Rooster R".

ACTUAL STATUS
These parameters display the actual status of the clock outputs. Each clock output can be ON or OFF.

CLOCK (1-4) START TIME CYCLE (1-12)
These parameters establish the beginning of an activation period.

CLOCK (5-6, 9-10) START TIME CYCLE (1-7)
These parameters establish the beginning of an activation period.

CLOCK (7-8) START TIME CYCLE (1-3)
These parameters establish the beginning of an activation period.

CLOCK (1-4) STOP TIME CYCLE (1-12)
These parameters establish the end of an activation period.

CLOCK (5-6, 9-10) STOP TIME CYCLE (1-7)
These parameters establish the end of an activation period.

CLOCK (7-8) STOP TIME CYCLE (1-3)
These parameters establish the end of an activation period.

CLOCK (1-4) OPTION CYCLE (1-12)
These parameters allow the user to set which periods will be active or not. When a parameter *OPTION* is set to "Y", the respective activation period will be active, otherwise the respective activation period will not be considered.

CLOCK (5-6, 9-10) OPTION CYCLE (1-7)
These parameters allow the user to set which periods will be active or not. When a parameter *OPTION* is set to "Y", the respective activation period will be active, otherwise the respective activation period will not be considered.

CLOCK (7-8) OPTION CYCLE (1-3)
These parameters allow the user to set which periods will be active or not. When a parameter *OPTION CYCLE* is set to "Y", the respective activation period will be active, otherwise the respective activation period will not be considered.

CLOCK (7-8) RUN TIME CYCLE (1-3)
These parameters establish the run time of the activation period.

ACTUAL WEEK
This parameter displays the actual week used with the skip day function.

CLOCK (5-10) SKIP DAY OPTION
This parameter is used to activate or deactivate the skip day option. If this parameter is set to ON, other skip day parameters will appear and an activation period will be used only if the corresponding `USED` option is set to the same number as the one set for the actual weekday of the actual week.

FEEDER

ACTUAL STATUS
This parameter displays the actual status of the feed output.

START TIME CYCLE 1-12
These parameters are used to establish the beginning of an activation period.

STOP TIME CYCLE 1-12
These parameters are used to establish the end of an activation period.

OPTION CYCLE 1-2
These parameters allow the user to set which periods will be active or not. When a parameter *OPTION* is set to "Y", the respective activation period will be active, otherwise the respective activation period will not be considered.

LIGHT CYCLES

ACTUAL INTENSITY
This parameter displays the luminosity percentage of the light logic.

RELAY
This parameter displays the actual status of the light relay.

ON TIME
These parameters establish the beginning of a light cycle. When the time of day reaches the *ON TIME* of a cycle selected in *SCHEDULE* of the active period, lights will be activated. **Light cycles must not overlap for proper light behavior.** A light cycle will end when the time of day reaches its *OFF TIME*.

OFF TIME
These parameters establish the end of an activation period. When the time of day reaches the *OFF TIME* of a cycle selected in *SCHEDULE* of the active period, lights have reduced their intensity from their actual intensity to 0% throughout the *SOFT START/STOP TIME*. **Light cycles must not overlap for proper light behavior.** See the **LIGHT RAMPING** screen for modulation and ramping adjustments.

SPIKING
These parameters allow the user to set which light cycle will use spiking. When a *SPIKE* parameter is set to "Y", the respective cycle will use all light modulation parameters and spike throughout its activation time. In addition to this parameter, both *HIGH INTENSITY TIME* and *SOFT START/STOP TIME* of the active period must be set to a value other that "OFF" for light spiking to be effective. A cycle that does not spike will not use *HIGH INTENSITY*, *HIGH INTENSITY TIME* or *SOFT HIGH/LOW FIRST* parameters. See **LIGHT RAMPING** screen for modulation and ramping adjustments.

24H OPTION
This parameter is used to set cycle 1 as a 24-hour cycle. If this parameter is set to "Y" and the active period uses cycle 1, lights will activate as soon as that period begins. Lights will remain active as long as the period is active. The 24-hour cycle will end at 11:59P of the last day of the period.

LIGHT PERIODS

ACTUAL INTENSITY
This parameter displays the luminosity percentage of the light logic.

RELAY
This parameter displays the actual status of the light relay.

GROWTH DAY
This parameter is used to adjust the ramping day for lights. If this parameter is set to "OFF", light ramping will not be performed and period 1 will always be the active period. If this parameter is set to a value other than "OFF", it will determine the active period and will be incremented when time of day changes from 11:59P to 12:00A. When this parameter reaches the `START DAY` of a period, that period will become the active period.

SYSTEM
This parameter displays the actual light activity state and is used to suspend light activity in order to perform adjustments. If this parameter is pressed when the cursor is on this parameter and "AUTO" is displayed, the light will shut off and will no longer check activation settings. At this moment, the user may perform all adjustments without activating lights erratically. If this parameter is pressed when the cursor is on this parameter and "ADJUST" is displayed, the light will activate according to user settings once again.

OPTION
These parameters activate or deactivate the corresponding period. When one of these parameters is set to "ON", the corresponding period will be considered on the light ramping. When one of these parameters is set to "OFF", the corresponding period will not be considered.

START DAY
These parameters are used to set the day at which the respective period will become the active period. When the *GROWTH DAY* reaches one of these parameters, the respective period will become the active period and all of its parameters will be used. A period may only change when no light cycles are active. If a light cycle is active when the period would change, that cycle will be completed before the period is changed. When the *GROWTH DAY* is less than all of these parameters, lights will be deactivated. When the *GROWTH DAY* is set to "OFF", period 1 will always be the active period. **All of these settings must be in chronological order for proper light behavior**.

SCHEDULE
These parameters are used to select the light cycles that will be used for the respective period. When a given period becomes the active period, all cycles selected in these parameters will be verified. Every time the *ON TIME* of a selected cycle is reached, lights will activate and every time the *OFF TIME* of a selected cycle is reached, lights will deactivate. When less than five cycles are desired, select a dash ("-") for all the cycles that are not wanted.

LOW INTENSITY
These parameters establish the respective period's low intensity. When the time of day reaches the *ON TIME* of a cycle selected in *SCHEDULE* of the active period, the light intensity will modulate from 0% to this value if *SOFT HIGH/LOW FIRST* is set to "Lo", if *SPIKE* is set to "N" or if *HIGH INTENSITY TIME* is set to "OFF". The light will directly reach this intensity when the time of day reaches the ON TIME of an active cycle and *SOFT START/STOP TIME* is set to "OFF". If light spiking is used, lights will modulate from *HIGH INTENSITY* to this intensity throughout the *SOFT START/STOP TIME* once the *HIGH INTENSITY TIME* is completed.

LOW INTENSITY TIME
These parameters establish the amount of time the light intensity will stay at *LOW INTENSITY*. When light spiking is used, every time the lights reach *LOW INTENSITY*, they will remain at this intensity for this amount of time.

HIGH INTENSITY

These parameters are used to establish the respective period's high intensity. When the time of day reaches the ON TIME of a cycle selected in *SCHEDULE* of the active period, light intensity will modulate from 0% to this value if *SOFT HIGH/LOW FIRST* is set to "Hi", if *SPIKE* is set to "Y" and if *HIGH INTENSITY TIME* is not set to "OFF". If light spiking is not used, this intensity will never be taken. If light spiking is used, lights will modulate from *LOW INTENSITY* to this intensity throughout the *SOFT START/STOP TIME* once the *LOW INTENSITY TIME* is completed.

HIGH INTENSITY TIME

These parameters are used to establish the amount of time the light intensity will stay at *HIGH INTENSITY*. When light spiking is used, every time the lights reach *HIGH INTENSITY*, they will remain at this intensity for this amount of time. If one of these parameters is set to "OFF", the respective period will not use light spiking, regardless of other settings.

SOFT START/STOP TIME

These parameters establish all the light modulation times for the respective period. Every time the light intensity modulates either from the lower intensity to the higher intensity (*OFF* to *LOW INTENSITY* or *LOW INTENSITY* to *HIGH INTENSITY*) or vice-versa, it will do so according to the time set here. If one of these parameters is set to "OFF", the respective period will not use light spiking. Instead, they will go directly to *LOW INTENSITY* and remain there until the end of the cycle.

Ex: *SOFT START/STOP TIME* = 1 minute;
LOW INTENSITY = 25%;
LOW INTENSITY TIME = 10 minutes;
HIGH INTENSITY = 75%;
HIGH INTENSITY TIME = 3 minutes;
ON TIME = 3:00A;
OFF TIME = 5:00A;
At 2:59A, the light if OFF,

First step...

- Between 3:00A and 3:01, the light increases its intensity from 0% to 25%.

Others steps…

- The lights stay at 25% for 10 minutes, then increase their intensity from 25% to 75% during 1 minute and end at 75% for 3 minutes. When 3 minutes are elapsed the light intensity decreases from 75% to 25% during 1 minute.

These steps continue cycling like a recycle timer until the clock reaches 4:59A, lights will then decrease their intensity from where it was at 4:59A to 0%.

Important Notes:

- Settings must be established outside all activation periods or when light activity is suspended and activation periods cannot overlap, otherwise unwanted light conditions may occur.

- After a power failure, the lights will restart at the beginning of the cycle and will stop at the *OFF TIME*.
- If the light dimmer option is set to "N" in the **SYSTEM CONFIGURATION** screen, lights will behave like ON/OFF lights and will not display any spiking related parameters.
- If *SOFT START/STOP TIME* is set to "OFF" while the light dimmer option is set to "Y" in **SYSTEM CONFIGURATION** screen, when in an activation period, the variable lights demand will equal the *LOW INTENSITY* parameter.

MINIMUM VENTILATION

***ON TIME* (Curve Available)**
This parameter establishes the minimum ventilation ON time when the average temperature is not above the *MAIN SETPOINT* + 1.0°F. If *ON TIME* is longer than *CYCLE TIME* the timer will always be ON.

ADD TIME 1,0 / 1,5 / 2,0 / 2,5 DEGREES ABOVE SVP
These parameters increase the minimum ventilation ON time when the average temperature is more than the respective 1.0°F/1.5°F /2.0°F /2.5°F above the *MAIN SETPOINT*. The value set at these parameters will be added to the *ON TIME*.

ADD TIME CLOCK
This parameter increases the minimum ventilation ON time when the time of day is between *START ADD TIME* and *END ADD TIME CLOCK*. The value set at this parameter will be added to the `ON TIME`.

CYCLE TIME
This parameter establishes the cycle time of the minimum ventilation timer.

Ex: *ON TIME* = 30 seconds;
VENT CYCLE TIME = 5 minutes;
MAIN SETPOINT = 70.0°F;
ADD TIME 1.0 DEG ABOVE SP = 15 seconds;
ADD TIME 1.5 DEG ABOVE SP = 15 seconds;

The minimum ventilation timer follows these steps as the average temperature increases. When the average temperature is:

- Below 71.1°F, the minimum ventilation timer will be ON 30 seconds and OFF 4 minutes and 30 seconds.
- Between 71.1°F and 71.5°F, the minimum ventilation timer will be ON 45 seconds and OFF 4 minutes and 15 seconds.
- At and above 71.6°F, the minimum ventilation timer will be ON 60 seconds and OFF 4 minutes.

START ADD TIME CLOCK
This parameter is used to set the time at which the *ADD TIME CLOCK* will be added to the minimum ventilation ON time. When the time of day reaches this value, the minimum ventilation ON time will be increased by *ADD TIME CLOCK*. This increase will remain until the time of day reaches *ADD TIME CLOCK*.

END ADD TIME CLOCK
This parameter sets the time at which the *ADD TIME CLOCK* will no longer be added to the minimum ventilation ON time. When the time of day reaches this value, the minimum ventilation ON time will no longer be increased by *ADD TIME CLOCK*. This increase will begin once again when the time of day reaches *ON TIME*.

CURVE
This parameter sets the ramping curve function ON or OFF for the minimum ventilation timer. If the parameter is set to ON and the *RAMPING START DAY* of the **SET POINTS** screen is not set to OFF, *ON TIME* will follow the curve function and the user will not be able to manually modify this parameter nor the day points and time points.

STOPS ON TEMPERATURE DEMAND
This parameter deactivates the minimum ventilation timer when a fan starts on a temperature demand. If set to YES, when a fan starts on a temperature demand, minimum ventilation logic will be deactivated. If set to NO, all fans that are selected to run with minimum ventilation timer will follow the timer even if a fan is running on a temperature demand.

MANUAL OVERRIDE

RELAY (1-40) **(Type)**
These parameters manually override the calculated activation demand to activate the relay output. 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.

SL## RELAY (1-40) **(Type)**
These parameters manually override the calculated activation demand to activate the relay output on slave module. 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.

CHICKEN/TURKEY SCALES

STATUS
This parameter displays the actual status of the scale.

NUMBER WEIGHED
This parameter displays the amount of birds weighed as recorded by the controller for the current day. A weight is only recorded if it is between respective SCALE (1-4) TARGET WEIGHT +/- *SCALE (1-4) HIGH/LOW TOLERANCE*.

ACTUAL AVERAGE WEIGHT
These parameters display the average weight of the respective scale recorded for the actual day. If a scale has not recorded a weight during the actual day, the respective parameter will display ----.

YESTERDAY AVERAGE WEIGHT
These parameters display the average weight of the respective scale recorded for the past day. If a scale has not recorded a weight during the past day, the respective parameter will display ----.

ACTUAL GAIN
This parameter displays the gain calculated for the respective scale. The gained weight is the difference between the current day's average weight and the previous day's average weight. If a scale has not recorded an average weight during the actual day or the preceding one, the gain cannot be calculated and the respective parameter will display "---".

YESTERDAY GAIN
This parameter displays the gain calculated for the respective scale for the past day. The gained weight is the difference between the previous day's average weight and the day before the previous day's average weight. If a scale has not recorded an average weight during these two days, the gain cannot be calculated and the respective parameter will display "---".

UNIFORMITY
This parameter displays the uniformity calculated by the respective WSM-1 module for the current day. The uniformity represents the percentage of the birds that are within 10% of the target weight. If no birds have been weighed during the current day, this parameter displays "----".

STANDARD DEVIATION
This parameter displays the standard deviation calculated by the respective scale. The standard deviation is a measure of the uniformity of a screen of birds. For example, if a standard deviation of 3.000 pounds is calculated, this indicates that 68% of the birds have a weight within 3.000 pounds of the average weight. This value also indicates that 95% of the birds have a weight within 6.000 pounds (standard deviation x2) of the average weight. If less than 2 birds have been weighed during the current day, this parameter will display "---". Otherwise, the standard deviation is displayed to the nearest 0.0001 pound to 3.3000 pounds.

AGE
This parameter displays the flock's actual age. The age is incremented each time the date changes. The actual age is displayed from day 0 to 500.

ACTUAL WEIGHT
This parameter displays the actual weight read by the WSM-1 module. The scale must have been calibrated to obtain a significant value.

TARGET WEIGHT
This parameter displays the target weight of the actual day. The target weight is determined by the growth curve if the "Target Weight Chart" method is used. If the "Evolution Of Weight" method is used, the target weight is equal to the previous day's average weight (or the target weight adjusted by the user when the flock is started) plus the respective "Add Weight". If the flock of the respective scale has not been started, this parameter will display "---".

LAST WEIGHT
This parameter displays the last weight recorded by the WSM-1 module. For a weight to be recorded, it must be within the respective target weight +/- the corresponding tolerance. The weight recorded by the WSM-1 module is the difference between the last stable weight and the new actual weight. Ex: If two birds weighing 0.500 pound each are already on the scale and a third bird weighing 0.630 pound is added, the WSM-1 module will record a weight of 0.630 pound, but the actual weight displayed will be 1.630 pound. If no correct weight has been recorded, this parameter will display "---".

START AGE
This parameter allows the user to set the birds' age when the flock is started. When a flock is started, its actual age will be set to this value.

START WEIGHT
This parameter allows the user to set the birds' weight when the flock is started. When a flock is started, its target weight will be set to this value if the "Evolution Of Weight" method is used. When the "Target Weight Chart" method is used, this parameter will not appear.

LOW TOLERANCE
This parameter is used to set the valid low weight limits for the scale. To make sure all recorded weights are valid, the scale will only record weights that are within the actual target weight - *SCALE (1-2) TOLERANCE LOW* and the actual target weight + *SCALE (1-2) TOLERANCE HIGH*.

HIGH TOLERANCE
This parameter is used to set the valid high weight limits for the scale. To make sure all weights recorded are valid, the scale will only record weights that are within the actual target weight - *SCALE (1-2) TOLERANCE LOW* and the actual target weight + *SCALE (1-2) TOLERANCE HIGH*.

CALIBRATION WEIGHT
This parameter allows the user to set the weight used for the calibration process. When calibrating the gain, the weight on the scale must be exactly the same as the one set here. The heavier the weight is, the better the precision will be.

ZERO CALIBRATION
This parameter allows the user to start a calibration process that will determine the weight at which the scale will consider the weight to be zero (grams or pounds). To correctly evaluate the weight on the scale, the exact weight read when nothing is on the scale must be known. Therefore, the scale must be emptied before pressing on this parameter.

GAIN CALIBRATION

This parameter allows the user to start a calibration process that will determine the gain of the scale. To correctly evaluate the gain of the scale, the variation of the electrical signal according to two known weights must be known; i.e. the weight when the scale is empty and when it is at *SCALE (1-2) CALIBRATION WEIGHT*. A weight precisely equal to the *SCALE (1-2) CALIBRATION WEIGHT* must be placed on the scale, then this parameter pressed to start a gain calibration sequence.

EVALUATION OF WEIGHT METHOD

This parameter selects the method used to determine the SCALE (1-4) TARGET WEIGHT. If the Evolution method is used, the target weight will be equal to yesterday's average weight (or the target weight adjusted by the user when the flock is started) plus the respective *SCALE (1-4) ADD WEIGHT AGE (0-249)*. If the Chart method is used, the target weight for a given age will be determined by the corresponding weight adjusted in the growth curve of the respective scale. This parameter may only be adjusted when all scales are deactivated.

FLOCK GENDER

This parameter allows the user to choose the target weight chart that will be used. There are two pre-programmed charts with typical weights for male and female birds.

BATCH MANAGEMENT

This parameter is used to start or stop a flock for the respective scale. When this parameter is pressed and no flock is started, a confirmation message will appear, warning the user that all data and histories will be reinitialized. If a flock is running, pressing this parameter will stop the flock.

CURVE SCALE (1-2)

TARGET WEIGHT MALE/FEMALE AGE (0-249)

These parameters allow the user to adjust the target weights of a flock. Each weight can be individually adjusted to allow the user to create his customized target weight chart. If the "Evolution Of Weight" method is chosen, this chart will only be used as a reference if the user desires so. However, if the "Target Weight Chart" method is chosen, this chart will determine the target weight of a given age.

ADD WEIGHT DAY (0-249)

These parameters are used to calculate the target weight when the "Evolution Of Weight" method is chosen. If the "Target Weight Chart" method is used, these parameters will not be visible. These values will be added to the average of the corresponding day to define the new target weight for the actual day. Each value should represent the anticipated weight gain for the respective day.

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 --/--/--.

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 --/--/--.

REINITALISE 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.

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, only a message will 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 or 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 timeframe 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.

TARE
These parameters 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, this message will appear and display PLEASE WAIT..., indicating that the tare sequence is being performed. If a communication error occurs during the tare sequence this message will display ERROR(Comm.). If a load cell is defective during the tare sequence this message will display ERROR(LC). When the tare sequence ends, this message will display 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
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. These parameters are adjusted in 1-mV increments from 0 mV to 781 mV.

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. These parameters are adjusted in 1-kg increments from 0 kg to 32767 kg.

PROBE CALIBRATION

TEMPERATURE (1-12)
These parameters display the probe reading with its corresponding calibration.

TEMPERATURE (1-12) ADJUSTMENT
These parameters are used to adjust the probe reading.

OUTSIDE TEMPERATURE
This parameter displays the outside probe reading with its corresponding calibration.

OUTSIDE TEMPERATURE ADJUSTMENT
This parameter is used to adjust the outside probe reading.

BREAKER TEMPERATURE
This parameter displays the breaker probe reading with its corresponding calibration.

BREAKER TEMPERATURE ADJUSTMENT
This parameter is used to adjust the breaker probe reading.

ATTIC TEMPERATURE
This parameter displays the attic probe reading with its corresponding calibration.

ATTIC TEMPERATURE ADJUSTMENT
This parameter is used to adjust the attic probe reading.

HUMIDITY
This parameter displays the actual humidity with its calibration. The control may also display ERR if the humidity probe has not responded for five minutes.

HUMIDITY ADJUSTMENT
This parameter is used to adjust the humidity reading.

STATIC PRESSURE
This parameter displays the breaker probe reading with its corresponding calibration.

STATIC PRESSURE ADJUSTMENT
This parameter is used to adjust the static pressure reading.

1-PULSE CALIBRATION (1-2)
These parameters are used to set the number of litres counted each time a pulse is read at the water counter input.

FEED 1-MINUTE CALIBRATION (1-2)
These parameters are used to set the amount of feed counted for each minute of activation read by the feed input.

FILL SYSTEM 1-MINUTE CALIBRATION (1-2)
These parameters are used to set the amount of feed counted for each minute of activation read by the fill system input.

PROBE CONFIGURATION

AVERAGE PROBES
This parameter is used to set which probes will be calculated in the average temperature.

PROBES CHECKED FOR HIGH/LOW ALARM
This parameter gives the opportunity to activate the alarm for the respective sensor that is selected or deactivate it for the sensors that are not selected. A sensor selected in this parameter will be considered defective if it is 20.0°F below the *MAIN SETPOINT*. It also gives the option to select a backup probe for the selected probes.

BACKUP PROBE
These parameters allow the selection of an available backup sensor for the temperature sensor. This means that if an inside sensor becomes defective or is malfunctioning, the system will use the backup sensor instead. In the case that a backup sensor is defective too, the system will use the *MAIN SETPOINT* setting to simulate a sensor reading. A probe can only have a backup if it is selected in *PROBES CHECKED FOR HIGH/LOW ALARM*.

INDIVIDUAL PROBE SELECTION
This parameter is used to activate or deactivate the individual alarm for the respective sensor. When a sensor selected in this parameter exceeds the individual probe limits, the alarm will activate.

SYSTEM CONFIGURATION

CONFIGURATION VERSION
These parameters display the configuration version currently used.

PROCESSOR VERSION
These parameters display the processor version currently used.

ACTIVE PROBES
This parameter establishes the number of available inside probes. This parameter affects all sensor selections. *OUTSIDE PROBE ACTIVE?, ATTIC/BREAKER PROBE OPTION* and *MGCB 8-INPUT BOARD (X1399)* affect this parameter. If not enough probes are available on the board, the amount of inside probes will be reduced.

MGCB 8-INPUT BOARD (X1399)
This parameter is used to activate or deactivate the MGCB 8-input board. When the 8-input board is active, the number of active probes can go up to 20 probes.

OUTSIDE PROBE ACTIVE?
This parameter is used to activate or deactivate the outside probe and all its associated logics. This parameter can affect the *ACTIVE PROBE* parameter.

ATTIC/BREAKER PROBE OPTION
This parameter is used to select if the attic probe or the breaker probe will be used. This parameter can affect the *ACTIVE PROBES* parameter.

NUMBER OF WATER METERS
This parameter is used to adjust the number of water counters used. There may be up to 2 water counters in the configuration.

HUMIDITY PROBE ACTIVE?
This parameter is used to activate or deactivate the humidity sensor.

NUMBER OF FEEDERS
This parameter is used to adjust the number of feed counters used. At least one feed counter must be activated to use a feeder output. There may be up to 2 feed counters in the configuration.

STATIC PRESSURE PROBE ACTIVE?
This parameter is used to activate or deactivate the static pressure sensor. It will also activate or deactivate **STATIC PRESSURE**.

HEAT/BROOD ACTIVE?
This parameter is used to activate or deactivate the heater and brooder outputs. If this parameter is set to "Y", the **HEATERS** screen will be accessible (if at least one relay in **OUTPUT CONFIGURATION** screen is correctly associated to one of these respective outputs) and all these outputs can work normally. If this setting is set to "N", the **HEATERS** screen will not be accessible and all relays associated to these outputs in **OUTPUT CONFIGURATION** screen will be reinitialized and not available.

PRECISION MODE
This parameter is used to activate or deactivate the precision mode. This mode is used to control the ventilation. Instead of having a probe selection and an activation temperature for each fan, the system uses ventilation levels. There are 40 different ventilation levels. Each level has an activation temperature, tunnel fan selections, sidewall fan selections, variable selections and a timer with on and off period. When a level is active, only the fans selected are activated. This parameter can ON or OFF.

SIDEWALL FANS ACTIVE?
This parameter is used to activate or deactivate the sidewall fan outputs. If this parameter is set to "Y", the **SIDEWALL FANS** screen will be accessible (if at least one relay in the **OUTPUT CONFIGURATION** screen is correctly associated to one of these respective outputs) and all these outputs can work normally. If this setting is set to "N", the **SIDEWALL FANS** screen will not be accessible and all relays associated to these outputs in the **OUTPUT CONFIGURATION** screen will be reinitialized and not available.

TUNNEL FANS ACTIVE?
This parameter is used to activate or deactivate the tunnel fan outputs. If this parameter is set to "Y", the **TUNNEL FANS** screen will be accessible (if at least one relay in the **OUTPUT CONFIGURATION** screen is correctly associated to one of these respective outputs) and all these outputs can work normally. If this setting is set to "N", the **TUNNEL FANS** screen will not be accessible and all relays associated to these outputs in the **OUTPUT CONFIGURATION** screen will be reinitialized and not available.

EVAP COOL/FOG ACTIVE?
This parameter is used to activate or deactivate the evaporative cooling cell and fogger outputs. If this parameter is set to "Y", the **EVAP COOL/FOG** screen will be accessible (if at least one relay in **OUTPUT CONFIGURATION** screen is correctly associated to one of these respective outputs) and all these outputs can work normally. If this setting is set to "N", the **EVAP COOL/FOG** screen will not be accessible and all relays associated to these outputs in the **OUTPUT CONFIGURATION** screen will be reinitialized and not available (the pump relay setting is also affected by this parameter).

STIR FANS ACTIVE?
This parameter is used to activate or deactivate the stir fan outputs. If this parameter is set to "Y", the **STIR FANS** screen will be accessible (if at least one relay in **OUTPUT CONFIGURATION** screen is correctly associated to one of these respective outputs) and all these outputs can work normally. If this setting is set to "N", the **STIR FANS** screen will not be accessible and all relays associated to these outputs in the **OUTPUT CONFIGURATION** screen will be reinitialized and not available.

CURTAINS ACTIVE?
This parameter is used to activate or deactivate the curtain outputs. If this parameter is set to "Y", the **CURTAINS** screen will be accessible (if at least one relay in the **OUTPUT CONFIGURATION** screen is correctly associated to one of these respective outputs) and all these outputs can work normally. If this setting is set to "N", the **CURTAINS** screen will not be accessible and all relays associated to these outputs in the **OUTPUT CONFIGURATION** screen will be reinitialized and not available.

EGG ROOM ACTIVE?
This parameter is used to activate or deactivate the egg room. If this parameter is set to "Y", the **EGG ROOM** screen will be accessible and the egg room heater and cooler outputs can work normally. If this setting is set to "N", then **EGG ROOM** screen will not be accessible and all relays associated to egg room outputs will be reinitialized and not available

POULTRY SCALE 1 ACTIVE?
This parameter is used to activate/deactivate scale 1 and its logics.

POULTRY SCALE 2 ACTIVE?
This parameter is used to activate/deactivate scale 2 and its logics.

SL## MODULE USED
This parameter selects the model of the used slave module relay, or deactivates it completely. The available models are SL20, SL15 and SL10. The number of relays will be increased according to the model of SL## used.

INDIVIDUAL PROBES ALARMS?
This parameter is used to activate or deactivate the alarms on individual probes.

UNIT ID
This parameter is used to set the control ID. This number is used by the remote access software, to single out the control amongst the other ones.

RF CHANNEL
This parameter is used to select one of the 16 frequencies of the WiFarm network or to deactivate wireless communication mode. If this parameter is set to OFF, other wireless communication parameters will disappear.

RF NETWORK
This parameter is used to identify a WiFarm network. A WiFarm network is formed when the *RF NETWORK* is set to the same value as the RF communication card of the controller designated as the network master (ex. WebGate in most installations). Other controllers can join the existing network by adjusting *RF NETWORK* to the RF ADDRESS of that same network. When *RF CHANNEL* is set to OFF, this parameter will disappear.

RF ADDRESS
These parameters display the number (address) associated to the RF card inserted in the controller. A unique number is given to each RF card of the WiFarm network. The RF ADDRESS also appears on the sticker present on the RF card. When *RF CHANNEL* is set to OFF, this parameter will disappear.

OUTPUTS CONFIGURATION

OUT #
This column is used to set the respective output on the desired relay. An output can be assigned to any relay from 1 to 40 (up to 60 if a slave module is used). Adjusting this parameter to 0 deactivates the associated output.

NO/NC
This column is used to set the respective output's relay to normally open (NO) or normally closed (NC). The respective parameter reflects the corresponding output only if this output's status is "OK", otherwise the last normally open/closed valid settings will be used.

STATUS
This column indicates the status of the output on the relay. If the relay is ok, message "OK" will be shown. If there are 2 outputs on the same relay, the message "CONFLICT" will appear beside the conflicting relays. If output relay is 0, the message "NOT USED" will appear meaning that this output has no relay attached to it. If the message is "NOT AVAIL", it means the output or outputs are deactivated and no relay can be assigned to them. If the message is "CHOOSE OP" or "CHOOSE CL", it means that another output linked to this output must be set to a valid relay.

TYPE
These parameters are used to select the name of the respective output. Each heating unit can have a unique numbered heat name (Heat 1, Heat 2, Brood 1…). The tunnel Fan 20 output can be named "Tunl Fan20" or "Tunl Curt1". Each clock output can have a unique numbered clock name (Clock 1, Clock 2…) or one of the assigned names. The first six output names can be Hen Feed, Water, CC Light or Fill Sys. The last two output names can be Rooster D or Rooster.

VARIABLES CONFIGURATION

0-10V OUT (1-2)
This parameter is used to assign a type and a zone to the variable output. Outputs that are not activated will be removed. The available outputs on this board are: Unused, Light Dimmer, Variable (1-2).

MS-10 OUT (1-2)
This parameter is used to assign a type and a zone to the variable output. The outputs that are not activated will be removed. The available outputs on this board are: Unused, Light Dimmer, Variable (1-2).

PASSWORD

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 required 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.

CURTAINS SETUP

MODE
These parameters are used to set the mode that will be used by the respective curtain. If this parameter is set to "Progressive", the curtain will use the progressive settings. If this parameter is set to "Run Time", the curtain will use the progressive settings.

PROBES
These parameters are used to set an individual associated temperature to the respective curtain. The temperature associated to the curtain is a combination of the measurements made by the inside probes.

CURTAINS RUN TIME

ACTUAL RUN TIME (1-4)
These parameters display the actual run time of the curtain. When the curtain closes, this time will decrease. When the curtain opens, this value will increase. When the curtain reaches 0 or its total run time, it will continue to close or open respectively, but the run time will retain its value. This is done in order to correct for any error it could have accumulated through time.

OPENING TEMPERATURE (1-4)
These parameters set the temperature at which the respective curtain will open for the associated *% RUN TIME (1-4)*. When the curtain's temperature reaches the temperature set here, the curtain will add the associated run time to its requested opening.

CLOSING TEMPERATURE (1-4)
These parameters are used to set the temperature at which the respective curtain will no longer open for the associated *% RUN TIME (1-4)*. When the curtain's temperature drops to the temperature set here, the curtain will remove the associated run time to its requested opening.

% RUN TIME (1-4)
These parameters establish the opening for each temperature set point for the curtain. When the curtain's temperature reaches the associated *OPENING TEMPERATURE (1-4)*, the curtain will add the opening adjusted here to its requested opening. When the curtain's temperature drops to *CLOSING TEMPERATURE (1-4)*, the curtain will close by this amount. The requested opening is adjusted in percentage then converted to a time value.

TOTAL RUN TIME (1-4)
This parameter is used to determine the total run time of the curtain. The total run time is the time the curtain takes to go from a completely closed position to a completely open position. Curtains will use this value to convert the requested position (in percentage) to a requested run time. This parameter is adjusted in 1-second increments from 0 second to 900 seconds.

PRECISION (1-4)
This parameter is used to adjust the precision of the curtain. If the curtain 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 curtain move.

CURTAINS PROGRESSIVE

ACTUAL STATUS
These parameters indicate the respective status of the curtain; "OPENING ON", "OPENING OFF", "CLOSING ON", "CLOSING OFF", "STOPPED", "CONT OPENING" when exiting tunnel mode and "CONT CLOSING" while in tunnel mode.

OPENING TEMPERATURE
These parameters set the temperature at which the respective curtain will start to open on a timer according to *MININIMUM OPENING TIME* and *CYCLE TIME* parameters. When its temperature is between *CLOSING TEMPERATURE* and *OPENING TEMPERATURE*, the respective curtain does not move.

PROGRESSIVE OPENING
These parameters set the temperature at which the respective curtain will open for *MAXIMUM OPENING*. The open time modulates from *MINIMUM OPENING TIME* to *MAXIMUM OPENING* when the temperature reaches *PROGRESSIVE OPENING*.

CLOSING TEMPERATURE
These parameters set the temperature at which the respective curtain will start to close on a timer according to *MINIMUM CLOSING TIME* and *CYCLE TIME* parameters. When its temperature is between *CLOSING TEMPERATURE* and *OPENING TEMPERATURE,* the respective curtain does not move.

PROGRESSIVE CLOSING
These parameters set the temperature at which the respective curtain will close for *MAXIMUM CLOSING TIME*. The close time modulates from *MINIMUM CLOSING TIME* to *MAXIMUM CLOSING TIME* when the temperature reaches *PROGRESSIVE OPENING*.

DIFFERENTIAL
These parameters establish the differential for the *OPENING TEMPERATURE* and *CLOSING TEMPERATURE*.

CYCLE TIME
These parameters establish the OFF time of the respective curtain. During that time, the curtain will not move. The OFF time is equal to *CYCLE TIME – MININIMUM / MAXIMUM OPENING / CLOSING*.

MINIMUM CLOSING TIME
These parameters establish the minimum closing time of the respective curtain when the temperature has reached *CLOSING TEMPERATURE*.

MAXIMUM CLOSING TIME
These parameters establish the maximum closing time of the respective curtain when the temperature has reached *PROGRESSIVE CLOSING*.

MINIMUM OPENING TIME
These parameters establish the minimum opening time of the respective curtain when the temperature has reached *OPENING TEMPERATURE*.

MAXIMUM OPENING TIME
These parameters establish the maximum opening time of the respective curtain when the temperature has reached *PROGRESSIVE OPENING*.

PROBES
These parameters are used to set an individual associated temperature to the respective output. The temperatures associated to these curtains are a combination of the temperature measurements made by the associated inside probes.

EGG ROOM

HEATER ACTUAL STATUS
These parameters display the actual status of the egg room heater outputs. Each ON/OFF stage output can be ON or OFF.

HEATER ON TEMPERATURE
This parameter is used to set the temperature at which the corresponding egg room heater (1-2) will activate. When the temperature of the selected probes is at or below this value, the corresponding egg room heater (1-2) will turn on.

HEATER OFF TEMPERATURE
This parameter is used to set the temperature at which the egg room heater will deactivate. When the temperature of the selected probes is at or above this value, the egg room heater will turn off.

HEATER PROBES
These parameters set an individual associated temperature to the egg room heater. The temperature associated to the egg room heater is a combination of the temperatures measured by the inside probes.

COOLER ACTUAL STATUS
These parameters display the actual status of the egg room cooler outputs. Each ON/OFF stage output can be ON or OFF.

COOLER ON TEMPERATURE
This parameter is used to set the temperature at which the corresponding egg room cooler (1-2) will activate. When the temperature of the selected probes is at or above this value, the corresponding egg room cooler (1-2) will turn on.

COOLER OFF TEMPERATURE
This parameter is used to set the temperature at which the egg room cooler will deactivate. When the temperature of the selected probes is at or below this value, the egg room cooler will turn off.

COOLER PROBES
These parameters are used to set an individual associated temperature to the egg room cooler. The temperature associated to the egg room cooler is a combination of the temperatures measured by the inside probes.

LOW ALARM TEMPERATURE
This parameter is used to set the temperature at which an egg room low temperature alarm will occur. When the temperature of the selected probes is below this value throughout the *ALARM DELAY*, the egg room low temperature alarm will activate.

HIGH ALARM TEMPERATURE
This parameter is used to set the temperature at which an egg room high temperature alarm will occur. When the temperature of the selected probes is above this value throughout the *ALARM DELAY*, the egg room high temperature alarm will activate.

ALARM PROBES
These parameters are used to set an individual associated temperature to the egg room alarm. The temperature associated to the egg room cooler is a combination of the temperature measured by the inside probes.

ALARM DELAY
This parameter is used to set the amount of time for which the temperature selected for the egg room alarm must be outside the high and low limits before activating the alarm.

VARIABLE OUTPUTS

ACTUAL STATUS
These parameters display the actual intensity of the respective variable fan, if used.

SET POINT (1-5)
These parameters are used to set the temperature at which the respective variable fan will be activated at its minimum speed. When the temperature of the selected probes is at this value, the respective variable fan will activate at 10%. As the temperature increases, the intensity of the variable fan will increase to reach 100% when its temperature is at or above *SET POINT (1-5) + BANDWIDTH (1-5)*. It will remain at 100% until the next *SET POINT (1-5)* is reached, at which point it will go back to 10% and start modulating again. When a *SET POINT (1-5)* is reached, the variable fan will remain at 10% until the temperature reaches *SET POINT (1-5) – DIFFERENTIAL (1-5)* if the temperature decreases.

DIFFERENTIAL (1-5)
These parameters set the differential used with the respective *SET POINT (1-5)*. When a variable fan reaches one of its *SET POINT (1-5)*, it activates at 10%. If the temperature decreases, the variable fan will remain at its minimum speed until the temperature drops to *SET POINT (1-5) – DIFFERENTIAL (1-5)*, at which point the demand will be revaluated according the preceding *SET POINT (1-5)* or the variable fan will deactivate if its temperature is below all *SET POINT (1-5)*.

MODULATION BAND (1-5)
These parameters set the bandwidth used with the respective *SET POINT (1-5)*. The bandwidth is the range of temperatures throughout which the variable fan will modulate from 10% to 100%. When a variable fan reaches one of its *SET POINT (1-5)*, it activates at its minimum speed. As the temperature increases, the intensity of the variable fan will increase to reach 100% when its temperature is at or above *SET POINT (1-5) + BANDWIDTH (1-5)*. It will remain at 100% until the next *SET POINT (1-5)* is reached, at which point it will go back to its minimum speed and start modulating again.

TIMER
These parameters are used to establish on which portion of the minimum ventilation timer the respective variable fan will be activated. If a parameter is set to "-" of the portions, the respective variable fan will be activated only when it has a temperature demand. These parameters can be set to portion #1, #2 or "-" (none). If some fans (including tunnel and sidewall fans) are set to portion #1 and none on portion #2 (or some fans are set on portion #2 and none on portion #1), fans on timer activate on portion #1 and #2. If none run on the minimum ventilation timer, the timer will stop to restart on the off portion as soon as one fan needs to run on minimum ventilation timer.

PROBES
These parameters are used to set an individual associated temperature to the respective output. The temperatures associated to these variable fans are a combination of the temperatures measured by the inside probes.

MINIMUM SPEED
These parameters are used to adjust the minimum speed of the respective variable fan. This speed is the base value used to calculate the actual minimum speed.

OVERRIDE
These parameters are used to determine if the respective output may be reactivated by the *HIGH TEMPERATURE OVERRIDE* when it has been deactivated by the tunnel mode. If these parameters are set to Y, the respective fan will reactivate when the average temperature reaches *HIGH TEMPERATURE OVERRIDE*. If these parameters are set to N, the respective fan will not be reactivated by the *HIGH TEMPERATURE OVERRIDE*.

HIGH TEMPERATURE OVERRIDE
This parameter sets the temperature at which variable fans will reactivate, regardless of tunnel transitions when *OVERRIDE (1-2)* is set to Yes. If the average temperature reaches this temperature, variable fans will reactivate.

FAN START BOOST TIME
These parameters determine the duration of the fan start boost time upon activation. The variable fans will activate at 100% for an amount of time equal to this parameter, and then take the calculated intensity according to their settings.

VARIABLE OUTPUTS (PRECISION MODE)

ACTUAL STATUS

These parameters display the actual intensity of the respective variable fan, if used.

MODULATION BAND

These parameters set the bandwidth used with the activation temperature of the current ventilation level for the variable fan activated on modulation. The bandwidth is the range of temperatures throughout which the variable fan will modulate from its minimum speed to 100%. When the temperature is equal to the activation temperature of the current level, the selected fans will activate at their minimum speed. As the temperature increases, the intensity of the variable fan will increase to reach 100% when its temperature is at or above the activation temperature of the current level + *MODULATION BAND*. It will remain at 100% until the next ventilation level is reached, at which point it will go back to its minimum speed and start modulating again. This happens only if the fan is selected to activate on modulation in the next level.

MINIMUM SPEED

These parameters adjust the minimum speed of the respective variable fan. This speed is the base value used to calculate the actual minimum speed.

ALARM LIST

ALARM LIST (1-25)

This column displays the alarms that have previously occurred. These alarm messages are listed in order. The first alarm displayed is the latest one.

TIME (1-25)

These parameters indicate the time at which the respective alarm occurred.

ACK/CLR (1-25)

These parameters acknowledge or clear an alarm that has been triggered. An alarm that has been triggered will display "Ack" until the alarm is acknowledged. This is done by pressing on this parameter. When this is done, the display will change to "Clr". If the user presses the parameter again while on the parameter, the alarm entry will disappear and the alarm condition will be reinitialized. If a situational alarm is no longer in effect or if the entry is a warning, the display will be "Ack/Clr" and pressing this parameter will both acknowledge and clear the alarm.

There are five types of alarm entries:

1- **Continuous alarms.** These alarms will activate the alarm relay and the alarm message will appear when the condition is present and when the situation is corrected. The alarm entry must be acknowledged and cleared to deactivate the alarm relay and remove the alarm message.

2- **Situational alarms.** These alarms will activate the alarm relay and the alarm message will appear when the condition is present. When the situation is corrected, the alarm relay will deactivate and the alarm message will appear. The alarm entry must be acknowledged and cleared to remove the alarm message.

3- **Continuous warning.** These alarms will display the WARNING message when the condition is present and when the situation is corrected. The alarm entry must be acknowledged and cleared to deactivate the alarm relay and remove the WARNING message.
4- **Situational warning.** These alarms will display the WARNING message when the condition is present. The WARNING message will disappear when the situation is corrected.
5- **Event.** These entries are not alarms, but events that occurred at the given time and date.

Continuous Alarm Message List These alarms will activate the alarm relay and the alarm message will appear when the condition is present and when the situation is corrected. The alarm entry must be acknowledged and cleared to deactivate the alarm relay and remove the alarm message.	
Message	**Cause**
Static Press high	- Static pressure probe is above *HIGH STATIC PRESSURE* for more than the *HIGH STATIC PRESSURE DELAY*.
Static Press low	- Static pressure probe is below *LOW STATIC PRESSURE* for more than the *LOW STATIC PRESSURE DELAY*. If the `ALM.REL` parameter is set to OFF, the alarm relay will not be activated and the alarm message will be replaced by the `ALARM` message.
Temp Probe # Defect	- Temperature probe # is defective (open / short circuit). - Temperature probe # is missing/unplugged and the *ACTIVE PROBES* setting in **SYSTEM CONFIGURATION** screen is above this probe #. - The probe # temperature is 20°F under the main set point. (Corresponding probe has to be in an alarm condition to get this message)
Breaker Probe Defect	- Breaker probe is defective (open / short circuit). - Breaker probe is missing/unplugged and the *ATTIC/BREAKER PROBE OPTION* in the **SYSTEM CONFIGURATION** screen is set to "Breaker".
Attic Probe Defect	- Attic probe is defective (open / short circuit). - Attic probe is missing/unplugged and the *ATTIC/BREAKER PROBE OPTION* in the **SYSTEM CONFIGURATION** screen is set to "Attic".
Water # Defect	- The number of gallons counted in 1 minute by the respective water counter is above *WATER HIGH LIMIT* or above *WATER METER 2-HOUR LIMIT*.
Feeder # Defect	- The respective feeder has been activated for more than *FEEDER (1-2) MAXIMUM LIMIT* without interruption.
Humidity PRB Not Resp	- Humidity probe is defective (open / short circuit). - Humidity probe is missing/unplugged and the *HUMIDITY PROBE ACTIVE?* In the **SYSTEM CONFIGURATION** screen is set to "Y". - Communication board is defective (open / short circuit or unplugged).
0-10V Id#(1-2) Not Resp	- Respective 0-10V chip is missing or defective (open / short circuit). - Output Board is missing/unplugged.
MS-10 Not Resp	- MS-10 is missing/unplugged.
Error Code 2-5	- If one or more of these error codes appear, contact your distributor.
Slave Not Resp	- The Slave Module is missing/unplugged.
8-Input MGCB Board Not Responding	- The 8-Input MGCB Board is unplugged or defective.

Situational Alarm Message List These alarms will activate the alarm relay and the alarm message will appear when the condition is present. When the situation is corrected, the alarm relay will deactivate and the alarm message will appear. The alarm entry must be acknowledged and cleared to remove the alarm message.	
Temperature High	- Average temperature is *ABOVE HIGH TEMPERATURE* while in ventilation mode. - Average temperature is above *HIGH TUNNEL TEMPERATURE* while in tunnel mode.
Temperature Low	- Average temperature is below *LOW TEMPERATURE*.
Temp Probe # High	- Temperature probe # is above *HIGH TEMPERATURE* while in ventilation mode. - Average temperature is above *HIGH TUNNEL TEMPERATURE* while in tunnel mode. (Corresponding probe has to be in an alarm condition to get this message)
Temp Probe # Low	- Temperature probe # is below *LOW TEMPERATURE*. (Corresponding probe has to be in an alarm condition to get this message)
Egg Room Temp High	- Egg room temperature is above *EGG ROOM LOW ALARM TEMPERATURE* for more than *EGG ROOM ALARM DELAY*.
Egg Room Temp Low	- Egg room temperature is below *EGG ROOM LOW ALARM TEMPERATURE* for more than *EGG ROOM ALARM DELAY*.
IndPrb # Excd Limits	- Temperature probe # is above *INDIVIDUAL HIGH TEMPERATURE*. - Temperature probe # is below *INDIVIDUAL LOW TEMPERATURE*.
Breaker Temp High	- Breaker probe is above *HIGH BREAKER TEMPERATURE*.
Attic Temp High	- Attic probe is above *HIGH ATTIC TEMPERATURE*.
Humidity High	- Humidity is above the *LOW HUMIDITY*.
Humidity Low	- Humidity is below the *HIGH HUMIDITY*.
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.
Problem Assigned Prbs	- An activated output or the average temperature has no probes assigned, which means it will never operate properly according to temperature.
Error Code 6	- The MCHIP has remained in the socket for more than 5 minutes.

Continuous Warning Message List	
These alarms will display the WARNING message when the condition is present and when the situation is corrected. The alarm entry must be acknowledged and cleared to remove the WARNING message.	
Power Failure	- A power failure or a control reset has occurred.
PRB Not Alarmed	- Configuration uses a probe that is not included in *PROBE CHECKED FOR HIGH/LOW ALARM* in **PROBE CONFIGURATION** screen.
Rel Slave Test ON	- The *TEST MODE OPTION* on slave module was set to ON.
Rel Slave Test OFF	- The *TEST MODE OPTION* on slave module was set to OFF.
Situational Warning Message List	
These alarms will display the WARNING message when the condition is present. The WARNING message will disappear when the situation is corrected.	
Comm. Problem Scale #	- An activated WSM-1 module has not communicated with the controller for a 5-minute period.

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