Fan Monitor Hub

Industrial Hub

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

This publication contains the installation, operation and maintenance instructions for Fan Monitor Hub.

Carefully read this publication and any supplemental documents prior to any installation or maintenance procedure.

Loren Cook IOMs provides additional information describing the equipment, and available accessories.

For additional safety information, refer to AMCA Publication 410-96, *Safety Practices for Users and Installers of Industrial and Commercial Fans*.

All of the publications listed above can be obtained from:

- lorencook.com
- *info@lorencook.com*
- 417-869-6474 ext. 166

For information and instructions on special equipment, contact Loren Cook Company at 417-869-6474.

Receiving and Inspection

Carefully inspect the accessories for any damage and/or shortage immediately upon receipt of the shipment

Storage

If the controller is stored for any length of time prior to installation, store the controller in its original packaging and protect it from dust, debris and weather.

- Storage Temperature -22°F to 122°F(-30°C to 50°C).

⚠WARNING

Not a means of Disconnect:

This Controller does not shut off power to the motor.

Voltage Warning

Low-voltage control wires and line voltage power wires must not be installed in same conduit. Failure to follow these instructions could result in malfunction or damage.

Description

The Fan Monitor Hub is a device capable of monitoring up to seven different readings on one or multiple fans. It allows for remote monitoring via a BACnet or Modbus network. The hub can also be configured to output warnings and alarms when a reading goes beyond a user defined threshold. If an extreme condition is measured by the Fan Monitor Hub it is capable of shutting down the fan and avoiding potential damage to equipment.

Features

Power

- 24Vac or 24Vdc supply
- 22 Vdc 200 mA power output for loop powered 4-20mA transmitters

10 Inputs

- 2 binary inputs
- 8 universal inputs

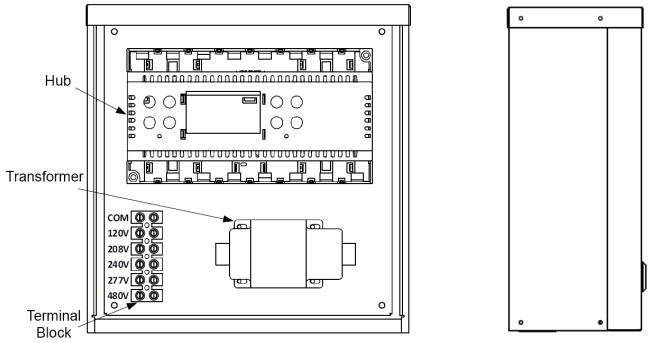
10 Outputs

- 6 binary outputs (relays)
- 4 analog outputs
- Supervised manual override of outputs via local WEB page or local dip switches

Other

- SD card slot for updates
- USB port for 5 Vdc power supply
- RJ45 Ethernet connection for IP and WEB services

Hub Power Wiring



High voltage transformer pre-wired to a labeled 6 pin terminal block and low voltage wired to device.

Description

The system comes installed in a NEMA 3R box for easy mounting and installation.

Specs

- Input Voltage: 120, 208, 240, 277, or 480 Vac
- Consumption: 5VA
- Weight: 4.4 kg [9.70 lb]
- Enclosure Material: Galvanized steel
- Enclosure Features: Clear viewing window, Lockable lid, (3) 1/2'-1" knockouts located on bottom, all components mouted on subpanel.

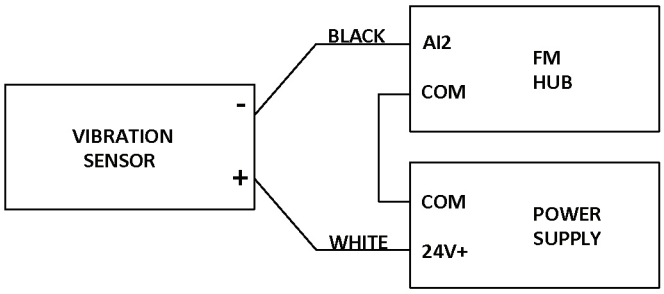
FM Vibration Package (AI2)

The FM Vibration Package consists of a single axis velocity sensor as well as a universal mounting kit. The Vibration package is preconfigured on Analog Input 2 of the FM Hub.

Package Components

- (1) Vibration Sensor with Integral Cable
- (1) Vibration Sensor Mounting Pad
- (1) Acrylic Adhesive Kit

Wiring



Installation

Placement: The placement of the sensor is important to getting an accurate vibration reading. The axis being measured will be perpendicular to the mounting surface. Common mounting locations could be on or near a motor or near bearings. Mounting can be achieved by one of two methods listed below.

Option 1 (Mounting Pad): Choose a desired location for the vibration sensor. The area should be flat and large enough to accommodate the 1" circle mounting pad and vibration sensor. To mount the pad start by cleaning the mounting area to remove any loose grease or contaminants. Mix the adhesive according to the instructions on the packaging and apply to mounting surface and pad. Place mounting pad in desired location and press firmly. Any excessive adhesive can be removed with hot water and a detergent. Allow to cure for 24 hours before use. After the adhesive has cured thread the mounting bolt of the vibration sensor into the mounting pad and route the cable of the vibration sensor away from any moving parts (wire tie if needed).

Option 2 (Drill and Tap): Choose desired location for the vibration sensor. The area should be flat and large enough to accommodate the mounting surface of the sensor. The surface should also be a minimum of 1/4" thick for proper thread engagement. Place mark on mounting surface where vibration sensor bolt will be located. Drill a hole on the mark using a #3 or 7/32" drill bit. Clean any burrs surrounding the hole. Use a 1/4-28 UNF tap to create threads in the hole that was just drilled. Thread vibration sensor bolt into tapped hole and tighten. Route the cable of the vibration sensor away from any moving parts (wire tie if needed).

Specs:

- Input Voltage: 15-30VDC
- Output: 4-20mA
- FM Hub Defaults: Max vibration value – 0.083 ft/sec
  Min vibration value – 0 ft/sec
- Reading Type: Peak Velocity
- Sensor Rating: IP65
- Mounting: ¼"-28 UNF

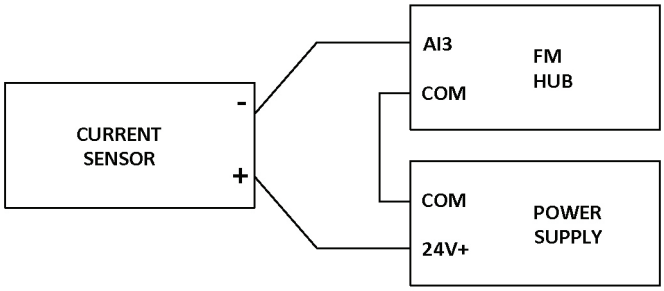
FM Current Package (AI3)

The FM Current Package consists of an adjustable range current sensor and a NEMA 4X enclosure. The Current package is preconfigured on Analog Input 3 of the FM Hub.

Package Components

- (1) Current Sensor
- (1) NEMA 4X Enclosure
- (1) DIN Rail (3")

Wiring



Installation

Locate a suitable location to mount the enclosure and current sensor. Use the holes located on the bottom of the enclosure to mount the enclosure. Using two screws, provided by others, mount the DIN rail to the bottom of the enclosure. Determine the orientation of the current sensor inside the enclosure and remove the necessary knockouts for motor power wiring and control wiring. Install necessary connector fittings onto the enclosure. Route motor power wiring through enclosure with one power lead going through the opening in the current sensor. Connect control wiring to the current sensor as shown in the diagram above. Install current sensor onto DIN rail previously installed in the enclosure. Be sure the jumper is positioned for the correct range of the application. The Fan Monitor defaults are setup for a range of 0-10A or the L jumper location. Locate the bag of supplied hardware for the enclosure. Press the (4) plastic screws into the enclosure lid and secure lid to enclosure base with a flat head screwdriver. Press the (4) clear plastic caps into the openings in the lid where the screws were previously installed.

Specs

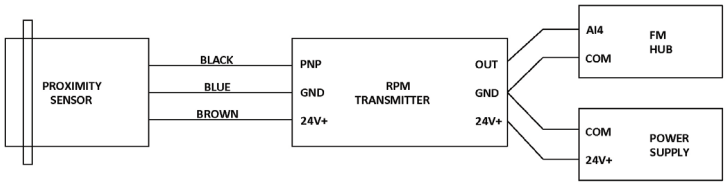
- Input Voltage: 12-30VDC
- Sensing Range: 0-10A, 0-20A or 0-50A
- Output: 4-20mA
- FM Hub Defaults: Max current value – 10A
  Min current value – 0A
- Enclosure Rating: IP66 (NEMA 4X)
- Max Sensing Voltage: 600VAC
- Operating Temperature: 5 to 104F (-15 to 40C)

FM RPM Package (AI4)

The FM RPM Package consists of an RPM transmitter and a proximity sensor with mounting bracket. The RPM package is preconfigured on Analog Input 4 of the FM Hub.

Package Components:
- (1) Proximity Sensor
- (1) Sensor Mounting Bracket
- (1) RPM Transmitter

Wiring



Installation

Find a suitable location for mounting the proximity sensor. The location should have a flat surface for mounting the sensor bracket and give an unobstructed view of the sensing target. Sensing target and location is to be determined by others. Sensor bracket can be mounted using either self-tapping screws or bolts and nuts, provided by others. With bracket installed remove one of the nuts from the sensor and install in sensor bracket. Rethread nut back onto the sensor and using these two nuts the sensor can be adjusted within proper range of the sensing target. The transmitter can be mounted using self-tapping screws and the holes provided on the sides of the enclosure. Remove to (4) screws in cover to access wiring terminal blocks. A wire harness is provided with the proximity sensor but may require extension based on transmitter location, by others.

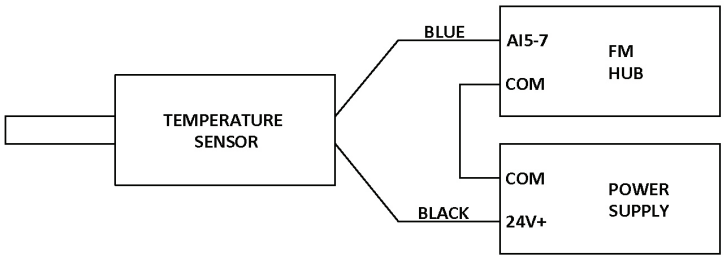
Specs
- Input Voltage: 24VDC
- Speed Range: 10-4000 RPM
- Sensing Range: 0.59” (15mm)
- Output: 4-20mA
- FM Hub Defaults: Max current value – 4000 RPM
  Min current value – 10 RPM
- Sensor Enclosure Rating: IP67
- Transmitter Enclosure Rating: IP34
- Operating Temperature: -13 to 158F (-25 to 90C)

FM Temperature Package (AI5-7)

The FM Temperature Package consists of a temperature sensor, a 2m (6.5ft) sensor cable, a brass bearing adapter tee fitting and a brass locknut. The Temperature package is preconfigured on Analog Input 5-7 of the FM Hub.

Package Components
- (1) Temperature Sensor
- (1) Sensor Cable 2m (6.5ft)
- (1) 1/8” Brass Locknut
- (1) 1/8” Brass Tee Fitting

Wiring



Installation

Airstream Temperature: Determine desired location for airstream temperature to be measured. Be sure to choose a location where the body of the sensor will not be damaged or subjected to extreme heat or harsh conditions. Place a mark on the ductwork where the sensor is to be mounted. Drill a 7/16” hole at the mark that was just made. Install the sensor with the probe inside the ductwork and the body of the sensor to the outside. Thread the 1/8” brass locknut onto the sensor and tighten. Attach the sensor cable to the body of the sensor and tighten the nut of the cable. Route and cable away from any moving parts and secure with wire ties if necessary.

Bearing Temperature: Remove the grease fitting from the bearing and set aside. Thread the male end of the tee fitting into the bearing where the grease fitting was just removed. Take the grease fitting that was removed from the bearing and thread it into the tee fitting adjacent (perpendicular) to the male end that is threaded into the bearing. Install the temperature sensor into the remaining end of the tee fitting. Be sure these connections are tight so that there are no grease leaks. Using a grease gun add grease to fill the cavity of the newly installed tee fitting. . Attach the sensor cable to the body of the sensor and tighten the nut of the cable. Route the cable away from any moving parts and secure with wire ties if necessary.

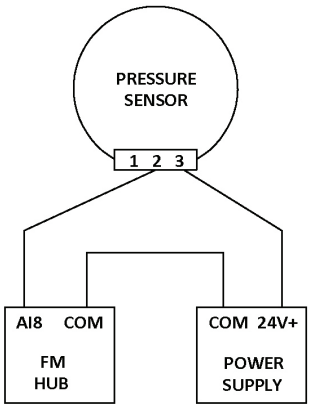
FM Pressure Package (AI8)

The FM Pressure Package consists of a pressure sensor and two pressure taps. The Pressure Package is preconfigured on Analog Input 8 of the FM Hub.

Package Components
- (1) Pressure Sensor
- (2) Pressure Taps

Wiring

Remove front cover of sensor unit. Be sure AC/DC jumper to the left wiring terminals is set to DC. DIP switches should be as follows, 1 & 2 set to OFF and 3-7 set to ON.



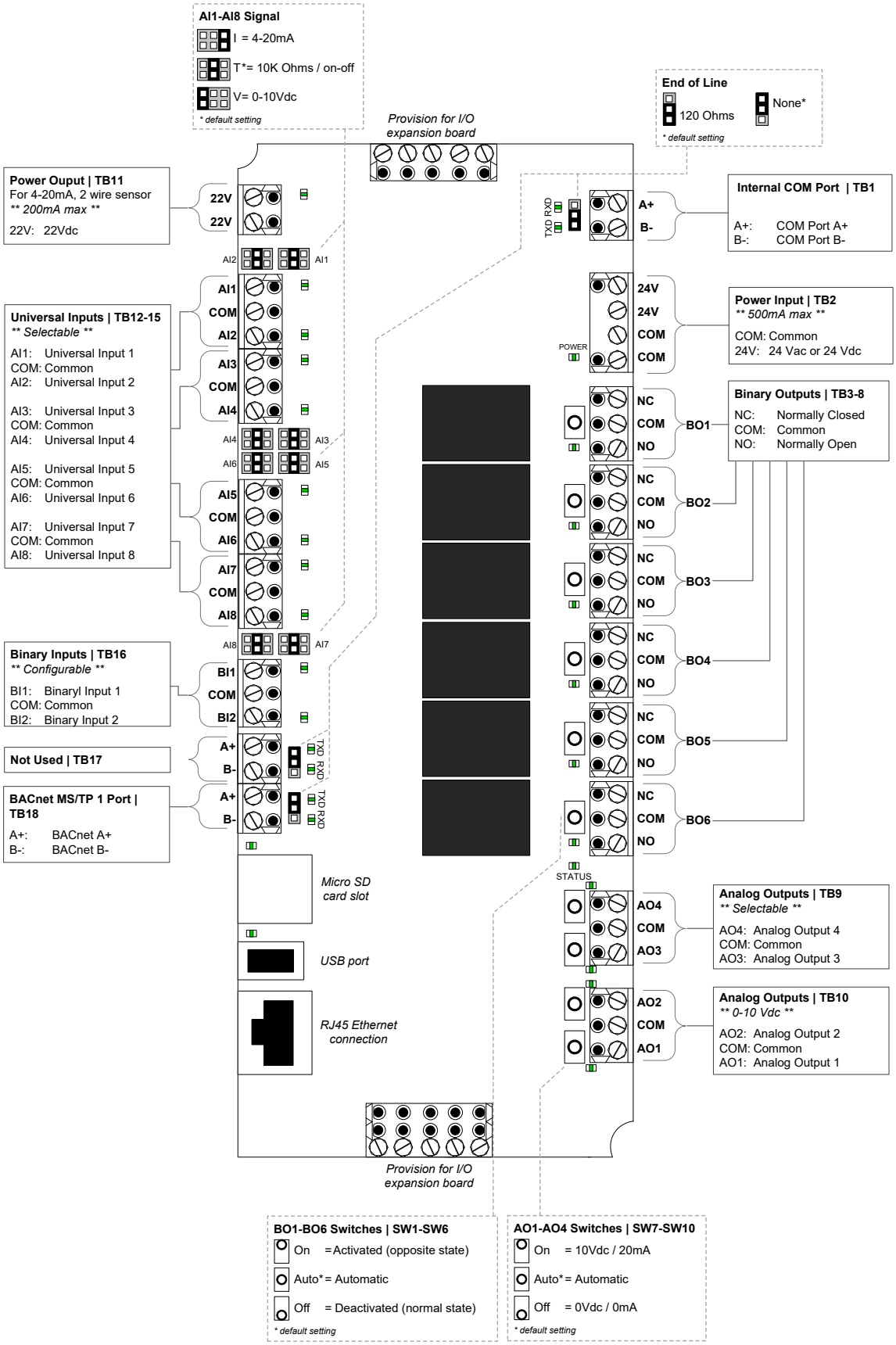
Installation

Fan Mounted (Inlet Reading): To measure differential pressure across the inlet of the unit it is recommended that the fan being monitored have a factory installed piezometric ring and connection ports. Mount the sensor using self-tapping screws and the three mounting tabs on the sensor. Choose a location that will allow the tubing to be easily routed from sensor to the connection ports. Use 3/16” ID tubing to connect the (+) port of the sensor to the HIGH connection port on the unit and connect the (-) port to the LOW connection port.

Duct Mounted: To measure static pressure choose a location in the ductwork where the pressure is to be measured. Mark and drill a 3/8” hole where the pressure tap is to be located. Insert the pressure tap into the 3/8” hole and rotate so opening is facing into the airstream. Using self-tapping screws secure the pressure tap to the ductwork and attach the tubing to the barbed fitting. If the pressure being measured is negative attach the tubing to the (-) port on the sensor and leave the (+) port open. If the pressure being measured is positive attach the tubing to the (+) port on the sensor and leave the (-) port open. If differential pressure is to be measured install second pressure tap at second measurement location following directions above. Connect area of higher pressure to (+) port on sensor and the area of lower pressure to the (-) port.

Connections and Configurations

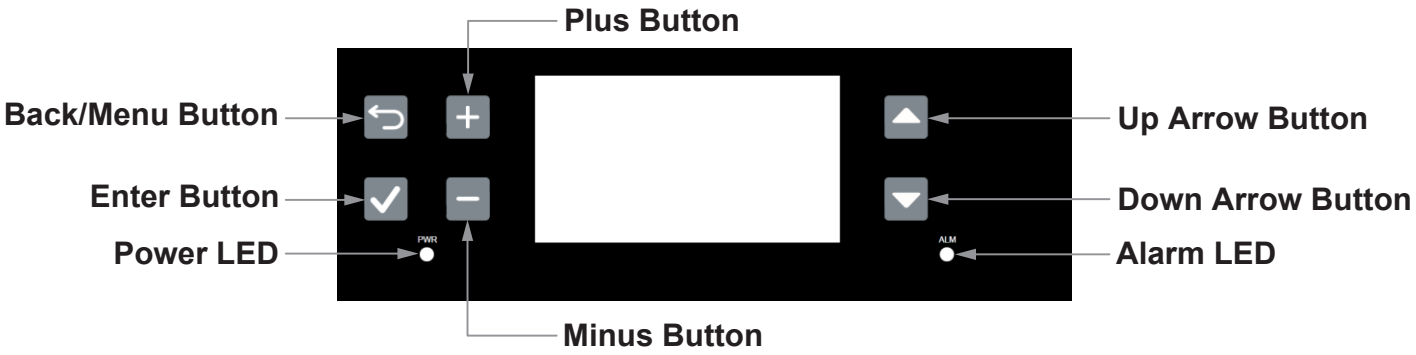
Please note that all jumper settings must be set to the same value through BACnet. Some additional configurations are only available through BACnet (see Network Data and Utilization.)



For more information on wiring see additional supplements.

Controller Configuration

Fan Monitoring Hub Layout



Feature description:

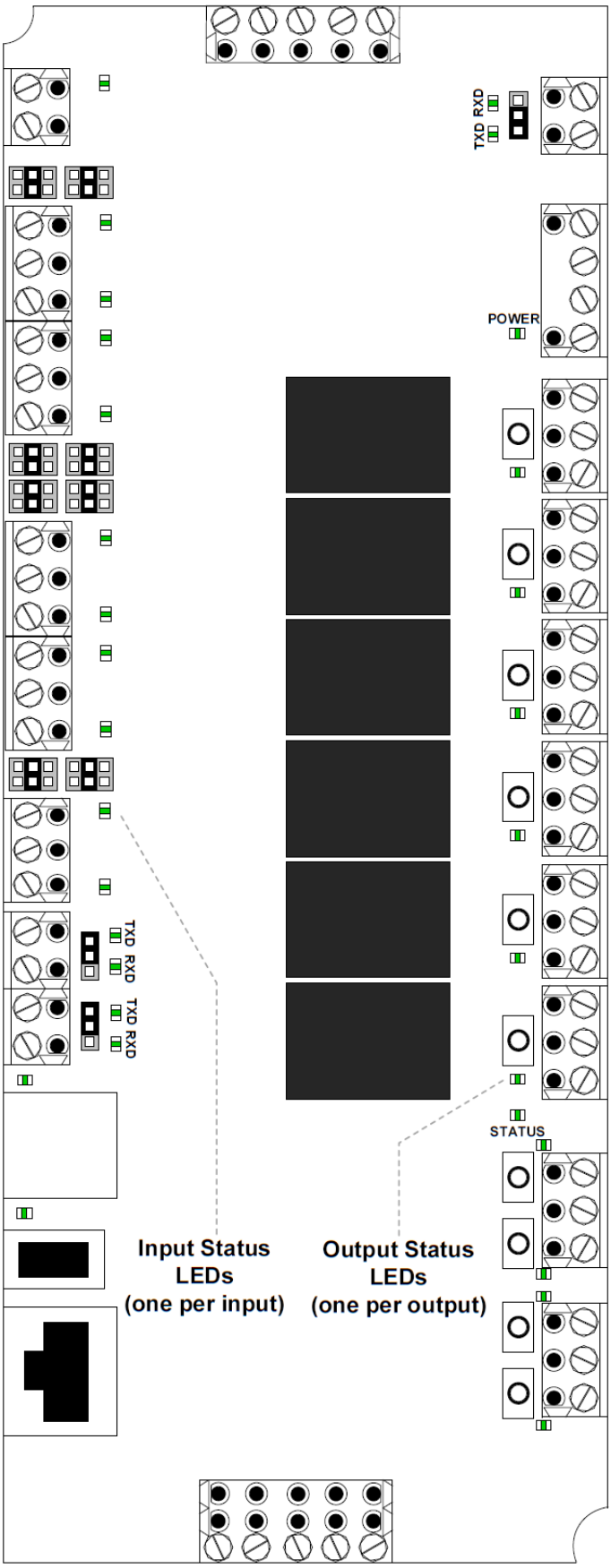
Feature		Description
Power LED	☼ (Blue)	Indicates that the controller is turned on.
	O (Off)	Indicates that the controller is turned off.
Alarm LED	☼ (Red)	Indicates that the alarm is issuing a warning and that the system must be verified.
	O (Off)	Indicates that there is currently no alarm activated.
Up and Down Arrow Buttons	▲	The up arrow button is used to scroll to the next menu item or parameter.
	▼	The down arrow button is used to scroll to the previous menu item or parameter.
Plus and Minus Buttons	+	The plus button is used to increase the value of the displayed parameter.
	−	The minus button is used to decrease the value of the displayed parameter.
Back/Menu Button	⮌	The back/menu button is used to go to previous menu or to access the Main Menu page from the Idle Screen.
Enter Button	✓	The enter button is used to advance to the next sub-menu, to access the selected option or to confirm set parameter value.

Fan Monitor Hub

Network Settings

CAUTION: Connect the device to a secure network with a strong firewall protection, in order to prevent unauthorized access to the system.

All settings for network management, including BACnet and Modbus settings, can be made through the local web page of the controller.



LED Light Status

Power

On	= Input noltage normal
Off	= No power

Status

Flashing	= Normal operation (watchdog)

RX/TX

Flashing	= Receiveing (RX) and/or transmitting (TX) data.

Input Status

On	= Input on
Off	= Input off
Flashing	= Input not connected (thermistor setting only)
Analog	= When Universal Inputs are set to analog values (Vdc,mA, orThermistor); the LED intensity corresponds to the input value. For example: At 10Vdc, the LED will be fully on. At 5Vdc, the LED will be at 50% intensity. At 0 Vdc, the LED will be off.

Output Status

On	= Activated
Off	= Deactivated
Flashing	= Output Pulsed
Analog	= When Universal and Analog outputs are set to analog values (Vdc); the LED intensity corresponds to the output value. For example: At 10Vdc, the LED will be fully on. At 5Vdc, the LED will be at 50% intensity. At 0 Vdc, the LED will be off.

Menu Access

- From the Idle Screen, the Main Menu can be accessed by pressing the Back/Menu button ⮌, enabling access to the General menu.
- To view other menu options and perform configurations to the system, press Enter ✔ while on the Idle Screen to advance to the Login Screen, where a valid password must be entered.
- Four different passwords can be used, each granting access to an additional menu option depending on the access level assigned to the provided password.
- If a password of higher access is provided, all menu options accessible with the use of a lower level password will also be unlocked.

Access Level	Password	Menu Unlocked	Description/Notes
1	None	General	Grants access to General menu.
2	2222	User	Grants access to General and User menus.
3	3322	Service	Grants access to General, User, and Service menus.
4	4433	Installation	Grants access to General, User, Service and Installation menus.
5	5544	Integration	Grants access to General, User, Service, Installation and Integration menus.

Note: To modify or retrieve lost passwords, please contact factory.

1. After accessing the Login Screen, use the **+** or **-** buttons to increase or decrease the value of the number that is highlighted.
2. Use the ▲, ▼ buttons to scroll to the next or previous number.
3. Press Enter ✔ to confirm the password once completed. If you enter the wrong password, the controller displays a “Login Failed” message.
4. The Back/Menu button ⮌ may also be used to return to the Idle Screen display.

Read Only Menu

Note: Available settings and range selections may vary depending on product model and current configuration. The tables in the following sections display all the possible selections. The Description/Notes column indicates the conditions required for the associated setting to appear.

Sub-Menu	Setting		Default	Range (* indicates no configuration; display only)	Description/Notes
Diagnostic	**Vibration (AI2)** *(Vibration)*				
		Vibration Converted value *(Vibration converted value)*	*Current Value*	* (min: 0.00ft/s, max: 0.08ft/s) * [min: 0mm/s, max: 25mm/s] Units: ft/s, mm/s	Displays the current value of the vibration sensor.
		Vibration Warning *(VibrationWarning)*	Inactive	* (Inactive, Active)	Displays whether the warning for the vibration sensor is currently active or not.
		Vibration Shutdown *(VibrationShutdown)*	Inactive	* (Inactive, Active)	Displays whether the vibration sensor is currently shut down or not.
		Vibration Alarm *(VibrationAlarm)*	Inactive	* (Inactive, Active)	Displays whether the alarm for the vibration sensor is currently active or not.
	Current Draw (AI3) *(Current)*				
		Current Converted value *(Current Draw Converted value)*	*Current Value*	* (min: 0A, max: 100A)	Displays the current value of the current draw sensor.
		Current Warning *(CDrawWarning)*	Inactive	* (Inactive, Active)	Displays whether the warning for the current draw sensor is currently active or not.
		Current Shutdown *(CDrawShutdown)*	Inactive	* (Inactive, Active)	Displays whether the current draw sensor is currently shut down or not.
		Current Alarm *(CDrawAlarm)*	Inactive	* (Inactive, Active)	Displays whether the alarm for the current draw sensor is currently active or not.
	RPM (AI4) *(RPM)*				
		RPM Converted value *(RPM Converted value)*	*Current Value*	* (min: 0rpm, max: 5000rpm)	Displays the current value of the RPM sensor.
		RPM Warning *(RPMWarning)*	Inactive	* (Inactive, Active)	Displays whether the warning for the RPM sensor is currently active or not.
		RPM Shutdown *(RPMShutdown)*	Inactive	* (Inactive, Active)	Displays whether the RPM sensor is currently shut down or not.
		RPM Alarm *(RPMAlarm)*	Inactive	* (Inactive, Active)	Displays whether the alarm for the RPM sensor is currently active or not.
	Temperature1 (AI5) *(Temperature1)*				
		Temperature 1 Converted value *(Temp1Value)*	*Current Value*	* (min: -58.0°F, max: 248.0°F) * [min: -50°C, max: 120°C] Units: F, C	Displays the current value of the first temperature sensor.
		Temperature 1 Warning *(Temp1Warning)*	Inactive	* (Inactive, Active)	Displays whether the warning for the first temperature sensor is currently active or not.
		Temperature 1 Alarm *(Temp1Alarm)*	Inactive	* (Inactive, Active)	Displays whether the alarm for the first temperature sensor is currently active or not.

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Diagnostic	**Temperature 1 Shutdown** *(Temp1Shutdown)*	Inactive	* (Inactive, Active)	Displays whether the first temperature sensor is currently shut down or not.
	Temperature2 (AI6) *(Temperature2)*			
	Temperature 2 Converted value *(Temp2Value)*	*Current Value*	* (min: -58.0ºF, max: 248.0ºF) * [min: -50ºC, max: 120ºC] Units: F, C	Displays the current value of the second temperature sensor.
	Temperature 2 Warning *(Temp2Warning)*	Inactive	* (Inactive, Active)	Displays whether the warning for the second temperature sensor is currently active or not.
	Temperature 2 Alarm *(Temp2Alarm)*	Inactive	* (Inactive, Active)	Displays whether the alarm for the second temperature sensor is currently active or not.
	Temperature 2 Shutdown *(Temp2Shutdown)*	Inactive	* (Inactive, Active)	Displays whether the second temperature sensor is currently shut down or not.
	Temperature3 (AI7) *(Temperature3)*			
	Temperature 3 Converted value *(Temp3Value)*	*Current Value*	* (min: -58.0ºF, max: 248.0ºF) * [min: -50ºC, max: 120ºC] Units: F, C	Displays the current value of the third temperature sensor.
	Temperature 3 Warning *(Temp3Warning)*	Inactive	* (Inactive, Active)	Displays whether the warning for the third temperature sensor is currently active or not.
	Temperature 3 Alarm *(Temp3Alarm)*	Inactive	* (Inactive, Active)	Displays whether the alarm for the third temperature sensor is currently active or not.
	Temperature 3 Shutdown *(Temp3Shutdown)*	Inactive	* (Inactive, Active)	Displays whether the third temperature sensor is currently shut down or not.
	Pressure Sensor (AI8) *(Pressure)*			
	Pressure Converted value *(Pressure Converted value)*	*Current Value*	* min: -40in H2O, max: 40in H2O * [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Displays the current value of the pressure sensor.
	Pressure Warning *(PressureWarning)*	Inactive	* (Inactive, Active)	Displays whether the warning for the pressure sensor is currently active or not.
	Pressure Shutdown *(PressureShutdown)*	Inactive	* (Inactive, Active)	Displays whether the pressure sensor is currently shut down or not.
	Pressure Alarm *(PressureAlarm)*	Inactive	* (Inactive, Active)	Displays whether the alarm for the pressure sensor is currently active or not.
	Pressure mode *(pressure mode)*	static	* (static, differential, dynamic, dynamic with flow)	Displays the mode of operation of the pressure sensor.
Physical IO	**AnalogInput1-8** *(AI1 to AI8)*			
	Analog Input 1-8 Signal *(Signal)*	*Current Value*	* (min: 0.00V, max: 11.00V)	Displays the actual voltage on the analog input in Vdc.
	BinaryInput1-2 (BI1 to BI2)			
	Binary Input 1-2 Signal *(Signal)*	*Current Value*	* (Open, Close)	Displays the binary status of the input.
	BinaryOutput1-4 (BO1 to BO4)			
	Binary Output 1-4 Signal *(Signal)*	*Current Value*	* (Off, On)	Displays the binary status of outputs 1 to 4.

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Physical IO	**BinaryOutput5-6** (BO5 to BO6)			
	Binary Output 5-6 Signal *(Signal)*	*Current Value*	* (Open, Close)	Displays the binary status of outputs 5 and 6.
	AnalogOutput1-4 (AO1 to AO4)			
	Analog Output 1-4 Signal *(Signal)*	*Current Value*	* (min: 0.000V, max: 10.000V)	Displays the actual voltage on the analog output in Vdc.
Configuration	**Fan Cook Monitor** *(Fan Cook Monitor)*			
	Service Interval *(ServiceInterval)*	10000.00hr	min: 0.00hr, max: 9999999.00hr	Select the time of operation before the unit calls for servicing.
Information	**Fan Total On Time** *(TotalOnTime)*	*Current Value*	* (min: 0.00hr, max: 9999999.00hr)	Displays the total operating time of the unit.
	Total Run Time *(TotalRunTime)*	*Current Value*	* (min: 0.00hr, max: 9999999.00hr)	Displays the total runtime of the unit.
	Current Service Run Time *(CurrentServiceRunTime)*	*Current Value*	* (min: 0.00hr, max: 9999999.00hr)	Displays the runtime of the unit, since the last servicing.
	Remaining Service Run Time *(RemainingServiceRunTime)*	*Current Value*	* (min: 0.00hr, max: 9999999.00hr)	Displays the remaining runtime of the unit until it must be serviced.
	Service Interval *(ServiceInterval)*	10000.00hr	min: 0.00hr, max: 9999999.00hr	Select the time of operation before the unit calls for servicing.
	Service Due *(ServiceDue)*	*Current Value*	* (Off, On)	Displays whether the unit is due for servicing.
	AnalogIModeConfig *(AI Mode config)*			
	AIModeConfigAI2 *(AI2Mode)*	Vibration	* (Vibration, Current, RPM, Temperature1, Temperature2, Temperature3, Pressure, Off)	Displays the configuration mode for analog input 2.
	AIModeConfigAI3 *(AI3Mode)*	Current	* (Vibration, Current, RPM, Temperature1, Temperature2, Temperature3, Pressure, Off)	Displays the configuration mode for analog input 3.
	AIModeConfigAI4 *(AI4Mode)*	RPM	* (Vibration, Current, RPM, Temperature1, Temperature2, Temperature3, Pressure, Off)	Displays the configuration mode for analog input 4.
	AIModeConfigAI5 *(AI5Mode)*	Temperature1	* (Vibration, Current, RPM, Temperature1, Temperature2, Temperature3, Pressure, Off)	Displays the configuration mode for analog input 5.
	AIModeConfigAI6 *(AI6Mode)*	Temperature2	* (Vibration, Current, RPM, Temperature1, Temperature2, Temperature3, Pressure, Off)	Displays the configuration mode for analog input 6.
	AIModeConfigAI7 *(AI7Mode)*	Temperature3	* (Vibration, Current, RPM, Temperature1, Temperature2, Temperature3, Pressure, Off)	Displays the configuration mode for analog input 7.
	AIModeConfigAI8 *(AI8Mode)*	Pressure	* (Vibration, Current, RPM, Temperature1, Temperature2, Temperature3, Pressure, Off)	Displays the configuration mode for analog input 8.

Configure Settings Menu

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Command	**Fan Cook Monitor** (*FanCookMonitor*)			
	Fan Cook Warning Anti Cycle Delay (*WarningAnticycle*)	5 sec	min: 0 sec, max: 1000 sec	Select the value for the warning anti-cycle delay.
	Fan Cook Shutdown Anti Cycle Delay (*ShutdownAnticycle*)	5 sec	min: 0 sec, max: 1000 sec	Select the value for the shutdown anti-cycle delay.
	Fan Cook Alarm Anti Cycle Delay (*AlarmAntiCycle*)	5 sec	min: 0 sec, max: 10000 sec	Select the value for the alarm anti-cycle delay.
	Start Application Delay (*StartApplicationDelay*)	10 sec	min: 0 sec, max: 999 sec	Select the value for the application start delay. When the device is powered on, it will ignore all the inputs until the start application delay timer has expired.
	BO Option active (*BOOptAct*)	Active	Inactive, Active	Select whether to enable or disable the binary outputs.
	BI Opt Active (*BIOptActive*)	Active	Inactive, Active	Select whether to enable or disable the binary inputs.
	AI Option Active (*AIOptAct*)	Active	Inactive, Active	Select whether to enable or disable the analog inputs.
	AO Option Active (*AOOptAct*)	Active	Inactive, Active	Select whether to enable or disable the analog outputs.
	Fan Request (*FanRequest*)	None	None, Reset Service Interval, Reset Alarms, Reset all counters	Perform one of the following actions: reset the service counters, reset warning alarms or reset all counters.
Network	**Device** (*Device*)			
	Location (*Location*)	-		Define the BACnet device location property.
	Description (*Description*)	-		Define the BACnet device description property.
	DeviceInstance (*DeviceInstance*)	0153888		Define the BACnet device instance property.
	HttpServer (*HttpServer*)			
	Http Server Units (*HttpServerUnits*)	Imperial	Metric, Imperial	Select whether to use a metric or imperial system of units for the web server.
	BACnetServer (*BACnetServer*)			
	BACnet Server Language (*Language*)	English	English	Select the language for the BACnet server. *Currently, only English is supported.*
	BACnet Server List Mode (*ListMode*)	Integrator	Integrator, Advanced, Factory	Select the category of BACnet objects to display.
	BACnetMSTP1 (*BACnetMSTP1*)			
	MaxMaster (*MaxMaster*)	127	min: 1, max: 127	Configure the MaxMaster BACnet MS/TP value to limit the PFM range of the local device.
	MaxInfoFrames (*MaxInfoFrames*)	1	min: 1, max: 100	Configure the maximum number of information messages the device may transmit, before it must pass the token to the next device. More MS/TP messages can be routed when the device has the token. This property allows the device to also act as a local router.

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Network	**Auto Baud Rate** (*AutoBaud*)	Yes	No, Yes	Select whether the BACnet MS/TP network will automatically detect the baud rate or if it will use the fixed value set in the *Baud Rate* parameter.
	Baud Rate (*BaudRate*)	19200	9600, 19200, 38400, 76800	Set the BACnet MS/TP baud rate when *Auto Baud Rate* is set to *No*.
	MSTP1MAC (*MAC*)	002		Set the local BACnet MS/TP network MAC address.
	BACnet IP (*BACnet IP*)			
	BacnetIP Port (*BIPPort*)	47808	min: 0, max: 65535	Set the BACnet IP port used by the device.
	ModbusRTU1In (*ModbusRTU1In*)			
	Modbus RTU1 MAC (*MAC*)	1	min: 1, max: 247	Set the local Modbus RTU MAC address.
	Modbus RTU Autobaud (*AutoBaud*)	Yes	No, Yes	Select whether the Modbus RTU network will automatically detect the baud rate or if it will use the fixed value set in the *Modbus RTU1 Baud Rate* parameter.
	Modbus RTU Com Port Config (*PortConfig*)	No Parity, 2 Stop Bits	No Parity 2 Stop Bits, Even Parity 1 Stop Bit, Odd Parity 1 Stop Bit	Set the Parity and Stop Bits used for the Modbus RTU RS485 port.
	Modbus RTU1 Baud Rate (*BaudRate*)	38400	9600, 14400, 19200, 38400, 57600	Set the Modbus RTU baud rate when *Modbus RTU Autobaud* is set to *No*.
Communication	**IP Settings** (*IPSettings*)			**For any Static Address change to take effect, the *Reset IP Settings* parameter must first be set to *Yes*. It will auto revert to *No* automatically.**
	DHCP Enable (*Dhcp*)	Inactive	* (Inactive, Active)	Select whether to enable Dynamic Host Configuration Protocol (DHCP) to automatically provide an IP address to the device.
	Reset IP Settings (*RstIPSetting*)	No	No, Yes	Select whether to restart the IP module, in order to allow recent parameter modifications to be effective. This setting will automatically revert to *No* once the new settings are effective.
	StaticAddress (*StaticAddress*)	192.168.1.100		Set the local IP static address.
	StaticSubnetMask (*StaticSubnet*)	255.255.255.0		Set the local IP static subnet mask.
	StaticDefaultGateway (*StaticGatewy*)	192.168.1.1		Set the local IP static default gateway.
	StaticDnsServer (*StaticDns*)	192.168.1.1		Set the local IP static DNS server (if used).
	ActualAddress (*ActualAddress*)	*Current Value*	*	Displays the actual local IP static address.
	ActualSubnetMask (*ActualSubnet*)	*Current Value*	*	Displays the actual local IP static subnet mask.
	ActualDefaultGateway (*ActualGatewy*)	*Current Value*	*	Displays the actual local IP static default gateway.
	ActualDnsServer (*ActualDns*)	*Current Value*	*	Displays the actual local IP static DNS server (if used).
User Interface	**Local Display** (*LocalDisplay*)			
	Local Display Units (*Units*)	Imperial	Metric, Imperial	Select whether to use a metric or imperial system of units for the device.

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Configuration	**Fan Cook Monitor** *(Fan Cook Monitor)*			
	Service Interval *(ServiceInterval)*	10000.00hr	min: 0.00hr, max: 9999999.00hr	Select the time of operation before the unit calls for servicing.
	Vibration (AI2) *(Vibration)*			
	Vibration Warning Low Level *(WarningLowLevel)*	0.00ft/s [0mm/s]	min: 0.00ft/s, max: 0.08ft/s [min: 0mm/s, max: 25mm/s] Units: ft/s, mm/s	Set the minimum value for the vibration sensor before a warning message is displayed indicating that the vibration level is too low.
	Vibration Warning High Level *(WarningHighLevel)*	0.08ft/s [25mm/s]	min: 0.00ft/s, max: 0.08ft/s [min: 0mm/s, max: 25mm/s] Units: ft/s, mm/s	Set the maximum value for the vibration sensor before a warning message is displayed indicating that the vibration level is too high.
	Vibration Warning Enable *(warning enable)*	Inactive	Inactive, Active	Select whether to enable the warning for the vibration sensor.
	Vibration Alarm Low Level *(VibrationAlarmLow)*	0.00ft/s [0mm/s]	min: 0.00ft/s, max: 0.08ft/s [min: 0mm/s, max: 25mm/s] Units: ft/s, mm/s	Set the minimum value for the vibration sensor before the alarm is activated indicating that the vibration level is lower than the allowable value.
	Vibration Alarm High Level *(VibrationAlarmHigh)*	0.08ft/s [25mm/s]	min: 0.00ft/s, max: 0.08ft/s [min: 0mm/s, max: 25mm/s] Units: ft/s, mm/s	Set the maximum value for the vibration sensor before the alarm is activated indicating that the vibration level is higher than the allowable value.
	Vibration Alarm Enable *(VibrationAlarmEn)*	Inactive	Inactive, Active	Select whether to enable the alarm for the vibration sensor.
	Vibration Shutdown High Level *(ShutdownHighLevel)*	0.08ft/s [25mm/s]	min: 0.00ft/s, max: 0.08ft/s [min: 0mm/s, max: 25mm/s] Units: ft/s, mm/s	Set the maximum value for the vibration sensor before the sensor shuts down.
	Vibration Shutdown Enable *(shutdown enable)*	Inactive	Inactive, Active	Select whether to enable the vibration sensor to shut down.
	Vibration Reset Shutdown *(VibrationResetShutdown)*	Inactive	Inactive, Active	Select whether to enable the vibration sensor to reset after it has shut down.
	Current Draw (AI3) *(Current)*			
	CDraw Warning Low Level *(WarningLowLevel)*	0A	min: 0A, max: 100A	Set the minimum value for the current draw sensor before a warning message is displayed indicating that the current draw level is too low.
	CDraw Warning High Level *(WarningHighLevel)*	10A	min: 0A, max: 100A	Set the maximum value for the current draw sensor before a warning message is displayed indicating that the current draw level is too high.
	Current Warning Enable *(warning enable)*	Inactive	Inactive, Active	Select whether to enable the warning for the current draw sensor.
	CurrentDraw Alarm Low Level *(CDrawAlarmLow)*	0A	min: 0A, max: 100A	Set the minimum value for the current draw sensor before the alarm is activated or not indicating that the current draw level is lower than the allowable value.
	Current Draw Alarm High Level *(CDrawAlarmHigh)*	10A	min: 0A, max: 100A	Set the maximum value for the current draw sensor before the alarm is activated or not indicating that the current draw is higher than the allowable value.
	Current Draw Alarm Enable *(CDrawAlarmEn)*	Inactive	Inactive, Active	Select whether to enable the alarm for the current draw sensor.
	CDraw Shutdown High Level *(ShutdownHighLevel)*	10A	min: 0A, max: 100A	Set the maximum value for the current draw sensor before the sensor shuts down.
	Current Shutdown Enable *(shutdown enable)*	Inactive	Inactive, Active	Select whether to enable the current draw sensor to shut down.

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Configuration	**Current draw Reset Shutdown** *(CDrawResetShutdown)*	Inactive	Inactive, Active	Select whether to enable the current draw sensor to reset after it has shut down.
	RPM (AI4) *(RPM)*			
	RPM Warning Low Level *(WarningLowLevel)*	0rpm	min: 0rpm, max: 5000rpm	Set the minimum value for the RPM sensor before a warning message is displayed indicating that the RPM level is too low.
	RPM Warning High Level *(WarningHighLevel)*	4000rpm	min: 0rpm, max: 5000rpm	Set the maximum value for the RPM sensor before a warning message is displayed indicating that the RPM level is too high.
	RPM Warning Enable *(RPM warning enable)*	Inactive	Inactive, Active	Select whether to enable the warning for the RPM sensor.
	RPM Alarm Low Level *(RPMAlarmLow)*	0rpm	min: 0rpm, max: 5000rpm	Set the minimum value for the RPM sensor before the alarm is activated indicating that the RPM level is lower than the allowable value.
	RPM Alarm High Level *(RPMAlarmHigh)*	4000rpm	min: 0rpm, max: 5000rpm	Set the maximum value for the RPM sensor before the alarm is activated indicating that the RPM level is higher than the allowable value.
	RPM Alarm Enable *(RPMAlarmEn)*	Inactive	Inactive, Active	Select whether to enable the alarm for the RPM sensor.
	RPM Shutdown High Level *(ShutdownHighLevel)*	4000rpm	min: 0rpm, max: 5000rpm	Set the maximum value for the RPM sensor before the sensor shuts down.
	RPM Shutdown Enable *(shutdown enable)*	Inactive	Inactive, Active	Select whether to enable the RPM sensor to shut down.
	RPM Reset Shutdown *(RPMResetShutdown)*	Inactive	Inactive, Active	Select whether to enable the RPM sensor to reset after it has shut down.
	Temperature1 (AI5) *(Temperature1)*			
	Temperature 1 Warning Low Level *(Temp1WarningLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the first temperature sensor before a warning message is displayed indicating that the temperature value is too low.
	Temperature 1 Warning High Level *(Temp1WarningHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the first temperature sensor before a warning message is displayed indicating that the temperature value is too high.
	Temperature 1 Warning Enable *(Temp1WarningEn)*	Inactive	Inactive, Active	Select whether to enable the warning for the first temperature sensor.
	Temperature 1 Alarm Low Level *(Temp1AlarmLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the first temperature sensor before the alarm is activated indicating that the temperature value is lower than the allowable value.
	Temperature 1 Alarm High Level *(Temp1AlarmHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the first temperature sensor before the alarm is activated indicating that the temperature value is higher than the allowable value.
	Temperature 1 Alarm Enable *(Temp1AlarmEn)*	Inactive	Inactive, Active	Select whether to enable the alarm for the first temperature sensor.
	Temperature 1 Shutdown Low Level *(Temp1ShutdownLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the first temperature sensor before the sensor shuts down.
	Temperature 1 Shutdown High Level *(Temp1ShutdownHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the first temperature sensor before the sensor shuts down.
	Temperature 1 Shutdown Enable *(Temp1ShutdownEn)*	Inactive	Inactive, Active	Select whether to enable the first temperature sensor to shut down.
	Temperature 1 Reset Shutdown *(Temp1ResetShutdown)*	Inactive	Inactive, Active	Select whether to enable the first temperature sensor to reset after it has shut down.

Sub-Menu	Setting		Default	Range (* indicates no configuration; display only)	Description/Notes
Configuration	**Temperature2 (AI6)** *(Temperature2)*				
		Temperature 2 Warning Low Level *(Temp2WarningLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the second temperature sensor before a warning message is displayed indicating that the temperature value is too low.
		Temperature 2 Warning High Level *(Temp2WarningHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the second temperature sensor before a warning message is displayed indicating that the temperature value is too high.
		Temperature 2 Warning Enable *(Temp2WarningEn)*	Inactive	Inactive, Active	Select whether to enable the warning for the second temperature sensor.
		Temperature 2 Alarm Low Level *(Temp2AlarmLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the second temperature sensor before the alarm is activated indicating that the temperature value is lower than the allowable value.
		Temperature 2 Alarm High Level *(Temp2AlarmHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the second temperature sensor before the alarm is activated indicating that the temperature value is higher than the allowable value.
		Temperature 2 Alarm Enable *(Temp2AlarmEn)*	Inactive	Inactive, Active	Select whether to enable the alarm for the second temperature sensor.
		Temperature 2 Shutdown Low Level *(Temp2ShutdownLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the second temperature sensor before the sensor shuts down.
		Temperature 2 Shutdown High Level *(Temp2ShutdownHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the second temperature sensor before the sensor shuts down.
		Temperature 2 Shutdown Enable *(Temp2ShutdownEn)*	Inactive	Inactive, Active	Select whether to enable the second temperature sensor to shut down.
		Temperature2 Reset Shutdown *(Temp2ResetShutdown)*	Inactive	Inactive, Active	Select whether to enable the second temperature sensor to reset after it has shut down.
	Temperature3 (AI7) *(Temperature3)*				
		Temperature 3 Warning Low Level *(Temp3WarningLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the third temperature sensor before a warning message is displayed indicating that the temperature value is too low.
		Temperature 3 Warning High Level *(Temp3WarningHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the third temperature sensor before a warning message is displayed indicating that the temperature value is too high.
		Temperature 3 Warning Enable *(Temp3WarningEn)*	Inactive	Inactive, Active	Select whether to enable the warning for the third temperature sensor.
		Temperature 3 Alarm Low Level *(Temp3AlarmLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the third temperature sensor before the alarm is activated indicating that the temperature value is lower than the allowable value.
		Temperature 3 Alarm High Level *(Temp3AlarmHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the third temperature sensor before the alarm is activated indicating that the temperature value is higher than the allowable value.
		Temperature 3 Alarm Enable *(Temp3AlarmEn)*	Inactive	Inactive, Active	Select whether to enable the alarm for the third temperature sensor.
		Temperature 3 Shutdown Low Level *(Temp3ShutdownLow)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the third temperature sensor before the sensor shuts down.

Sub-Menu	Setting		Default	Range (* indicates no configuration; display only)	Description/Notes
Configuration		**Temperature 3 Shutdown High Level** *(Temp3ShutdownHigh)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the third temperature sensor before the sensor shuts down.
		Temperature 3 Shutdown Enable *(Temp3ShutdownEn)*	Inactive	Inactive, Active	Select whether to enable the third temperature sensor to shut down.
		Temperature 3 Reset Shutdown *(Temp3ResetShutdown)*	Inactive	Inactive, Active	Select whether to enable the third temperature sensor to reset after it has shut down.
	Pressure Sensor (AI8) *(Pressure)*				
		Pressure Warning Low Level *(WarningLowLevel)*	0in H2O [0kPa]	min: -40in H2O, max: 40in H2O [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Set the minimum value for the pressure sensor before a warning is displayed indicating that the pressure level is too low.
		Pressure Warning High Level *(WarningHighLevel)*	10in H2O [2.5kPa]	min: -40in H2O, max: 40in H2O [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Set the maximum value for the pressure sensor before a warning is displayed indicating that the pressure level is too high.
		Pressure Warning Enable *(warning enable)*	Inactive	Inactive, Active	Select whether to enable the warning for the pressure sensor.
		Pressure Alarm Low Level *(PressureAlarmLow)*	0in H2O [0kPa]	min: -40in H2O, max: 40in H2O [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Set the minimum value for the pressure sensor before the alarm is activated indicating that the pressure level is lower than the allowable value.
		Pressure Alarm High Level *(PressureAlarmHigh)*	10in H2O [2.5kPa]	min: -40in H2O, max: 40in H2O [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Set the maximum value for the pressure sensor before the alarm is activated indicating that the pressure level is higher than the allowable value.
		Pressure Alarm Enable *(PressureAlarmEn)*	Inactive	Inactive, Active	Select whether to enable the alarm for the pressure sensor.
		Pressure Shutdown Low Level *(ShutdownLowLevel)*	0in H2O [0kPa]	min: -40in H2O, max: 40in H2O [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Set the minimum value for the pressure sensor before the sensor shuts down.
		Pressure Shutdown High Level *(ShutdownHighLevel)*	10in H2O [2.5kPa]	min: -40in H2O, max: 40in H2O [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Set the maximum value for the pressure sensor before the sensor shuts down.
		Pressure Shutdown Enable *(shutdown enable)*	Inactive	Inactive, Active	Select whether to enable the pressure sensor to shut down.
		Pressure Reset Shutdown *(PressureResetShutdown)*	Inactive	Inactive, Active	Select whether to enable the pressure sensor to reset after it has shut down.
Information	**Service Interval** *(ServiceInterval)*		10000.00hr	min: 0.00hr, max: 9999999.00hr	Select the time of operation before the unit calls for servicing.

Administrator Settings Menu

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Diagnostic	**Pressure Sensor (AI8)** *(Pressure)*			
	Pressure mode *(pressure mode)*	static	* (static, differential, dynamic, dynamic with flow)	Displays the mode for the pressure sensor.
Quick Configuration	**SystemLogVerboseLevel** *(SysLogLevel)*	Alarm	None, Emergency, Alert, Critical, Error, Warning, Notice, Info, Debug, Alarm	Select the type of information to be stored on the log file.
Physical IO	**AI1 Signal Type** *(AI1SignalType)*	0_10V	0_10V, 4_20mA, Digital_Input, 10K_Type3A1, 10K_Type4A1, 10K_NTC, 20K_Type6A1, 30K_Type6A1, 10K_TypeG	Select the input mode type for the operation of AI1. This setting should be the same as the jumper hardware configuration on the PCB.
Network	**Network Option** *(Network option)*	BACnet	BACnet, Modbus	Select whether to connect to a BACnet MS/TP or Modbus RTU communication interface on TB18.
	Ethernet enable *(Eth enable)*	enable	disable, enable	Select whether to enable or disable the Ethernet option.
System	**System** *(System)*			
	NSDF Core Program *(NSDFCoreProgram)*	Running	Load, Run, Halt, Restart, Unload	Select how to change the NSDF Core program.
	Modbus Server Program *(ModbusServerProgram)*	Running	Load, Run, Halt, Restart, Unload	Select how to change the Modbus Server program.
	BACnet Server Program *(BACnetServerProgram)*	Running	Load, Run, Halt, Restart, Unload	Select how to change the BACnet Server program.
	Web Server Program *(WebServerProgram)*	Running	Load, Run, Halt, Restart, Unload	Select how to change the Web Server program.
	Cook Fan Monitor Program *(CookFanMonitorProgram)*	Running	Load, Run, Halt, Restart, Unload	Select how to change the Cook Fan Monitor program.
	LCD_Display Program *(LCD_DisplayProgram)*	Running	Load, Run, Halt, Restart, Unload	Select how to change the LCD Display program.
	Database Program *(DatabaseProgram)*	Running	Load, Run, Halt, Restart, Unload	Select how to change the Database program.
Configuration	**Vibration (AI2)** *(Vibration)*			
	Max Vibration value *(Max value)*	0.08ft/s [25mm/s]	min: 0.00ft/s, max: 0.08ft/s [min: 0mm/s, max: 25mm/s] Units: ft/s, mm/s	Set the maximum value for the vibration sensor.
	Min Vibration value *(Min value)*	0.00ft/s [0mm/s]	min: 0.00ft/s, max: 0.08ft/s [min: 0mm/s, max: 25mm/s] Units: ft/s, mm/s	Set the minimum value for the vibration sensor.
	Vibration Sensor type *(Type)*	4_20mA	0_10V, 4_20mA, Digital_Input, 10K_Type3AI, 10K_Type4AI, 10K_NTC, 20K_Type6AI, 30K_Type6AI, 10K_TypeG	Select the input mode type for the operation of the vibration sensor. This setting should be the same as the jumper hardware configuration on the PCB.
	Current Draw (AI3) *(Current)*			
	Max Current value *(Max value)*	10A	min: 0A, max: 100A	Set the maximum value for the current draw sensor.
	Min Current value *(Min value)*	0A	min: 0A, max: 100A	Set the minimum value for the current draw sensor.

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Configuration	**Current Sensor type** *(Type)*	4_20mA	0_10V, 4_20mA, Digital_Input, 10K_Type3AI, 10K_Type4AI, 10K_NTC, 20K_Type6AI, 30K_Type6AI, 10K_TypeG	Select the input mode type for the operation of the current draw sensor. This setting should be the same as the jumper hardware configuration on the PCB.
	RPM (AI4) *(RPM)*			
	Max RPM value *(Max value)*	4000rpm	min: 0rpm, max: 5000rpm	Set the maximum value for the RPM sensor.
	Min RPM value *(Min value)*	0rpm	min: 0rpm, max: 5000rpm	Set the minimum value for the RPM sensor.
	RPM Sensor type *(Type)*	4_20mA	0_10V, 4_20mA, Digital_Input, 10K_Type3AI, 10K_Type4AI, 10K_NTC, 20K_Type6AI, 30K_Type6AI, 10K_TypeG	Select the input mode type for the operation of the RPM sensor. This setting should be the same as the jumper hardware configuration on the PCB.
	Temperature1 (AI5) *(Temperature1)*			
	Temperature 1 Max Value *(Temp1Max)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the first temperature sensor.
	Temperature 1 Min Temperature *(Temp1Min)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the first temperature sensor.
	Temperature 1 Type *(Temp1Type)*	4_20mA	0_10V, 4_20mA, Digital_Input, 10K_Type3A1, 10K_Type4A1, 10K_NTC, 20K_Type6A1, 30K_Type6A1, 10K_TypeG	Select the input mode type for the operation of the first temperature sensor. This setting should be the same as the jumper hardware configuration on the PCB.
	Temperature2 (AI6) *(Temperature2)*			
	Temperature 2 Max Value *(Temp2Max)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the second temperature sensor.
	Temperature 2 Min Value *(Temp2Min)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the second temperature sensor.
	Temperature 2 Type *(Temp2Type)*	4_20mA	0_10V, 4_20mA, Digital_Input, 10K_Type3A1, 10K_Type4A1, 10K_NTC, 20K_Type6A1, 30K_Type6A1, 10K_TypeG	Select the input mode type for the operation of the second temperature sensor. This setting should be the same as the jumper hardware configuration on the PCB.
	Temperature3 (AI7) *(Temperature3)*			
	Temperature 3 Max Value *(Temp3Max)*	248.0ºF [120ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the maximum value for the third temperature sensor.
	Temperature 3 Min Value *(Temp3Min)*	-58.0ºF [-50ºC]	min: -58.0ºF, max: 248.0ºF [min: -50ºC, max: 120ºC] Units: F, C	Set the minimum value for the third temperature sensor.
	Temperature 3 Type *(Temp3Type)*	4_20mA	0_10V, 4_20mA, Digital_Input, 10K_Type3A1, 10K_Type4A1, 10K_NTC, 20K_Type6A1, 30K_Type6A1, 10K_TypeG	Select the input mode type for the operation of the third temperature sensor. This setting should be the same as the jumper hardware configuration on the PCB.
	Pressure Sensor (AI8) *(Pressure)*			
	Max Pressure value *(max value)*	10in H2O [2.5kPa]	min: -40in H2O, max: 40in H2O [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Set the maximum value for the pressure sensor.

Sub-Menu	Setting	Default	Range *(* indicates no configuration; display only)*	Description/Notes
Configuration	**Min Pressure value** *(min value)*	0in H2O [0kPa]	min: -40in H2O, max: 40in H2O [min: -10kPa, max: 10kPa] Units: in H2O, kPa	Set the minimum value for the pressure sensor.
	Pressure Sensor Type *(Type)*	4_20mA	0_10V, 4_20mA, Digital_Input, 10K_Type3AI, 10K_Type4AI, 10K_NTC, 20K_Type6AI, 30K_Type6AI, 10K_TypeG	Select the input mode type for the operation of the pressure sensor. This setting should be the same as the jumper hardware configuration on the PCB.
Extended Configuration	**Password Level 3** *(Password3)*	3322	min: 3000, max: 3999	Set the value of the level 3 access password.
	Password Level 2 *(Password2)*	2222	min: 2000, max: 2322	Set the value of the level 2 access password.

Modbus Registars

Registar address

- As per protocol base (base 0); for PLC add 1 to protocol base.
- As per holding register (base 400001)

Functions:

- 03 Read Holding Register
- 06 Write Single Register
- 16 Write Multiple Registers

Error Codes:

- 02 Illegal Data Address
- 03 Illegal Value
- 06 Slave Device Busy

- W = Writable register, RO = read only.
- No Real number in Modbus register, use scale to calculate real number. Register = Real number * Scale => Real number = Register / Scale. Scale could be 1, 10 or 100.
- When writing a register that contains a bit string, if the bit is writable (conditional or not), the write will always be accepted. If the bit is reserved or not writable, the write will be ignored and will keep its actual state.
- Use READ-MODIFY-WRITE sequence.

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
0	400001	Modbus Address and Product Type.	Unsigned	MSB = Product type, not writable LSB = Modbus Address (1 to 247), writable	W	
1	400002	Device Baud Rate.	Unsigned *Scale 100*	0, 9600, 19200, 38400, and 57600, 0 = Auto Baud *Rate Detection Value/100* *(e.g. 38400 baud = 384)*	W	38400
2	400003	Modbus Slave Communication Port Configuration.	Unsigned	0 = No parity, 2 Stop bits 1 = Even parity, 1 Stop bit 2 = Odd parity, 1 Stop bit	W	No parity, 2 Stops bits
3	400004	Product Name (characters 8 & 7).	ASCII	MSB = char 6, LSB = char 7	W	
4	400005	Product Name (characters 6 & 5).	ASCII	MSB = char 4, LSB = char 5	W	
5	400006	Product Name (characters 4 & 3).	ASCII	MSB = char 2, LSB = char 3	W	
6	400007	Product Name (characters 2 & 1).	ASCII	MSB = char 0, LSB = char 1	W	
7	400008	Product Actual Firmware Version (in Integer x100).	Unsigned *Scale 100*	1 to 65535 (e.g. 100)	RO	
8	400009	Product Actual EEPROM Version (in Integer x100).	Unsigned *Scale 100*	1 to 65535 (e.g. 100)	RO	

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
2000	402001	Analog Input 1 Signal	Signed *Scale 100*	0-10V: Type: Unsigned, Scale:100, Unit: Volt, Range: 0.00-10.00V 4-20mA: Type: Unsigned, Scale:100, Unit: mA, Range: 4.00-20.00 mA, 10K Type G, 10K Type 3A1, 10K Type 4AI, 10K NTC, 20K Type 6AI, 30K Type 6AI: Type: Signed, Scale:100, Unit: ºF, Range: -58.00 - 248.00 ºF Type: Signed, Scale:100, Unit: ºC, Range: -50.00 - 120.00 ºC DI: Type: Unsigned, Scale:1, No Unit, Range: 0-1	RO	0
2001	402002	Analog Input 2 Signal				
2002	402003	Analog Input 3 Signal				
2003	402004	Analog Input 4 Signal				
2004	402005	Analog Input 5 Signal				
2005	402006	Analog Input 6 Signal				
2006	402007	Analog Input 7 Signal				
2007	402008	Analog Input 8 Signal				
4000	404001	Analog Output 1 Signal	Unsigned *Scale 1000*	Unit: Volt, Range: 0 to 10V, *Value x 1000 (e.g. 5V = 5000)*	W	0V
4001	404002	Analog Output 2 Signal		Unit: Volt, Range: 0 to 10V, *Value x 1000 (e.g. 5V = 5000)*	W	0V
4002	404003	Analog Output 3 Signal		Unit: Volt, Range: 0 to 10V, *Value x 1000 (e.g. 5V = 5000)*	W	0V
4003	404004	Analog Output 4 Signal		Unit: Volt, Range: 0 to 10V, *Value x 1000 (e.g. 5V = 5000)*	W	0V
4004	404005	Local Display Backlight Output	Unsigned *Scale 100*	Unit: %, Range: 0 to 100%, *Value x 100 (e.g. 5% = 500)*	RO	0%
6000	406001	AI1 Signal Min	Unsigned *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6001	406002	AI1 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V
6002	406003	AI1Temperature	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	RO	0 ºC, 32 ºF
6003	406004	AI1 Temperature Min		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (-58ºF/-50ºC to Reg.406005) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	-40 ºC, -40 ºF
6004	406005	AI1 Temperature Max		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (Reg. 406004 to 248ºF/120ºC) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	100 ºC, 212 ºF
6005	406006	AI1 Temperature Bias		Unit: ºF/ºC, Range: -18ºF to 18ºF or -10ºC to 10ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	0 ºC, 0 ºF
6006	406007	Analog Input 1 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6007	406008	Analog Input 1 Pulse Count (1)				
6008	406009	Analog Input 1 Pulse Count (2)				
6009	406010	Analog Input 1 Pulse Count (3)				
6010	406011	AI2 Signal Min	Unsigned *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6011	406012	AI2 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V
6012	406013	AI2 Temperature	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	RO	0 ºC, 32 ºF
6013	406014	AI2 Temperature Min		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (-58ºF/-50ºC to Reg.406015) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	-40 ºC, -40 ºF
6014	406015	AI2 Temperature Max		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (Reg. 406014 to 248ºF/120ºC) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	100 ºC, 212 ºF

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
6015	406016	AI2 Temperature Bias		Unit: ºF/ºC, Range: -18ºF to 18ºF or -10ºC to 10ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	0 ºC, 0 ºF
6016	406017	Analog Input 2 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6017	406018	Analog Input 2 Pulse Count (1)				
6018	406019	Analog Input 2 Pulse Count (2)				
6019	406020	Analog Input 2 Pulse Count (3)				
6020	406021	AI3 Signal Min	Unsigned *Scale 100*	Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	0V
6021	406022	AI3 Signal Max		Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	
6022	406023	AI3 Temperature	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	RO	0ºC, 32ºF
6023	406024	AI3 Temperature Min		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (-58ºF/-50ºC to Reg.406025) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	-40ºC, -40ºF
6024	406025	AI3 Temperature Max		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (Reg. 406024 to 248ºF/120ºC) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	100ºC, 212ºF
6025	406026	AI3 Temperature Bias		Unit: ºF/ºC, Range: -18ºF to 18ºF or -10ºC to 10ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	0ºC, 0ºF
6026	406027	Analog Input 3 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6027	406028	Analog Input 3 Pulse Count (1)				
6028	406029	Analog Input 3 Pulse Count (2)				
6029	406030	Analog Input 3 Pulse Count (3)				
6030	406031	AI4 Signal Min	Unsigned *Scale 100*	Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	0V
6031	406032	AI4 Signal Max		Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	10V
6032	406033	AI4 Temperature	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	RO	0ºC, 32ºF
6033	406034	AI4 Temperature Min		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (-58ºF/-50ºC to Reg.406035) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	-40ºC, -40ºF
6034	406035	AI4 Temperature Max		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (Reg. 406034 to 248ºF/120ºC) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	100ºC, 212ºF
6035	406036	AI4 Temperature Bias		Unit: ºF/ºC, Range: -18ºF to 18ºF or -10ºC to 10ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	0ºC, 0ºF
6036	406037	Analog Input 4 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6037	406038	Analog Input 4 Pulse Count (1)				
6038	406039	Analog Input 4 Pulse Count (2)				
6039	406040	Analog Input 4 Pulse Count (3)				
6040	406041	AI5 Signal Min	Unsigned *Scale 100*	Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	0V
6041	406042	AI5 Signal Max		Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	10V
6042	406043	AI5 Temperature	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	RO	0ºC, 32ºF

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
6043	406**044**	AI5 Temperature Min		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (-58ºF/-50ºC to Reg.406**045**) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	-40ºC, -40ºF
6044	406**045**	AI5 Temperature Max	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (Reg. 406**044** to 248ºF/120ºC) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	100ºC, 212ºF
6045	406**046**	AI5 Temperature Bias		Unit: ºF/ºC, Range: -18ºF to 18ºF or -10ºC to 10ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	0ºC, 0ºF
6046	406**047**	Analog Input 5 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6047	406**048**	Analog Input 5 Pulse Count (1)				
6048	406**049**	Analog Input 5 Pulse Count (2)				
6049	406**050**	Analog Input 5 Pulse Count (3)	Unsigned *Scale 1*		RO	0
6050	406**051**	AI6 Signal Min	Unsigned *Scale 100*	Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	0V
6051	406**052**	AI6 Signal Max		Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	10V
6052	406**053**	AI6 Temperature	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	RO	0ºC, 32ºF
6053	406**054**	AI6 Temperature Min		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (-58ºF/-50ºC to Reg.406**055**) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	-40ºC, -40ºF
6054	406**055**	AI6 Temperature Max		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (Reg. 406**054** to 248ºF/120ºC) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	100ºC, 212ºF
6055	406**056**	AI6 Temperature Bias		Unit: ºF/ºC, Range: -18ºF to 18ºF or -10ºC to 10ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	0ºC, 0ºF
6056	406**057**	Analog Input 6 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6057	406**058**	Analog Input 6 Pulse Count (1)				
6058	406**059**	Analog Input 6 Pulse Count (2)				
6059	406**060**	Analog Input 6 Pulse Count (3)				
6060	406**061**	AI7 Signal Min	Unsigned *Scale 100*	Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	0V
6061	406**062**	AI7 Signal Max		Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	10V
6062	406**063**	AI7 Temperature	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	RO	0ºC, 32ºF
6063	406**064**	AI7 Temperature Min		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (-58ºF/-50ºC to Reg.406**065**) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	-40ºC, -40ºF
6064	406**065**	AI7 Temperature Max		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (Reg. 406**064** to 248ºF/120ºC) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	100ºC, 212ºF
6065	406**066**	AI7 Temperature Bias		Unit: ºF/ºC, Range: -18ºF to 18ºF or -10ºC to 10ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	0ºC, 0ºF
6066	406**067**	Analog Input 7 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6067	406**068**	Analog Input 7 Pulse Count (1)				
6068	406**069**	Analog Input 7 Pulse Count (2)				
6069	406**070**	Analog Input 7 Pulse Count (3)				

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
6070	406**071**	AI8 Signal Min	Unsigned *Scale 100*	Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	0V
6071	406**072**	AI8 Signal Max		Unit: Volt, Range: 0 to 10V, Value x 100 (e.g. 2V = 200)	W	10V
6072	406**073**	AI8 Temperature	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	RO	0ºC, 32ºF
6073	406**074**	AI8 Temperature Min	Signed *Scale 100*	Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (-58ºF/-50ºC to Reg.406**075**) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	-40ºC, -40ºF
6074	406**075**	AI8 Temperature Max		Unit: ºF/ºC, Range: -58ºF to 248ºF or -50ºC to 120ºC (Reg. 406**074** to 248ºF/120ºC) *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	100ºC, 212ºF
6075	406**076**	AI8 Temperature Bias		Unit: ºF/ºC, Range: -18ºF to 18ºF or -10ºC to 10ºC *Value x 100 (e.g. 10ºF = 1000 or 5°C = 500)*	W	0ºC, 0ºF
6076	406**077**	Analog Input 8 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6077	406**078**	Analog Input 8 Pulse Count (1)				
6078	406**079**	Analog Input 8 Pulse Count (2)				
6079	406**080**	Analog Input 8 Pulse Count (3)				
6080	406**081**	PulseCnt (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6081	406**082**	PulseCnt (1)				
6082	406**083**	PulseCnt (2)				
6083	406**084**	PulseCnt (3)				
6084	406**085**	Binary Input 2 Pulse Count (0)	Unsigned *Scale 1*	No Unit, Range: 0 to 999999999 *Value x 1 (e.g. 100 = 100)*	RO	0
6085	406**086**	Binary Input 2 Pulse Count (1)				
6086	406**087**	Binary Input 2 Pulse Count (2)				
6087	406**088**	Binary Input 2 Pulse Count (3)				
6088	406**089**	Minimum Voltage AO1	Unsigned *Scale 1000*	Unit: Volt (V), Range: 0V to 10V, *Value x 1000 (e.g. 3 V = 3000)*	W	0V
6089	406**090**	Maximum Voltage AO1		Unit: Volt (V), Range: 0V to 10V, *Value x 1000 (e.g. 3 V = 3000)*	W	10V
6090	406**091**	AO1 Percentage	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
6091	406**092**	Minimum Voltage AO2	Unsigned *Scale 1000*	Unit: Volt (V), Range: 0V to 10V, *Value x 1000 (e.g. 3 V = 3000)*	W	0V
6092	406**093**	Maximum Voltage AO2		Unit: Volt (V), Range: 0V to 10V, *Value x 1000 (e.g. 3 V = 3000)*	W	10V
6093	406**094**	AO2 Percentage	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
6094	406**095**	Minimum Voltage AO3	Unsigned *Scale 1000*	Unit: Volt (V), Range: 0V to 10V, *Value x 1000 (e.g. 3 V = 3000)*	W	0V
6095	406**096**	Maximum Voltage AO3		Unit: Volt (V), Range: 0V to 10V, *Value x 1000 (e.g. 3 V = 3000)*	W	10V
6096	406**097**	AO3 Percentage	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
6097	406**098**	Minimum Voltage AO4	Unsigned	Unit: Volt (V), Range: 0V to 10V, *Value x 1000 (e.g. 3 V = 3000)*	W	0V

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
6098	406099	Maximum Voltage AO4	*Scale 1000*	Unit: Volt (V), Range: 0V to 10V, *Value x 1000 (e.g. 3 V = 3000)*	W	10V
6099	406100	AO4 Percentage	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
10000	410001	Binary Input 1 Signal	Unsigned	0= Open | 1= Close	RO	0
10001	410002	Binary Input 2 Signal	Unsigned	0= Open | 1= Close	RO	0
11000	411001	Binary Output 1 Signal	Unsigned	0= Off | 1= On	W	0
11001	411002	Binary Output 2 Signal	Unsigned	0= Off | 1= On	W	0
11002	411003	Binary Output 3 Signal	Unsigned	0= Off | 1= On	W	0
11003	411004	Binary Output 4 Signal	Unsigned	0= Off | 1= On	W	0
11004	411005	Binary Output 5 Signal	Unsigned	0= Open | 1= Close	W	0
11005	411006	Binary Output 6 Signal	Unsigned	0= Open | 1= Close	W	0
11006	411007	Alarm LED	Unsigned	0= Off | 1= On	RO	0
11007	411008	Power LED	Unsigned	0= Off | 1= On	RO	0
12000	412001	System Production Test Done	Unsigned	0= Inactive / 1= Active	RO	0
12001	412002	AI1 Binary	Unsigned	0= Open | 1= Close	RO	0
12002	412003	Analog Input 1 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12003	412004	AI1 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12004	412005	AI2 Binary	Unsigned	0= Open | 1= Close	RO	0
12005	412006	Analog Input 2 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12006	412007	AI2 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12007	412008	AI3 Binary	Unsigned	0= Open | 1= Close	RO	0
12008	412009	Analog Input 3 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12009	412010	AI3 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12010	412011	AI4 Binary	Unsigned	0= Open | 1= Close	RO	0
12011	412012	AI4 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12012	412013	Analog Input 4 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12013	412014	AI5 Binary	Unsigned	0= Open | 1= Close	RO	0
12014	412015	Analog Input 5 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12015	412016	AI5 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12016	412017	AI6 Binary	Unsigned	0= Open | 1= Close	RO	0

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
12017	412018	Analog Input 6 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12018	412019	AI6 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12019	412020	AI7 Binary	Unsigned	0= Open | 1= Close	RO	0
12020	412021	Analog Input 7 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12021	412022	AI7 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12022	412023	AI8 Binary	Unsigned	0= Open | 1= Close	RO	0
12023	412024	Analog Input 8 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12024	412025	AI8 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12025	412026	Binary Input 1 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12026	412027	BI1 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12027	412028	Binary Input 2 Pulse Count Reset	Unsigned	0= No | 1= Yes	W	0
12028	412029	BI2 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12029	412030	AO1 Binary	Unsigned	0= Off | 1= On	W	0
12030	412031	AO1 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12031	412032	AO2 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12032	412033	AO2 Binary	Unsigned	0= Off | 1= On	W	0
12033	412034	AO3 Binary	Unsigned	0= Off | 1= On	W	0
12034	412035	AO3 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12035	412036	AO4 Binary	Unsigned	0= Off | 1= On	W	0
12036	412037	AO4 Polarity	Unsigned	0= Direct | 1= Reverse	RO	0
12037	412038	SMTP SSL	Unsigned	0= Off | 1= On	RO	0
12038	412039	SMTP Port	Unsigned	0= 25 | 1= 587	RO	0
12039	412040	Notify Alarm	Unsigned	0= Off | 1= On	RO	0
12040	412041	Notify Warning	Unsigned	0= Off | 1= On	RO	0
12041	412042	Notify App Msg	Unsigned	0= Off | 1= On	RO	0
12042	412043	Notify Debug	Unsigned	0= Off | 1= On	RO	0

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
15000	415001	System Log Verbose Level	Unsigned	0= None 1= Emergency 2= Alert 3= Critical 4= Error 5= Warning 6= Notice 7= Info 8= Debug 9= Alarm	W	9
15001	415002	Modbus Server Units	Unsigned	0 = Metric | 1 = Imperial	W	0
15002	415003	AI1 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= 10K_TypeG 3= 10K_Type3A1 4= 10K_Type4A1 5= 10K_NTC 6= 20K_Type6A1 7= 30K_Type6A1 8= Digital_Input	W	0
15003	415004	AI2 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= 10K_TypeG 3= 10K_Type3A1 4= 10K_Type4A1 5= 10K_NTC 6= 20K_Type6A1 7= 30K_Type6A1 8= Digital_Input	W	0
15004	415005	AI3 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= 10K_TypeG 3= 10K_Type3A1 4= 10K_Type4A1 5= 10K_NTC 6= 20K_Type6A1 7= 30K_Type6A1 8= Digital_Input	W	0

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
15005	415006	AI4 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= 10K_TypeG 3= 10K_Type3A1 4= 10K_Type4A1 5= 10K_NTC 6= 20K_Type6A1 7= 30K_Type6A1 8= Digital_Input	W	0
15006	415007	AI5 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= 10K_TypeG 3= 10K_Type3A1 4= 10K_Type4A1 5= 10K_NTC 6= 20K_Type6A1 7= 30K_Type6A1 8= Digital_Input	W	0
15007	415008	AI6 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= 10K_TypeG 3= 10K_Type3A1 4= 10K_Type4A1 5= 10K_NTC 6= 20K_Type6A1 7= 30K_Type6A1 8= Digital_Input	W	0
15008	415009	AI7 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= 10K_TypeG 3= 10K_Type3A1 4= 10K_Type4A1 5= 10K_NTC 6= 20K_Type6A1 7= 30K_Type6A1 8= Digital_Input	W	0
15009	415010	AI8 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= 10K_TypeG 3= 10K_Type3A1 4= 10K_Type4A1 5= 10K_NTC 6= 20K_Type6A1 7= 30K_Type6A1 8= Digital_Input	W	0

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
15010	**415011**	AO1 Mode	Unsigned	0= Analog 1= Pulsed 2= Digital	RO	0
15011	**415012**	AO2 Mode	Unsigned	0= Analog 1= Pulsed 2= Digital	RO	0
15012	**415013**	AO3 Mode	Unsigned	0= Analog 1= Pulsed 2= Digital	RO	0
15013	**415014**	AO4 Mode	Unsigned	0= Analog 1= Pulsed 2= Digital	RO	0

Recycling at end of life: please return this product to your local distributor for recycling.

BACnet Objects Table

ID[1]	Name	Description	Writable?	Range
AI.1	Analog Input 1 Signal	Displays the actual voltage on the analog input in Vdc.	Cov Increment	0 to 10Volt or -58 to 248ºF or -50 to 120ºC or 4 to 20mA or 0 to 1 Resolution: 0.01Volt or 0.02ºF/0.01ºC or 0.01mA or 1
AI.2	Analog Input 2 Signal	Displays the actual voltage on the analog input in Vdc.	Cov Increment	0 to 10Volt or -58 to 248ºF or -50 to 120ºC or 4 to 20mA or 0 to 1 Resolution: 0.01Volt or 0.02ºF/0.01ºC or 0.01mA or 1
AI.3	Analog Input 3 Signal	Displays the actual voltage on the analog input in Vdc.	Cov Increment	0 to 10Volt or -58 to 248ºF or -50 to 120ºC or 4 to 20mA or 0 to 1 Resolution: 0.01Volt or 0.02ºF/0.01ºC or 0.01mA or 1
AI.4	Analog Input 4 Signal	Displays the actual voltage on the analog input in Vdc.	Cov Increment	0 to 10Volt or -58 to 248ºF or -50 to 120ºC or 4 to 20mA or 0 to 1 Resolution: 0.01Volt or 0.02ºF/0.01ºC or 0.01mA or 1
AI.5	Analog Input 5 Signal	Displays the actual voltage on the analog input in Vdc.	Cov Increment	0 to 10Volt or -58 to 248ºF or -50 to 120ºC or 4 to 20mA or 0 to 1 Resolution: 0.01Volt or 0.02ºF/0.01ºC or 0.01mA or 1
AI.6	Analog Input 6 Signal	Displays the actual voltage on the analog input in Vdc.	Cov Increment	0 to 10Volt or -58 to 248ºF or -50 to 120ºC or 4 to 20mA or 0 to 1 Resolution: 0.01Volt or 0.02ºF/0.01ºC or 0.01mA or 1
AI.7	Analog Input 7 Signal	Displays the actual voltage on the analog input in Vdc.	Cov Increment	0 to 10Volt or -58 to 248ºF or -50 to 120ºC or 4 to 20mA or 0 to 1 Resolution: 0.01Volt or 0.02ºF/0.01ºC or 0.01mA or 1
AI.8	Analog Input 8 Signal	Displays the actual voltage on the analog input in Vdc.	Cov Increment	0 to 10Volt or -58 to 248ºF or -50 to 120ºC or 4 to 20mA or 0 to 1 Resolution: 0.01Volt or 0.02ºF/0.01ºC or 0.01mA or 1
AO.1	Analog Output 1 Signal	Commands the voltage on the analog output in Vdc.	Cov Increment Out of service	0 to 10V, Resolution: 0.001V
AO.2	Analog Output 2 Signal	Commands the voltage on the analog output in Vdc.	Cov Increment Out of service	0 to 10V, Resolution: 0.001V
AO.3	Analog Output 3 Signal	Commands the voltage on the analog output in Vdc.	Cov Increment Out of service	0 to 10V, Resolution: 0.001V
AO.4	Analog Output 4 Signal	Commands the voltage on the analog output in Vdc.	Cov Increment Out of service	0 to 10V, Resolution: 0.001V
AV.10	MCULoad	Displays the MCU usage load.	Cov Increment	0 to 100%, Resolution: 1%
AV.11	MemoryLoad	Displays the memory usage load.	Cov Increment	0 to 100%, Resolution: 1%
AV.43	AI1Temperature	In thermistor mode, it displays the actual temperature read by the 10K thermistor. In voltage or mA mode, it displays the temperature as set per the Temperature Min and Max parameters.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 0.018ºF or 0.01ºC
AV.53	AI2 Temperature	In thermistor mode, it displays the actual temperature read by the 10K thermistor. In voltage or mA mode, it displays the temperature as set per the Temperature Min and Max parameters.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 0.018ºF or 0.01ºC
AV.63	AI3 Temperature	In thermistor mode, it displays the actual temperature read by the 10K thermistor. In voltage or mA mode, it displays the temperature as set per the Temperature Min and Max parameters.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 0.018ºF or 0.01ºC
AV.73	AI4 Temperature	In thermistor mode, it displays the actual temperature read by the 10K thermistor. In voltage or mA mode, it displays the temperature as set per the Temperature Min and Max parameters.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 0.018ºF or 0.01ºC

ID[1]	Name	Description	Writable?	Range
AV.83	AI5 Temperature	In thermistor mode, it displays the actual temperature read by the 10K thermistor. In voltage or mA mode, it displays the temperature as set per the Temperature Min and Max parameters.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 0.018ºF or 0.01ºC
AV.93	AI6 Temperature	In thermistor mode, it displays the actual temperature read by the 10K thermistor. In voltage or mA mode, it displays the temperature as set per the Temperature Min and Max parameters.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 0.018ºF or 0.01ºC
AV.103	AI7 Temperature	In thermistor mode, it displays the actual temperature read by the 10K thermistor. In voltage or mA mode, it displays the temperature as set per the Temperature Min and Max parameters.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 0.018ºF or 0.01ºC
AV.113	AI8 Temperature	In thermistor mode, it displays the actual temperature read by the 10K thermistor. In voltage or mA mode, it displays the temperature as set per the Temperature Min and Max parameters.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 0.018ºF or 0.01ºC
AV.127	AO1 Percentage	Command the analog output through arrays 1 to 16.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 0.1%
AV.133	AO2 Percentage	Command the analog output through arrays 1 to 16.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 0.1%
AV.139	AO3 Percentage	Command the analog output through arrays 1 to 16.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 0.1%
AV.145	AO4 Percentage	Command the analog output through arrays 1 to 16.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 0.1%
AV.150	Runtime	Displays the actual run time since the last power up in seconds.	Cov Increment	0 to 999999999sec, Resolution: 1sec
AV.152	Fan Cook Warning Anti Cycle Delay	Set the value of the warning anti cycle delay.	Cov Increment Out of service Present Value	0 to 1000sec, Resolution: 1sec
AV.153	Fan Cook Shutdown Anti Cycle Delay	Set the value of the shutdown anti cycle delay.	Cov Increment Out of service Present Value	0 to 1000sec, Resolution: 1sec
AV.166	Remaining Service Run Time	Displays the remaining service run time.	Cov Increment Out of service Present Value	0 to 999999999hr, Resolution: 0.01hr
AV.167	Service Interval	Configuration value to define the time of operation before the fan calls for servicing.	Cov Increment Out of service Present Value	0 to 999999999hr, Resolution: 0.01hr
AV.168	Vibration Deadband	Displays the value of the deadband for the vibration sensor.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 1%
AV.169	Current Deadband	Displays the value of the deadband for the current draw sensor.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 1%
AV.170	Pressure Deadband	Displays the value of the deadband for the pressure sensor.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 1%
AV.171	RPM Deadband	Displays the value of the deadband for the RPM sensor.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 1%
AV.172	Temperature 1 Deadband	Displays the value of the deadband for the first temperature sensor.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 1%
AV.173	Temperature 2 Deadband	Displays the value of the deadband for the second temperature sensor.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 1%
AV.174	Temperature 3 Deadband	Displays the value of the deadband for the third temperature sensor.	Cov Increment Out of service Present Value	0 to 100%, Resolution: 1%

ID[1]	Name	Description	Writable?	Range
AV.175	Vibration Warning Low Level	Set the minimum value for the vibration sensor before a warning message is displayed indicating the vibration level is too low.	Cov Increment Out of service Present Value	0 to 0.08ft/s or 0 to 25mm/s, Resolution: 0.01ft/s or 1mm/s
AV.176	Vibration Warning High Level	Set the maximum value for the vibration sensor before a warning message is displayed indicating the vibration level is too high.	Cov Increment Out of service Present Value	0 to 0.08ft/s or 0 to 25mm/s, Resolution: 0.01ft/s or 1mm/s
AV.177	Vibration Shutdown High Level	Set the maximum value for the vibration sensor before the sensor shuts down.	Cov Increment Out of service Present Value	0 to 0.08ft/s or 0 to 25mm/s, Resolution: 0.01ft/s or 1mm/s
AV.178	Current Warning Low Level	Set the minimum value for the current draw sensor before a warning message is displayed indicating the current draw level is too low.	Cov Increment Out of service Present Value	0 to 100A, Resolution: 1A
AV.179	Current Warning High Level	Set the maximum value for the current draw sensor before a warning message is displayed indicating the current draw level is too high.	Cov Increment Out of service Present Value	0 to 100A, Resolution: 1A
AV.180	Current Shutdown High Level	Set the maximum value for the current draw sensor before the sensor shuts down.	Cov Increment Out of service Present Value	0 to 100A, Resolution: 1A
AV.182	RPM Warning Low Level	Set the minimum value for the RPM sensor before a warning message is displayed indicating that the RPM level is too low.	Cov Increment Out of service Present Value	0 to 5000rpm, Resolution: 1rpm
AV.183	RPM Warning High Level	Set the maximum value for the RPM sensor before a warning message is displayed indicating that the RPM level is too high.	Cov Increment Out of service Present Value	0 to 5000rpm, Resolution: 1rpm
AV.184	RPM Shutdown High Level	Set the maximum value for the RPM sensor before the sensor shuts down.	Cov Increment Out of service Present Value	0 to 5000rpm, Resolution: 1rpm
AV.185	Duct Surface	Set the surface area for the duct.	Cov Increment Out of service Present Value	0 to 1.00m^2 or 0 to 10.76ft^2, Resolution: 0.01m^2 or 0.11ft^2
AV.186	Pressure Warning Low Level	Set the minimum value for the pressure sensor before a warning message is displayed indicating that the pressure level is too low.	Cov Increment Out of service Present Value	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.187	Pressure Warning High Level	Set the maximum value for the pressure sensor before a warning message is displayed indicating that the pressure level is too high.	Cov Increment Out of service Present Value	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.188	Pressure Shutdown High Level	Set the maximum value for the pressure sensor before the sensor shuts down.	Cov Increment Out of service Present Value	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.193	Temperature 1 Converted value	Displays the current value of first temperature sensor.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.194	Temperature 1 Warning Low Level	Set the minimum value for the first temperature sensor before a warning message is displayed indicating that the temperature value is too low.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.195	Temperature 1 Warning High Level	Set the maximum value for the first temperature sensor before a warning message is displayed indicating that the temperature value is too high.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.196	Temperature 1 Shutdown Low Level	Set the minimum value for the first temperature sensor before the sensor shuts down.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.197	Temperature 1 Shutdown High Level	Set the maximum value for the first temperature sensor before the sensor shuts down.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.198	Temperature 1 Max value	Set the maximum value for the first temperature sensor.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.199	Temperature 1 Min value	Set the minimum value for the first temperature sensor.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC

ID[1]	Name	Description	Writable?	Range
AV.200	Temperature 1 Alarm Low Level	Set the minimum value for the first temperature sensor before the alarm is activated indicating that the temperature value is too low.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.201	Max Vibration value	Set the maximum value for the vibration sensor.	Cov Increment Out of service Present Value	0 to 0.08ft/s or 0 to 25mm/s, Resolution: 0.01ft/s or 1mm/s
AV.202	Min Vibration value	Set the minimum value for the vibration sensor.	Cov Increment Out of service Present Value	0 to 0.08ft/s or 0 to 25mm/s, Resolution: 0.01ft/s or 1mm/s
AV.203	Max Current value	Set the maximum value for the current draw sensor.	Cov Increment Out of service Present Value	0 to 100A, Resolution: 1A
AV.204	Min Current value	Set the minimum value for the current draw sensor.	Cov Increment Out of service Present Value	0 to 100A, Resolution: 1A
AV.205	Max Pressure value	Set the maximum value for the pressure sensor.	Cov Increment Out of service Present Value	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.206	Min Pressure value	Set the minimum value for the pressure sensor.	Cov Increment Out of service Present Value	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.207	Max RPM value	Set the maximum value for the RPM sensor.	Cov Increment Out of service Present Value	0 to 5000rpm, Resolution: 1rpm
AV.208	Min RPM value	Set the minimum value for the RPM sensor.	Cov Increment Out of service Present Value	0 to 5000rpm, Resolution: 1rpm
AV.209	Temperature 1 Alarm High Level	Set the maximum value for the first temperature sensor before the alarm is activated indicating that the temperature is higher than allowable value.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.210	Temperature 2 Converted value	Displays the current value of the second temperature sensor.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.211	Temperature 2 Warning Low Level	Set the minimum value for the second temperature sensor before a warning message is displayed indicating that the temperature value is too low.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.212	Temperature 2 Warning High Level	Set the maximum value for the second temperature sensor before a warning message is displayed indicating that the temperature value is too high.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.213	Temperature 2 Alarm Low Level	Set the minimum value for the second temperature sensor before alarm is activated indicating that the temperature is lower than the allowable value.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.214	Temperature 2 Alarm High Level	Set the maximum value for the second temperature sensor before the alarm is activated indicating that the temperature is higher than the allowable value.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.218	Vibration Converted value	Displays the current value of the vibration sensor.	Cov Increment	0 to 0.08ft/s or 0 to 25mm/s, Resolution: 0.01ft/s or 1mm/s
AV.219	Current Converted value	Displays the current value of the current draw sensor.	Cov Increment	0 to 100A, Resolution: 1A
AV.220	Pressure Converted value	Displays the current value of the pressure sensor.	Cov Increment	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.221	RPM Converted value	Displays the current value of the RPM sensor.	Cov Increment	0 to 5000rpm, Resolution: 1rpm
AV.222	Temperature 2 Shutdown Low Level	Set the minimum value for the second temperature sensor before the sensor shuts down.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.223	Temperature 2 Shutdown High Level	Set the maximum value for the second temperature sensor before the sensor shuts down.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.224	Temperature 2 Max Value	Set the maximum value for the second temperature sensor.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC

ID[1]	Name	Description	Writable?	Range
AV.225	Temperature 2 Min Value	Set the minimum value for the second temperature sensor.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.226	Temperature 3 Converted value	Displays the current value of the third temperature sensor.	Cov Increment	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.227	Temperature 3 Warning Low Level	Set the minimum value for the third temperature sensor before a warning message is displayed indicating that the temperature value is too low.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.228	Temperature 3 Warning High Level	Set the maximum value for the third temperature sensor before a warning message is displayed indicating that the temperature value is too high.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.229	Temperature 3 Alarm Low Level	Set the minimum value for the third temperature sensor before the alarm is activated indicating the temperature is lower than the allowable value.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.230	Temperature 3 Alarm High Level	Set the maximum value for the third temperature sensor before the alarm is activated indicating the temperature is higher than the allowable value.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.231	Temperature 3 Shutdown Low Level	Set the minimum value for the third temperature sensor before the sensor shuts down.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.232	Temperature 3 Shutdown High Level	Set the maximum value for the third temperature sensor before the sensor shuts down.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.233	Temperature 3 Max Value	Set the maximum value for the third temperature sensor.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.234	Temperature 3 Min Value	Set the minimum value for the third temperature sensor.	Cov Increment Out of service Present Value	-58ºF to 248ºF or -50ºC to 120ºC, Resolution: 1.8ºF or 1ºC
AV.244	Vibration Alarm Low Level	Set the minimum value for the vibration sensor before the alarm is activated indicating the vibration level is lower than the allowable value.	Cov Increment Out of service Present Value	0 to 0.08ft/s or 0 to 25mm/s, Resolution: 0.01ft/s or 1mm/s
AV.245	Vibration Alarm High Level	Set the maximum value for the vibration sensor before the alarm is activated indicating the vibration level is higher than the allowable value.	Cov Increment Out of service Present Value	0 to 0.08ft/s or 0 to 25mm/s, Resolution: 0.01ft/s or 1mm/s
AV.246	Current Alarm Low Level	Set the minimum value for the current draw sensor before the alarm is activated indicating the current draw level is lower than the allowable value.	Cov Increment Out of service Present Value	0 to 100A, Resolution: 1A
AV.247	Current Alarm High Level	Set the maximum value for the current draw sensor before the alarm is activated indicating the current draw level is higher than the allowable value.	Cov Increment Out of service Present Value	0 to 100A, Resolution: 1A
AV.248	Pressure Alarm Low Level	Set the minimum value for the pressure sensor before the alarm is activated indicating that the pressure level is lower than the allowable value.	Cov Increment Out of service Present Value	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.249	Pressure Alarm High Level	Set the maximum value for the pressure sensor before the alarm is activated indicating that the pressure level is higher than the allowable value.	Cov Increment Out of service Present Value	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.250	RPM Alarm Low Level	Set the minimum value for the RPM sensor before the alarm is activated indicating that the RPM level is lower than the allowable value.	Cov Increment Out of service Present Value	0 to 5000rpm, Resolution: 1rpm
AV.251	RPM Alarm High Level	Set the maximum value for the RPM sensor before the alarm is activated indicating that the RPM level is higher than the allowable value.	Cov Increment Out of service Present Value	0 to 5000rpm, Resolution: 1rpm
AV.252	Fan Cook Alarm Anti Cycle Delay	Set the value for the alarm anti cycle delay.	Cov Increment Out of service Present Value	0 to 10000sec, Resolution: 1sec

ID[1]	Name	Description	Writable?	Range
AV.253	Analog Input 1 Pulse Count	Set the number of pulses for the analog input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.254	Analog Input 2 Pulse Count	Set the number of pulses for the analog input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.255	Analog Input 3 Pulse Count	Set the number of pulses for the analog input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.256	Analog Input 4 Pulse Count	Set the number of pulses for the analog input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.257	Analog Input 5 Pulse Count	Set the number of pulses for the analog input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.258	Analog Input 6 Pulse Count	Set the number of pulses for the analog input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.259	Analog Input 7 Pulse Count	Set the number of pulses for the analog input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.260	Analog Input 8 Pulse Count	Set the number of pulses for the analog input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.261	Binary Input 1 Pulse Count	Set the number of pulses for the binary input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.262	Binary Input 2 Pulse Count	Set the number of pulses for the binary input.	Cov Increment Out of service Present Value	0 to 999999999, Resolution: 1
AV.263	Pressure Shutdown Low Level	Set the value for the pressure sensor before the sensor shuts down indicating that the pressure level is lower than the allowable value.	Out of service Present Value	-40 to 40in H2O or -10 to 10kPa, Resolution: 4.02in H2O or 1kPa
AV.267	Start Application Delay	Set the value for the start application delay timer. When the device is powered on, it will ignore all the inputs until the start application delay timer has expired.	Cov Increment Out of service Present Value	0 to 999sec, Resolution: 1sec
BI.1	Binary Input 1 Signal	Displays the binary status of the input.	Read Only	0= Open / 1= Close
BI.2	Binary Input 2 Signal	Displays the binary status of the input.	Read Only	0= Open / 1= Close
BO.1	Binary Output 1 Signal	Command the binary relays output through arrays 1 to 16.	Out of service Minimum Off Time Minimum On Time Polarity Relinquish Default Present Value	0= Off / 1= On
BO.2	Binary Output 2 Signal	Command the binary relays output through arrays 1 to 16.	Out of service Minimum Off Time Minimum On Time Polarity Relinquish Default Present Value	0= Off / 1= On
BO.3	Binary Output 3 Signal	Command the binary relays output through arrays 1 to 16.	Out of service Minimum Off Time Minimum On Time Polarity Relinquish Default Present Value	0= Off / 1= On
BO.4	Binary Output 4 Signal	Commands the binary relays output through arrays 1 to 16.	Out of service Minimum Off Time Minimum On Time Polarity Relinquish Default Present Value	0= Off / 1= On

ID[1]	Name	Description	Writable?	Range
BO.5	Binary Output 5 Signal	Command the binary relays output through arrays 1 to 16.	Out of service Minimum Off Time Minimum On Time Polarity Relinquish Default Present Value	0= Open / 1= Close
BO.6	Binary Output 6 Signal	Command the binary relays output through arrays 1 to 16.	Out of service Minimum Off Time Minimum On Time Polarity Relinquish Default Present Value	0= Open / 1= Close
BO.10	Alarm LED	Select whether to enable or disable the alarm LED.	Out of service Minimum Off Time Minimum On Time Polarity Relinquish Default Present Value	0= Off / 1= On
BO.11	Power LED	Select whether to enable or disable the power LED.	Out of service Minimum Off Time Minimum On Time Polarity Relinquish Default Present Value	0= Off / 1= On
BV.12	AI1 Binary	Displays the actual binary status of the input in thermistor mode.	Out of service	0= Open / 1= Close
BV.13	AI2 Binary	Displays the actual binary status of the input in thermistor mode.	Out of service	0= Open / 1= Close
BV.14	AI3 Binary	Displays the actual binary status of the input in thermistor mode.	Out of service	0= Open / 1= Close
BV.15	AI4 Binary	Displays the actual binary status of the input in thermistor mode.	Out of service	0= Open / 1= Close
BV.16	AI5 Binary	Displays the actual binary status of the input in thermistor mode.	Out of service	0= Open / 1= Close
BV.17	AI6 Binary	Displays the actual binary status of the input in thermistor mode.	Out of service	0= Open / 1= Close
BV.18	AI7 Binary	Displays the actual binary status of the input in thermistor mode.	Out of service	0= Open / 1= Close
BV.19	AI8 Binary	Displays the actual binary status of the input in thermistor mode.	Out of service	0= Open / 1= Close
BV.27	BO Option active	Select whether to enable or disable the binary outputs.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.28	BI Opt Active	Select whether to enable or disable the binary inputs.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.29	AI Option Active	Select whether to enable or disable the analog inputs.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.30	AO Option Active	Select whether to enable or disable the analog outputs.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.35	Vibration Shutdown Enable	Select whether to enable the vibration sensor to shut down.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.36	Vibration Warning Enable	Select whether to enable the warning for the vibration sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.37	Current Shutdown Enable	Select whether to enable the current draw sensor to shut down.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active

ID[1]	Name	Description	Writable?	Range
BV.38	Current Warning Enable	Select whether to enable the warning for the current draw sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.39	Pressure Shutdown Enable	Select whether to enable the pressure sensor to shut down.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.41	Pressure Warning Enable	Select whether to enable the warning for the pressure sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.42	RPM Shutdown Enable	Select whether to enable the RPM sensor to shut down.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.43	RPM Warning Enable	Select whether to enable the warning for the RPM sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.44	Temperature 1 Warning Enable	Select whether to enable the warning for the temperature sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.45	Temperature 1 Alarm Enable	Select whether to enable the alarm for the temperature sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.50	Ethernet enable	Select whether to enable or disable the Ethernet option.	Out of service Minimum Off Time Minimum On Time Present Value	0= disable / 1= enable
BV.52	Vibration Warning	Displays whether the warning for the vibration sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.53	Vibration Shutdown	Displays whether the vibration sensor is currently shut down.	Read Only	0= Inactive / 1= Active
BV.54	Current Warning	Displays whether the warning for the current draw sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.55	Current Shutdown	Displays whether the current draw sensor is currently shut down.	Read Only	0= Inactive / 1= Active
BV.56	Pressure Warning	Displays whether the warning for the pressure sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.57	Pressure Shutdown	Displays whether the pressure sensor is currently shut down.	Read Only	0= Inactive / 1= Active
BV.58	RPM Warning	Displays whether the warning for the RPM sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.59	RPM Shutdown	Displays whether the RPM sensor is currently shut down.	Read Only	0= Inactive / 1= Active
BV.60	Temperature 1 Warning	Displays whether the warning for the first temperature sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.61	Temperature 1 Alarm	Displays whether the alarm for the first temperature sensor is currently active not.	Read Only	0= Inactive / 1= Active
BV.64	Pressure Reset Shutdown	Displays whether the pressure sensor is enabled to reset after it has shut down.	Out of service Minimum Off Time Minimum On Time	0= Inactive / 1= Active
BV.65	Vibration Reset Shutdown	Displays whether the vibration sensor is enabled to reset after it has shut down.	Out of service Minimum Off Time Minimum On Time	0= Inactive / 1= Active
BV.66	Current Reset Shutdown	Displays whether the current draw sensor is enabled to reset after it has shut down.	Out of service Minimum Off Time Minimum On Time	0= Inactive / 1= Active
BV.67	RPM Reset Shutdown	Displays whether the RPM sensor is enabled to reset after it has shut down.	Out of service Minimum Off Time Minimum On Time	0= Inactive / 1= Active

ID[1]	Name	Description	Writable?	Range
BV.68	Temperature 1 Shutdown Enable	Displays whether the first temperature sensor is enabled to shutdown.	Out of service Minimum Off Time Minimum On Time	0= Inactive / 1= Active
BV.69	Temperature 1 Shutdown	Displays whether the shutdown for the temperature sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.70	Temperature 2 Warning	Displays whether to enable the second temperature sensor to shut down.	Read Only	0= Inactive / 1= Active
BV.71	Temperature 1 Reset Shutdown	Displays whether the first temperature sensor is enabled to reset after it has shut down.	Out of service Minimum Off Time Minimum On Time	0= Inactive / 1= Active
BV.72	Temperature 2 Alarm	Displays whether the alarm for the second temperature sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.73	Temperature 2 Shutdown	Displays whether the second temperature sensor is currently shut down.	Read Only	0= Inactive / 1= Active
BV.74	Temperature 2 Warning Enable	Select whether to enable the warning for the second temperature sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.75	Temperature 2 Alarm Enable	Select whether to enable the alarm for the second temperature sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.76	Temperature 2 Shutdown Enable	Select whether to enable the second temperature sensor to shut down.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.77	Temperature 3 Warning Enable	Select whether to enable the warning for the third temperature sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.78	Temperature 3 Alarm Enable	Select whether to enable the alarm for the third temperature sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.79	Temperature 3 Shutdown Enable	Select whether to enable the third temperature sensor to shut down.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.80	Temperature 3 Warning	Displays whether the warning for the third temperature sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.81	Temperature 3 Alarm	Displays whether the alarm for the third temperature sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.82	Temperature 3 Shutdown	Displays whether the third temperature sensor is currently shut down.	Read Only	0= Inactive / 1= Active
BV.83	Temperature 2 Reset Shutdown	Displays whether the second temperature sensor is enabled to reset after it has shut down.	Out of service Minimum Off Time Minimum On Time	0= Inactive / 1= Active
BV.84	Temperature 3 Reset Shutdown	Displays whether the third temperature sensor is enabled to reset after it has shut down.	Out of service Minimum Off Time Minimum On Time	0= Inactive / 1= Active
BV.92	Vibration Alarm	Displays whether the alarm for the vibration sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.93	Vibration Alarm Enable	Select whether to enable the alarm for the vibration sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.94	Current Alarm Enable	Select whether to enable the alarm for the current draw sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.95	Current Alarm	Displays whether the alarm for the current draw sensor is currently active or not.	Read Only	0= Inactive / 1= Active

ID[1]	Name	Description	Writable?	Range
BV.96	Pressure Alarm Enable	Select whether to enable the alarm for the pressure sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.97	Pressure Alarm	Displays whether the alarm for the pressure sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.98	RPM Alarm Enable	Select whether to enable the alarm for the RPM sensor.	Out of service Minimum Off Time Minimum On Time Present Value	0= Inactive / 1= Active
BV.99	RPM Alarm	Displays whether the alarm for the RPM sensor is currently active or not.	Read Only	0= Inactive / 1= Active
BV.102	Analog Input 1 Pulse Count Reset	Resets the value of analog input pulse counter.	Out of service Present Value	0= No / 1= Yes
BV.104	Analog Input 2 Pulse Count Reset	Resets the value of analog input pulse counter.	Out of service Present Value	0= No / 1= Yes
BV.106	Analog Input 3 Pulse Count Reset	Resets the value of analog input pulse counter.	Out of service Present Value	0= No / 1= Yes
BV.109	Analog Input 4 Pulse Count Reset	Resets the value of analog input pulse counter.	Out of service Present Value	0= No / 1= Yes
BV.110	Analog Input 5 Pulse Count Reset	Resets the value of analog input pulse counter.	Out of service Present Value	0= No / 1= Yes
BV.112	Analog Input 6 Pulse Count Reset	Resets the value of analog input pulse counter.	Out of service Present Value	0= No / 1= Yes
BV.114	Analog Input 7 Pulse Count Reset	Resets the value of analog input pulse counter.	Out of service Present Value	0= No / 1= Yes
BV.116	Analog Input 8 Pulse Count Reset	Resets the value of analog input pulse counter.	Out of service Present Value	0= No / 1= Yes
BV.118	Binary Input 1 Pulse Count Reset	Resets the value of binary input pulse counter.	Out of service Minimum Off Time Minimum On Time Present Value	0= No / 1= Yes
BV.120	Binary Input 2 Pulse Count Reset	Resets the value of binary input pulse counter.	Out of service Minimum Off Time Minimum On Time Present Value	0= No / 1= Yes
BV.122	AO1 Binary	Override the status of the analog output when in Digital mode.	Out of service	0= Off / 1= On
BV.125	AO2 Binary	Override the status of the analog output when in Digital mode.	Out of service	0= Off / 1= On
BV.126	AO3 Binary	Override the status of the analog output when in Digital mode.	Out of service	0= Off / 1= On
BV.128	AO4 Binary	Override the status of the analog output when in Digital mode.	Out of service	0= Off / 1= On
MSV.6	SystemLogVerboseLevel	Select the level of log information sent to the SD card.	Out of service Present Value	1= None 2= Emergency 3= Alert 4= Critical 5= Error 6= Warning 7= Notice 8= Info 9= Debug 10= Alarm
MSV.8	BACnet Server Language	Local BACnet server language.	Out of service	1= English
MSV.9	BACnet Server List Mode	Local BACnet server object list level.	Out of service Present Value	1= Integrator 2= Advanced 3= Factory
MSV.10	BACnetServerUnits	Configuration value to select the display units for the BACnet server.	Out of service Present Value	1= Metric 2= Imperial

ID[1]	Name	Description	Writable?	Range
MSV.27	AI1 Signal Type	Select the input mode type operation. This setting should be the same as the jumper hardware configuration on the PCB.	Out of service Present Value	1= 0_10V 2= 4_20mA 3= Digital_Input 4= 10K_Type3A1 5= 10K_Type4A1 6= 10K_NTC 7= 20K_Type6A1 8= 30K_Type6A1 9= 10K_TypeG
MSV.45	Fan Request	Select whether to perform one of the following actions: reset the service counters, reset warning alarms or reset all counters.	Out of service Present Value	1= None 2= Reset Service Interval 3= Reset Alarms 4= Reset all counters
MSV.46	Temperature 1 Type	Select the input mode type for the operation of the first temperature sensor. This setting should be the same as the jumper hardware configuration on the PCB.	Out of service Present Value	1= 0_10V 2= 4_20mA 3= Digital_Input 4= 10K_Type3A1 5= 10K_Type4A1 6= 10K_NTC 7= 20K_Type6A1 8= 30K_Type6A1 9= 10K_TypeG
MSV.55	Pressure Sensor Type	Select the input mode type for the operation of the pressure sensor. This setting should be the same as the jumper hardware configuration on the PCB.	Out of service Present Value	1= 0_10V 2= 4_20mA 3= Digital_Input 4= 10K_Type3A1 5= 10K_Type4A1 6= 10K_NTC 7= 20K_Type6A1 8= 30K_Type6A1 9= 10K_TypeG
MSV.57	Current Sensor type	Select the input mode type for the operation of the current draw sensor. This setting should be the same as the jumper hardware configuration on the PCB.	Out of service Present Value	1= 0_10V 2= 4_20mA 3= Digital_Input 4= 10K_Type3A1 5= 10K_Type4A1 6= 10K_NTC 7= 20K_Type6A1 8= 30K_Type6A1 9= 10K_TypeG
MSV.58	Vibration Sensor type	Select the input mode type for the operation of the vibration sensor. This setting should be the same as the jumper hardware configuration on the PCB.	Out of service Present Value	1= 0_10V 2= 4_20mA 3= Digital_Input 4= 10K_Type3A1 5= 10K_Type4A1 6= 10K_NTC 7= 20K_Type6A1 8= 30K_Type6A1 9= 10K_TypeG
MSV.61	RPM Sensor type	Select the input mode type for the operation of the RPM sensor. This setting should be the same as the jumper hardware configuration on the PCB.	Out of service Present Value	1= 0_10V 2= 4_20mA 3= Digital_Input 4= 10K_Type3A1 5= 10K_Type4A1 6= 10K_NTC 7= 20K_Type6A1 8= 30K_Type6A1 9= 10K_TypeG
MSV.62	Temperature 2 Type	Select the input mode type for the operation of the second temperature sensor. This setting should be the same as the jumper hardware configuration on the PCB.	Out of service Present Value	1= 0_10V 2= 4_20mA 3= Digital_Input 4= 10K_Type3A1 5= 10K_Type4A1 6= 10K_NTC 7= 20K_Type6A1 8= 30K_Type6A1 9= 10K_TypeG

ID[1]	Name	Description	Writable?	Range
MSV.63	Temperature 3 Type	Select the input mode type for the operation of the third temperature sensor. This setting should be the same as the jumper hardware configuration on the PCB.	Out of service Present Value	1= 0_10V 2= 4_20mA 3= Digital_Input 4= 10K_Type3A1 5= 10K_Type4A1 6= 10K_NTC 7= 20K_Type6A1 8= 30K_Type6A1 9= 10K_TypeG
FIL.2	UpdatePackageFile	Update Package file.		
FIL.4	SysLogAlarm	System Log Alarm file.		
FIL.5	USB System Log File	USB System Log file.		
FIL.6	USB System Alarm Log File	USB System Alarm Log file.		
FIL.16	SystemLogFile	System Log file.		
PGM.1	NSDF Core Program	NSDF Core Program.	Program_Change Out_of_Service	Program Change, only LOAD (1) and RESTART (4) are supported
PGM.2	Cook Fan Monitoring Program	Cook Fan Monitoring Program.	Program_Change Out_of_Service	Program Change, only LOAD (1) and RESTART (4) are supported
PGM.3	LCD_Display Program	LCD Display Program.	Program_Change Out_of_Service	Program Change, only LOAD (1) and RESTART (4) are supported
PGM.4	BACnet Server Program	BACnet Server Program.	Program_Change Out_of_Service	Program Change, only LOAD (1) and RESTART (4) are supported
PGM.5	Modbus Server Program	Modbus Server Program.	Program_Change Out_of_Service	Program Change, only LOAD (1) and RESTART (4) are supported
PGM.6	Web Server Program	Web Server Program.	Program_Change Out_of_Service	Program Change, only LOAD (1) and RESTART (4) are supported
PGM.7	Database Program	Database Program.	Program_Change Out_of_Service	Program Change, only LOAD (1) and RESTART (4) are supported
PGM.15	NSDF Database	NSDF Database Program.	Program_Change Out_of_Service	Program Change, only LOAD (1) and RESTART (4) are supported

Limited Warranty

Loren Cook Company warrants that your Loren Cook fan was manufactured free of defects in materials and workmanship, to the extent stated herein. For a period of one (1) year after date of shipment, we will replace any parts found to be defective without charge, except for shipping costs which will be paid by you. This warranty is granted only to the original purchaser placing the fan in service. This warranty is void if the fan or any part thereof has been altered or modified from its original design or has been abused, misused, damaged or is in worn condition or if the fan has been used other than for the uses described in the company manual. This warranty does not cover defects resulting from normal wear and tear. To make a warranty claim, notify Loren Cook Company, General Offices, 2015 East Dale Street, Springfield, Missouri 65803-4637, explaining in writing, in detail, your complaint and referring to the specific model and serial numbers of your fan. Upon receipt by Loren Cook Company of your written complaint, you will be notified, within thirty (30) days of our receipt of your complaint, in writing, as to the manner in which your claim will be handled. If you are entitled to warranty relief, a warranty adjustment will be completed within sixty (60) business days of the receipt of your written complaint by Loren Cook Company. This warranty gives only the original purchaser placing the fan in service specifically the right. You may have other legal rights which vary from state to state. For fans provided with motors, the motor manufacturer warrants motors for a designated period stated in the manufacturer's warranty. Warranty periods vary from manufacturer to manufacturer. Should motors furnished by Loren Cook Company prove defective during the designated period, they should be returned to the nearest authorized motor service station. Loren Cook Company will not be responsible for any removal or installation costs.

LOREN COOK COMPANY

Corporate Offices: 2015 E. Dale St. Springfield, MO 65803

Phone 417-869-6474 | Fax 417-862-3820 | lorencook.com