IP I/O Communication Module

Specification and Installation Instructions

Models

Model	Router	Display	Communication Ports	
			BACnet Ports	Modbus Ports
CMMB-IP	-	-	1	1
CMMB-IP-L	-	Yes	1	1
CMMB-IP-R1B	Yes	-	1	-
CMMB-IP-R2B	Yes	-	2	-
CMMB-IP-RL1B	Yes	Yes	1	-
CMMB-IP-RL2B	Yes	Yes	2	-

CMMB-IP Series

CMMB-IP-L Series

Description

The CMMB-IP extends your BACnet or Modbus network when your application requires additional inputs and outputs on a physical controller. Combining the 20 inputs and outputs of the CMMB-IP with your Building Automation System provides simple expansion of a new or existing controller and reduces unnecessary costs of additional components.

Features

Power

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

Network Communication

- Up to 2 RS-485 communication ports for BACnet MS/TP or Modbus RTU
- BACnet IP, BACnet Ethernet or Modbus TCP/IP
- Set network settings via embedded WEB server
- Provision for I/O expansion modules
- Router functionality (optional)

BACnet MS/TP

- MS/TP @ 9600, 19200, 38400 or 76800 bps
- Automatic baud rate detection
- Automatic device instance configuration

BACnet IP / BACnet Ethernet

- All IP / Ethernet configuration via on board WEB page
- Display device status including each available data point. In addition to the BACnet object interface.
- Supports DHCP or fixed/static addressing

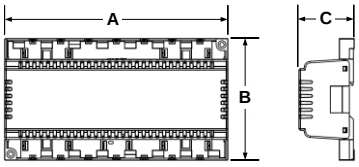
Modbus RTU

- Modbus @ 9600, 19200, 38400 or 57600 bps
- RTU Slave, 8 bits (configurable parity and stop bits)
- Connects to any Modbus master

Modbus TCP/IP

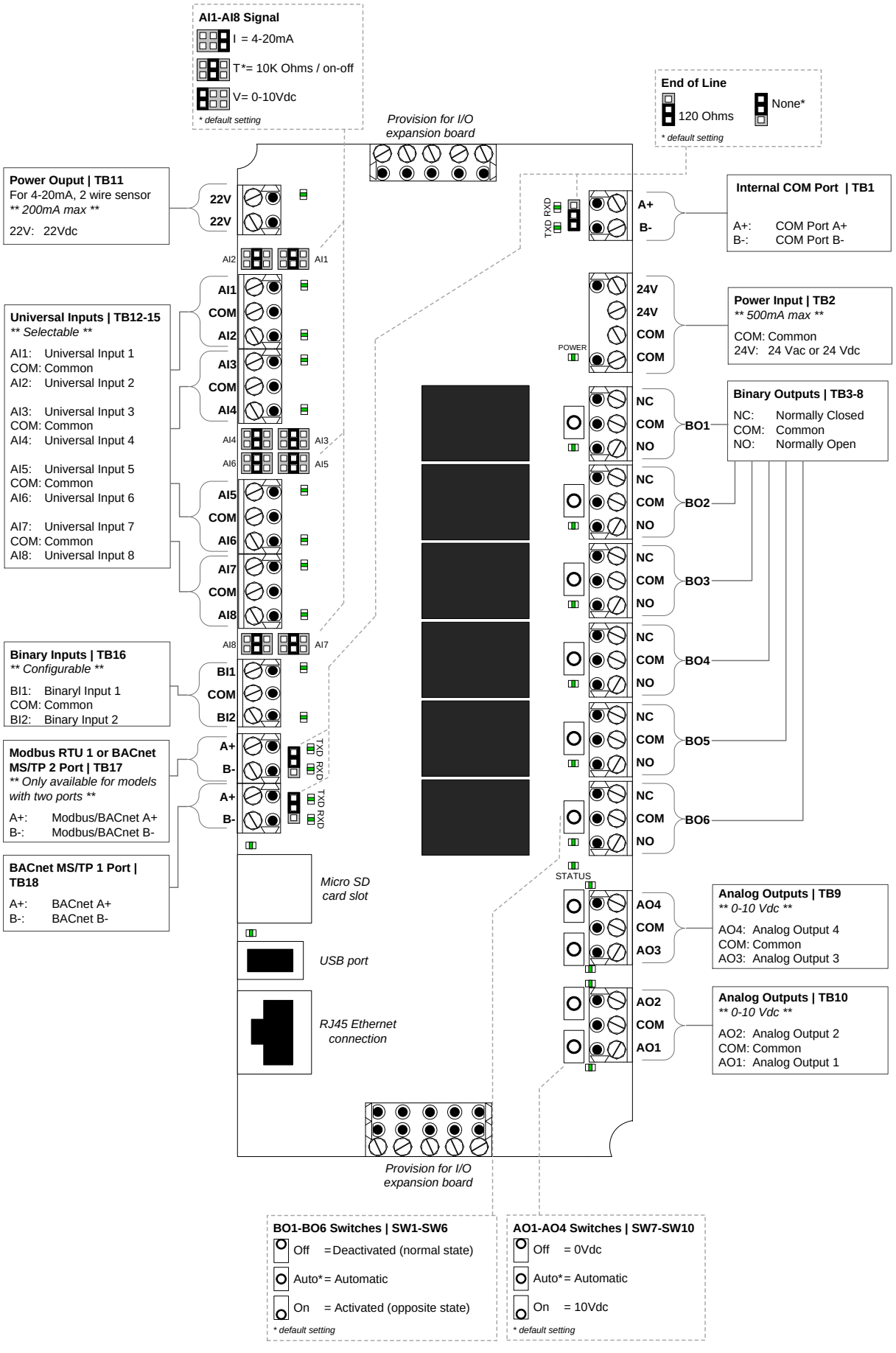
Connects to any Modbus TCP/IP master controller

Technical Specifications

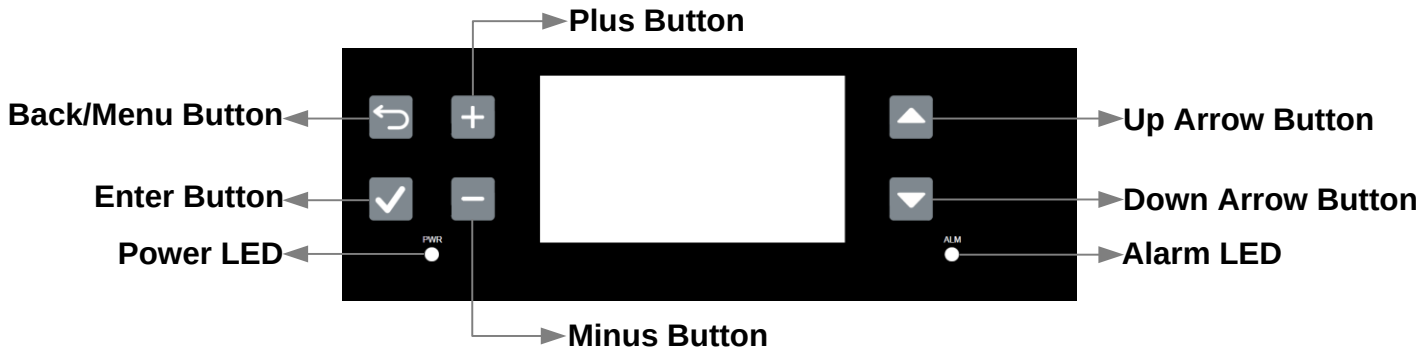
Specifications	CMMB-IP Series
Input Voltage	24 Vac or 24 Vdc
Consumption	5VA (331mA @ 24 Vac)
Universal Inputs (12-bit)	**8** [0-10 / 2-10Vdc, 10KΩ (Thermistor type III), on/off (dry contact), 4-20mA] / 12-bit resolution
Binary Inputs	**2** [normally open/closed or direct/reverse] / 12-bit resolution
Analog Outputs	**4** [0-10Vdc] / Adjustable span 12-bit resolution
Digital Relay Binary Outputs	**6** [isolated normally open/closed, independent common per relay, 5A resistive]
RS-485 Communication Connections	24 AWG twisted-shield cable (Belden 9841 or equivalent)
Electrical Connections	0.8 mm^2 [18 AWG] maximum
Operational Temperature	0ºC to 50ºC [32ºF to 122ºF]
Storage Temperature	-30ºC to 50ºC [-22ºF to 122ºF]
Relative Humidity	5 a 95% non condensed
Weight	0.6 kg [1.3 lb]
Dimensions A = 9.18” / 233 mm B = 4.93” / 125 mm C = 2.27” / 58 mm	

Connections and Configurations

Please note that all jumper settings must also be set to the same value through BACnet.
Some additional configurations are only available through BACnet (see Network Data and Utilization on page 9).



Controller Configuration (only for models CMMB-IP-L, CMMB-IP-RL1B and CMMB-IP-RL2B)



Control Panel Features

The following are the features of the Control Panel and their description:

Feature		Description
Power LED	☼ (Blue)	Indicates that the CMMB-IP is turned on.
	O (Off)	Indicates that the CMMB-IP 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.

Idle Screen

When the controller is in operation, the unit displays the following information on the Idle Screen:

Setting	Default	Range (* *indicates no configuration; display only)*	Description/Notes
Status	Operational	* (Operational, Operational Read-Only, Download required, Download in progress, Non-operational, Backup in progress)	Displays the current system status.
DeviceInstance	0153001	*	Displays the device instance value.
MAC	1	* (min:1 , max: 247)	Displays the local MAC address.

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	4433	Installation	Grants access to General, User and Installation menus.
4	5544	Integration	Grants access to General, User, Installation and Integration menus.

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

A. After accessing the Login Screen, use the **+** or **-** buttons to increase or decrease the value of the number that is highlighted.

B. Use the ▲, ▼ buttons to scroll to the next or previous number.

C. Press Enter ✓ to confirm the password once completed. If you enter the wrong password, the controller displays a *"Login Failed"* message.

D. The Back/Menu button ⮌ may also be used to return to the Idle Screen display.

Menu Navigation

A. Use the ▲, ▼ buttons to select the desired menu category and press Enter ✓ to advance to the next sub-menu.

B. Use the **+** and **-** buttons to increase and decrease values. Use the ▲, ▼ buttons to scroll to the next or previous parameter. Values are saved as soon as a change is made.

C. Press the Back/Menu button ⮌ to go back one menu. The current menu location is displayed at the top of the screen.

D. To exit completely, press the Back/Menu button ⮌ until you return to the Idle Screen. After 5 minutes of inactivity, the controller will automatically return to the Idle Screen.

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.

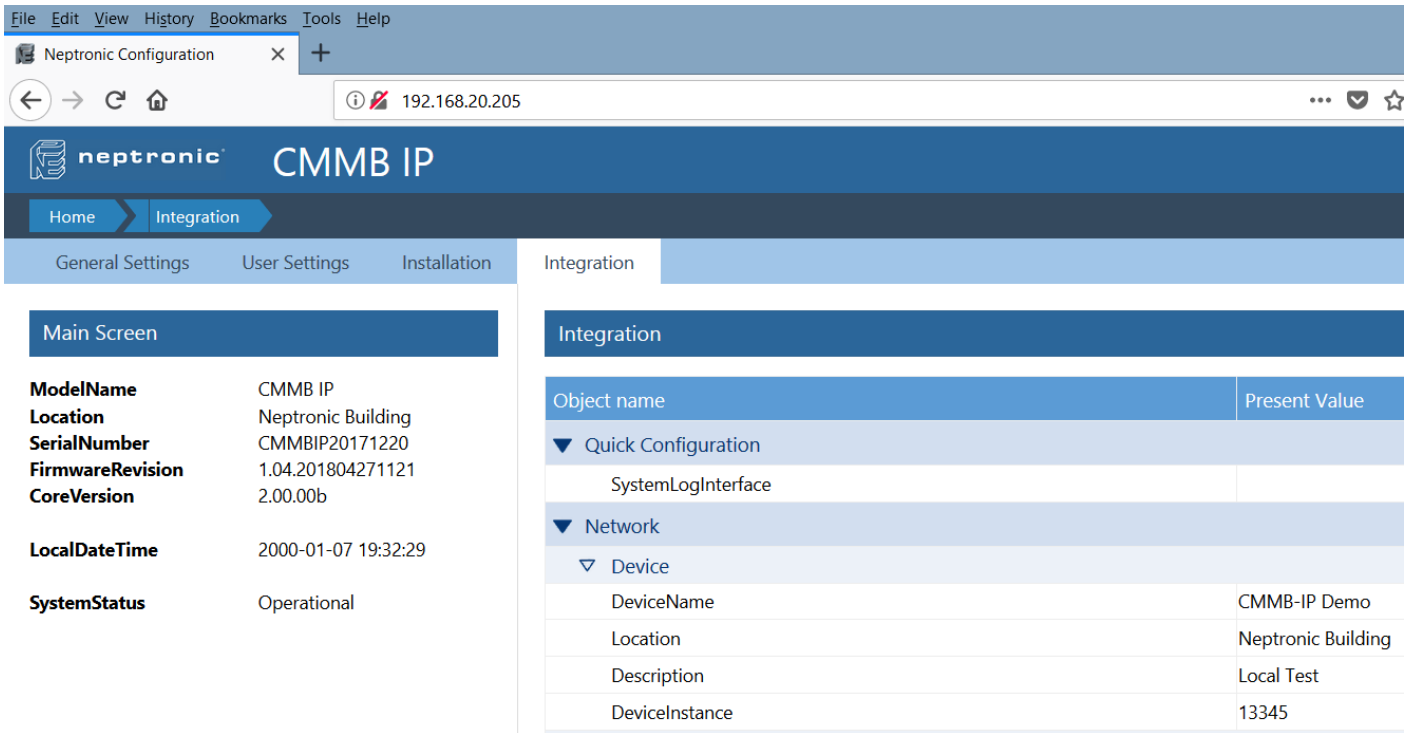
The default IP address of the controller is **192.168.1.100**.

- If the newly set address is lost or the currently assigned IP address of the device cannot be remembered, use a fresh SD card to retrieve the address, by installing the new card and booting up the controller.
- After a minute, remove the SD card and open the log file using a text editor.
- The assigned IP settings are listed at the top of the log file.

```
Notice: RUNTIME=00001F41 CPU=99.2% HEAP free=289280 min=275928 dead=13984
Notice: Core Event:     0x04400001      4
Notice: Core Event:     0x0a00000a      0
Notice: Core Event:     0x04400002      4
Info:   Set     0x0080000A      1001    PRESENT_VALUE   992
Info:   Set     0x0080000B      1001    PRESENT_VALUE   -1943
Info:   Set     0x008000E4      1001    PRESENT_VALUE   8
Info:   Set     0x0A00001F      1601    PRESENT_VALUE   192.168.0.61
Info:   Set     0x0A000021      1601    PRESENT_VALUE   192.168.0.100
Info:   Set     0x0A000020      1601    PRESENT_VALUE   255.255.255.0
Info:   Set     0x0A000022      1601    PRESENT_VALUE   192.168.10.50
Info:   Set     0x00000005      1101    PRESENT_VALUE   8
Info:   Set     0x00800029      1101    PRESENT_VALUE   8
Info:   Set     0x00000006      1101    PRESENT_VALUE   6
Info:   Set     0x00800031      1101    PRESENT_VALUE   6
```

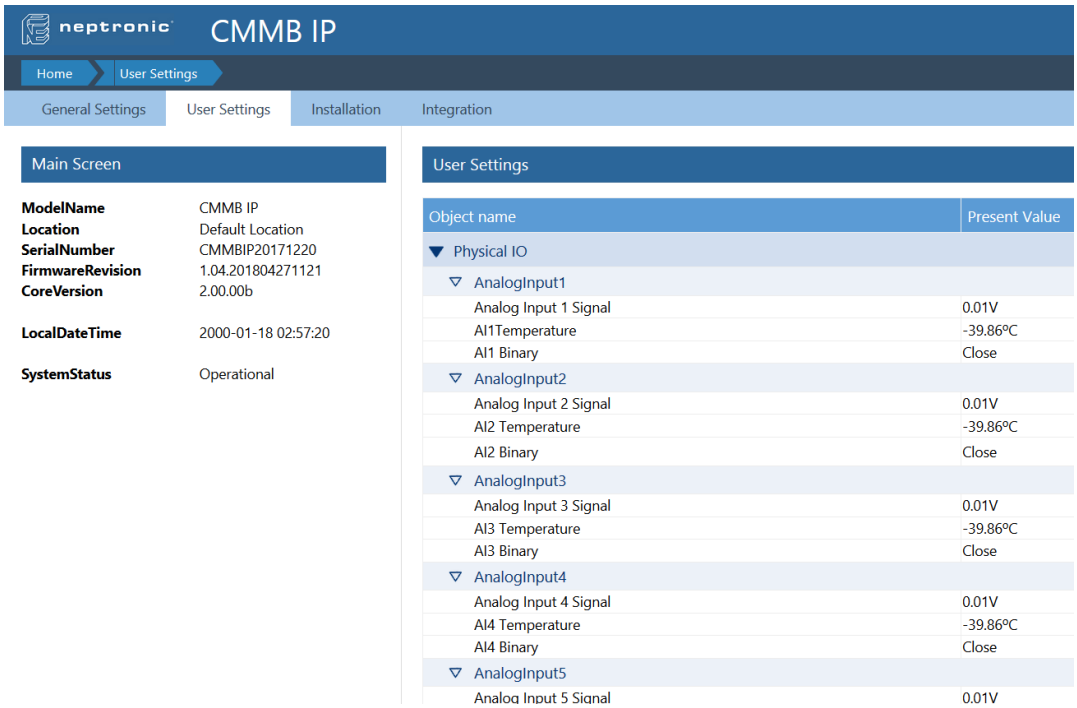
Using the currently assigned IP address, load the local web page.

- Using the Login button, access the Login screen and enter the password **5544** to access all of the properties of the module.
- All network settings are found under the **Integration** tab.

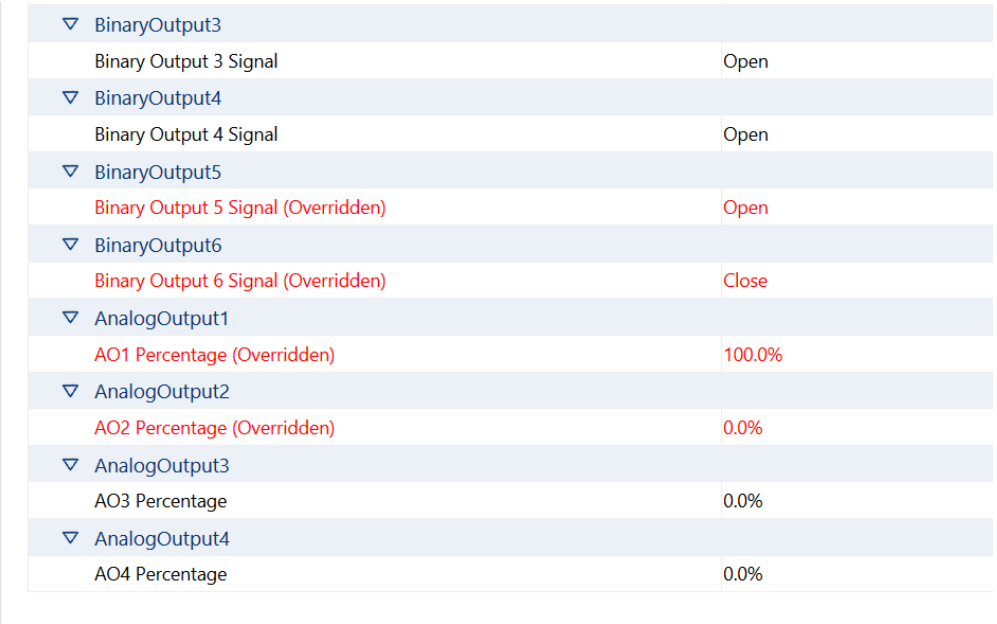


Overrides

Under the **User** tab, the present values of the inputs and outputs can be visualised in real time.

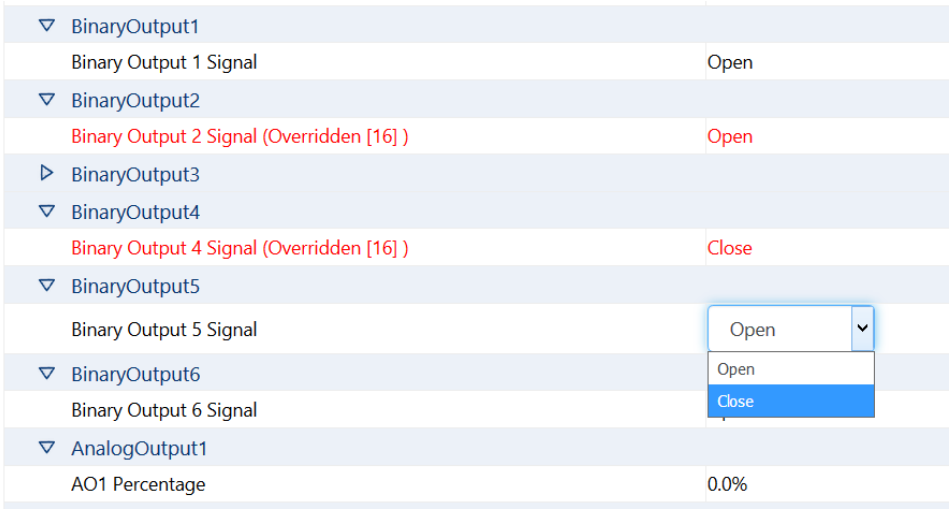


The Analog and Relay outputs can be overridden using the local dip switches, directly on the I/O module.
The status of a locally overridden output is shown in red.



The status is shown in red as Overridden.

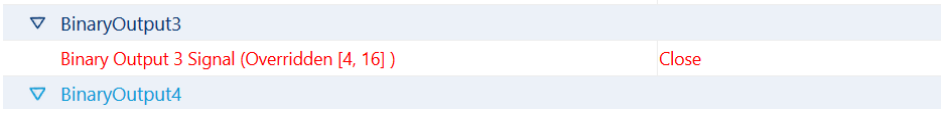
The outputs can also be overridden using the local web page.



The status is shown in red as Overridden (16). The value of 16 is representative of the Priority Array selected under the Web Server Priority For Writing parameter.

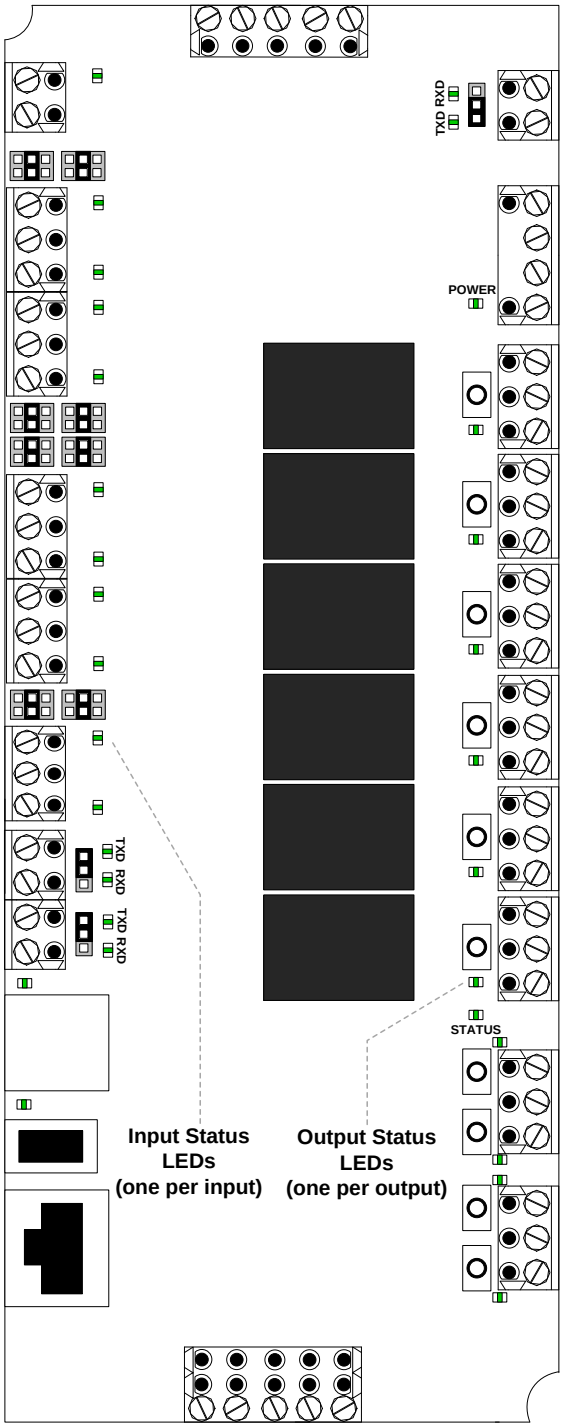
To release the local web override of the output, select the overridden output and use the **F8 key**.
This will send a NULL command to the selected output and will release the control of the output to the network at the array level 16.

When a point is being commanded through the network the highest and lowest priority for writing will be showed on the web page.
A point in red identifies that this object or output is being remotely controlled.



In this example, BO3 is commanded to close at Priority Array 4 and 16.

LEDs



Power
On = Input voltage normal
Off = No power

Status
Flashing = Normal operation (watchdog)

RX/TX
Flashing = Receiving (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, or 10KΩ); 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.

Network Data and Utilization

Please note that all hardware jumper settings for the universal inputs need to match the software configuration of the input.

Universal Inputs (AI1-AI8)

Ex.: Using AI3

- The configuration of the universal input will automatically hide certain objects that are not useful for that specific input configuration. Refresh your BACnet browser to expose the required and used objects.

For Thermistor Temperature Reading

- With the hardware jumper set to *Thermistor*, set AI input type to *Thermistor*. It may also be set using BACnet, using the MSV29 object (*AI3 Signal Type*).

- The objects used for AI3 in this configuration are:
  AI3 Temperature (Analog_Value:63), when used in thermistor mode.
  AI3 Temperature Min (Analog_Value:64).
  AI3 Temperature Max (Analog_Value:65).
  AI3 Temperature Bias (Analog_Value:66), used for calibration offset.

For On/Off Contact Input Reading

- With the hardware jumper set to *Thermistor*, set AI input type to *Thermistor*. It may also be set using BACnet, using the MSV29 object (*AI3 Signal Type*).
- The objects used for AI3 in this configuration are:
  AI3 Binary (Binary_Value:14)

For Analog 0-10 Vdc Input Reading

- With the hardware jumper set to *0-10 Vdc*, set AI input type to *0-10 Vdc*. It may also be set using BACnet, using the MSV29 object (*AI3 Signal Type*).
- The objects used for AI3 in this configuration are:
  AI3 Signal (Analog_Input:3)
  AI3 Signal Min (Analog_Value:59), can be used to customize the signal input voltage span.
  AI3 Signal Max (Analog_Value:60), can be used to customize the signal input voltage span.
  AI3 Temperature (Analog_Value:63), when used in temperature mode with a 0-10 Vdc temperature transmitter.
  AI3 Temperature Min (Analog_Value:64), when used in temperature mode with a 0-10 Vdc temperature transmitter.
  AI3 Temperature Max (Analog_Value:65), when used in temperature mode with a 0-10 Vdc temperature transmitter.

For Analog 4-20 mA Input Reading

- With the hardware jumper set to *4-20 mA*, set AI input type to *4-20 mA*. It may also be set using BACnet, using the MSV29 object (*AI3 Signal Type*).
- The objects used for AI3 in this configuration are:
  AI3 Signal (Analog_Input:3). Please note that the value is still shown in Vdc after the 500Ω shunt resistor.
  AI3 Signal Min (Analog_Value:59), can be used to customize the signal input voltage span.
  AI3 Signal Max (Analog_Value:60), can be used to customize the signal input voltage span.
  AI3 Temperature (Analog_Value:63), when used in temperature mode with a 4-20 mA temperature transmitter.
  AI3 Temperature Min (Analog_Value:64), when used in temperature mode with a 4-20 mA temperature transmitter.
  AI3 Temperature Max (Analog_Value:65), when used in temperature mode with a 4-20 mA temperature transmitter.

Binary Inputs (BI1-BI2)

- Both BI's can be monitored through the BI1 and BI2 objects.

Analog Outputs (AO1-AO4)

- The AO objects support priority array for writing with BACnet.
- The local switch can be overridden by the network as long as the priority level is superior to 16 (1 to 15).
- The objects used by the AO's are:
  Ex.: for AO1
  Analog Output AO1 Signal (Analog_Output:1).
  Minimum Voltage AO1 (Analog_Value:125), can be used to customize the signal output voltage span.
  Maximum Voltage AO1 (Analog_Value:126), can be used to customize the signal output voltage span.
  AO1 Percentage (Analog_Value:127).

Binary Outputs (BO1-BO6)

- The BO objects support priority array for writing with BACnet.
- The local switch can be overridden by the network as long as the priority level is superior to 16 (1 to 15).
- The objects used by the AO's are:
  Ex.: for BO1
  Binary Output BO1 Signal (Binary_Output:1).

Supervised Outputs

- All outputs are fully supervised via BACnet or Modbus. This provides the actual state of the output including any manual overrides done using the on-board switches.

Web Page/Controller Menu Configuration

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.

Menu - General [Level 1 - No password required]

Sub-Menu	Setting	Default	Range (* indicates no configuration; display only)	Description/Notes
Network	**Device** *(Device)*			
	DeviceInstance (*DeviceInstance*)	0153001	*	Displays the device instance value.
Communication	**DHCP Enable** (*Dhcp*)	Inactive	* (Inactive, Active)	Displays whether Dynamic Host Configuration Protocol (DHCP) is enabled to automatically provide an IP address.
	StaticAddress (*StaticAddress*)	192.168.1.100	*	Displays the static IP address.
	ActualAddress (*ActualAddress*)	*Current Value*	*	Displays the actual IP address.
System	**Device** *(Device)*			
	UTCOffset (*UTCOffset*)	-300min	* (min: -720min, max: 720min)	Displays the value of the UTC offset.
	DaylightSavingsStatus (*DaylightSavings*)	No	* (No, Yes)	Displays whether daylight savings is enabled or not.
	SystemStatus (*Status*)	Operational	* (Operational, Operational Read-Only, Download required, Download in progress, Non-operational, Backup in progress)	Displays the current system status.
	VendorName (*Vendor*)	Neptronic	*	Displays the name of the vendor of the product. (Always Neptronic)
	ModelName (*Model*)	-	*	Displays the controller model name.
	FirmwareRevision (*FirmwareRev*)	-	*	Displays the latest firmware revision.
	CoreVersion (*CoreVersion*)	-	*	Displays the current application software version.
	SerialNumber (*SerialNo*)	-	*	Displays the serial number of the controller.
	ProfileName (*Profile*)	-	*	Displays a short profile for the configured device.
	LocalDateTime (*LocalDateTime*)	YYYY-MM-DD 00:00:00	*	Displays the current date and time.
	MCULoad (*MCULoad*)	*Current value*	* (min: 0.0%, max: 100.0%)	Displays the current microcontroller load.
	MemoryLoad (*MemoryLoad*)	*Current value*	* (min: 0.0%, max: 100.0%)	Displays the current memory load.
	System Reset Reason (*ResetReason*)	None	* (None, BOR, Pin, POR, Soft, IWDG, WWDG, LPWR, Unknown)	Displays the reason for the previous system reset: *None = No Reset; BOR = Brownout Reset; Pin = Pin Reset; POR = Power-on Reset; Soft = Software Reset; IWDG = Independent Watchdog; WWDG = Windowed Watchdog; LPWR = Low Power Reset; Unknown = Unknown Cause*

Menu - User [Level 2 - Requires level 2 (or higher) password in order to access]

Sub-Menu	Setting	Default	Range (** indicates no configuration; display only)* *(** configurable only with level 4 access)*	Description/Notes
Physical IO	**AnalogInput1-8** (*AI1 to AI8*)			
	Analog Input 1-8 Signal (*AI1Sig to AI8Sig*)	*Current Value*	* (min: 0.00V, max: 10 .00V)	Displays the actual voltage on the analog input in Vdc.
	AI1-8 Temperature (*AI1T to AI8T*)	*Current Value*	* (min: -40ºF, max: 212ºF) * [min: -40 ºC, max:100ºC] Units: C, F	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.
	AI1-8 Binary (*AI1BV to AI8BV*)	*Current Value*	* (Close, Open)	Displays the actual binary status of the input in thermistor mode.
	BinaryInput1-2 (*BI1 to BI2*)			
	Binary Input 1-2 Signal (*BI1Sig to BI2Sig*)	*Current Value*	* (Close, Open)	Displays the binary status of the input.
	BinaryOutput1-6 (*BO1 to BO6*)			
	Binary Output 1-6 Signal (*BO1Sig to BO6Sig*)	*Current Value*	** (Close, Open)	Displays the binary status of the output.
	AnalogOutput1-4 (*AO1 to AO4*)			
	AO1-4 Percentage (*AO1Perc to AO4Perc*)	*Current Value*	** (min: 0.00%, max: 100.00%)	Displays the analog output value in percentage.
Interface	**Local Display Backlight Level** (*BacklightLvl*)	25%	min: 0%, max: 100%	Select the backlight level of the LCD screen.
	Local Display Contrast Level (*Contrast*)	10%	min: 0%, max: 30%	Select the contrast level of the LCD screen.
	Local Keypad Buzzer (*KeypadBuzzer*)	Inactive	Inactive, Active	Select whether to enable or disable the key press sound.
	Local Display Language (*Language*)	English	*(Language options vary based on region.)*	Select the device language.
	Local Display Units (*Units*)	Metric	Metric, Imperial	Select whether to use a metric or imperial system of units for the local device.

Menu - Installation [Level 3 - Requires level 3 (or higher) password in order to access]

Sub-Menu	Setting	Default	Range (** indicates no configuration; display only)* *(** configurable only with level 4 access)*	Description/Notes
Quick Configuration	**SystemLogVerboseLevel** (*SysLogLevel*)	Debug	None, Emergency, Alert, Critical, Error, Warning, Notice, Info, Debug	Select the type of information to be stored on log file. **(The device must be connected to an SD card.)**
Physical IO	**AnalogInput1-8** (*AI1 to AI8*)			
	Analog Input 1-8 Signal (*AI1Sig to AI8Sig*)	*Current Value*	* (min: 0.00V, max: 10.00V)	Displays the actual voltage on the analog input in Vdc.
	AI1-8 Signal Min (*AI1SigMin to AI8SigMin*)	0.00V	min: 0.00V, max: 10.00V	Select the minimum Vdc voltage of the input for the 0-10 Vdc input mode.
	AI1-8 Signal Max (*AI1SigMax to AI8SigMax*)	10.00V	min: 0.00V, max: 10.00V	Select the maximum Vdc voltage of the input for the 0-10 Vdc input mode.
	AI1-8 Temperature (*AI1T to AI8T*)	*Current Value*	* (min: -40.00ºC, max: 100.00ºC) * [min: -40.00 ºF, max:212.00ºF] Units: C, F	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.
	AI1-8 Temperature Min (*AI1TMin to AI8TMin*)	-40.00ºC	min: -50.00ºC, max: 10.00ºC (min: -58.00 ºF, max: 50.00ºF) Units: C, F	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.
	AI1-8 Temperature Max (*AI1TMax to AI8TMax*)	100.00ºC	min: 40.00ºC, max: 125.00ºC (min: 104.00 ºF, max: 257.00ºF) Units: C, F	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter
	AI1-8 Temperature Bias (*AI1TBias to AI8TBias*)	0.00ºC	min: -10.00ºC, max: 10.00ºC (min: -14.00 ºF, max: 50.00ºF) Units: C, F	In thermistor mode, it allows for a calibration offset of the input.
	AI1-8 Binary (*AI1BV to AI8BV*)	*Current Value*	* (Close, Open)	Displays the actual binary status of the input in thermistor mode.
	AI1-8 Signal Type (*AI1SignalType to AI8SignalType*)	0_10V	0_10V, 4_20mA ,Thermistor, Thermistor_10K_3A1, Thermistor_10K_4A1, Thermistor_10K_NTC, Thermistor_20K_6A1, Thermistor_30K_Type6A1	Select the input mode type operation. This setting should be the same as the jumper hardware configuration on the PCB.
	AnalogOutput1-4 (*AO1 to AO4*)			
	Analog Output 1-4 Signal (*AO1Sig to AO4Sig*)	*Current Value*	** (min: 0.00V, max: 10.00V)	Displays the actual voltage on the analog output in Vdc.
	Minimum Voltage AO1-4 (*AO1Min to AO4Min*)	0.00V	min: 0.00V, max: 10.00V	Select the minimum Vdc voltage of the output for the 0-10 Vdc output.
	Maximum Voltage AO1-4 (*AO1Max to AO4Max*)	10.00V	min: 0.00V, max: 10.00V	Select the maximum Vdc voltage of the output for the 0-10 Vdc output.
	AO1-4 Percentage (*AO1Perc to AO4Perc*)	0.0%	** (min: 0.0%, max: 100.0%)	Displays the analog output value in percentage.

Menu - Integration [Level 4 - Requires level 4 password in order to access]

Sub-Menu	Setting		Default	Range (* indicates no configuration; display only)	Description/Notes
Network	**Device** (*Device*)				
		DeviceName (*DeviceName*)	-		Define the BACnet device name property.
		Location (*Location*)	-		Define the BACnet device location property.
		Description (*Description*)	-		Define the BACnet device description property.
		DeviceInstance (*DeviceInstance*)	0153001		Define the BACnet device instance property.
	HttpServer (*HttpServer*)				
		Http Server Units (*HttpServerUnits*)	Metric	Metric, Imperial	Select whether to use a metric or imperial system of units for the web server.
		Web Server Priority For Writing (*WebPriorityForWriting*)	16	min: 1, max: 16	Set the BACnet priority array used by the web interface when energizing outputs. See the *Overrides* section for information on releasing the overrides.
	BACnetServer (*BACnetServer*)				
		Ethernet enable (*Eth enable*)	Enable	Disable, Enable	Select whether to enable or disable the Ethernet option.
		BACnet Server List Mode (*ListMode*)	Integrator	Integrator, Advanced, Factory	Select the category of BACnet objects to display.
		BACnet Server Cov Max Subs (*CovMaxSubs)*	15	min: 0, max: 255	Select the maximum number of BACnet COV subscriptions allowed.
	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.
		Network (*Network*)	1	min: 1, max: 65534	Set the local BACnet MS/TP network number.
		Auto Baud Rate (*AutoBaud)*	No	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*)	38400	9600, 19200, 38400, 76800	Set the BACnet MS/TP baud rate when *Auto Baud Rate* is set to *No*.
		MSTP1MAC (*MAC*)	001	min: 0, max: 127	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.
		Network Number (*Ntwk Number*)	2	min: 1, max: 65534	Set the local BACnet IP network number.

Sub-Menu	Setting	Default	Range (** indicates no configuration; display only*)	Description/Notes
Network	**BACnet Ethernet** (*BACnetETH*)			
	Network Number (*Ntwk Number*)	3	min: 0, max: 65534	Set the local BACnet Ethernet network number.
	ModbusServer (*ModbusServer*)			
	Modbus Server Units (*Units*)	Metric	Metric, Imperial	Select whether to use a metric or imperial system of units for the Modbus server.
	ModbusRTU1In *(ModbusRTU1In)*			**Only appears for models CMMB-IP and CMMB-IP-L.**
	Modbus RTU1 MAC (*MAC*)	1	min: 0, 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*.
	BACnetMSTP2 (*BACnetMSTP2*)			**Only appears for models CMMB-IP-R2B and CMMB-IP-RL2B.**
	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.
	Network (*Network*)	1	min: 1, max: 65534	Set the local BACnet MS/TP network number.
	Auto Baud Rate (*AutoBaud*)	No	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*)	38400	9600, 19200, 38400, 76800	Set the BACnet MS/TP baud rate when *Auto Baud Rate* is set to *No*.
	MSTP2MAC (*MAC*)	001	min: 0, max: 127	Set the local BACnet MS/TP network MAC address.
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.

Sub-Menu	Setting		Default	Range (* indicates no configuration; display only)	Description/Notes
Communication		**StaticDefaultGateway** (*StaticGatewey*)	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 (*ActualGatewey*)	*Current Value*	*	Displays the actual local IP static default gateway.
		ActualDnsServer (*ActualDns)*	*Current Value*	*	Displays the actual local IP static DNS server (if used).
	Ethernet Settings *(ETHSettings)*				
		EthernetMacAdd (*EthernetMacAdd*)	*Current Value*	*	Displays the local Ethernet adapter MAC address.
Network Diagnostic	**BACnetMSTP1** (*BACnetMSTP1*)				
		MSTP1RxValid (*RxValid*)	0	*	Displays information on the received communication frames for troubleshooting purposes.
		MSTP1RxInvalid (*RxInvalid*)	0	*	
		MSTP1RxLost (*RxLost*)	0	*	
		MSTP1Tx (*Tx*)	0	*	Displays information on the transmitted communication frames for troubleshooting purposes.
		MSTP1TxLost (*TxLost*)	0	*	
	BACnet IP (*BACnetIP*)				
		IP0RxValid (*RxValid*)	0	*	Displays information on the received communication frames for troubleshooting purposes.
		IP0RxInvalid (*RxInvalid*)	0	*	
		IP0RxLost (*RxLost*)	0	*	
		IP0Tx (*Tx*)	0	*	Displays information on the transmitted communication frames for troubleshooting purposes.
		IP0TxLost (*TxLost*)	0	*	
	BACnet Ethernet (*BACnetETH*)				
		ETH0RxValid (*RxValid*)	0	*	Displays information on the received communication frames for troubleshooting purposes.
		ETH0RxInvalid *(RxInvalid)*	0	*	
		ETH0RxLost (*RxLost*)	0	*	

Sub-Menu	Setting		Default	Range (** indicates no configuration; display only)*	Description/Notes
Network Diagnostic		**ETH0Tx** (*Tx*)	0	*	Displays information on the transmitted communication frames for troubleshooting purposes.
		ETH0TxLost (*TxLost*)	0	*	
	BACnetMSTP2 (*BACnetMSTP2*)				**Only appears for models CMMB-IP-R2B and CMMB-IP-RL2B.**
		MSTP2RxValid (*RxValid*)	0	*	Displays information on the received communication frames for troubleshooting purposes.
		MSTP2RxInvalid (*RxInvalid*)	0	*	
		MSTP2RxLost (*RxLost*)	0	*	
		MSTP2Tx (*Tx*)	0	*	Displays information on the transmitted communication frames for troubleshooting purposes.
		MSTP2TxLost (*TxLost*)	0	*	

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.	Out of service	0 to 10V, Resolution: 0.05V
AI.2	Analog Input 2 Signal	Displays the actual voltage on the analog input in Vdc.	Out of service	0 to 10V, Resolution: 0.05V
AI.3	Analog Input 3 Signal	Displays the actual voltage on the analog input in Vdc.	Out of service	0 to 10V, Resolution: 0.05V
AI.4	Analog Input 4 Signal	Displays the actual voltage on the analog input in Vdc.	Out of service	0 to 10V, Resolution: 0.05V
AI.5	Analog Input 5 Signal	Displays the actual voltage on the analog input in Vdc.	Out of service	0 to 10V, Resolution: 0.05V
AI.6	Analog Input 6 Signal	Displays the actual voltage on the analog input in Vdc.	Out of service	0 to 10V, Resolution: 0.05V
AI.7	Analog Input 7 Signal	Displays the actual voltage on the analog input in Vdc.	Out of service	0 to 10V, Resolution: 0.05V
AI.8	Analog Input 8 Signal	Displays the actual voltage on the analog input in Vdc.	Out of service	0 to 10V, Resolution: 0.01V
AO.1	Analog Output 1 Signal	Commands the voltage on the analog output in Vdc.	Out of service Present Value	0 to 10V, Resolution: 0.001V
AO.2	Analog Output 2 Signal	Commands the voltage on the analog output in Vdc.	Out of service Present Value	0 to 10V, Resolution: 0.05V
AO.3	Analog Output 3 Signal	Commands the voltage on the analog output in Vdc.	Out of service Present Value	0 to 10V, Resolution: 0.05V
AO.4	Analog Output 4 Signal	Commands the voltage on the analog output in Vdc.	Out of service Present Value	0 to 10V, Resolution: 0.05V
AV.10	MCU Load	Displays the MCU usage load.	Out of service	0 to 100%, Resolution: 0.1%
AV.11	Memory Load	Displays the memory usage load.	Out of service	0 to 100%, Resolution: 0.1%
AV.39	AI1 Signal Min	Select the minimum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.40	AI1 Signal Max	Select the maximum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
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.	Out of service	-40 to 100ºC or -40 to 212ºF, Resolution: 0.05
AV.44	AI1 Temperature Min	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.	Out of service Present Value	-50 to 10ºC or -58 to 50ºF, Resolution: 0.01
AV.45	AI1 Temperature Max	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter	Out of service Present Value	40 to 125ºC or 104 to 257ºF, Resolution: 0.01
AV.46	AI1 Temperature Bias	In thermistor mode, it allows for a calibration offset of the input.	Out of service Present Value	-10 to 10ºC or -14 to 50ºF, Resolution: 0.01
AV.49	AI2 Signal Min	Select the minimum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.50	AI2 Signal Max	Select the maximum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
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.	Out of service	-40 to 100ºC or -40 to 212ºF, Resolution: 0.05
AV.54	AI2 Temperature Min	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.	Out of service Present Value	-50 to 10ºC or -58 to 50ºF, Resolution: 0.01
AV.55	AI2 Temperature Max	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter.	Out of service Present Value	40 to 125ºC or 104 to 257ºF, Resolution: 0.01
AV.56	AI2 Temperature Bias	In thermistor mode, it allows for a calibration offset of the input.	Out of service Present Value	-10 to 10ºC or -14 to 50ºF, Resolution: 0.01
AV.59	AI3 Signal Min	Selects the minimum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V

[1] ID is equal to ObjectType.Instance

ID[1]	Name	Description	Writable?	Range
AV.60	AI3 Signal Max	Select the maximum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
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.	Out of Service	-40 to 100ºC or -40 to 212ºF, Resolution: 0.01
AV.64	AI3 Temperature Min	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.	Out of service Present Value	-50 to 10ºC or -58 to 50ºF, Resolution: 0.01
AV.65	AI3 Temperature Max	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter.	Out of service Present Value	40 to 125ºC or 104 to 257ºF, Resolution: 0.01
AV.66	AI3 Temperature Bias	In thermistor mode, it allows for a calibration offset of the input.	Out of service Present Value	-10 to 10ºC or -14 to 50ºF, Resolution: 0.01
AV.69	AI4 Signal Min	Select the minimum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.70	AI4 Signal Max	Select the maximum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
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.	Out of service	-40 to 100ºC or -40 to 212ºF, Resolution: 0.05
AV.74	AI4 Temperature Min	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.	Out of service Present Value	-50 to 10ºC or -58 to 50ºF, Resolution: 0.01
AV.75	AI4 Temperature Max	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter.	Out of service Present Value	40 to 125ºC or 104 to 257ºF, Resolution: 0.01
AV.76	AI4 Temperature Bias	In thermistor mode, it allows for a calibration offset of the input.	Out of service Present Value	-10 to 10ºC or -14 to 50ºF, Resolution: 0.01
AV.79	AI5 Signal Min	Select the minimum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.80	AI5 Signal Max	Select the maximum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
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.	Out of service	-40 to 100ºC or -40 to 212ºF, Resolution: 0.05
AV.84	AI5 Temperature Min	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.	Out of service Present Value	-50 to 10ºC or -58 to 50ºF, Resolution: 0.01
AV.85	AI5 Temperature Max	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter.	Out of service Present Value	40 to 125ºC or 104 to 257ºF, Resolution: 0.01
AV.86	AI5 Temperature Bias	In thermistor mode, it allows for a calibration offset of the input.	Out of service Present Value	-10 to 10ºC or -14 to 50ºF, Resolution: 0.01
AV.89	AI6 Signal Min	Select the minimum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.90	AI6 Signal Max	Select the maximum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
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.	Out of service	-40 to 100ºC or -40- to 212ºF, Resolution: 0.05
AV.94	AI6 Temperature Min	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.	Out of service Present Value	-50 to 10ºC or -58 to 50ºF, Resolution: 0.01
AV.95	AI6 Temperature Max	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter.	Out of service Present Value	40 to 125ºC or 104 to 257ºF, Resolution: 0.01
AV.96	AI6 Temperature Bias	In thermistor mode, it allows for a calibration offset of the input.	Out of service Present Value	-10 to 10ºC or -14 to 50ºF, Resolution: 0.01
AV.99	AI7 Signal Min	Select the minimum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V

ID[1]	Name	Description	Writable?	Range
AV.100	AI7 Signal Max	Selects the maximum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
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.	Out of service	-40 to 100ºC or -40 to 212ºF, Resolution: 0.05
AV.104	AI7 Temperature Min	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.	Out of service Present Value	-50 to 10ºC or -58 to 50ºF, Resolution: 0.01
AV.105	AI7 Temperature Max	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter.	Out of service Present Value	40 to 125ºC or 104 to 257ºF, Resolution: 0.01
AV.106	AI7 Temperature Bias	In thermistor mode, it allows for a calibration offset of the input.	Out of service Present Value	-10 to 10ºC or -14 to 50ºF, Resolution: 0.01
AV.109	AI8 Signal Min	Select the minimum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.110	AI8 Signal Max	Select the maximum Vdc voltage of the input for the 0-10 Vdc input mode.	Out of service Present Value	0 to 10V, Resolution: 0.01V
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.	Out of service	-40 to 100ºC or -40 to 212ºF, Resolution: 0.05
AV.114	AI8 Temperature Min	In voltage or mA mode, it sets the minimum temperature range of the selected transmitter.	Out of service Present Value	-50 to 10ºC or -58 to 50ºF, Resolution: 0.01
AV.115	AI8 Temperature Max	In voltage or mA mode, it sets the maximum temperature range of the selected transmitter.	Out of service Present Value	40 to 125ºC or 104 to 257ºF, Resolution: 0.01
AV.116	AI8 Temperature Bias	In thermistor mode, it allows for a calibration offset of the input.	Out of service Present Value	-10 to 10ºC or -14 to 50ºF, Resolution: 0.01
AV.125	Minimum Voltage AO1	Select the minimum Vdc voltage of the output for the 0-10 Vdc output.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.126	Maximum Voltage AO1	Select the maximum Vdc voltage of the output for the 0-10 Vdc output.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.127	AO1 Percentage	Command the analog output through arrays 1 to 16.	Out of service Present Value	0 to 100%, Resolution: 0.5%
AV.131	Minimum Voltage AO2	Select the minimum Vdc voltage of the output for the 0-10 Vdc output.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.132	Maximum Voltage AO2	Select the maximum Vdc voltage of the output for the 0-10 Vdc output.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.133	AO2 Percentage	Command the analog output through arrays 1 to 16.	Out of service Present Value	0 to 100%, Resolution: 0.5%
AV.137	Minimum Voltage AO3	Select the minimum Vdc voltage of the output for the 0-10 Vdc output.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.138	Maximum Voltage AO3	Select the maximum Vdc voltage of the output for the 0-10 Vdc output.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.139	AO3 Percentage	Command the analog output through arrays 1 to 16.	Out of service Present Value	0 to 100%, Resolution: 0.5%
AV.143	Minimum Voltage AO4	Select the minimum Vdc voltage of the output for the 0-10 Vdc output.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.144	Maximum Voltage AO4	Select the maximum Vdc voltage of the output for the 0-10 Vdc output.	Out of service Present Value	0 to 10V, Resolution: 0.01V
AV.145	AO4 Percentage	Command the analog output through arrays 1 to 16.	Out of service Present Value	0 to 100%, Resolution: 0.5%
AV.150	Runtime	Displays the actual run time since the last power up in seconds.	Out of service	0 to 999999999, Resolution: 1
BI.1	Binary Input 1 Signal	Displays the binary status of the input.	Out of service	0= Open / 1= Close
BI.2	Binary Input 2 Signal	Displays the binary status of the input.	Out of service	0= Open / 1= Close
BO.1	Binary Output 1 Signal	Command the binary relays output through arrays 1 to 16.	Out of service Present Value	0= Open / 1= Close
BO.2	Binary Output 2 Signal	Command the binary relays output through arrays 1 to 16.	Out of service Present Value	0= Open / 1= Close
BO.3	Binary Output 3 Signal	Command the binary relays output through arrays 1 to 16.	Out of service Present Value	0= Open / 1= Close

ID[1]	Name	Description	Writable?	Range
BO.4	Binary Output 4 Signal	Commands the binary relays output through arrays 1 to 16.	Out of service Present Value	0= Open / 1= Close
BO.5	Binary Output 5 Signal	Command the binary relays output through arrays 1 to 16.	Out of service 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 Present Value	0= Open / 1= Close
BO.10	Alarm LED	Displays the status of the alarm LED.	Out of service	0= Off / 1=On
BO.11	Power LED	Displays the status of the power LED.	Out of service	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.26	Ethernet enable	Select whether to enable or disable the Ethernet option.	Out of service Present Value	0 = Disable, 1 = Enable
BV.40	Inhibit Output Override	Select whether to prevent the manual override of outputs.	Out of service Present Value	0= Off / 1=On
MSV.6	SystemLogVerboseLevel	Select the level of log information sent to the SD card.	Out of service Present Value	0= None 1= Emergency 2= Alert 3= Critical 4= Error 5= Warning 6= Notice 7= Info 8= Debug
MSV.8	BACnet Server Language	Local BACnet server language.	Out of service Present Value	0= English
MSV.9	BACnet Server List Mode	Local BACnet server object list level.	Out of service Present Value	0= Integrator 1= Advanced 2= Factory
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	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10K_Type3A1 4= Thermistor_10K_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1
MSV.28	AI2 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	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1
MSV.29	AI3 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	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10K_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1

ID[1]	Name	Description	Writable?	Range
MSV.30	AI4 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	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1
MSV.31	AI5 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	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1
MSV.32	AI6 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	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1
MSV.33	AI7 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	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1
MSV.34	AI8 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	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1
FIL.16	System Log File	Current log file being archived and is sent to the SD card when file is full and a new one is started.		
CSV.35	Ethernet Mac Add	Displays the local Ethernet MAC address.		

Modbus Registers

- Register 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	Unsigned	1 to 65535 (e.g. 100)	RO	
8	400009	Product Actual EEPROM Version	Unsigned	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*	Unit: Volts or ºC/ºF, Range: 0V to 10V, -40ºC to 100ºC or -40ºF to 212ºF, 0 (Open), 1 (Close). *Value x 100 (e.g. 3 V = 300/18°C = 1800 or 33ºF = 3300)*	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 10*	Unit: %, Range: 0 to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
4001	404002	Analog Output 2 Signal		Unit: %, Range: 0 to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
4002	404003	Analog Output 3 Signal		Unit: %, Range: 0 to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
4003	404004	Analog Output 4 Signal		Unit: %, Range: 0 to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
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	Bit String *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: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	RO	0ºC, 32ºF
6003	406004	AI1 Temperature Min		Unit: ºC/ºF, Range: -50ºC to 10ºC or -58ºF to 50ºF (-50ºC/-58ºF to Reg.40**6005**) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	-40 ºC, -40 ºF
6004	406005	AI1 Temperature Max		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg. 40**6004** to 125ºC/257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	100 ºC, 212 ºF
6005	406006	AI1 Temperature Bias		Unit: ºC/ºF, Range: -10ºC to 10ºC or -14ºF to 50ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	0 ºC, 32 ºF
6006	406007	AI2 Signal Min	Bit String *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6007	406008	AI2 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V
6008	406009	AI2 Temperature	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	RO	0 ºC, 32 ºF
6009	406010	AI2 Temperature Min		Unit: ºC/ºF, Range: -50ºC to 10ºC or -58ºF to 50ºF (-50ºC/-58ºF to Reg.40**6011**) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	-40 ºC, -40 ºF
6010	406011	AI2 Temperature Max		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg.40**6010** to 125ºC/257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	100 ºC, 212 ºF
6011	406012	AI2 Temperature Bias		Unit: ºC/ºF, Range: -10ºC to 10ºC or -14ºF to 50ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	0 ºC, 32 ºF
6012	406013	AI3 Signal Min(0)	Bit String *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6013	406014	AI3 Signal Min(1)		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	
6014	406015	AI3 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
6015	40**6016**	AI3 Temperature	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	RO	0 ºC, 32 ºF
6016	40**6017**	AI3 Temperature Min		Unit: ºC/ºF, Range: -50ºC to 10ºC or -58ºF to 50ºF (-50ºC/-58ºF to Reg.40**6018**) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	-40 ºC, -40 ºF
6017	40**6018**	AI3 Temperature Max		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg. 40**6017** to 125ºC/257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	100 ºC, 212 ºF
6018	40**6019**	AI3 Temperature Bias	Signed *Scale 100*	Unit: ºC/ºF, Range: -10ºC to 10ºC or -14ºF to 50ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	0 ºC, 32 ºF
6019	40**6020**	AI4 Signal Min	Bit String *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6020	40**6021**	AI4 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V
6021	40**6022**	AI4 Temperature	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	RO	0 ºC, 32 ºF
6022	40**6023**	AI4 Temperature Min		Unit: ºC/ºF, Range: -50ºC to 10ºC or -58ºF to 50ºF (-50ºC/-58ºF to Reg.40**6024**) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	-40 ºC, -40 ºF
6023	40**6024**	AI4 Temperature Max		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg.40**6023** to 125ºC/257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	100 ºC, 212 ºF
6024	40**6025**	AI4 Temperature Bias		Unit: ºC/ºF, Range: -10ºC to 10ºC or -14ºF to 50ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	0 ºC, 32 ºF
6025	40**6026**	AI5 Signal Min	Bit String *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6026	40**6027**	AI5 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V
6027	40**6028**	AI5 Temperature	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	RO	0 ºC, 32 ºF
6028	40**6029**	AI5 Temperature Min		Unit: ºC/ºF Range: -50ºC to 10ºC or -58ºF to 50ºF (-50ºC/-58ºF to Reg.40**6030**) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	-40 ºC, -40 ºF
6029	40**6030**	AI5 Temperature Max		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg.40**6029** to 125ºC/ 257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	100 ºC, 212 ºF
6030	40**6031**	AI5 Temperature Bias		Unit: ºC/ºF, Range: -10ºC to 10ºC or -14ºF to 50ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	0 ºC, 32 ºF
6031	40**6032**	AI6 Signal Min	*Bit String Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6032	40**6033**	AI6 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V
6033	40**6034**	AI6 Temperature	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	RO	0 ºC, 32 ºF
6034	40**6035**	AI6 Temperature Min		Unit: ºC/ºF, Range: -50ºC to 10ºC or -58ºF to 50ºF (-50ºC/-58ºF to Reg.40**6036/37**) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	-40 ºC, -40 ºF
6035	40**6036**	AI6 Temperature Max (In6AVMax_0)		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg.40**6035** to 125ºC/257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	100 ºC, 212 ºF
6036	40**6037**	AI6 Temperature Max (In6AVMax_1)		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg.40**6035** to 125ºC/257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	
6037	40**6038**	AI6 Temperature Bias		Unit: ºC/ºF, Range: -10ºC to 10ºC or -14ºF to 50ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	0ºC, 32 ºF

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
6038	40**6039**	AI7 Signal Min	Bit String *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6039	40**6040**	AI7 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V
6040	40**6041**	AI7 Temperature	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	RO	0ºC, 32ºF
6041	40**6042**	AI7 Temperature Min		Unit: ºC/ºF, Range: -50ºC to 10ºC or -58ºF to 50ºF (-50ºC/-58ºF to Reg.40**6043**) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	-40ºC, -40ºF
6042	40**6043**	AI7 Temperature Max		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg.40**6042** to 125ºC/257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	100ºC, 212 ºF
6043	40**6044**	AI7 Temperature Bias		Unit: ºC/ºF, Range: -10ºC to 10ºC or -14ºF to 50ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	0ºC, 32 ºF
6044	40**6045**	AI8 Signal Min	Bit String *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	0V
6045	40**6046**	AI8 Signal Max		Unit: Volt (V), Range: 0V to 10V, *Value x 100 (e.g. 2V = 200)*	W	10V
6046	40**6047**	AI8 Temperature	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	RO	0ºC, 32 ºF
6047	40**6048**	AI8 Temperature Min	Signed *Scale 100*	Unit: ºC/ºF, Range: -50ºC to 10ºC or -58ºF to 50ºF (-50ºC/-58ºFto Reg.40**6049**) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	-40 ºC, -40 ºF
6048	40**6049**	AI8 Temperature Max		Unit: ºC/ºF, Range: 40ºC to 125ºC or 104ºF to 257ºF (Reg.40**6048** to 125ºC/257ºF) *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	100 ºC, 212 ºF
6049	40**6050**	AI8 Temperature Bias		Unit: ºC/ºF, Range: -10ºC to 10ºC or -14ºF to 50ºF *Value x 100 (e.g. 5°C = 500 or 10ºF = 1000)*	W	0 ºC, 32 ºF
6050	40**6051**	Minimum Voltage AO1	Unsigned *Scale 10*	Unit: Volt (V), Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W	0V
6051	40**6052**	Maximum Voltage AO1		Unit: Volt (V), Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W	10V
6052	40**6053**	AO1 Percentage	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
6053	40**6054**	Minimum Voltage AO2	Unsigned *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W	0V
6054	40**6055**	Maximum Voltage AO2		Unit: Volt (V), Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W	10V
6055	40**6056**	AO2 Percentage	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
6056	40**6057**	Minimum Voltage AO3	Unsigned *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W	0V
6057	40**6058**	Maximum Voltage AO3		Unit: Volt (V), Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W	10V
6058	40**6059**	AO3 Percentage	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
6059	40**6060**	Minimum Voltage AO4	Unsigned *Scale 100*	Unit: Volt (V), Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W	0V
6060	40**6061**	Maximum Voltage AO4		Unit: Volt (V), Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W	10V
6061	40**6062**	AO4 Percentage	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 30% = 300)*	W	0%
10000	4**10001**	Binary Input 1 Signal	Unsigned	0= Open | 1= Close	RO	0

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
10001	4**10002**	Binary Input 2 Signal	Unsigned	0= Open | 1= Close	W	0
11000	4**11001**	Binary Output 1 Signal	Unsigned	0= Open | 1= Close	W	0
11001	4**11002**	Binary Output 2 Signal	Unsigned	0= Open | 1= Close	W	0
11002	4**11003**	Binary Output 3 Signal	Unsigned	0= Open | 1= Close	W	0
11003	4**11004**	Binary Output 4 Signal	Unsigned	0= Open | 1= Close	W	0
11004	4**11005**	Binary Output 5 Signal	Unsigned	0= Open | 1= Close	W	0
11005	4**11006**	Binary Output 6 Signal	Unsigned	0= Open | 1= Close	W	0
11006	4**11007**	Alarm LED	Unsigned	0= Off | 1= On	RO	0
11007	4**11008**	Power LED	Unsigned	0= Off | 1= On	RO	0
12000	4**12001**	System Production Test Done	Unsigned	0= Inactive | 1= Active	RO	0
12001	4**12002**	AI1 Binary	Unsigned	0= Open | 1= Close	RO	0
12002	4**12003**	AI2 Binary	Unsigned	0= Open | 1= Close	RO	0
12003	4**12004**	AI3 Binary	Unsigned	0= Open | 1= Close	RO	0
12004	4**12005**	AI4 Binary	Unsigned	0= Open | 1= Close	RO	0
12005	4**12006**	AI5 Binary	Unsigned	0= Open | 1= Close	RO	0
12006	4**12007**	AI6 Binary	Unsigned	0= Open | 1= Close	RO	0
12007	4**12008**	AI7 Binary	Unsigned	0= Open | 1= Close	RO	0
12008	41**2009**	AI8 Binary	Unsigned	0= Open | 1= Close	RO	0
15000	4**15001**	System Log Verbose Level	Unsigned	0= None 1= Emergency 2= Alert 3= Critical 4= Error 5= Warning 6= Notice 7= Info 8= Debug	W	8
15001	4**15002**	Modbus Server Units	Unsigned	0 = Metric | 1 = Imperial	W	0

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
15002	4**15003**	AI1 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1	W	0
15003	4**15004**	AI2 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1	W	0
15004	4**15005**	AI3 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1	W	0
15005	4**15006**	AI4 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1	W	0
15006	4**15007**	AI5 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1	W	0

Protocol Base	Holding Register	Description	Data Type	Units/Values	Writable	Default Value
15007	4**15008**	AI6 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1	W	0
15008	4**15009**	AI7 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1	W	0
15009	4**15010**	AI8 Signal Type	Unsigned	0= 0_10V 1= 4_20mA 2= Thermistor 3= Thermistor_10k_Type3A1 4= Thermistor_10k_Type4A1 5= Thermistor_10k_NTC 6= Thermistor_20k_Type6A1 7= Thermistor_30k_Type6A1	W	0

Notes

	Recycling at end of life: please return this product to your Neptronic local distributor for recycling. If you need to find the nearest Neptronic authorized distributor, please consult **www.neptronic.com**.

400 Lebeau blvd, Montreal, Qc, H4N 1R6, Canada
www.neptronic.com
Toll free in North America: 1-800-361-2308
Tel.: (514) 333-1433
Fax: (514) 333-3163
Customer service fax: (514) 333-1091
Monday to Friday: 8:00am to 5:00pm (Eastern time)