

AERCO/ProtoNode Gateway

USER MANUAL

Installation, Operation, and Maintenance

ProtoNode-RER
(Serial Ethernet,
P/N 64084)



ProtoNode-LER
(LonWorks,
P/N 64085)



**For Interfacing AERCO Equipment to Building Automation Systems Utilizing:
BACnet MS/TP, BACnet/IP, N2, or LonWorks Protocols**



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1. INTRODUCTION

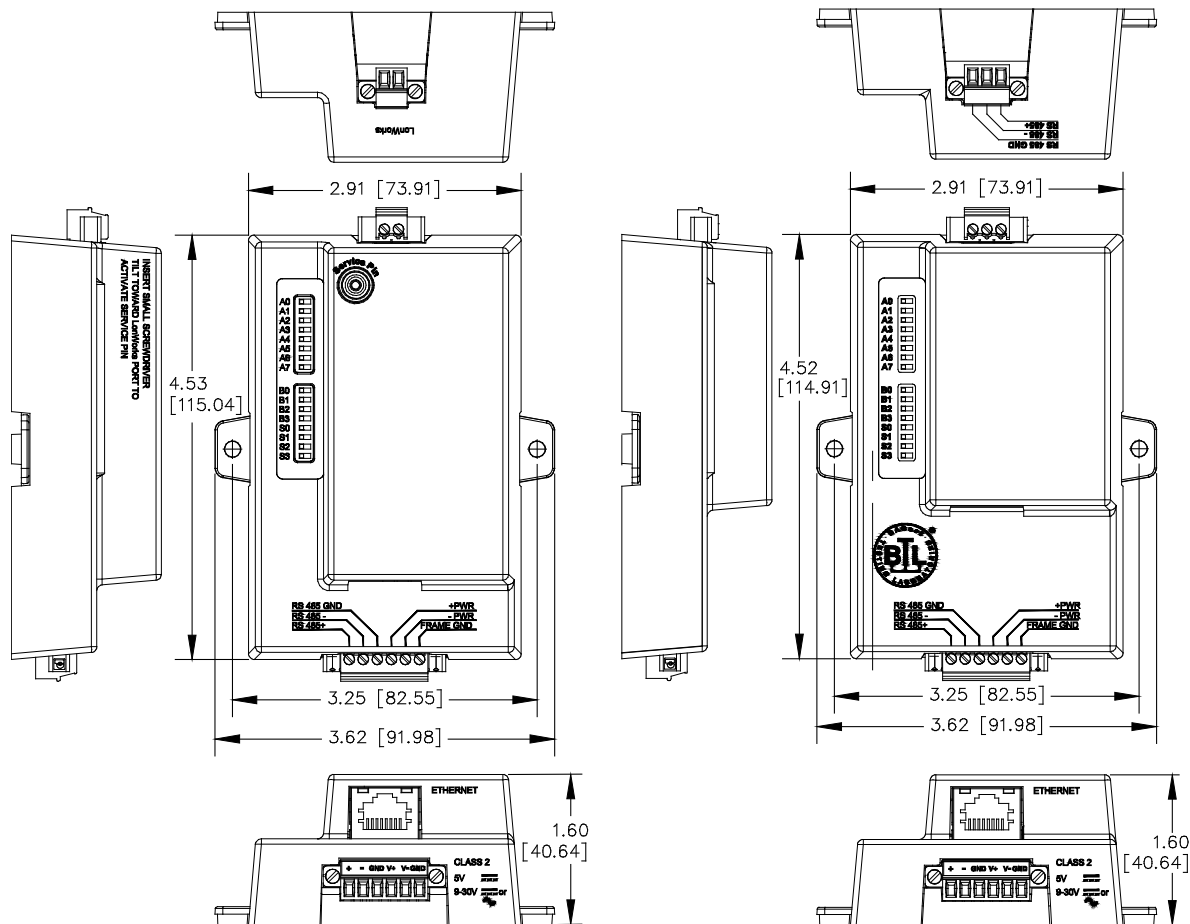
ProtoNode is an external, high performance, **Building Automation multi-protocol gateway** that has been preprogrammed for AERCO's equipment to support BACnet¹MS/TP, BACnet/IP, Metasys² N2 by JCI, Modbus TCP, and LonWorks³. All the different AERCO C-More configurations for the various protocols are stored within the ProtoNode and are selectable via DIP switches for fast and easy installation. There is no need to download any configuration files to support the required applications.

This provides the necessary information to assist the Installers of the boilers/heaters with the installation of the ProtoNode RER on BACnet MS/TP, BACnet/IP, and Metasys N2 by JCI networks and installation of the ProtoNode LER on a LonWorks network.

BACnet International BTL certification is the highest level of BACnet conformance tests that a product can be subjected to.

- The ProtoNode RER is BACnet BTL Certified.
- The ProtoNode LER is LonMark Certified.

The ProtoNode units feature a very small form factor, as indicated in the dimensional illustration below:



Dimensions for ProtoNode LER (left) and ProtoNode RER (right)

¹ BACnet is a registered trademark of ASHRAE

² Metasys is a registered trademark of Johnson Controls Inc.

³ LonMark is a registered trademark of LonMark International

⁴ LonWorks is a registered trademark of Echelon Corporation

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2. BACNET/LONWORKS SETUP THROUGH PROTOCESSOR PROTONODE RER/LER

2.1 Installation Steps For The Customer

1. Set the A, B, and S DIP Switch banks for field protocol baud rate, Node-ID/Device Instance, and proper configuration. See Section 2.3.
2. Connect the ProtoNode to the Field protocol port and AERCO’s Control System/Boiler Management System – RS-232 or RS-485 interface. See Section 3.
3. Power up the ProtoNode RER or LER. After power up, the device is installed on BACnet MS/TP, Metasys N2, or LonWorks for the LER.
4. Where the Field protocol is BACnet/IP, refer to Section 5 to run the Ruinet utility program to change the IP address. No changes to the configuration file are necessary.

2.2 Record Identification Data

Each ProtoNode has a unique serial number located on the underside of the unit. The number format is FPC-N3X-XXX-XXX-XXXX. This number should be recorded as it may be required for technical support. The AERCO part numbers and model numbers are shown in the table below:

ProtoNode Model	AERCO P/N	Model Number
RER	64084	FPC-N34-103-126-0645
LER	64085	FPC-N35-103-401-0646

2.3 Configure the DIP Switches

2.3.1 Setting the Node/ID Device Instance (DIP Switch A0 – A7) for BACnet MS/TP, BACnet/IP, and Metasys N2

- The A Bank DIP switches on the ProtoNode RER-R allow users to set the Node-ID/Device Instance on the Field RS-485.
- DIP switches A0 – A7 can also be used to set the MAC Address for BACnet MS/TP and BACnet/IP



Figure 1. A0 – A7 DIP Switches

- Please refer to Appendix B.2 for the full range of addresses to set Nod-ID/Device Instance..

2.3.2 Setting the Serial Baud Rate (DIP Switch B0 – B3) for BACnet MS/TP & Metasys N2

- Setting the serial baud rate to match the baud rate provided by the Building Management System can be done through DIP Switches B0 – B3 for BACnet MS/TP.
- Metasys N2 is always defaulted to 9600 baud and the B bank is disabled.

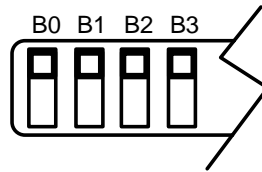


Figure 2. B0 – B3 DIP Switches

2.3.2.1 Baud Rate DIP Switch Selection

Baud	B0	B1	B2	B3
Auto	Off	Off	Off	Off
9600	On	On	On	Off
19200	Off	Off	Off	On
38400	On	On	Off	On
57600	Off	Off	On	On
76800	On	Off	On	On

2.3.3 Using S0 – S3 bank of DIP Switches to select and load Configuration Files

- The S bank of DIP switches, S0 - S3 is used to select and load a configuration file from a group of pretested/preloaded configuration files which are stored in the ProtoNode RER (BACnet MS/TP, BACnet/IP, Modbus TCP and/or Metasys N2) and LER (LonWorks).

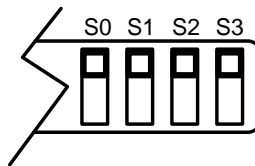


Figure 3. S0 – S3 DIP Switches

2.3.3.1 ProtoNode RER: S0 – S3 (and A1*) DIP Switch Configuration Settings

S0	S1	S2	S3	A1*	Profile
Off	Off	Off	Off	Off	BACnet/IP/BACnet MS/TP, 1 ACS/BMS II/BMS, 4 C-More Controlled Boilers
On	Off	Off	Off	Off	BACnet/IP/BACnet MS/TP, 1 ACS/BMS II/BMS, 8 C-More Controlled Boilers
Off	On	Off	Off	Off	BACnet/IP/BACnet MS/TP, 1 ACS/BMS II/BMS, 12 C-More Controlled Boilers
On	On	Off	Off	Off	BACnet/IP/BACnet MS/TP, 1 ACS/BMS II, 4 Modulex Boilers With BCMs
Off	Off	On	Off	Off	BACnet/IP/BACnet MS/TP, 4 ECS/SP Systems
On	Off	On	Off	Off	BACnet/IP/BACnet MS/TP, 12 C-More, 6 ECS/SP, 4 Modulex and 2 ACS/BMS II
Off	On	On	Off	Off	Metasys N2, 1 ACS/BMS II/BMS, 4 C-More Controlled Boilers
On	On	On	Off	Off	Metasys N2, 1 ACS/BMS II/BMS, 8 C-More Controlled Boilers
Off	Off	Off	On	Off	Metasys N2, 1 ACS/BMS II/BMS CS, 12 C-More Controlled Boilers
On	Off	Off	On	Off	Metasys N2, 1 ACS/BMS II, 4 Modulex Boilers with BCMs
Off	On	Off	On	Off	Metasys N2, 4 ECS/SP Systems
On	On	Off	On	Off	Metasys N2, 12 C-More, 6 ECS/SP, 4 Modulex and 2 ACS/BMS II
Off	Off	On	On	Off	Modbus TCP, 1 ACS/BMS II/BMS, 4 C-More Controlled Boilers
On	Off	On	On	Off	Modbus TCP, 1 ACS/BMS II/BMS, 8 C-More Controlled Boilers
Off	On	On	On	Off	Modbus TCP, 1 ACS/BMS II/BMS, 12 C-More Controlled Boilers
On	On	On	On	Off	Modbus TCP, 1 ACS/BMS II, 4 Modulex Boilers With BCMs
Off	Off	Off	Off	On	Modbus TCP, 4 ECS/SP Systems
On	Off	Off	Off	On	Modbus TCP, 12 C-More, 6 ECS/SP, 4 Modulex and 2 ACS/BMS II

***NOTE:**

The first sixteen profiles in the chart above (Section 2.3.3.1) require that DIP switches A1 through A8 be set to OFF, which is the default setting, so those switches do not need to be accessed for those configurations (and so are not shown in the above chart). However, the last two profiles do require that DIP switch A1 be set to ON, so for those two profiles, DIP Switch A1 needs to be changed to ON (A2 through A8 remain in the OFF position).

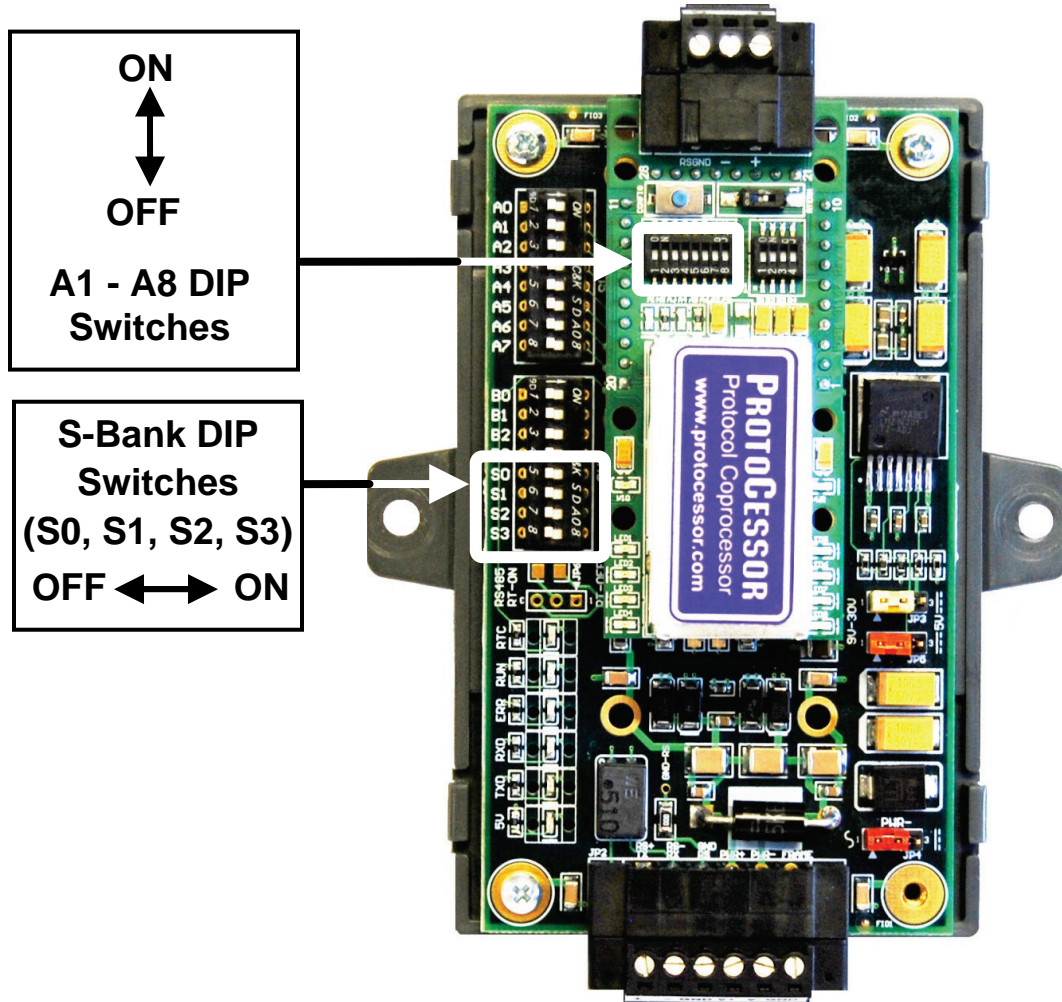
A photograph showing the DIP switch locations inside the unit is on the next page.

2.3.3.2 ProtoNode RER: S0 – S3 and A1-A8 DIP Switch Locations

The S-Bank DIP switches are accessible through the top cover. However, the cover must be removed to access the A1 through A8 switches. To remove the cover, pull it from the unit while holding onto the 6 pin Phoenix connector.

IMPORTANT!

Do not hold the wall mount tabs when removing the cover as these are designed to break off if not required!



Location of DIP Switches S0 – S3 and A1-A8

2.3.3.3 ProtoNode LER: S0 – S3 DIP Switch Configuration Settings

S0	S1	S2	S3	Profile
Off	Off	Off	Off	1 ACS/BMS II/BMS, 4 C-More Controlled Boilers
On	Off	Off	Off	1 ACS/BMS II/BMS, 8 C-More Controlled Boilers
Off	On	Off	Off	1 ACS/BMS II/BMS, 12 C-More Controlled Boilers
On	On	Off	Off	1 ACS/BMS II, 4 Modulex Boilers With BCMS
Off	Off	On	Off	4 ECS/SP Systems
On	Off	On	Off	12 C-More, 6 ECS/SP, 4 Modulex and 2 ACS/BMS II

3. INTERFACING THE PROTONODE TO THE AERCO CONTROL SYSTEM (ACS, BMS II, OR BMS)

3.1 ProtoNode RER and LER showing connection ports

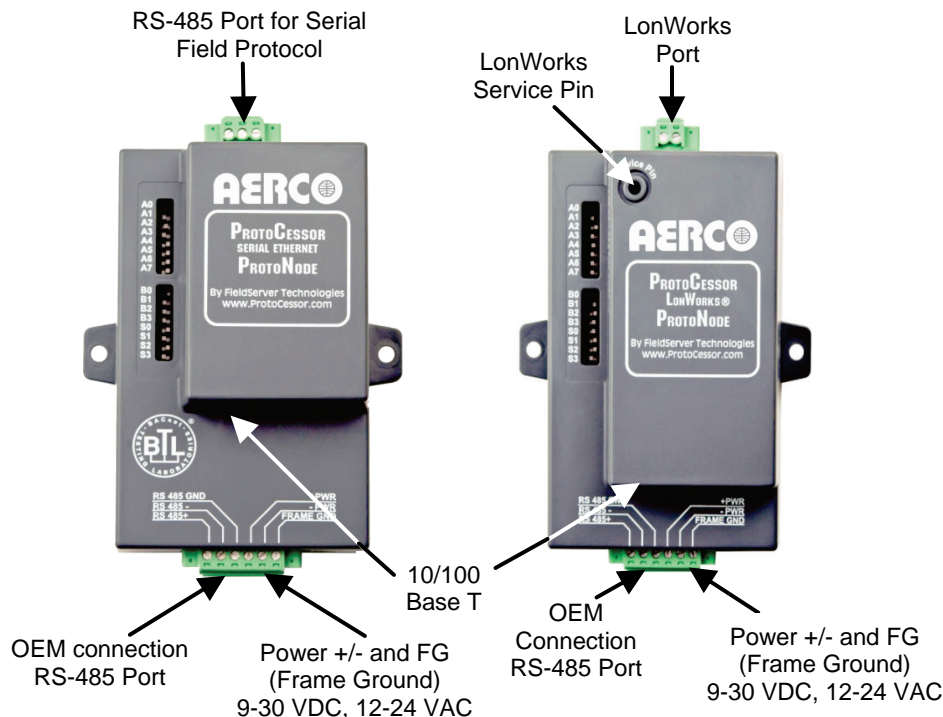


Figure 4. ProtoNode BACnet RER (left) and LonWorks LER (right)

3.2 ACS/BMS II/BMS Wiring Connections to ProtoNode RER and LER

- When an ACS, BMS II, or BMS is being used, an RS-485-to-RS-232 converter will be required to connect it to the ProtoNode's RS485 port (green 6-pin Phoenix connector).
- Refer to Figures 5 and 6 to locate the internal RS-232 connector JP12 (BMS) or JP5 (BMS II/ACS) inside the wiring area of the ACS/BMS II/BMS.
- If the AERCO RS232-to-RS485 Converter (part no. 124943) is used, the RS-232 side of the converter contains a connector that plugs directly into header connector JP12 (BMS) or JP5 (BMS II/ACS).
- If a third party converter is used, connect the RS-232 Receive (RxD) and Transmit (TxD) wire leads to the internal RS-232 connector (JP12 or JP5) as shown in Figures 5 and 6. DO NOT connect the wire shield on this side of the converter.

NOTE

If a third-party RS232-to-RS485 Converter is used, consult the manufacturer's instruction manual for signal polarity.

- On the RS-485 side of the converter (Figure 5 to Figure 7), connect the wire leads as follows:
 - Connect the TD B (+) terminal to the ProtoNode's RS485+ Port.
 - Connect the TD A (-) terminal to the ProtoNode's RS485- Port.
 - Connect the GND terminal to the ProtoNode's RS485 Frame GND Port.

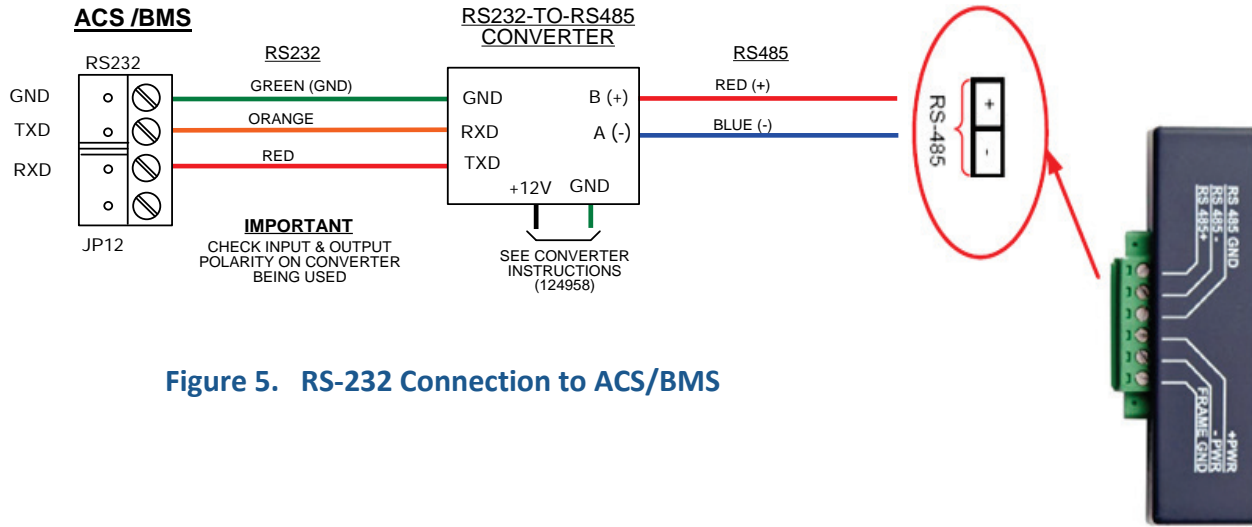


Figure 5. RS-232 Connection to ACS/BMS

Pinouts

ProtoNode Pin #	Pin assignment
Pin 1	RS-485 +
Pin 2	RS-485 -
Pin 3	RS-485 GND
Pin 4	V +
Pin 5	V -
Pin 6	FRAME GND

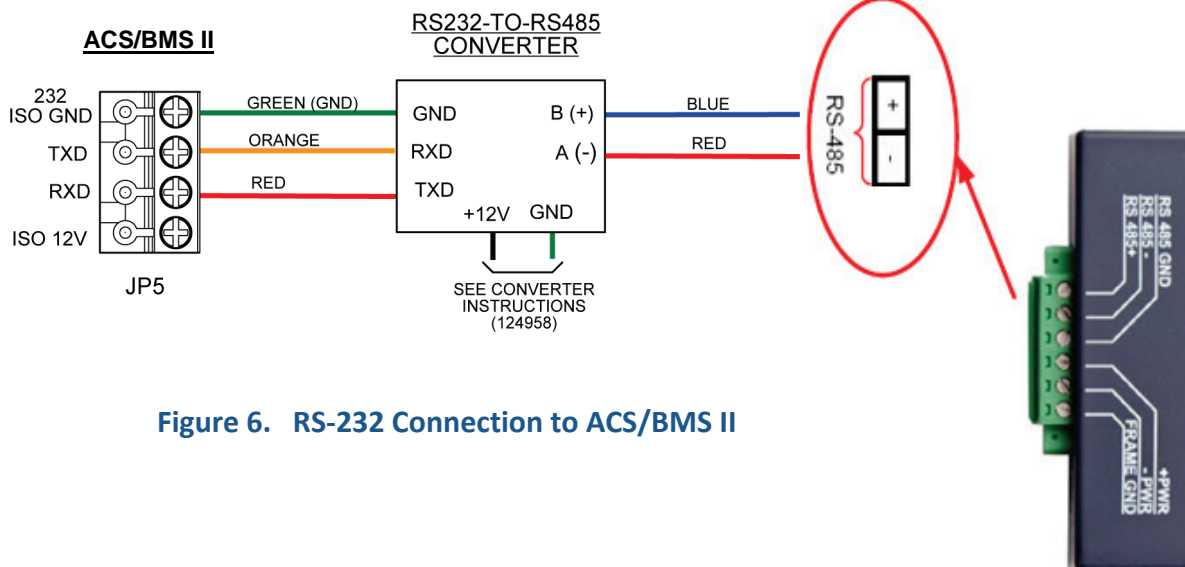


Figure 6. RS-232 Connection to ACS/BMS II

3.3 Modlex BCM

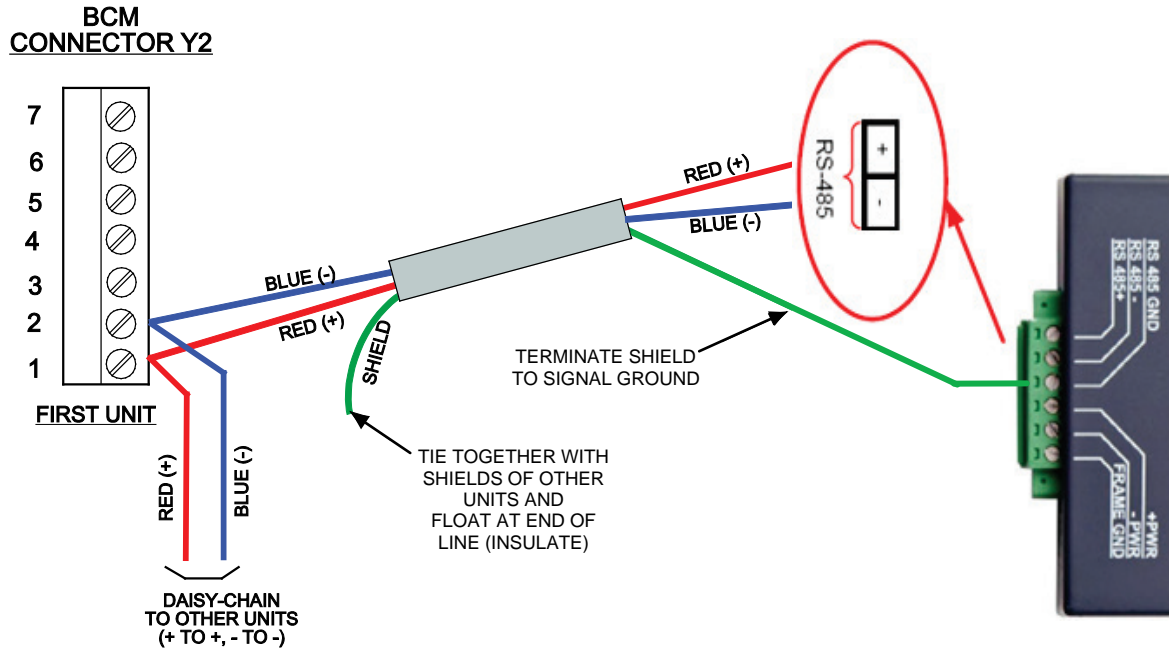


Figure 7. RS-485 Connection to BCM

3.4 ECS

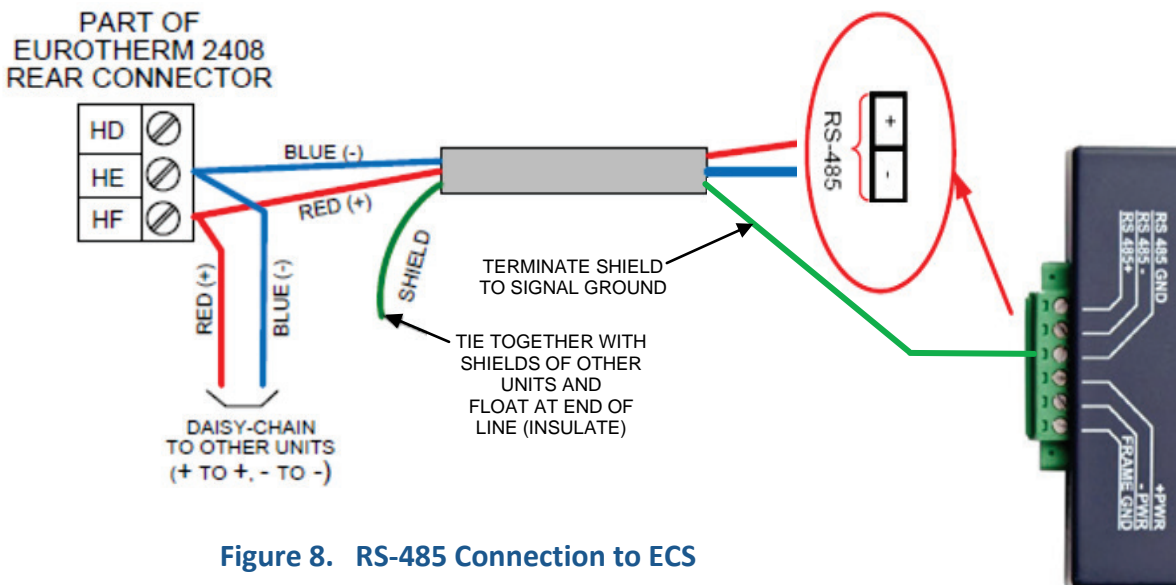


Figure 8. RS-485 Connection to ECS

Connect ECS terminals HE and HF to XPC Port 1a (Figures 5-7) as follows:

- Connect the "HF" terminal to the ProtoNode's "RS485 +" port
- Connect the "HE" terminal to the ProtoNode's "RS485 -" port

.5 C-MORE

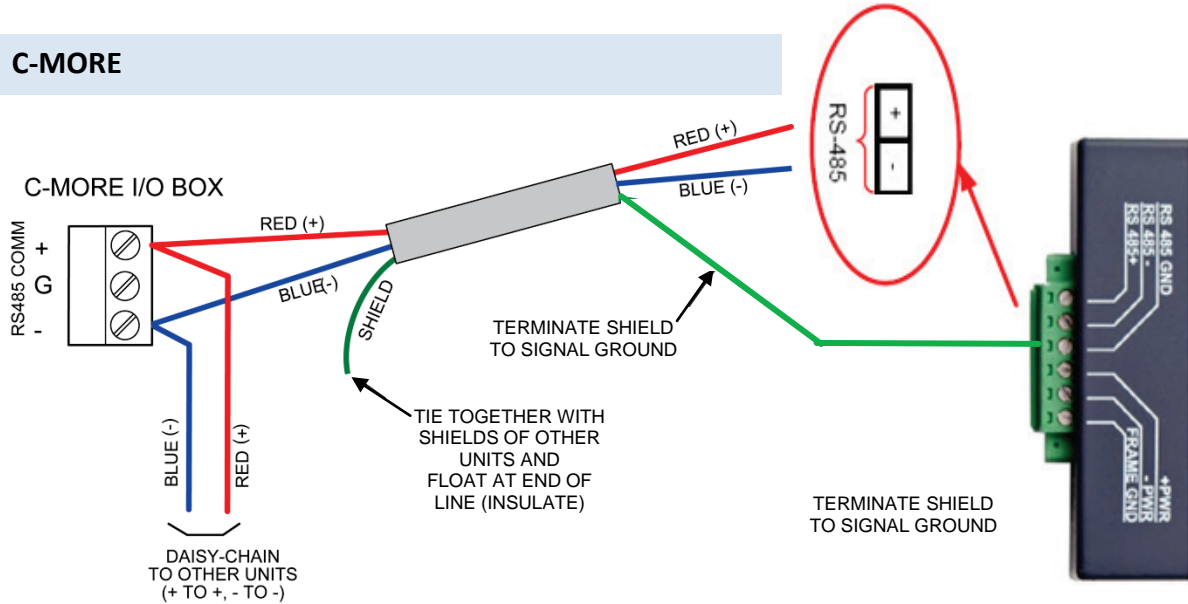


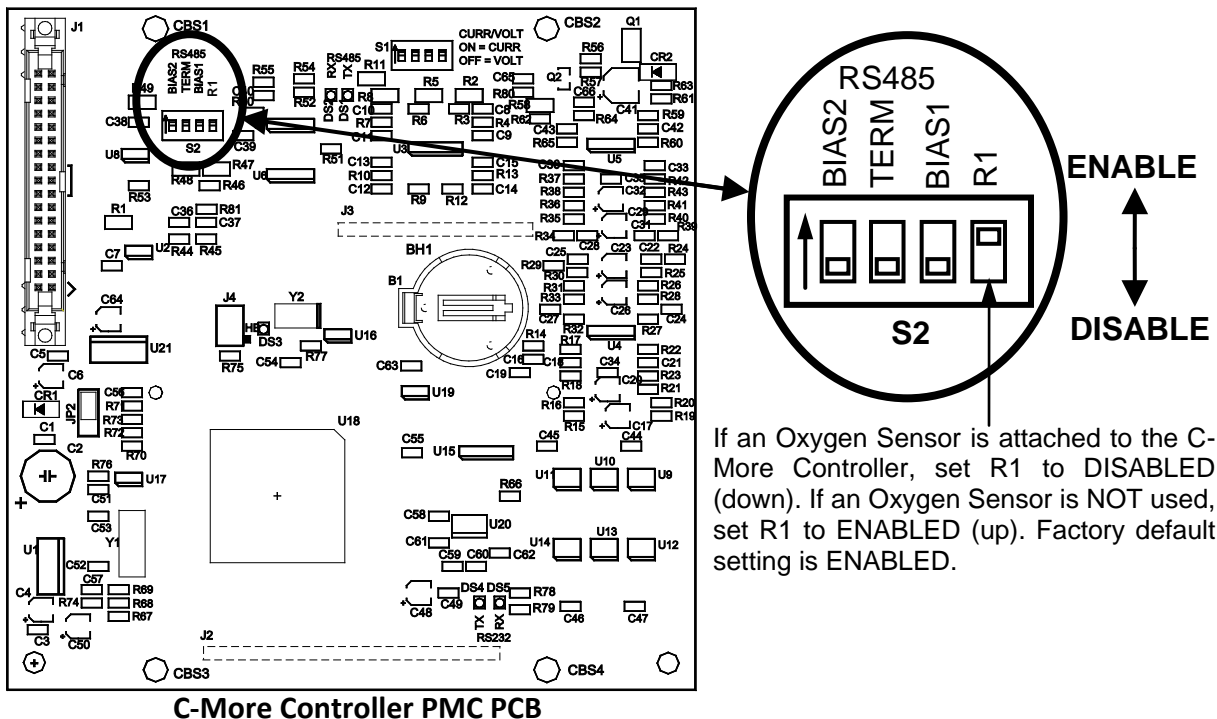
Figure 8a. RS-485 Connection to C-MORE (RS-485)

IMPORTANT NOTE

The 4-position RS485 DIP Switch (S2) on the PMC PCB of the C-More Controller must be set as follows:

- 1) The termination (TERM) and bias (BIAS1 & BIAS2) DIP Switches of S2 must be set to DISABLE.
- 2) If an Oxygen Sensor is connected to the C-More Controller, switch R1 (see below) should be set to DISABLED (down). If an Oxygen Sensor is NOT connected to the C-More Controller, it should be set to ENABLED (up). Improper setting of R1 may result in error messages.

Instructions for accessing the PMC PCB and this DIP Switch can be found in Section 4.3 of ModBus manual GF-114.



If an Oxygen Sensor is attached to the C-More Controller, set R1 to DISABLED (down). If an Oxygen Sensor is NOT used, set R1 to ENABLED (up). Factory default setting is ENABLED.

4. CONNECTION FROM PROTONODE RER TO BACNET MS/TP AND METASYS N2 NETWORKS

4.1 Wiring the ProtoNode RER to RS-485 Field Protocol

The Field Protocol can be connected to the 3-pin connector on the ProtoNode RER as shown:

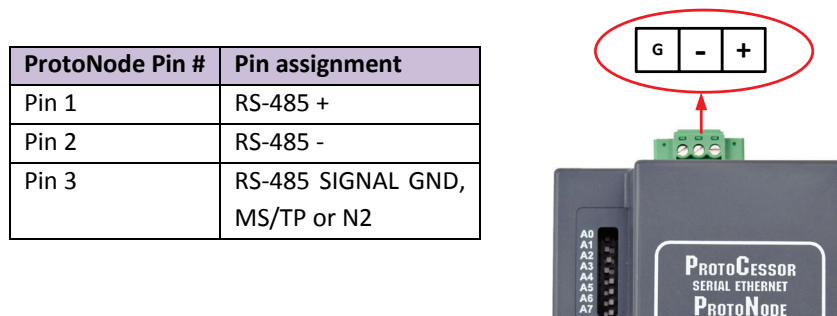


Figure 9. Connection from ProtoNode to RS-485 Field Protocol –BACnet MS/TP or Metasys N2

NOTE: For information on connecting the ProtoNode RER to a BACnet/IP network, see Section 5.

4.2 Wiring the ProtoNode LER Field Port to a LonWorks network

- Connect the ProtoNode to the field network with the LonWorks terminal using a twisted pair non-shielded cable. LonWorks has no polarity



4.3 Power-Up the ProtoNode RER or LER

Apply power to the device. Ensure that the power supply used complies with the specifications provided in Appendix B. Ensure that the cable is grounded using the “Frame-GND” terminal.

The ProtoNode features a multi-mode power input and accepts either 9-30 VDC or 12-24 VAC.

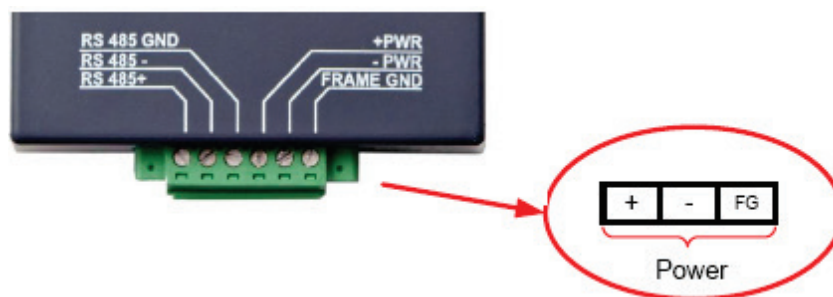


Figure 10. Supply Voltage to ProtoNode

Pinouts

ProtoNode Pin #	Pin assignment
Pin 1	RS-485 +
Pin 2	RS-485 -
Pin 3	RS-485 GND
Pin 4	V +
Pin 5	V -
Pin 6	FRAME GND

4.4 Commissioning the ProtoNode LER on a Lonworks network

Commissioning may only be performed by the LonWorks administrator.

To commission the ProtoNode LER LonWorks port, insert a small screwdriver in the commissioning hole on the face of the LER's enclosure to access the Service Pin. See the illustration on the ProtoNode LER as to which way to toggle the screw driver during commissioning.



4.5 Sending Write Values

The administrator must setup their host management system to write through the gateway to the C-More, ACS or BMS II three or four times within the timeout value.

AERCO Device	Parameter	Default Value	Range	Menu
BMS II	Network Timeout	30 s	5 to 240 s	RS-232
C-More	Network Timeout	30 s	5 to 999 s	Configuration
ACS	Network Timeout	30 s	5 to 240 s	RS-232

Refer to GF-112, GF-124, and GF-131 for more information.

5. INSTALL AND RUN THE UTILITY SOFTWARE TO SETUP IP ADDRESS FOR BACNET/IP

- Download the RUINET Utilities from the ProtoCessor web site (under Tech Support – Utilities – Utilities Software – Install.zip) or access the page at:
http://www.protoconnector.com/tech_support/Design_Documents.html#US
- Run Install.zip and follow the installation instructions
- Once installed, the FieldServer Utilities can be located in the Windows Start menu as a desktop icon

5.1 Connect the PC to the ProtoNode via the Ethernet port

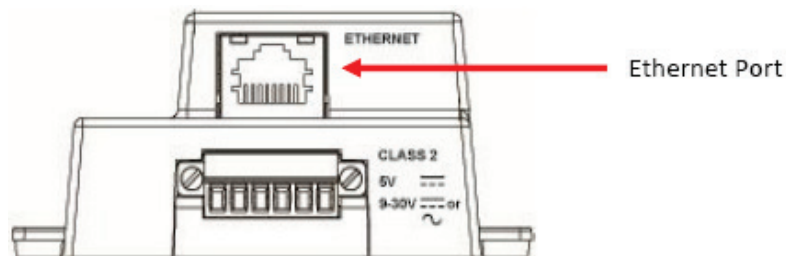


Figure 11. Ethernet port location of ProtoNode

- Disable any wireless Ethernet adapters on the PC/Laptop
- Disable firewall and virus protection software
- Connect a standard cat5 Ethernet cable between the PC and ProtoNode.
- The Default IP Address of the ProtoNode is **192.168.1.24**, Subnet Mask is **255.255.255.0**. If the PC and the ProtoNode are on different IP Networks, assign a static IP Address to the PC on the 192.168.1.xxx network.

- Go to  >  >  Network Connections


- Right-click on Local Area Connection > Properties

- Highlight  Internet Protocol (TCP/IP) > 

- Select: Use the following IP address

Use the following IP address:

IP address:	192 . 168 . 1 . 11
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	. . .

- Click  twice
- Go to Start > Programs > Field Server Utilities > Ruiping Utility

- If the IP Address of the ProtoNode module appears on the screen, the ProtoNode is running.

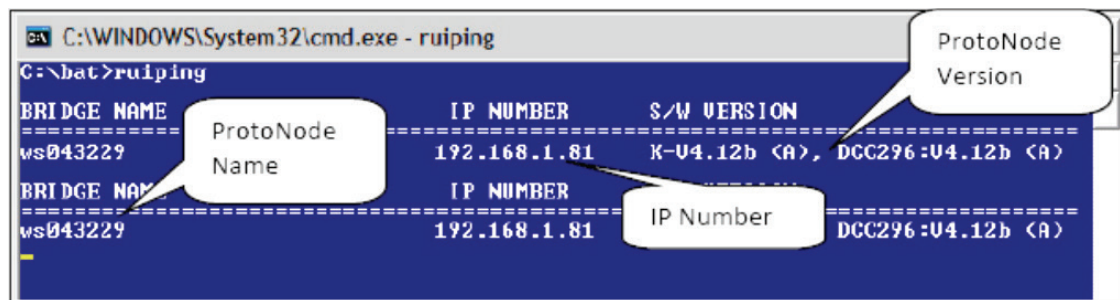


Figure 12. RUIPING screen

5.2 Connect to the ProtoNode using RUI (Ruinert)

- Double click on the debugging utility, “RUINET” (Remote User Interface). The following screen will appear: (if Ruinet does not automatically display the main menu, select the ProtoNode by typing the 2-digit number to the left of the title name).

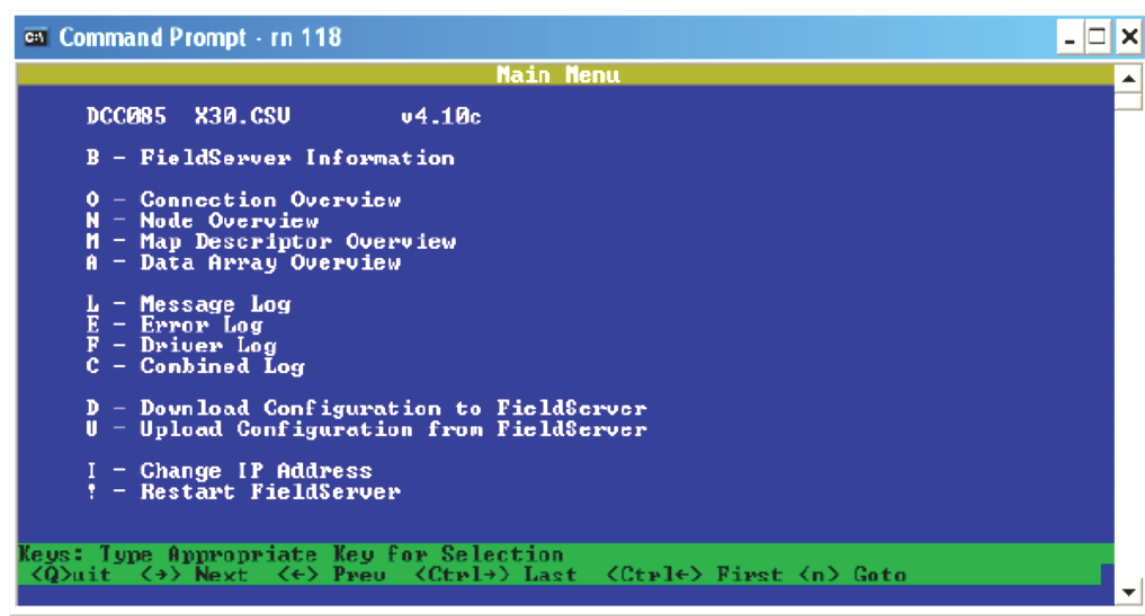


Figure 13. RUI NET screen

5.3 Set IP Address for BACnet/IP

- From the main menu, press “I” to enter the Edit IP Address Settings menu
- Press “1” to modify the IP address of the Ethernet adapter
- Type in a new IP address in the format 192.168.2.X and press <Enter>
- If necessary, press “2” to and change the netmask
- Type in a new Subnet Mask and press <Enter>

- If necessary, press “**3**” to and change the IP Gateway
- Type in a new IP Gateway and press <Enter>
- Note: If the ProtoNode is connected to a router, the IP Gateway of the ProtoNode should be set to the IP address of the router that it is connected to
- **Unplug Ethernet cable from PC and do not connect to network hub or router.**

Appendix A. TROUBLESHOOTING TIPS

A.1 - LED Diagnostics for Modbus RTU Communications Between the Protonode and AERCO's Boiler Controllers

The AERCO/ProtoNode Gateway units feature status LEDs that indicate a number of possible activities. The following shows how to open the unit and interpret the activity of the indication LEDs.

The lid on top of the AERCO/ProtoNode Gateway must be removed in order to see the LED's. Pull on the lid while holding onto the 6 pin Phoenix connector.

IMPORTANT!

Do not hold the wall mount tabs when removing the cover as these are designed to break off if not required!

LED locations and function descriptions for LER and RER versions are shown in the following two subsections.

A.1.1 - ProtoNode LER - LED Locations and Functions

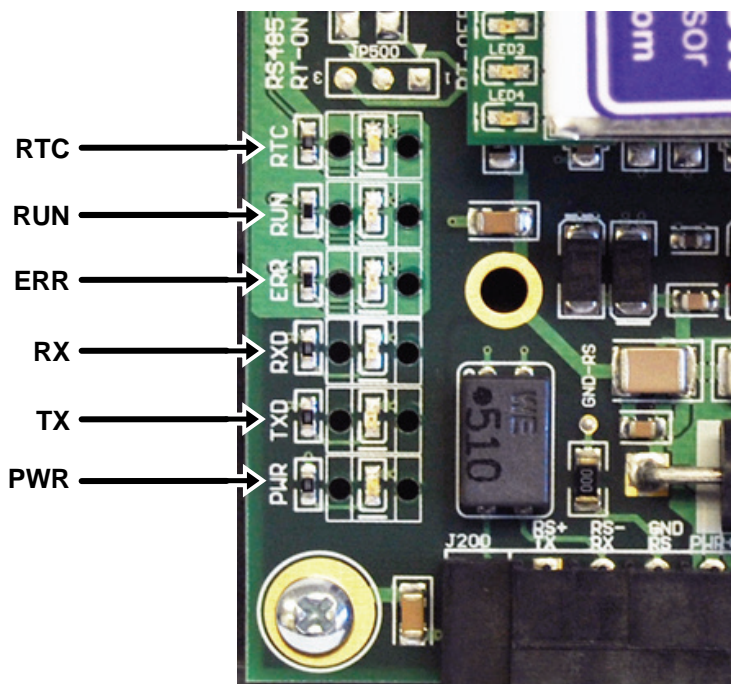


Figure 14. AERCO/ProtoNode Gateway LER Main Board Indication LED Locations

LED	DESCRIPTION
RUN	The RUN LED will start flashing 20 seconds after power up, indicating normal operation.
ERR	The SYS ERR LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. A steady red light will indicate there is a system error on the ProtoNode LER. If this occurs, immediately report the related "system error" shown in the error screen of the RUI interface to AERCO International for evaluation.
RX	The RX LED will flash when a message is received on the socket port.
TX	The TX LED will flash when a message is sent on the socket port.
PWR	This is the power light and should show steady green at all times when the ProtoNode LER is powered.
RTC	Unused

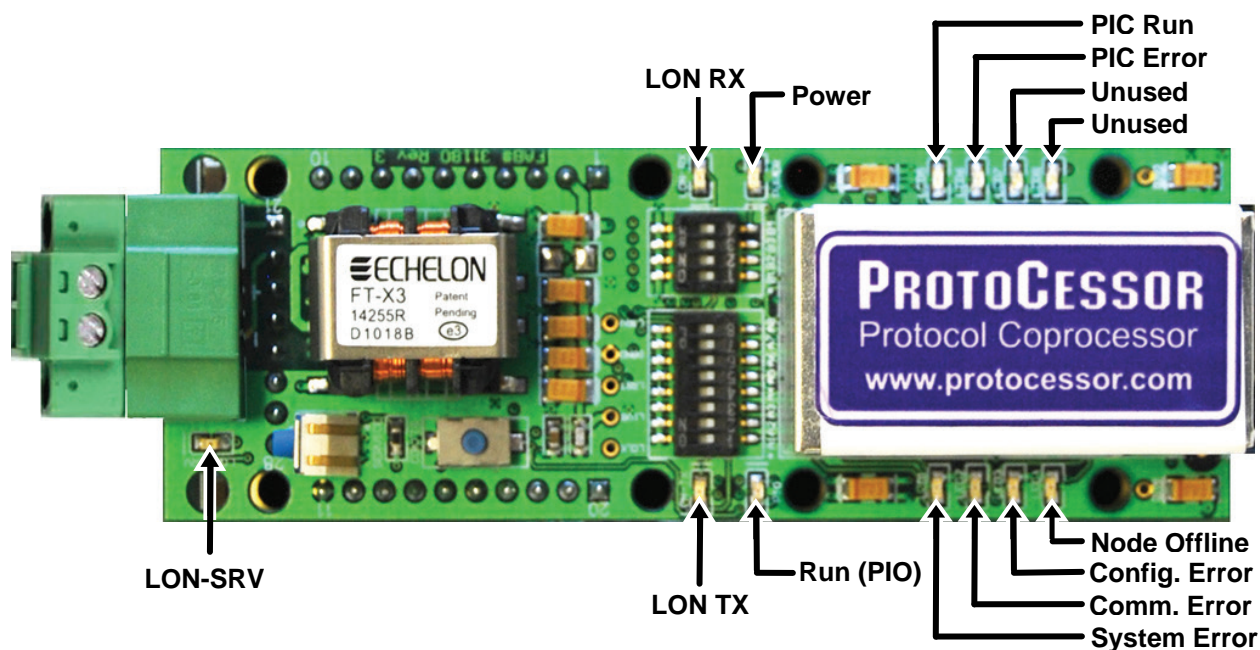


Figure 15. AERCO/ProtoNode Gateway LER ProtoCessor Board Indication LED Locations

LED	DESCRIPTION
Power	This is the power light and should show steady green at all times when the ProtoNode LER is powered.
System Error	The SYS ERR LED will flash once on power up and flash once 15 seconds after power up. A steady red light will indicate there is a system error on the ProtoNode LER. If this occurs, immediately report the related "system error" shown in the error screen of the RUI interface to AERCO International for evaluation.
Comm. Error	The COMM ERR LED will flash once on power up and flash once 15 seconds after power up. A steady red light will indicate a communication error has occurred. To establish the cause of the error, go to the error screen of the RUI interface.
Config. Error	The Config ERR LED will flash once on power up and flash once 15 seconds after power up. A steady amber light will indicate a configuration error exists in the active configuration. See the Error Screen in the Remote User Interface for a description of the configuration error.
Node Offline	The Node Offline LED will flash once on power up and flash once 15 seconds after power up. If the Node Offline LED stays on solid, a Node Offline condition has occurred.
RUN (PIO)	The RUN LED will start flashing 20 seconds after power indicating normal operation. The ProtoNode LER will be able to access RUINET once this LED starts flashing.
PIC Run	The PIC RUN LED will flash indicating normal operation.
PIC Error	The PIC ERR LED will go on solid indicating there is a PIC error.
LON-TX	On normal operation of ProtoNode LER, the TX LED will flash when a message is sent on the Lon port of the ProtoNode.
LON-RX	On normal operation of ProtoNode LER, the RX LED will flash when a message is received on the Lon port of the ProtoNode.
LON-SRV	The LON-SRV LED will flash if the ProtoNode is configured for implicit addressing and not commissioned. LED will be off if the ProtoNode is configured for implicit addressing and commissioned or if it is configured for explicit addressing.

A.1.2 - ProtoNode RER - LED Locations and Functions

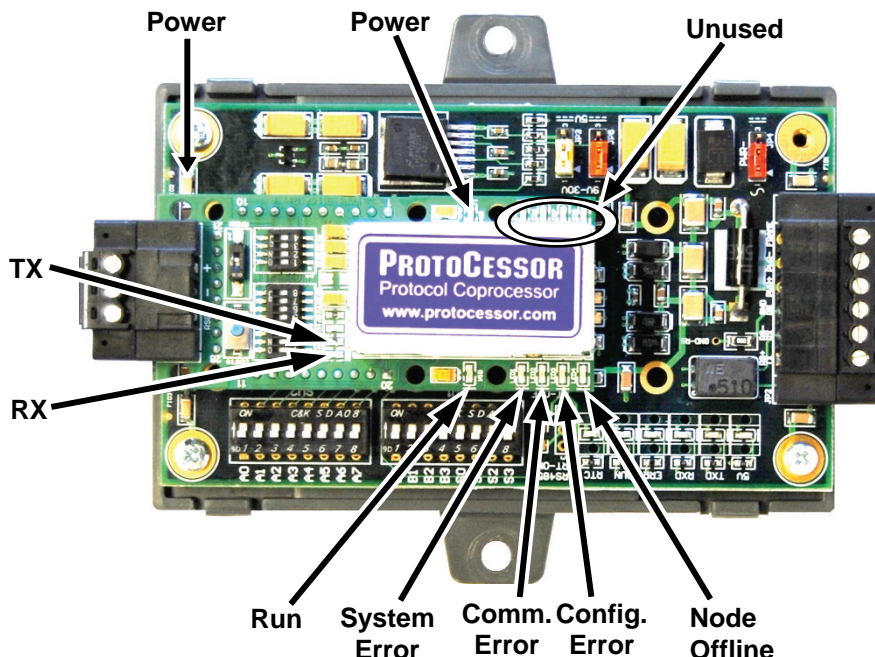


Figure 16. AERCO/ProtoNode Gateway RER Indication LED Locations

LED	DESCRIPTION
PWR	This is the power light and should show steady green at all times when the ProtoNode RER is powered.
System Error	The SYS ERR LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. A steady red light will indicate there is a system error on the ProtoCessor. If this occurs, immediately report the related “system error” shown in the error screen of the RUI interface to AERCO International for evaluation.
Comm. Error	COMM ERR LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. A steady red light will indicate the communications problem if there is a configured node connected to the ProtoCessor that is offline. To establish the cause of the error, go to the error screen of the RUI interface.
Config. Error	Config ERR LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. A steady amber light will indicate a configuration error exists in the active configuration. See the Error Screen in the Remote User Interface for a description of the configuration error.
Node Offline	Node Offline LED will go on solid 15 seconds after power up. It will turn off after 5 seconds. If the Node Offline LED stays on solid, a node offline condition has occurred.
Unused	15 seconds after powering up the 4 unused LEDs will turn on solid for 5 seconds, then turn off.
RX	On normal operation of FPC-FD2, the RX LED will flash when a message is received on the field port of the ProtoCessor.
TX	On normal operation of FPC-FD2, the TX LED will flash when a message is sent on the field port of the ProtoCessor
Run	RUN LED will flash 20 seconds after power up, signifying normal operation. The ProtoNode RER will be able to access RUINET once this LED starts flashing. During the first 20 seconds, the LED should be off

Appendix A.2 - Troubleshooting Procedures for Connection Problems

- Confirm that the network cabling is correct
- Confirm that the computer network card is operational and correctly configured
- Confirm that there is an Ethernet adapter installed in the PC's Device Manager List, and that it is configured to run the TCP/IP protocol.
- Check that the IP netmask of the PC matches the ProtoNode. The Default IP Address of the ProtoNode is 192.168.1.24, Subnet Mask is 255.255.255.0
 - Go to **Start > Run**
 - Type in "ipconfig"
 - The account settings should be displayed
 - Ensure that the IP address is 192.168.1.xxx and the netmask 255.255.255.0
- Ensure that the PC and ProtoNode are on the same IP Network, or assign a Static IP Address to the PC on the 192.168.1.0 network using the Remote User Interface Utility.
- If Using Windows XP, ensure that the firewall is disabled
- Ensure that all other Ethernet cards active on the PC, especially wireless adapters are disabled
- Refer to the Field Server Troubleshooting Guide which can be found at www/protoessor.com/downloads/ under documentation
- Confirm that the network cabling is correct
- If write values are lost from time to time, check that the timeout values for the ACS, BMS II, C-More and the host system are compatible. Refer to Section 4.5 in this manual for more information.

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Appendix B. REFERENCE

B.1 Specifications



	ProtoNode RER	ProtoNode LER
Electrical Connections	One 6-pin Phoenix connector, one RS-485 +/- ground port, power +/- frame ground port One 3-pin RS-485 Phoenix connector, one RS-485 +/- ground port One Ethernet-10/100 Ethernet port	One 6-pin Phoenix connector, one RS-485 +/- ground port, power +/- frame ground port One Ethernet 10/100 BaseT port One FTT-10 LonWorks port
Approvals:	CE (EN55022;EN55024; EN60950), UL916, FCC Class A Part 15, DNP3 Conformance Tested, OPC Self-tested for Compliance, RoHS Compliant, CSA 205 Approved BTL Marked	LonMark Certified
Power Requirements	Multi-mode power adapter: 9-30 VDC, 12-24 VAC	
Physical Dimensions	11.5 cm L x 8.3 cm W x 4.1 cm H (4.5 x 3.2 x 1.6 in.)	
Weight:	0.2 kg (0.4 lbs)	
Operating Temperature:	-40°C to 75°C (-40°F to 167°F)	
Surge Suppression	EN61000-4-2 ESD EN61000-4-3 EMC EN61000-4-4 EFT	
Humidity:	5 - 90% RH (non-condensing)	
(Specifications subject to change without notice)		

B.1.1 Compliance with UL Regulations

For UL compliance, the following instructions must be met when operating the ProtoNode.

The units shall be powered by listed LPS or Class 2 power supply suited to the expected operating temperature range.

The interconnecting power connector and power cable shall:

- Comply with local electrical code.
- Be suited to the expected operating temperature range.
- Meet the current and voltage rating for the ProtoNode/Net

Furthermore, the interconnecting power cable shall:

- not exceed 3.05m (118.3”) in length.

- Be constructed of materials rated VW-1 or FT-1 or better.
- If the unit is to be installed in an operating environment with a temperature above 65 °C, it should be installed in a Restricted Access Area requiring a key or a special tool to gain access
- This device must not be connected to a LAN segment with outdoor wiring.

B.2 Address DIP Switch Settings

Address	A0	A1	A2	A3	A4	A5	A6	A7
0	Off	Off	Off	Off	Off	Off	Off	Off
1	On	Off	Off	Off	Off	Off	Off	Off
2	Off	On	Off	Off	Off	Off	Off	Off
3	On	On	Off	Off	Off	Off	Off	Off
4	Off	Off	On	Off	Off	Off	Off	Off
5	On	Off	On	Off	Off	Off	Off	Off
6	Off	On	On	Off	Off	Off	Off	Off
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33	On	Off	Off	Off	Off	On	Off	Off
34	Off	On	Off	Off	Off	On	Off	Off
35	On	On	Off	Off	Off	On	Off	Off
36	Off	Off	On	Off	Off	On	Off	Off

Address		A0	A1	A2	A3	A4	A5	A6	A7
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40		Off	Off	Off	On	Off	On	Off	Off
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79		On	On	On	On	Off	Off	On	Off
80		Off	Off	Off	Off	On	Off	On	Off
81		On	Off	Off	Off	On	Off	On	Off

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GF-129
OMM-0080_OD

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Address		A0	A1	A2	A3	A4	A5	A6	A7
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254		Off	On	On	On	On	On	On	On
255		On	On	On	On	On	On	On	On



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Appendix C. CONFIGURATION INFORMATION

C.1 Default Modbus RTU COM Settings for AERCO Controllers

Serial Port Setting	ACS, BMS II, BMS	ECS/SP	BCM (Modulex)	C-More
Baud Rate	≤19200	≤38.4	9600	9600
Data Bits	8	8	8	8
Stop Bits	1	1	1	1
Parity	None	None	None	None

Configuration	Controllers	Modbus Default Address
12 C-More Controllers & 1 ACS/BMS II/BMS	C-more 1	1
	C-more 2	2
	C-more 3	3
	C-more 4	4
	C-more 5	5
	C-more 6	6
	C-more 7	7
	C-more 8	8
	C-more 9	9
	C-more 10	10
	C-more 11	11
	C-more 12	12
		ACS /BMS II/BMS
4 Modulex Controllers & 1 ACS/BMS II	Modulex 1	1
	Modulex 2	2
	Modulex 3	3
	Modulex 4	4
		ACS /BMS II/BMS
4 ECS/SP	ECS 1	29
	ECS 2	30
	ECS 3	31
	ECS 4	32

For Profiles defined in Section C.2.6, the ECS/SP Modbus default point addresses are defined below.

Configuration	Controllers	Modbus Default Address
6 ECS/SP	ECS 1	17
	ECS 2	18
	ECS 3	19
	ECS 4	20
	ECS 5	21
	ECS 6	22

C.2 BACnet/IP, BACnet MS/TP, Metasys N2, and LonWorks Points List

C.2.1 - Four C-Mores and One ACS/BMS II/BMS

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Addr.
Blr Addr 1										
	01-Fire Rate Out	boilerstate_1	✓	AV:26	data float	1	nvoBlrState1	inc count (9)	Output (non-polled)	30009/1
	02-Active Setpoint	effectsetpt_1	✓	AV:27	data float	2	nvoEffSetpt1	inc count (9)	Output (non-polled)	30017/1
	03-Net Remote Setpt	setpt_1		AV:24	data float	3	nviSetpt1	inc count (9)	Input (non-polling)	40001/1
	05-Fire Rate In	boilerload_1	✓	AV:28	data float	5	nvoBlrLoad1	inc count (9)	Output (non-polled)	30018/1
	06-Outlet Temp	localsuptemp_1	✓	AV:29	data float	6	nvoLocSupTmp1	inc count (9)	Output (non-polled)	30003/1
	07-Display Code	dispcode_1	✓	AV:22	data float	7	nvoDispCode1	inc count (9)	Output (non-polled)	30001/1
	08-Unit Status	unitstat_1	✓	AV:23	data float	8	nvoUnitStat1	inc count (9)	Output (non-polled)	30002/1
	09-Run Cycles	runcycles_1	✓	AV:42	data float	9	nvoRunCycles1	51	Output (non-polled)	30012-30013/1
	10-Run Hours	runhours_1	✓	AV:43	data float	10	nvoRunHours1	51	Output (non-polled)	30014-30015/1
Blr Addr 2										
	01-Fire Rate Out	boilerstate_2	✓	AV:30	data float	11	nvoBlrState2	inc count (9)	Output (non-polled)	30009/2
	02-Active Setpoint	effectsetpt_2	✓	AV:46	data float	12	nvoEffSetpt2	inc count (9)	Output (non-polled)	30017/2
	03-Net Remote Setpt	setpt_2		AV:47	data float	13	nviSetpt2	inc count (9)	Input (non-polling)	40001/2
	05-Fire Rate In	boilerload_2	✓	AV:50	data float	15	nvoBlrLoad2	inc count (9)	Output (non-polled)	30018/2
	06-Outlet Temp	localsuptemp_2	✓	AV:51	data float	16	nvoLocSupTmp2	inc count (9)	Output (non-polled)	30003/2
	07-Display Code	dispcode_2	✓	AV:52	data float	17	nvoDispCode2	inc count (9)	Output (non-polled)	30001/2
	08-Unit Status	unitstat_2	✓	AV:53	data float	18	nvoUnitStat2	inc count (9)	Output (non-polled)	30002/2
	09-Run Cycles	runcycles_2	✓	AV:44	data float	19	nvoRunCycles2	51	Output (non-polled)	30012-30013/2
	10-Run Hours	runhours_2	✓	AV:45	data float	20	nvoRunHours2	51	Output (non-polled)	30014-30015/2
Blr Addr 3										
	01-Fire Rate Out	boilerstate_3	✓	AV:54	data float	21	nvoBlrState3	inc count (9)	Output (non-polled)	30009/3
	02-Active Setpoint	effectsetpt_3	✓	AV:55	data float	22	nvoEffSetpt3	inc count (9)	Output (non-polled)	30017/3
	03-Net Remote Setpt	setpt_3		AV:56	data float	23	nviSetpt3	inc count (9)	Input (non-polling)	40001/3
	05-Fire Rate In	boilerload_3	✓	AV:60	data float	25	nvoBlrLoad3	inc count (9)	Output (non-polled)	30018/3

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C.2.1 - Four C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Addr.
	06-Outlet Temp	localsuptemp_3	✓	AV:61	data float	26	nvoLocSupTmp3	inc count (9)	Output (non-polled)	30003/3
	07-Display Code	dispcode_3	✓	AV:62	data float	27	nvoDispCode3	inc count (9)	Output (non-polled)	30001/3
	08-Unit Status	unitstat_3	✓	AV:63	data float	28	nvoUnitStat3	inc count (9)	Output (non-polled)	30002/3
	09-Run Cycles	runcycles_3	✓	AV:58	data float	29	nvoRunCycles3	51	Output (non-polled)	30012-30013/3
	10-Run Hours	runhours_3	✓	AV:59	data float	30	nvoRunHours3	51	Output (non-polled)	30014-30015/3
Blr Addr 4										
	01-Fire Rate Out	boilerstate_4	✓	AV:70	data float	31	nvoBlrState4	inc count (9)	Output (non-polled)	30009/4
	02-Active Setpoint	effectsetpt_4	✓	AV:71	data float	32	nvoEffSetpt4	inc count (9)	Output (non-polled)	30017/4
	03-Net Remote Setpt	setpt_4		AV:72	data float	33	nviSetpt4	inc count (9)	Input (non-polling)	40001/4
	05-Fire Rate In	boilerload_4	✓	AV:73	data float	35	nvoBlrLoad4	inc count (9)	Output (non-polled)	30018/4
	06-Outlet Temp	localsuptemp_4	✓	AV:65	data float	36	nvoLocSupTmp4	inc count (9)	Output (non-polled)	30003/4
	07-Display Code	dispcode_4	✓	AV:66	data float	37	nvoDispCode4	inc count (9)	Output (non-polled)	30001/4
	08-Unit Status	unitstat_4	✓	AV:67	data float	38	nvoUnitStat4	inc count (9)	Output (non-polled)	30002/4
	09-Run Cycles	runcycles_4	✓	AV:68	data float	39	nvoRunCycles4	51	Output (non-polled)	30012-30013/4
	10-Run Hours	runhours_4	✓	AV:69	data float	40	nvoRunHours4	51	Output (non-polled)	30014-30015/4
BMS Addr 128										
	01-Fire Rate Out	boilerstate_5	✓	AV:31	data float	41	nvoBlrState	inc count (9)	Output (non-polled)	30005/128
	02-Header Set Temp	effectsetpt_5	✓	AV:32	data float	42	nvoEffSetpt	inc count (9)	Output (non-polled)	30006/128
	03-Net Header Set Temp	setpt_5		AV:33	data float	43	nviSetpt	inc count (9)	Input (non-polling)	40005/128
	04-Header Temp	localsuptemp_5	✓	AV:34	data float	44	nvoLocSupTmp	inc count (9)	Output (non-polled)	30002/128
	05-Outside Air Temp	localoatemp_5	✓	AV:35	data float	45	nvoLocOATmp	inc count (9)	Output (non-polled)	30003/128
	06-Display Code	dispcode_5	✓	AV:36	data float	46	nvoDispCode	inc count (9)	Output (non-polled)	30011/128
	07-Num Boilers Fired	blrfired_5	✓	AV:37	data float	47	nvoBlrsFired	inc count (9)	Output (non-polled)	30008/128
	08-Num Boilers Online	blronline_5	✓	AV:38	data float	48	nvoBlrsOnline	inc count (9)	Output (non-polled)	30009/128
	09-Last Blr Fired	blrlast_5	✓	AV:39	data float	49	nvoLastBlrFired	inc count (9)	Output (non-polled)	30017/128
	10-Boiler 1 Status	blr1stat_5	✓	AV:40	data float	50	nvoBlr1Stat	inc count (9)	Output (non-polled)	30018/128
	11-Boiler 2 Status	blr2stat_5	✓	AV:41	data float	51	nvoBlr2Stat	inc count (9)	Output (non-polled)	30019/128
	12-Boiler 3 Status	blr3stat_5	✓	AV:48	data float	52	nvoBlr3Stat	inc count (9)	Output (non-polled)	30020/128
	13-Boiler 4 Status	blr4stat_5	✓	AV:1	data float	53	nvoBlr4Stat	inc count (9)	Output (non-polled)	30021/128

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C.2.1 - Four C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Addr.
	14-Boiler 5 Status	blr5stat_5	✓	AV:2	data float	54	nvoBlr5Stat	inc count (9)	Output (non-pollled)	30022/128
	15-Boiler 6 Status	blr6stat_5	✓	AV:3	data float	55	nvoBlr6Stat	inc count (9)	Output (non-pollled)	30023/128
	16-Boiler 7 Status	blr7stat_5	✓	AV:4	data float	56	nvoBlr7Stat	inc count (9)	Output (non-pollled)	30024/128
	17-Boiler 8 Status	blr8stat_5	✓	AV:5	data float	57	nvoBlr8Stat	inc count (9)	Output (non-pollled)	30025/128
	18-Net Blr 1 Status	blr9stat_5	✓	AV:6	data float	58	nvoNetBlr1Stat	inc count (9)	Output (non-pollled)	30026/128
	19-Net Blr 2 Status	blr10stat_5	✓	AV:7	data float	59	nvoNetBlr2Stat	inc count (9)	Output (non-pollled)	30027/128
	20-Net Blr 3 Status	blr11stat_5	✓	AV:8	data float	60	nvoNetBlr3Stat	inc count (9)	Output (non-pollled)	30028/128
	21-Net Blr 4 Status	blr12stat_5	✓	AV:9	data float	61	nvoNetBlr4Stat	inc count (9)	Output (non-pollled)	30029/128

C.2.2 - Eight C-Mores and One ACS/BMS II/BMS

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 1										
	01-Fire Rate Out	boilerstate_1	✓	AV:26	data float	1	nvoBlrState1	inc count (9)	Output (non-pollled)	30009/1
	02-Active Setpoint	effectsetpt_1	✓	AV:27	data float	2	nvoEffSetpt1	inc count (9)	Output (non-pollled)	30017/1
	03-Net Remote Setpt	setpt_1		AV:24	data float	3	nviSetpt1	inc count (9)	Input (non-polling)	40001/1
	05-Fire Rate In	boilerload_1	✓	AV:28	data float	5	nvoBlrLoad1	inc count (9)	Output (non-pollled)	30018/1
	06-Outlet Temp	localsuptemp_1	✓	AV:29	data float	6	nvoLocSupTmp1	inc count (9)	Output (non-pollled)	30003/1
	07-Display Code	dispcode_1	✓	AV:22	data float	7	nvoDispCode1	inc count (9)	Output (non-pollled)	30001/1
	08-Unit Status	unitstat_1	✓	AV:23	data float	8	nvoUnitStat1	inc count (9)	Output (non-pollled)	30002/1
	09-Run Cycles	runcycles_1	✓	AV:42	data float	9	nvoRunCycles1	51	Output (non-pollled)	30012-30013/1
	10-Run Hours	runhours_1	✓	AV:43	data float	10	nvoRunHours1	51	Output (non-pollled)	30014-30015/1
Blr Addr 2										
	01-Fire Rate Out	boilerstate_2	✓	AV:30	data float	11	nvoBlrState2	inc count (9)	Output (non-pollled)	30009/2
	02-Active Setpoint	effectsetpt_2	✓	AV:46	data float	12	nvoEffSetpt2	inc count (9)	Output (non-pollled)	30017/2
	03-Net Remote Setpt	setpt_2		AV:47	data float	13	nviSetpt2	inc count (9)	Input (non-polling)	40001/2
	05-Fire Rate In	boilerload_2	✓	AV:50	data float	15	nvoBlrLoad2	inc count (9)	Output (non-pollled)	30018/2
	06-Outlet Temp	localsuptemp_2	✓	AV:51	data float	16	nvoLocSupTmp2	inc count (9)	Output (non-pollled)	30003/2
	07-Display Code	dispcode_2	✓	AV:52	data float	17	nvoDispCode2	inc count (9)	Output (non-pollled)	30001/2
	08-Unit Status	unitstat_2	✓	AV:53	data float	18	nvoUnitStat2	inc count (9)	Output (non-pollled)	30002/2
	09-Run Cycles	runcycles_2	✓	AV:44	data float	19	nvoRunCycles2	51	Output (non-pollled)	30012-30013/2

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C.2.2 - Eight C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	10-Run Hours	runhours_2	✓	AV:45	data float	20	nvoRunHours2	51	Output (non-pollled)	30014-30015/2
Blr Addr 3										
	01-Fire Rate Out	boilerstate_3	✓	AV:54	data float	21	nvoBlrState3	inc count (9)	Output (non-pollled)	30009/3
	02-Active Setpoint	effectsetpt_3	✓	AV:55	data float	22	nvoEffSetpt3	inc count (9)	Output (non-pollled)	30017/3
	03-Net Remote Setpt	setpt_3		AV:56	data float	23	nviSetpt3	inc count (9)	Input (non-polling)	40001/3
	05-Fire Rate In	boilerload_3	✓	AV:60	data float	25	nvoBlrLoad3	inc count (9)	Output (non-pollled)	30018/3
	06-Outlet Temp	localsuptemp_3	✓	AV:61	data float	26	nvoLocSupTmp3	inc count (9)	Output (non-pollled)	30003/3
	07-Display Code	dispcode_3	✓	AV:62	data float	27	nvoDispCode3	inc count (9)	Output (non-pollled)	30001/3
	08-Unit Status	unitstat_3	✓	AV:63	data float	28	nvoUnitStat3	inc count (9)	Output (non-pollled)	30002/3
	09-Run Cycles	runcycles_3	✓	AV:58	data float	29	nvoRunCycles3	51	Output (non-pollled)	30012-30013/3
	10-Run Hours	runhours_3	✓	AV:59	data float	30	nvoRunHours3	51	Output (non-pollled)	30014-30015/3
Blr Addr 4										
	01-Fire Rate Out	boilerstate_4	✓	AV:70	data float	31	nvoBlrState4	inc count (9)	Output (non-pollled)	30009/4
	02-Active Setpoint	effectsetpt_4	✓	AV:71	data float	32	nvoEffSetpt4	inc count (9)	Output (non-pollled)	30017/4
	03-Net Remote Setpt	setpt_4		AV:72	data float	33	nviSetpt4	inc count (9)	Input (non-polling)	40001/4
	05-Fire Rate In	boilerload_4	✓	AV:73	data float	35	nvoBlrLoad4	inc count (9)	Output (non-pollled)	30018/4
	06-Outlet Temp	localsuptemp_4	✓	AV:65	data float	36	nvoLocSupTmp4	inc count (9)	Output (non-pollled)	30003/4
	07-Display Code	dispcode_4	✓	AV:66	data float	37	nvoDispCode4	inc count (9)	Output (non-pollled)	30001/4
	08-Unit Status	unitstat_4	✓	AV:67	data float	38	nvoUnitStat4	inc count (9)	Output (non-pollled)	30002/4
	09-Run Cycles	runcycles_4	✓	AV:68	data float	39	nvoRunCycles4	51	Output (non-pollled)	30012-30013/4
	10-Run Hours	runhours_4	✓	AV:69	data float	40	nvoRunHours4	51	Output (non-pollled)	30014-30015/4
Blr Addr 5										
	01-Fire Rate Out	boilerstate_5	✓	AV:80	data float	41	nvoBlrState5	inc count (9)	Output (non-pollled)	30009/5
	02-Active Setpoint	effectsetpt_5	✓	AV:81	data float	42	nvoEffSetpt5	inc count (9)	Output (non-pollled)	30017/5
	03-Net Remote Setpt	setpt_5		AV:82	data float	43	nviSetpt5	inc count (9)	Input (non-polling)	40001/5
	05-Fire Rate In	boilerload_5	✓	AV:74	data float	45	nvoBlrLoad5	inc count (9)	Output (non-pollled)	30018/5
	06-Outlet Temp	localsuptemp_5	✓	AV:75	data float	46	nvoLocSupTmp5	inc count (9)	Output (non-pollled)	30003/5
	07-Display Code	dispcode_5	✓	AV:76	data float	47	nvoDispCode5	inc count (9)	Output (non-pollled)	30001/5
	08-Unit Status	unitstat_5	✓	AV:77	data float	48	nvoUnitStat5	inc count (9)	Output (non-pollled)	30002/5
	09-Run Cycles	runcycles_5	✓	AV:78	data float	49	nvoRunCycles5	51	Output (non-pollled)	30012-30013/5
	10-Run Hours	runhours_5	✓	AV:79	data float	50	nvoRunHours5	51	Output (non-pollled)	30014-30015/5
Blr Addr 6										
	01-Fire Rate Out	boilerstate_6	✓	AV:90	data float	51	nvoBlrState6	inc count (9)	Output (non-pollled)	30009/6

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C.2.2 - Eight C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	02-Active Setpoint	effectsetpt_6	✓	AV:91	data float	52	nvoEffSetpt6	inc count (9)	Output (non-polled)	30017/6
	03-Net Remote Setpt	setpt_6		AV:92	data float	53	nviSetpt6	inc count (9)	Input (non-polling)	40001/6
	05-Fire Rate In	boilerload_6	✓	AV:84	data float	55	nvoBlrLoad6	inc count (9)	Output (non-polled)	30018/6
	06-Outlet Temp	localsuptemp_6	✓	AV:85	data float	56	nvoLocSupTmp6	inc count (9)	Output (non-polled)	30003/6
	07-Display Code	dispcode_6	✓	AV:86	data float	57	nvoDispCode6	inc count (9)	Output (non-polled)	30001/6
	08-Unit Status	unitstat_6	✓	AV:87	data float	58	nvoUnitStat6	inc count (9)	Output (non-polled)	30002/6
	09-Run Cycles	runcycles_6	✓	AV:88	data float	59	nvoRunCycles6	51	Output (non-polled)	30012-30013/6
	10-Run Hours	runhours_6	✓	AV:89	data float	60	nvoRunHours6	51	Output (non-polled)	30014-30015/6
Blr Addr 7										
	01-Fire Rate Out	boilerstate_7	✓	AV:100	data float	61	nvoBlrState7	inc count (9)	Output (non-polled)	30009/7
	02-Active Setpoint	effectsetpt_7	✓	AV:101	data float	62	nvoEffSetpt7	inc count (9)	Output (non-polled)	30017/7
	03-Net Remote Setpt	setpt_7		AV:102	data float	63	nviSetpt7	inc count (9)	Input (non-polling)	40001/7
	05-Fire Rate In	boilerload_7	✓	AV:94	data float	65	nvoBlrLoad7	inc count (9)	Output (non-polled)	30018/7
	06-Outlet Temp	localsuptemp_7	✓	AV:95	data float	66	nvoLocSupTmp7	inc count (9)	Output (non-polled)	30003/7
	07-Display Code	dispcode_7	✓	AV:96	data float	67	nvoDispCode7	inc count (9)	Output (non-polled)	30001/7
	08-Unit Status	unitstat_7	✓	AV:97	data float	68	nvoUnitStat7	inc count (9)	Output (non-polled)	30002/7
	09-Run Cycles	runcycles_7	✓	AV:98	data float	69	nvoRunCycles7	51	Output (non-polled)	30012-30013/7
	10-Run Hours	runhours_7	✓	AV:99	data float	70	nvoRunHours7	51	Output (non-polled)	30014-30015/7
Blr Addr 8										
	01-Fire Rate Out	boilerstate_8	✓	AV:110	data float	71	nvoBlrState8	inc count (9)	Output (non-polled)	30009/8
	02-Active Setpoint	effectsetpt_8	✓	AV:111	data float	72	nvoEffSetpt8	inc count (9)	Output (non-polled)	30017/8
	03-Net Remote Setpt	setpt_8		AV:112	data float	73	nviSetpt8	inc count (9)	Input (non-polling)	40001/8
	05-Fire Rate In	boilerload_8	✓	AV:104	data float	75	nvoBlrLoad8	inc count (9)	Output (non-polled)	30018/8
	06-Outlet Temp	localsuptemp_8	✓	AV:105	data float	76	nvoLocSupTmp8	inc count (9)	Output (non-polled)	30003/8
	07-Display Code	dispcode_8	✓	AV:106	data float	77	nvoDispCode8	inc count (9)	Output (non-polled)	30001/8
	08-Unit Status	unitstat_8	✓	AV:107	data float	78	nvoUnitStat8	inc count (9)	Output (non-polled)	30002/8
	09-Run Cycles	runcycles_8	✓	AV:108	data float	79	nvoRunCycles8	51	Output (non-polled)	30012-30013/8
	10-Run Hours	runhours_8	✓	AV:109	data float	80	nvoRunHours8	51	Output (non-polled)	30014-30015/8
BMS Addr 128										
	01-Fire Rate Out	boilerstate_13	✓	AV:31	data float	121	nvoBlrState	inc count (9)	Output (non-polled)	30005/128
	02-Header Set Temp	effectsetpt_13	✓	AV:32	data float	122	nvoEffSetpt	inc count (9)	Output (non-polled)	30006/128
	03-Net Header Set Temp	setpt_13		AV:33	data float	123	nviSetpt	inc count (9)	Input (non-polling)	40005/128

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C.2.2 - Eight C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	04-Header Temp	localsuptemp_13	✓	AV:34	data float	124	nvoLocSupTmp	inc count (9)	Output (non-polled)	30002/128
	05-Outside Air Temp	localoatemp_13	✓	AV:35	data float	125	nvoLocOATmp	inc count (9)	Output (non-polled)	30003/128
	06-Display Code	dispcode_13	✓	AV:36	data float	126	nvoDispCode	inc count (9)	Output (non-polled)	30011/128
	07-Num Boilers Fired	blrfired_13	✓	AV:37	data float	127	nvoBlrsFired	inc count (9)	Output (non-polled)	30008/128
	08-Num Boilers Online	blronline_13	✓	AV:38	data float	128	nvoBlrsOnline	inc count (9)	Output (non-polled)	30009/128
	09-Last Blr Fired	blrlast_13	✓	AV:39	data float	129	nvoLastBlrFired	inc count (9)	Output (non-polled)	30017/128
	10-Boiler 1 Status	blr1stat_13	✓	AV:40	data float	130	nvoBlr1Stat	inc count (9)	Output (non-polled)	30018/128
	11-Boiler 2 Status	blr2stat_13	✓	AV:41	data float	131	nvoBlr2Stat	inc count (9)	Output (non-polled)	30019/128
	12-Boiler 3 Status	blr3stat_13	✓	AV:48	data float	132	nvoBlr3Stat	inc count (9)	Output (non-polled)	30020/128
	13-Boiler 4 Status	blr4stat_13	✓	AV:1	data float	133	nvoBlr4Stat	inc count (9)	Output (non-polled)	30021/128
	14-Boiler 5 Status	blr5stat_13	✓	AV:2	data float	134	nvoBlr5Stat	inc count (9)	Output (non-polled)	30022/128
	15-Boiler 6 Status	blr6stat_13	✓	AV:3	data float	135	nvoBlr6Stat	inc count (9)	Output (non-polled)	30023/128
	16-Boiler 7 Status	blr7stat_13	✓	AV:4	data float	136	nvoBlr7Stat	inc count (9)	Output (non-polled)	30024/128
	17-Boiler 8 Status	blr8stat_13	✓	AV:5	data float	137	nvoBlr8Stat	inc count (9)	Output (non-polled)	30025/128
	18-Net Blr 1 Status	blr9stat_13	✓	AV:6	data float	138	nvoNetBlr1Stat	inc count (9)	Output (non-polled)	30026/128
	19-Net Blr 2 Status	blr10stat_13	✓	AV:7	data float	139	nvoNetBlr2Stat	inc count (9)	Output (non-polled)	30027/128
	20-Net Blr 3 Status	blr11stat_13	✓	AV:8	data float	140	nvoNetBlr3Stat	inc count (9)	Output (non-polled)	30028/128
	21-Net Blr 4 Status	blr12stat_13	✓	AV:9	data float	141	nvoNetBlr4Stat	inc count (9)	Output (non-polled)	30029/128
	22-Net Blr 5 Status	blr13stat_13	✓	AV:10	data float	142	nvoNetBlr5Stat	inc count (9)	Output (non-polled)	30030/128
	23-Net Blr 6 Status	blr14stat_13	✓	AV:11	data float	143	nvoNetBlr6Stat	inc count (9)	Output (non-polled)	30031/128
	24-Net Blr 7 Status	blr15stat_13	✓	AV:12	data float	144	nvoNetBlr7Stat	inc count (9)	Output (non-polled)	30032/128
	25-Net Blr 8 Status	blr16stat_13	✓	AV:13	data float	145	nvoNetBlr8Stat	inc count (9)	Output (non-polled)	30033/128

C.2.3 - Twelve C-Mores and One ACS/BMS II/BMS

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 1										
	01-Fire Rate Out	boilerstate_1	✓	AV:26	data float	1	nvoBlrState1	inc count (9)	Output (non-polled)	30009/1
	02-Active Setpoint	effectsetpt_1	✓	AV:27	data float	2	nvoEffSetpt1	inc count (9)	Output (non-polled)	30017/1
	03-Net Remote Setpt	setpt_1		AV:24	data float	3	nviSetpt1	inc count (9)	Input (non-polling)	40001/1
	05-Fire Rate In	boilerload_1	✓	AV:28	data float	5	nvoBlrLoad1	inc count (9)	Output (non-polled)	30018/1
	06-Outlet Temp	localsuptemp_1	✓	AV:29	data float	6	nvoLocSupTmp1	inc count (9)	Output (non-polled)	30003/1
	07-Display Code	dispcode_1	✓	AV:22	data float	7	nvoDispCode1	inc count (9)	Output (non-polled)	30001/1
	08-Unit Status	unitstat_1	✓	AV:23	data float	8	nvoUnitStat1	inc count (9)	Output (non-polled)	30002/1
	09-Run Cycles	runcycles_1	✓	AV:42	data float	9	nvoRunCycles1	51	Output (non-polled)	30012-30013/1
	10-Run Hours	runhours_1	✓	AV:43	data float	10	nvoRunHours1	51	Output (non-polled)	30014-30015/1
Blr Addr 2										
	01-Fire Rate Out	boilerstate_2	✓	AV:30	data float	11	nvoBlrState2	inc count (9)	Output (non-polled)	30009/2
	02-Active Setpoint	effectsetpt_2	✓	AV:46	data float	12	nvoEffSetpt2	inc count (9)	Output (non-polled)	30017/2
	03-Net Remote Setpt	setpt_2		AV:47	data float	13	nviSetpt2	inc count (9)	Input (non-polling)	40001/2
	05-Fire Rate In	boilerload_2	✓	AV:50	data float	15	nvoBlrLoad2	inc count (9)	Output (non-polled)	30018/2
	06-Outlet Temp	localsuptemp_2	✓	AV:51	data float	16	nvoLocSupTmp2	inc count (9)	Output (non-polled)	30003/2
	07-Display Code	dispcode_2	✓	AV:52	data float	17	nvoDispCode2	inc count (9)	Output (non-polled)	30001/2
	08-Unit Status	unitstat_2	✓	AV:53	data float	18	nvoUnitStat2	inc count (9)	Output (non-polled)	30002/2
	09-Run Cycles	runcycles_2	✓	AV:44	data float	19	nvoRunCycles2	51	Output (non-polled)	30012-30013/2
	10-Run Hours	runhours_2	✓	AV:45	data float	20	nvoRunHours2	51	Output (non-polled)	30014-30015/2
Blr Addr 3										
	01-Fire Rate Out	boilerstate_3	✓	AV:54	data float	21	nvoBlrState3	inc count (9)	Output (non-polled)	30009/3
	02-Active Setpoint	effectsetpt_3	✓	AV:55	data float	22	nvoEffSetpt3	inc count (9)	Output (non-polled)	30017/3
	03-Net Remote Setpt	setpt_3		AV:56	data float	23	nviSetpt3	inc count (9)	Input (non-polling)	40001/3
	05-Fire Rate In	boilerload_3	✓	AV:60	data float	25	nvoBlrLoad3	inc count (9)	Output (non-polled)	30018/3
	06-Outlet Temp	localsuptemp_3	✓	AV:61	data float	26	nvoLocSupTmp3	inc count (9)	Output (non-polled)	30003/3
	07-Display Code	dispcode_3	✓	AV:62	data float	27	nvoDispCode3	inc count (9)	Output (non-polled)	30001/3
	08-Unit Status	unitstat_3	✓	AV:63	data float	28	nvoUnitStat3	inc count (9)	Output (non-polled)	30002/3
	09-Run Cycles	runcycles_3	✓	AV:58	data float	29	nvoRunCycles3	51	Output (non-polled)	30012-30013/3
	10-Run Hours	runhours_3	✓	AV:59	data float	30	nvoRunHours3	51	Output (non-polled)	30014-30015/3

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C.2.3 - Twelve C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 4										
	01-Fire Rate Out	boilerstate_4	✓	AV:70	data float	31	nvoBlrState4	inc count (9)	Output (non-polled)	30009/4
	02-Active Setpoint	effectsetpt_4	✓	AV:71	data float	32	nvoEffSetpt4	inc count (9)	Output (non-polled)	30017/4
	03-Net Remote Setpt	setpt_4		AV:72	data float	33	nviSetpt4	inc count (9)	Input (non-polling)	40001/4
	05-Fire Rate In	boilerload_4	✓	AV:73	data float	35	nvoBlrLoad4	inc count (9)	Output (non-polled)	30018/4
	06-Outlet Temp	localsuptemp_4	✓	AV:65	data float	36	nvoLocSupTmp4	inc count (9)	Output (non-polled)	30003/4
	07-Display Code	dispcode_4	✓	AV:66	data float	37	nvoDispCode4	inc count (9)	Output (non-polled)	30001/4
	08-Unit Status	unitstat_4	✓	AV:67	data float	38	nvoUnitStat4	inc count (9)	Output (non-polled)	30002/4
	09-Run Cycles	runcycles_4	✓	AV:68	data float	39	nvoRunCycles4	51	Output (non-polled)	30012-30013/4
	10-Run Hours	runhours_4	✓	AV:69	data float	40	nvoRunHours4	51	Output (non-polled)	30014-30015/4
Blr Addr 5										
	01-Fire Rate Out	boilerstate_5	✓	AV:80	data float	41	nvoBlrState5	inc count (9)	Output (non-polled)	30009/5
	02-Active Setpoint	effectsetpt_5	✓	AV:81	data float	42	nvoEffSetpt5	inc count (9)	Output (non-polled)	30017/5
	03-Net Remote Setpt	setpt_5		AV:82	data float	43	nviSetpt5	inc count (9)	Input (non-polling)	40001/5
	05-Fire Rate In	boilerload_5	✓	AV:74	data float	45	nvoBlrLoad5	inc count (9)	Output (non-polled)	30018/5
	06-Outlet Temp	localsuptemp_5	✓	AV:75	data float	46	nvoLocSupTmp5	inc count (9)	Output (non-polled)	30003/5
	07-Display Code	dispcode_5	✓	AV:76	data float	47	nvoDispCode5	inc count (9)	Output (non-polled)	30001/5
	08-Unit Status	unitstat_5	✓	AV:77	data float	48	nvoUnitStat5	inc count (9)	Output (non-polled)	30002/5
	09-Run Cycles	runcycles_5	✓	AV:78	data float	49	nvoRunCycles5	51	Output (non-polled)	30012-30013/5
	10-Run Hours	runhours_5	✓	AV:79	data float	50	nvoRunHours5	51	Output (non-polled)	30014-30015/5
Blr Addr 6										
	01-Fire Rate Out	boilerstate_6	✓	AV:90	data float	51	nvoBlrState6	inc count (9)	Output (non-polled)	30009/6
	02-Active Setpoint	effectsetpt_6	✓	AV:91	data float	52	nvoEffSetpt6	inc count (9)	Output (non-polled)	30017/6
	03-Net Remote Setpt	setpt_6		AV:92	data float	53	nviSetpt6	inc count (9)	Input (non-polling)	40001/6
	05-Fire Rate In	boilerload_6	✓	AV:84	data float	55	nvoBlrLoad6	inc count (9)	Output (non-polled)	30018/6
	06-Outlet Temp	localsuptemp_6	✓	AV:85	data float	56	nvoLocSupTmp6	inc count (9)	Output (non-polled)	30003/6
	07-Display Code	dispcode_6	✓	AV:86	data float	57	nvoDispCode6	inc count (9)	Output (non-polled)	30001/6
	08-Unit Status	unitstat_6	✓	AV:87	data float	58	nvoUnitStat6	inc count (9)	Output (non-polled)	30002/6
	09-Run Cycles	runcycles_6	✓	AV:88	data float	59	nvoRunCycles6	51	Output (non-polled)	30012-30013/6
	10-Run Hours	runhours_6	✓	AV:89	data float	60	nvoRunHours6	51	Output (non-polled)	30014-30015/6

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C.2.3 - Twelve C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 7										
	01-Fire Rate Out	boilerstate_7	✓	AV:100	data float	61	nvoBlrState7	inc count (9)	Output (non-polled)	30009/7
	02-Active Setpoint	effectsetpt_7	✓	AV:101	data float	62	nvoEffSetpt7	inc count (9)	Output (non-polled)	30017/7
	03-Net Remote Setpt	setpt_7		AV:102	data float	63	nviSetpt7	inc count (9)	Input (non-polling)	40001/7
	05-Fire Rate In	boilerload_7	✓	AV:94	data float	65	nvoBlrLoad7	inc count (9)	Output (non-polled)	30018/7
	06-Outlet Temp	localsuptemp_7	✓	AV:95	data float	66	nvoLocSupTmp7	inc count (9)	Output (non-polled)	30003/7
	07-Display Code	dispcode_7	✓	AV:96	data float	67	nvoDispCode7	inc count (9)	Output (non-polled)	30001/7
	08-Unit Status	unitstat_7	✓	AV:97	data float	68	nvoUnitStat7	inc count (9)	Output (non-polled)	30002/7
	09-Run Cycles	runcycles_7	✓	AV:98	data float	69	nvoRunCycles7	51	Output (non-polled)	30012-30013/7
	10-Run Hours	runhours_7	✓	AV:99	data float	70	nvoRunHours7	51	Output (non-polled)	30014-30015/7
Blr Addr 8										
	01-Fire Rate Out	boilerstate_8	✓	AV:110	data float	71	nvoBlrState8	inc count (9)	Output (non-polled)	30009/8
	02-Active Setpoint	effectsetpt_8	✓	AV:111	data float	72	nvoEffSetpt8	inc count (9)	Output (non-polled)	30017/8
	03-Net Remote Setpt	setpt_8		AV:112	data float	73	nviSetpt8	inc count (9)	Input (non-polling)	40001/8
	05-Fire Rate In	boilerload_8	✓	AV:104	data float	75	nvoBlrLoad8	inc count (9)	Output (non-polled)	30018/8
	06-Outlet Temp	localsuptemp_8	✓	AV:105	data float	76	nvoLocSupTmp8	inc count (9)	Output (non-polled)	30003/8
	07-Display Code	dispcode_8	✓	AV:106	data float	77	nvoDispCode8	inc count (9)	Output (non-polled)	30001/8
	08-Unit Status	unitstat_8	✓	AV:107	data float	78	nvoUnitStat8	inc count (9)	Output (non-polled)	30002/8
	09-Run Cycles	runcycles_8	✓	AV:108	data float	79	nvoRunCycles8	51	Output (non-polled)	30012-30013/8
	10-Run Hours	runhours_8	✓	AV:109	data float	80	nvoRunHours8	51	Output (non-polled)	30014-30015/8
Blr Addr 9										
	01-Fire Rate Out	boilerstate_9	✓	AV:120	data float	81	nvoBlrState9	inc count (9)	Output (non-polled)	30009/9
	02-Active Setpoint	effectsetpt_9	✓	AV:121	data float	82	nvoEffSetpt9	inc count (9)	Output (non-polled)	30017/9
	03-Net Remote Setpt	setpt_9		AV:122	data float	83	nviSetpt9	inc count (9)	Input (non-polling)	40001/9
	05-Fire Rate In	boilerload_9	✓	AV:114	data float	85	nvoBlrLoad9	inc count (9)	Output (non-polled)	30018/9
	06-Outlet Temp	localsuptemp_9	✓	AV:115	data float	86	nvoLocSupTmp9	inc count (9)	Output (non-polled)	30003/9
	07-Display Code	dispcode_9	✓	AV:116	data float	87	nvoDispCode9	inc count (9)	Output (non-polled)	30001/9
	08-Unit Status	unitstat_9	✓	AV:117	data float	88	nvoUnitStat9	inc count (9)	Output (non-polled)	30002/9
	09-Run Cycles	runcycles_9	✓	AV:118	data float	89	nvoRunCycles9	51	Output (non-polled)	30012-30013/9
	10-Run Hours	runhours_9	✓	AV:119	data float	90	nvoRunHours9	51	Output (non-polled)	30014-30015/9

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C.2.3 - Twelve C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 10										
	01-Fire Rate Out	boilerstate_10	✓	AV:130	data float	91	nvoBlrState10	inc count (9)	Output (non-pollled)	30009/10
	02-Active Setpoint	effectsetpt_10	✓	AV:131	data float	92	nvoEffSetpt10	inc count (9)	Output (non-pollled)	30017/10
	03-Net Remote Setpt	setpt_10		AV:132	data float	93	nviSetpt10	inc count (9)	Input (non-polling)	40001/10
	05-Fire Rate In	boilerload_10	✓	AV:124	data float	95	nvoBlrLoad10	inc count (9)	Output (non-pollled)	30018/10
	06-Outlet Temp	localsuptemp_10	✓	AV:125	data float	96	nvoLocSupTmp10	inc count (9)	Output (non-pollled)	30003/10
	07-Display Code	dispcode_10	✓	AV:126	data float	97	nvoDispCode10	inc count (9)	Output (non-pollled)	30001/10
	08-Unit Status	unitstat_10	✓	AV:127	data float	98	nvoUnitStat10	inc count (9)	Output (non-pollled)	30002/10
	09-Run Cycles	runcycles_10	✓	AV:128	data float	99	nvoRunCycles10	51	Output (non-pollled)	30012-30013/10
	10-Run Hours	runhours_10	✓	AV:129	data float	100	nvoRunHours10	51	Output (non-pollled)	30014-30015/10
Blr Addr 11										
	01-Fire Rate Out	boilerstate_11	✓	AV:140	data float	101	nvoBlrState11	inc count (9)	Output (non-pollled)	30009/11
	02-Active Setpoint	effectsetpt_11	✓	AV:141	data float	102	nvoEffSetpt11	inc count (9)	Output (non-pollled)	30017/11
	03-Net Remote Setpt	setpt_11		AV:142	data float	103	nviSetpt11	inc count (9)	Input (non-polling)	40001/11
	05-Fire Rate In	boilerload_11	✓	AV:134	data float	105	nvoBlrLoad11	inc count (9)	Output (non-pollled)	30018/11
	06-Outlet Temp	localsuptemp_11	✓	AV:135	data float	106	nvoLocSupTmp11	inc count (9)	Output (non-pollled)	30003/11
	07-Display Code	dispcode_11	✓	AV:136	data float	107	nvoDispCode11	inc count (9)	Output (non-pollled)	30001/11
	08-Unit Status	unitstat_11	✓	AV:137	data float	108	nvoUnitStat11	inc count (9)	Output (non-pollled)	30002/11
	09-Run Cycles	runcycles_11	✓	AV:138	data float	109	nvoRunCycles11	51	Output (non-pollled)	30012-30013/11
	10-Run Hours	runhours_11	✓	AV:139	data float	110	nvoRunHours11	51	Output (non-pollled)	30014-30015/11
Blr Addr 12										
	01-Fire Rate Out	boilerstate_12	✓	AV:150	data float	111	nvoBlrState12	inc count (9)	Output (non-pollled)	30009/12
	02-Active Setpoint	effectsetpt_12	✓	AV:151	data float	112	nvoEffSetpt12	inc count (9)	Output (non-pollled)	30017/12
	03-Net Remote Setpt	setpt_12		AV:152	data float	113	nviSetpt12	inc count (9)	Input (non-polling)	40001/12
	05-Fire Rate In	boilerload_12	✓	AV:144	data float	115	nvoBlrLoad12	inc count (9)	Output (non-pollled)	30018/12
	06-Outlet Temp	localsuptemp_12	✓	AV:145	data float	116	nvoLocSupTmp12	inc count (9)	Output (non-pollled)	30003/12
	07-Display Code	dispcode_12	✓	AV:146	data float	117	nvoDispCode12	inc count (9)	Output (non-pollled)	30001/12
	08-Unit Status	unitstat_12	✓	AV:147	data float	118	nvoUnitStat12	inc count (9)	Output (non-pollled)	30002/12
	09-Run Cycles	runcycles_12	✓	AV:148	data float	119	nvoRunCycles12	51	Output (non-pollled)	30012-30013/12
	10-Run Hours	runhours_12	✓	AV:149	data float	120	nvoRunHours12	51	Output (non-pollled)	30014-30015/12

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C.2.3 - Twelve C-Mores and One ACS/BMS II/BMS (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
BMS Addr 128										
	01-Fire Rate Out	boilerstate_13	✓	AV:31	data float	121	nvoBlrState	inc count (9)	Output (non-polled)	30005/128
	02-Header Set Temp	effectsetpt_13	✓	AV:32	data float	122	nvoEffSetpt	inc count (9)	Output (non-polled)	30006/128
	03-Net Header Set Temp	setpt_13		AV:33	data float	123	nviSetpt	inc count (9)	Input (non-polling)	40005/128
	04-Header Temp	localsuptemp_13	✓	AV:34	data float	124	nvoLocSupTmp	inc count (9)	Output (non-polled)	30002/128
	05-Outside Air Temp	localoatemp_13	✓	AV:35	data float	125	nvoLocOATmp	inc count (9)	Output (non-polled)	30003/128
	06-Display Code	dispcode_13	✓	AV:36	data float	126	nvoDispCode	inc count (9)	Output (non-polled)	30011/128
	07-Num Boilers Fired	blrfired_13	✓	AV:37	data float	127	nvoBlrsFired	inc count (9)	Output (non-polled)	30008/128
	08-Num Boilers Online	blronline_13	✓	AV:38	data float	128	nvoBlrsOnline	inc count (9)	Output (non-polled)	30009/128
	09-Last Blr Fired	blrlast_13	✓	AV:39	data float	129	nvoLastBlrFired	inc count (9)	Output (non-polled)	30017/128
	10-Boiler 1 Status	blr1stat_13	✓	AV:40	data float	130	nvoBlr1Stat	inc count (9)	Output (non-polled)	30018/128
	11-Boiler 2 Status	blr2stat_13	✓	AV:41	data float	131	nvoBlr2Stat	inc count (9)	Output (non-polled)	30019/128
	12-Boiler 3 Status	blr3stat_13	✓	AV:48	data float	132	nvoBlr3Stat	inc count (9)	Output (non-polled)	30020/128
	13-Boiler 4 Status	blr4stat_13	✓	AV:1	data float	133	nvoBlr4Stat	inc count (9)	Output (non-polled)	30021/128
	14-Boiler 5 Status	blr5stat_13	✓	AV:2	data float	134	nvoBlr5Stat	inc count (9)	Output (non-polled)	30022/128
	15-Boiler 6 Status	blr6stat_13	✓	AV:3	data float	135	nvoBlr6Stat	inc count (9)	Output (non-polled)	30023/128
	16-Boiler 7 Status	blr7stat_13	✓	AV:4	data float	136	nvoBlr7Stat	inc count (9)	Output (non-polled)	30024/128
	17-Boiler 8 Status	blr8stat_13	✓	AV:5	data float	137	nvoBlr8Stat	inc count (9)	Output (non-polled)	30025/128
	18-Net Blr 1 Status	blr9stat_13	✓	AV:6	data float	138	nvoNetBlr1Stat	inc count (9)	Output (non-polled)	30026/128
	19-Net Blr 2 Status	blr10stat_13	✓	AV:7	data float	139	nvoNetBlr2Stat	inc count (9)	Output (non-polled)	30027/128
	20-Net Blr 3 Status	blr11stat_13	✓	AV:8	data float	140	nvoNetBlr3Stat	inc count (9)	Output (non-polled)	30028/128
	21-Net Blr 4 Status	blr12stat_13	✓	AV:9	data float	141	nvoNetBlr4Stat	inc count (9)	Output (non-polled)	30029/128
	22-Net Blr 5 Status	blr13stat_13	✓	AV:10	data float	142	nvoNetBlr5Stat	inc count (9)	Output (non-polled)	30030/128
	23-Net Blr 6 Status	blr14stat_13	✓	AV:11	data float	143	nvoNetBlr6Stat	inc count (9)	Output (non-polled)	30031/128
	24-Net Blr 7 Status	blr15stat_13	✓	AV:12	data float	144	nvoNetBlr7Stat	inc count (9)	Output (non-polled)	30032/128
	25-Net Blr 8 Status	blr16stat_13	✓	AV:13	data float	145	nvoNetBlr8Stat	inc count (9)	Output (non-polled)	30033/128
	26-Net Blr 9 Status	blr17stat_13	✓	AV:14	data float	146	nvoNetBlr9Stat	inc count (9)	Output (non-polled)	30034/128
	27-Net Blr 10 Status	blr18stat_13	✓	AV:15	data float	147	nvoNetBlr10Stat	inc count (9)	Output (non-polled)	30035/128
	28-Net Blr 11 Status	blr19stat_13	✓	AV:16	data float	148	nvoNetBlr11Stat	inc count (9)	Output (non-polled)	30036/128
	29-Net Blr 12 Status	blr20stat_13	✓	AV:17	data float	149	nvoNetBlr12Stat	inc count (9)	Output (non-polled)	30037/128

C.2.4 - Moduex and One ACS/BMS II

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
BMS Addr 128										
	01-Fire Rate Out	boilerstate_5	✓	AV:31	data float	41	nvoBlrState	inc count (9)	Output (non-pollled)	30005/128
	02-Header Set Temp	effectsetpt_5	✓	AV:32	data float	42	nvoEffSetpt	inc count (9)	Output (non-pollled)	30006/128
	03-Net Header Set Temp	setpt_5		AV:33	data float	43	nviSetpt	inc count (9)	Input (non-polling)	40005/128
	04-Header Temp	localsuptemp_5	✓	AV:34	data float	44	nvoLocSupTmp	inc count (9)	Output (non-pollled)	30002/128
	05-Outside Air Temp	localoatemp_5	✓	AV:35	data float	45	nvoLocOATmp	inc count (9)	Output (non-pollled)	30003/128
	06-Display Code	dispcode_5	✓	AV:36	data float	46	nvoDispCode	inc count (9)	Output (non-pollled)	30011/128
	07-Num Boilers Fired	blrfired_5	✓	AV:37	data float	47	nvoBlrsFired	inc count (9)	Output (non-pollled)	30008/128
	08-Num Boilers Online	blronline_5	✓	AV:38	data float	48	nvoBlrsOnline	inc count (9)	Output (non-pollled)	30009/128
	09-Last Blr Fired	blrlast_5	✓	AV:39	data float	49	nvoLastBlrFired	inc count (9)	Output (non-pollled)	30017/128
	18-Net Blr 1 Status	blr9stat_5	✓	AV:26	data float	58	nvoNetBlr1Stat	inc count (9)	Output (non-pollled)	30026/128
	19-Net Blr 2 Status	blr10stat_5	✓	AV:27	data float	59	nvoNetBlr2Stat	inc count (9)	Output (non-pollled)	30027/128
	20-Net Blr 3 Status	blr11stat_5	✓	AV:47	data float	60	nvoNetBlr3Stat	inc count (9)	Output (non-pollled)	30028/128
	21-Net Blr 4 Status	blr12stat_5	✓	AV:49	data float	61	nvoNetBlr4Stat	inc count (9)	Output (non-pollled)	30029/128
Mlx Addr 1										
	01-Act Mod Lev	boilerstate_1	✓	AV:134	data float	62	nvoMlxState1	inc count (9)	Output (non-pollled)	41009/1
	02-Target Setpoint	effectsetpt_1	✓	AV:135	data float	63	nvoMlxSetpt1	inc count (9)	Output (non-pollled)	41019/1
	03-Req Outlet Temp	setpt_1		AV:136	data float	64	nviMlxSetptRq1	inc count (9)	Input (non-polling)	41005/1
	04-Net Direct Drive	boilercmd_1		AV:137	data float	65	nviMlxCmd1	inc count (9)	Input (non-polling)	40002/1
	05-Mod Lev In	boilerload_1	✓	AV:138	data float	66	nvoMlxLoad1	inc count (9)	Output (non-pollled)	41201/1
	06-Flow Sens Temp	localsuptemp_1	✓	AV:139	data float	67	nvoMlxSupTmp1	inc count (9)	Output (non-pollled)	41003/1
	07-Display Code	dispcode_1	✓	AV:140	data float	68	nvoMlxDispCode1	inc count (9)	Output (non-pollled)	30001/1
	11-Error Code	errcode_1	✓	AV:1	data float	69	nvoMlxErrCode1	51	Output (non-pollled)	40001/1
	08-Unit Status	unitstat_1	✓	AV:141	data float	150	nvoMlxStat1	inc count (9)	Output (non-pollled)	30002/1
	09-Ret Flow Temp	returntemp_1	✓	AV:2	data float	151	nvoMlxRetTmp1	inc count (9)	Output (non-pollled)	41004/1
Mlx Addr 2										
	01-Act Mod Lev	boilerstate_2	✓	AV:144	data float	153	nvoMlxState2	inc count (9)	Output (non-pollled)	41009/2
	02-Target Setpoint	effectsetpt_2	✓	AV:145	data float	154	nvoMlxSetpt2	inc count (9)	Output (non-pollled)	41019/2
	03-Req Outlet Temp	setpt_2		AV:146	data float	155	nviMlxSetptRq2	inc count (9)	Input (non-polling)	41005/2
	04-Net Direct Drive	boilercmd_2		AV:147	data float	156	nviMlxCmd2	inc count (9)	Input (non-polling)	40002/2

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C.2.4 Modulex and One ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	05-Mod Lev In	boilerload_2	✓	AV:148	data float	157	nvoMlxLoad2	inc count (9)	Output (non-pollled)	41201/2
	06-Flow Sens Temp	localsuptemp_2	✓	AV:149	data float	158	nvoMlxSupTmp2	inc count (9)	Output (non-pollled)	41003/2
	07-Display Code	dispcode_2	✓	AV:150	data float	159	nvoMlxDispCode2	inc count (9)	Output (non-pollled)	30001/2
	11-Error Code	errcode_2	✓	AV:4	data float	160	nvoMlxErrCode2	51	Output (non-pollled)	40001/2
	08-Unit Status	unitstat_2	✓	AV:151	data float	161	nvoMlxStat2	inc count (9)	Output (non-pollled)	30002/2
	09-Ret Flow Temp	returntemp_2	✓	AV:5	data float	162	nvoMlxRetTmp2	inc count (9)	Output (non-pollled)	41004/2
Mlx Addr 3										
	01-Act Mod Lev	boilerstate_3	✓	AV:18	data float	164	nvoMlxState3	inc count (9)	Output (non-pollled)	41009/3
	02-Target Setpoint	effectsetpt_3	✓	AV:19	data float	165	nvoMlxSetpt3	inc count (9)	Output (non-pollled)	41019/3
	03-Req Outlet Temp	setpt_3		AV:20	data float	166	nviMlxSetptRq3	inc count (9)	Input (non-polling)	41005/3
	04-Net Direct Drive	boilercmd_3		AV:21	data float	167	nviMlxCmd3	inc count (9)	Input (non-polling)	40002/3
	05-Mod Lev In	boilerload_3	✓	AV:22	data float	168	nvoMlxLoad3	inc count (9)	Output (non-pollled)	41201/3
	06-Flow Sens Temp	localsuptemp_3	✓	AV:23	data float	169	nvoMlxSupTmp3	inc count (9)	Output (non-pollled)	41003/3
	07-Display Code	dispcode_3	✓	AV:24	data float	170	nvoMlxDispCode3	inc count (9)	Output (non-pollled)	30001/3
	11-Error Code	errcode_3	✓	AV:7	data float	171	nvoMlxErrCode3	51	Output (non-pollled)	40001/3
	08-Unit Status	unitstat_3	✓	AV:25	data float	172	nvoMlxStat3	inc count (9)	Output (non-pollled)	30002/3
	09-Ret Flow Temp	returntemp_3	✓	AV:8	data float	173	nvoMlxRetTmp3	inc count (9)	Output (non-pollled)	41004/3
Mlx Addr 4										
	01-Act Mod Lev	boilerstate_4	✓	AV:28	data float	175	nvoMlxState4	inc count (9)	Output (non-pollled)	41009/4
	02-Target Setpoint	effectsetpt_4	✓	AV:29	data float	176	nvoMlxSetpt4	inc count (9)	Output (non-pollled)	41019/4
	03-Req Outlet Temp	setpt_4		AV:30	data float	177	nviMlxSetptRq4	inc count (9)	Input (non-polling)	41005/4
	04-Net Direct Drive	boilercmd_4		AV:42	data float	178	nviMlxCmd4	inc count (9)	Input (non-polling)	40002/4
	05-Mod Lev In	boilerload_4	✓	AV:43	data float	179	nvoMlxLoad4	inc count (9)	Output (non-pollled)	41201/4
	06-Flow Sens Temp	localsuptemp_4	✓	AV:44	data float	180	nvoMlxSupTmp4	inc count (9)	Output (non-pollled)	41003/4
	07-Display Code	dispcode_4	✓	AV:45	data float	181	nvoMlxDispCode4	inc count (9)	Output (non-pollled)	30001/4
	11-Error Code	errcode_4	✓	AV:10	data float	182	nvoMlxErrCode4	51	Output (non-pollled)	40001/4
	08-Unit Status	unitstat_4	✓	AV:46	data float	183	nvoMlxStat4	inc count (9)	Output (non-pollled)	30002/4
	09-Ret Flow Temp	returntemp_4	✓	AV:11	data float	184	nvoMlxRetTmp4	inc count (9)	Output (non-pollled)	41004/4

C.2.5 – ECS/SP

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
E Valve Addr 29										
	01-Cntl Output Signal	boilerstate_1	✓	AV:11	data float	1	nvoEcsState29	inc count (9)	Output (non-pollled)	30004/29
	02-Setpoint	effectsetpt_1	✓	AV:80	data float	2	nvoEcsSetpt29	inc count (9)	Output (non-pollled)	30006/29
	03-RmSetpt	rmsetpt_1		AV:81	data float	3	nviEcsSetptRq29	inc count (9)	Input (non-polling)	40027/29
	04-Outlet Temp	localsuptemp_1	✓	AV:84	data float	4	nvoEcsSupTmp29	inc count (9)	Output (non-pollled)	30002/29
	05-FBk Sensor Temp	localrettemp_1	✓	AV:1	data float	5	nvoEcsRetTmp29	inc count (9)	Output (non-pollled)	30290/29
	06-Over Temp Alarm	unitstat_1	✓	AV:86	data float	6	nvoEcsStat29	inc count (9)	Output (non-pollled)	30075/29
	07-Flow Rate	flowrate_1	✓	AV:2	data float	7	nvoEcsFlow29	inc count (9)	Output (non-pollled)	30291/29
E Valve Addr 30										
	01-Cntl Output Signal	boilerstate_2	✓	AV:12	data float	8	nvoEcsState30	inc count (9)	Output (non-pollled)	30004/30
	02-Setpoint	effectsetpt_2	✓	AV:3	data float	9	nvoEcsSetpt30	inc count (9)	Output (non-pollled)	30006/30
	03-RmSetpt	rmsetpt_2		AV:4	data float	10	nviEcsSetptRq30	inc count (9)	Input (non-polling)	40027/30
	04-Outlet Temp	localsuptemp_2	✓	AV:5	data float	11	nvoEcsSupTmp30	inc count (9)	Output (non-pollled)	30002/30
	05-FBk Sensor Temp	localrettemp_2	✓	AV:6	data float	12	nvoEcsRetTmp30	inc count (9)	Output (non-pollled)	30290/30
	06-Over Temp Alarm	unitstat_2	✓	AV:7	data float	13	nvoEcsStat30	inc count (9)	Output (non-pollled)	30075/30
	07-Flow Rate	flowrate_2	✓	AV:8	data float	14	nvoEcsFlow30	inc count (9)	Output (non-pollled)	30291/30
E Valve Addr 31										
	01-Cntl Output Signal	boilerstate_3	✓	AV:9	data float	15	nvoEcsState31	inc count (9)	Output (non-pollled)	30004/31
	02-Setpoint	effectsetpt_3	✓	AV:150	data float	16	nvoEcsSetpt31	inc count (9)	Output (non-pollled)	30006/31
	03-RmSetpt	rmsetpt_3		AV:151	data float	17	nviEcsSetptRq31	inc count (9)	Input (non-polling)	40027/31
	04-Outlet Temp	localsuptemp_3	✓	AV:152	data float	18	nvoEcsSupTmp31	inc count (9)	Output (non-pollled)	30002/31
	05-FBk Sensor Temp	localrettemp_3	✓	AV:153	data float	19	nvoEcsRetTmp31	inc count (9)	Output (non-pollled)	30290/31
	06-Over Temp Alarm	unitstat_3	✓	AV:154	data float	20	nvoEcsStat31	inc count (9)	Output (non-pollled)	30075/31

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C.2.5 – ECS/SP (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	07-Flow Rate	flowrate_3	✓	AV:155	data float	21	nvoEcsFlow31	inc count (9)	Output (non-pollled)	30291/31
E Valve Addr 32										
	01-Cntl Output Signal	boilerstate_4	✓	AV:10	data float	22	nvoEcsState32	inc count (9)	Output (non-pollled)	30004/32
	02-Setpoint	effectsetpt_4	✓	AV:158	data float	23	nvoEcsSetpt32	inc count (9)	Output (non-pollled)	30006/32
	03-RmSetpt	rmsetpt_4		AV:159	data float	24	nviEcsSetptRq32	inc count (9)	Input (non-polling)	40027/32
	04-Outlet Temp	localsuptemp_4	✓	AV:160	data float	25	nvoEcsSupTmp32	inc count (9)	Output (non-pollled)	30002/32
	05-FBk Sensor Temp	localrettemp_4	✓	AV:161	data float	26	nvoEcsRetTmp32	inc count (9)	Output (non-pollled)	30290/32
	06-Over Temp Alarm	unitstat_4	✓	AV:156	data float	27	nvoEcsStat32	inc count (9)	Output (non-pollled)	30075/32
	07-Flow Rate	flowrate_4	✓	AV:157	data float	28	nvoEcsFlow32	inc count (9)	Output (non-pollled)	30291/32

C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex and Two ACS/BMS II

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 1										
	01-Fire Rate Out	boilerstate_1	✓	AV:1	data float	1	nvoBlrState1	inc count (9)	Output (non-pollled)	30009/1
	02-Active Setpoint	effectsetpt_1	✓	AV:2	data float	2	nvoEffSetpt1	inc count (9)	Output (non-pollled)	30017/1
	03-Net Remote Setpt	setpt_1		AV:3	data float	3	nviSetpt1	inc count (9)	Input (non-polling)	40001/1
	05-Fire Rate In	boilerload_1	✓	AV:5	data float	5	nvoBlrLoad1	inc count (9)	Output (non-pollled)	30018/1
	06-Outlet Temp	localsuptemp_1	✓	AV:6	data float	6	nvoLocSupTmp1	inc count (9)	Output (non-pollled)	30003/1
	07-Display Code	dispcode_1	✓	AV:7	data float	7	nvoDispCode1	inc count (9)	Output (non-pollled)	30001/1
	08-Unit Status	unitstat_1	✓	AV:8	data float	8	nvoUnitStat1	inc count (9)	Output (non-pollled)	30002/1
	09-Run Cycles	runcycles_1	✓	AV:9	data float	9	nvoRunCycles1	51	Output (non-pollled)	30012-30013/1
	10-Run Hours	runhours_1	✓	AV:10	data float	10	nvoRunHours1	51	Output (non-pollled)	30014-30015/1

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 2										
	01-Fire Rate Out	boilerstate_2	✓	AV:11	data float	11	nvoBlrState2	inc count (9)	Output (non-pollled)	30009/2
	02-Active Setpoint	effectsetpt_2	✓	AV:12	data float	12	nvoEffSetpt2	inc count (9)	Output (non-pollled)	30017/2
	03-Net Remote Setpt	setpt_2		AV:13	data float	13	nviSetpt2	inc count (9)	Input (non-polling)	40001/2
	05-Fire Rate In	boilerload_2	✓	AV:15	data float	15	nvoBlrLoad2	inc count (9)	Output (non-pollled)	30018/2
	06-Outlet Temp	localsuptemp_2	✓	AV:16	data float	16	nvoLocSupTmp2	inc count (9)	Output (non-pollled)	30003/2
	07-Display Code	dispcode_2	✓	AV:17	data float	17	nvoDispCode2	inc count (9)	Output (non-pollled)	30001/2
	08-Unit Status	unitstat_2	✓	AV:18	data float	18	nvoUnitStat2	inc count (9)	Output (non-pollled)	30002/2
	09-Run Cycles	runcycles_2	✓	AV:19	data float	19	nvoRunCycles2	51	Output (non-pollled)	30012-30013/2
	10-Run Hours	runhours_2	✓	AV:20	data float	20	nvoRunHours2	51	Output (non-pollled)	30014-30015/2
Blr Addr 3										
	01-Fire Rate Out	boilerstate_3	✓	AV:21	data float	21	nvoBlrState3	inc count (9)	Output (non-pollled)	30009/3
	02-Active Setpoint	effectsetpt_3	✓	AV:22	data float	22	nvoEffSetpt3	inc count (9)	Output (non-pollled)	30017/3
	03-Net Remote Setpt	setpt_3		AV:23	data float	23	nviSetpt3	inc count (9)	Input (non-polling)	40001/3
	05-Fire Rate In	boilerload_3	✓	AV:25	data float	25	nvoBlrLoad3	inc count (9)	Output (non-pollled)	30018/3
	06-Outlet Temp	localsuptemp_3	✓	AV:26	data float	26	nvoLocSupTmp3	inc count (9)	Output (non-pollled)	30003/3
	07-Display Code	dispcode_3	✓	AV:27	data float	27	nvoDispCode3	inc count (9)	Output (non-pollled)	30001/3
	08-Unit Status	unitstat_3	✓	AV:28	data float	28	nvoUnitStat3	inc count (9)	Output (non-pollled)	30002/3
	09-Run Cycles	runcycles_3	✓	AV:29	data float	29	nvoRunCycles3	51	Output (non-pollled)	30012-30013/3
	10-Run Hours	runhours_3	✓	AV:30	data float	30	nvoRunHours3	51	Output (non-pollled)	30014-30015/3

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 4										
	01-Fire Rate Out	boilerstate_4	✓	AV:31	data float	31	nvoBlrState4	inc count (9)	Output (non-pollled)	30009/4
	02-Active Setpoint	effectsetpt_4	✓	AV:32	data float	32	nvoEffSetpt4	inc count (9)	Output (non-pollled)	30017/4
	03-Net Remote Setpt	setpt_4		AV:33	data float	33	nviSetpt4	inc count (9)	Input (non-polling)	40001/4
	05-Fire Rate In	boilerload_4	✓	AV:35	data float	35	nvoBlrLoad4	inc count (9)	Output (non-pollled)	30018/4
	06-Outlet Temp	localsuptemp_4	✓	AV:36	data float	36	nvoLocSupTmp4	inc count (9)	Output (non-pollled)	30003/4
	07-Display Code	dispcode_4	✓	AV:37	data float	37	nvoDispCode4	inc count (9)	Output (non-pollled)	30001/4
	08-Unit Status	unitstat_4	✓	AV:38	data float	38	nvoUnitStat4	inc count (9)	Output (non-pollled)	30002/4
	09-Run Cycles	runcycles_4	✓	AV:39	data float	39	nvoRunCycles4	51	Output (non-pollled)	30012-30013/4
	10-Run Hours	runhours_4	✓	AV:40	data float	40	nvoRunHours4	51	Output (non-pollled)	30014-30015/4
Blr Addr 5										
	01-Fire Rate Out	boilerstate_5	✓	AV:41	data float	41	nvoBlrState5	inc count (9)	Output (non-pollled)	30009/5
	02-Active Setpoint	effectsetpt_5	✓	AV:42	data float	42	nvoEffSetpt5	inc count (9)	Output (non-pollled)	30017/5
	03-Net Remote Setpt	setpt_5		AV:43	data float	43	nviSetpt5	inc count (9)	Input (non-polling)	40001/5
	05-Fire Rate In	boilerload_5	✓	AV:45	data float	45	nvoBlrLoad5	inc count (9)	Output (non-pollled)	30018/5
	06-Outlet Temp	localsuptemp_5	✓	AV:46	data float	46	nvoLocSupTmp5	inc count (9)	Output (non-pollled)	30003/5
	07-Display Code	dispcode_5	✓	AV:47	data float	47	nvoDispCode5	inc count (9)	Output (non-pollled)	30001/5
	08-Unit Status	unitstat_5	✓	AV:48	data float	48	nvoUnitStat5	inc count (9)	Output (non-pollled)	30002/5
	09-Run Cycles	runcycles_5	✓	AV:49	data float	49	nvoRunCycles5	51	Output (non-pollled)	30012-30013/5
	10-Run Hours	runhours_5	✓	AV:50	data float	50	nvoRunHours5	51	Output (non-pollled)	30014-30015/5

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 6										
	01-Fire Rate Out	boilerstate_6	✓	AV:51	data float	51	nvoBlrState6	inc count (9)	Output (non-pollled)	30009/6
	02-Active Setpoint	effectsetpt_6	✓	AV:52	data float	52	nvoEffSetpt6	inc count (9)	Output (non-pollled)	30017/6
	03-Net Remote Setpt	setpt_6		AV:53	data float	53	nviSetpt6	inc count (9)	Input (non-polling)	40001/6
	05-Fire Rate In	boilerload_6	✓	AV:55	data float	55	nvoBlrLoad6	inc count (9)	Output (non-pollled)	30018/6
	06-Outlet Temp	localsuptemp_6	✓	AV:56	data float	56	nvoLocSupTmp6	inc count (9)	Output (non-pollled)	30003/6
	07-Display Code	dispcode_6	✓	AV:57	data float	57	nvoDispCode6	inc count (9)	Output (non-pollled)	30001/6
	08-Unit Status	unitstat_6	✓	AV:58	data float	58	nvoUnitStat6	inc count (9)	Output (non-pollled)	30002/6
	09-Run Cycles	runcycles_6	✓	AV:59	data float	59	nvoRunCycles6	51	Output (non-pollled)	30012-30013/6
	10-Run Hours	runhours_6	✓	AV:60	data float	60	nvoRunHours6	51	Output (non-pollled)	30014-30015/6
Blr Addr 7										
	01-Fire Rate Out	boilerstate_7	✓	AV:61	data float	61	nvoBlrState7	inc count (9)	Output (non-pollled)	30009/7
	02-Active Setpoint	effectsetpt_7	✓	AV:62	data float	62	nvoEffSetpt7	inc count (9)	Output (non-pollled)	30017/7
	03-Net Remote Setpt	setpt_7		AV:63	data float	63	nviSetpt7	inc count (9)	Input (non-polling)	40001/7
	05-Fire Rate In	boilerload_7	✓	AV:65	data float	65	nvoBlrLoad7	inc count (9)	Output (non-pollled)	30018/7
	06-Outlet Temp	localsuptemp_7	✓	AV:66	data float	66	nvoLocSupTmp7	inc count (9)	Output (non-pollled)	30003/7
	07-Display Code	dispcode_7	✓	AV:67	data float	67	nvoDispCode7	inc count (9)	Output (non-pollled)	30001/7
	08-Unit Status	unitstat_7	✓	AV:68	data float	68	nvoUnitStat7	inc count (9)	Output (non-pollled)	30002/7
	09-Run Cycles	runcycles_7	✓	AV:69	data float	69	nvoRunCycles7	51	Output (non-pollled)	30012-30013/7
	10-Run Hours	runhours_7	✓	AV:70	data float	70	nvoRunHours7	51	Output (non-pollled)	30014-30015/7

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 8										
	01-Fire Rate Out	boilerstate_8	✓	AV:71	data float	71	nvoBlrState8	inc count (9)	Output (non-pollled)	30009/8
	02-Active Setpoint	effectsetpt_8	✓	AV:72	data float	72	nvoEffSetpt8	inc count (9)	Output (non-pollled)	30017/8
	03-Net Remote Setpt	setpt_8		AV:73	data float	73	nviSetpt8	inc count (9)	Input (non-polling)	40001/8
	05-Fire Rate In	boilerload_8	✓	AV:75	data float	75	nvoBlrLoad8	inc count (9)	Output (non-pollled)	30018/8
	06-Outlet Temp	localsuptemp_8	✓	AV:76	data float	76	nvoLocSupTmp8	inc count (9)	Output (non-pollled)	30003/8
	07-Display Code	dispcode_8	✓	AV:77	data float	77	nvoDispCode8	inc count (9)	Output (non-pollled)	30001/8
	08-Unit Status	unitstat_8	✓	AV:78	data float	78	nvoUnitStat8	inc count (9)	Output (non-pollled)	30002/8
	09-Run Cycles	runcycles_8	✓	AV:79	data float	79	nvoRunCycles8	51	Output (non-pollled)	30012-30013/8
	10-Run Hours	runhours_8	✓	AV:80	data float	80	nvoRunHours8	51	Output (non-pollled)	30014-30015/8
Blr Addr 9										
	01-Fire Rate Out	boilerstate_9	✓	AV:81	data float	81	nvoBlrState9	inc count (9)	Output (non-pollled)	30009/9
	02-Active Setpoint	effectsetpt_9	✓	AV:82	data float	82	nvoEffSetpt9	inc count (9)	Output (non-pollled)	30017/9
	03-Net Remote Setpt	setpt_9		AV:83	data float	83	nviSetpt9	inc count (9)	Input (non-polling)	40001/9
	05-Fire Rate In	boilerload_9	✓	AV:85	data float	85	nvoBlrLoad9	inc count (9)	Output (non-pollled)	30018/9
	06-Outlet Temp	localsuptemp_9	✓	AV:86	data float	86	nvoLocSupTmp9	inc count (9)	Output (non-pollled)	30003/9
	07-Display Code	dispcode_9	✓	AV:87	data float	87	nvoDispCode9	inc count (9)	Output (non-pollled)	30001/9
	08-Unit Status	unitstat_9	✓	AV:88	data float	88	nvoUnitStat9	inc count (9)	Output (non-pollled)	30002/9
	09-Run Cycles	runcycles_9	✓	AV:89	data float	89	nvoRunCycles9	51	Output (non-pollled)	30012-30013/9
	10-Run Hours	runhours_9	✓	AV:90	data float	90	nvoRunHours9	51	Output (non-pollled)	30014-30015/9

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Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 10										
	01-Fire Rate Out	boilerstate_10	✓	AV:91	data float	91	nvoBlrState10	inc count (9)	Output (non-pollled)	30009/10
	02-Active Setpoint	effectsetpt_10	✓	AV:92	data float	92	nvoEffSetpt10	inc count (9)	Output (non-pollled)	30017/10
	03-Net Remote Setpt	setpt_10		AV:93	data float	93	nviSetpt10	inc count (9)	Input (non-polling)	40001/10
	05-Fire Rate In	boilerload_10	✓	AV:95	data float	95	nvoBlrLoad10	inc count (9)	Output (non-pollled)	30018/10
	06-Outlet Temp	localsuptemp_10	✓	AV:96	data float	96	nvoLocSupTmp10	inc count (9)	Output (non-pollled)	30003/10
	07-Display Code	dispcode_10	✓	AV:97	data float	97	nvoDispCode10	inc count (9)	Output (non-pollled)	30001/10
	08-Unit Status	unitstat_10	✓	AV:98	data float	98	nvoUnitStat10	inc count (9)	Output (non-pollled)	30002/10
	09-Run Cycles	runcycles_10	✓	AV:99	data float	99	nvoRunCycles10	51	Output (non-pollled)	30012-30013/10
	10-Run Hours	runhours_10	✓	AV:100	data float	100	nvoRunHours10	51	Output (non-pollled)	30014-30015/10
Blr Addr 11										
	01-Fire Rate Out	boilerstate_11	✓	AV:101	data float	101	nvoBlrState11	inc count (9)	Output (non-pollled)	30009/11
	02-Active Setpoint	effectsetpt_11	✓	AV:102	data float	102	nvoEffSetpt11	inc count (9)	Output (non-pollled)	30017/11
	03-Net Remote Setpt	setpt_11		AV:103	data float	103	nviSetpt11	inc count (9)	Input (non-polling)	40001/11
	05-Fire Rate In	boilerload_11	✓	AV:105	data float	105	nvoBlrLoad11	inc count (9)	Output (non-pollled)	30018/11
	06-Outlet Temp	localsuptemp_11	✓	AV:106	data float	106	nvoLocSupTmp11	inc count (9)	Output (non-pollled)	30003/11
	07-Display Code	dispcode_11	✓	AV:107	data float	107	nvoDispCode11	inc count (9)	Output (non-pollled)	30001/11
	08-Unit Status	unitstat_11	✓	AV:108	data float	108	nvoUnitStat11	inc count (9)	Output (non-pollled)	30002/11
	09-Run Cycles	runcycles_11	✓	AV:109	data float	109	nvoRunCycles11	51	Output (non-pollled)	30012-30013/11
	10-Run Hours	runhours_11	✓	AV:110	data float	110	nvoRunHours11	51	Output (non-pollled)	30014-30015/11

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Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
Blr Addr 12										
	01-Fire Rate Out	boilerstate_12	✓	AV:111	data float	111	nvoBlrState12	inc count (9)	Output (non-pollled)	30009/12
	02-Active Setpoint	effectsetpt_12	✓	AV:112	data float	112	nvoEffSetpt12	inc count (9)	Output (non-pollled)	30017/12
	03-Net Remote Setpt	setpt_12		AV:113	data float	113	nviSetpt12	inc count (9)	Input (non-polling)	40001/12
	05-Fire Rate In	boilerload_12	✓	AV:115	data float	115	nvoBlrLoad12	inc count (9)	Output (non-pollled)	30018/12
	06-Outlet Temp	localsuptemp_12	✓	AV:116	data float	116	nvoLocSupTmp12	inc count (9)	Output (non-pollled)	30003/12
	07-Display Code	dispcode_12	✓	AV:117	data float	117	nvoDispCode12	inc count (9)	Output (non-pollled)	30001/12
	08-Unit Status	unitstat_12	✓	AV:118	data float	118	nvoUnitStat12	inc count (9)	Output (non-pollled)	30002/12
	09-Run Cycles	runcycles_12	✓	AV:119	data float	119	nvoRunCycles12	51	Output (non-pollled)	30012-30013/12
	10-Run Hours	runhours_12	✓	AV:120	data float	120	nvoRunHours12	51	Output (non-pollled)	30014-30015/12
Mlx Addr 13										
	01-Act Mod Lev	boilerstate_13	✓	AV:121	data float	121	nvoMlxState13	inc count (9)	Output (non-pollled)	41009/13
	02-Target Setpoint	effectsetpt_13	✓	AV:122	data float	122	nvoMlxSetpt13	inc count (9)	Output (non-pollled)	41019/13
	03-Req Outlet Temp	setpt_13		AV:123	data float	123	nviMlxSetptRq13	inc count (9)	Input (non-polling)	41005/13
	04-Net Direct Drive	boilercmd_13		AV:124	data float	124	nviMlxCmd13	inc count (9)	Input (non-polling)	40002/13
	05-Mod Lev In	boilerload_13	✓	AV:125	data float	125	nvoMlxLoad13	inc count (9)	Output (non-pollled)	41201/13
	06-Flow Sens Temp	localsuptemp_13	✓	AV:126	data float	126	nvoMlxSupTmp13	inc count (9)	Output (non-pollled)	41003/13
	07-Display Code	dispcode_13	✓	AV:127	data float	127	nvoMlxDispCode13	inc count (9)	Output (non-pollled)	30001/13
	11-Error Code	errcode_13	✓	AV:128	data float	128	nvoMlxErrCode13	51	Output (non-pollled)	40001/13
	08-Unit Status	unitstat_13	✓	AV:129	data float	129	nvoMlxStat13	inc count (9)	Output (non-pollled)	30002/13

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	09-Ret Flow Temp	returntemp_13	✓	AV:130	data float	130	nvoMlxRetTmp13	inc count (9)	Output (non-pollled)	41004/13
Mlx Addr 14										
	01-Act Mod Lev	boilerstate_14	✓	AV:131	data float	131	nvoMlxState14	inc count (9)	Output (non-pollled)	41009/14
	02-Target Setpoint	effectsetpt_14	✓	AV:132	data float	132	nvoMlxSetpt14	inc count (9)	Output (non-pollled)	41019/14
	03-Req Outlet Temp	setpt_14		AV:133	data float	133	nviMlxSetptRq14	inc count (9)	Input (non-polling)	41005/14
	04-Net Direct Drive	boilercmd_14		AV:134	data float	134	nviMlxCmd14	inc count (9)	Input (non-polling)	40002/14
	05-Mod Lev In	boilerload_14	✓	AV:135	data float	135	nvoMlxLoad14	inc count (9)	Output (non-pollled)	41201/14
	06-Flow Sens Temp	localsuptemp_14	✓	AV:136	data float	136	nvoMlxSupTmp14	inc count (9)	Output (non-pollled)	41003/14
	07-Display Code	dispcode_14	✓	AV:137	data float	137	nvoMlxDispCode14	inc count (9)	Output (non-pollled)	30001/14
	11-Error Code	errcode_14	✓	AV:138	data float	138	nvoMlxErrCode14	51	Output (non-pollled)	40001/14
	08-Unit Status	unitstat_14	✓	AV:139	data float	139	nvoMlxStat14	inc count (9)	Output (non-pollled)	30002/14
	09-Ret Flow Temp	returntemp_14	✓	AV:140	data float	140	nvoMlxRetTmp14	inc count (9)	Output (non-pollled)	41004/14
Mlx Addr 15										
	01-Act Mod Lev	boilerstate_15	✓	AV:141	data float	141	nvoMlxState15	inc count (9)	Output (non-pollled)	41009/15
	02-Target Setpoint	effectsetpt_15	✓	AV:142	data float	142	nvoMlxSetpt15	inc count (9)	Output (non-pollled)	41019/15
	03-Req Outlet Temp	setpt_15		AV:143	data float	143	nviMlxSetptRq15	inc count (9)	Input (non-polling)	41005/15
	04-Net Direct Drive	boilercmd_15		AV:144	data float	144	nviMlxCmd15	inc count (9)	Input (non-polling)	40002/15
	05-Mod Lev In	boilerload_15	✓	AV:145	data float	145	nvoMlxLoad15	inc count (9)	Output (non-pollled)	41201/15
	06-Flow Sens Temp	localsuptemp_15	✓	AV:146	data float	146	nvoMlxSupTmp15	inc count (9)	Output (non-pollled)	41003/15
	07-Display Code	dispcode_15	✓	AV:147	data float	147	nvoMlxDispCode15	inc count (9)	Output (non-pollled)	30001/15

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	11-Error Code	errcode_15	✓	AV:148	data float	148	nvoMlxErrCode15	51	Output (non-pollled)	40001/15
	08-Unit Status	unitstat_15	✓	AV:149	data float	149	nvoMlxStat15	inc count (9)	Output (non-pollled)	30002/15
	09-Ret Flow Temp	returntemp_15	✓	AV:150	data float	150	nvoMlxRetTmp15	inc count (9)	Output (non-pollled)	41004/15
Mlx Addr 16										
	01-Act Mod Lev	boilerstate_16	✓	AV:151	data float	151	nvoMlxState16	inc count (9)	Output (non-pollled)	41009/16
	02-Target Setpoint	effectsetpt_16	✓	AV:152	data float	152	nvoMlxSetpt16	inc count (9)	Output (non-pollled)	41019/16
	03-Req Outlet Temp	setpt_16		AV:153	data float	153	nviMlxSetptRq16	inc count (9)	Input (non-polling)	41005/16
	04-Net Direct Drive	boilercmd_16		AV:154	data float	154	nviMlxCmd16	inc count (9)	Input (non-polling)	40002/16
	05-Mod Lev In	boilerload_16	✓	AV:155	data float	155	nvoMlxLoad16	inc count (9)	Output (non-pollled)	41201/16
	06-Flow Sens Temp	localsuptemp_16	✓	AV:156	data float	156	nvoMlxSupTmp16	inc count (9)	Output (non-pollled)	41003/16
	07-Display Code	dispcode_16	✓	AV:157	data float	157	nvoMlxDispCode16	inc count (9)	Output (non-pollled)	30001/16
	11-Error Code	errcode_16	✓	AV:158	data float	158	nvoMlxErrCode16	51	Output (non-pollled)	40001/16
	08-Unit Status	unitstat_16	✓	AV:159	data float	159	nvoMlxStat16	inc count (9)	Output (non-pollled)	30002/16
	09-Ret Flow Temp	returntemp_16	✓	AV:160	data float	160	nvoMlxRetTmp16	inc count (9)	Output (non-pollled)	41004/16
E Valve Addr 17										
	01-Cntl Output Signal	boilerstate_17	✓	AV:171	data float	171	nvoEcsState17	inc count (9)	Output (non-pollled)	30004/17
	02-Setpoint	effectsetpt_17	✓	AV:172	data float	172	nvoEcsSetpt17	inc count (9)	Output (non-pollled)	30006/17
	03-RmSetpt	rmsetpt_17		AV:173	data float	173	nviEcsSetptRq17	inc count (9)	Input (non-polling)	40027/17
	04-Outlet Temp	localsuptemp_17	✓	AV:174	data float	174	nvoEcsSupTmp17	inc count (9)	Output (non-pollled)	30002/17
	05-FBk Sensor Temp	localrettemp_17	✓	AV:175	data float	175	nvoEcsRetTmp17	inc count (9)	Output (non-pollled)	30170/17

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	06-Over Temp Alarm	unitstat_17	✓	AV:176	data float	176	nvoEcsStat17	inc count (9)	Output (non-pollled)	30075/17
	07-Flow Rate	flowrate_17	✓	AV:177	data float	177	nvoEcsFlow17	inc count (9)	Output (non-pollled)	30171/17
E Valve Addr 18										
	01-Cntl Output Signal	boilerstate_18	✓	AV:181	data float	181	nvoEcsState18	inc count (9)	Output (non-pollled)	18004/18
	02-Setpoint	effectsetpt_18	✓	AV:182	data float	182	nvoEcsSetpt18	inc count (9)	Output (non-pollled)	18006/18
	03-RmSetpt	rmsetpt_18		AV:183	data float	183	nviEcsSetptRq18	inc count (9)	Input (non-polling)	40027/18
	04-Outlet Temp	localsuptemp_18	✓	AV:184	data float	184	nvoEcsSupTmp18	inc count (9)	Output (non-pollled)	18002/18
	05-FBk Sensor Temp	localrettemp_18	✓	AV:185	data float	185	nvoEcsRetTmp18	inc count (9)	Output (non-pollled)	18290/18
	06-Over Temp Alarm	unitstat_18	✓	AV:186	data float	186	nvoEcsStat18	inc count (9)	Output (non-pollled)	18075/18
	07-Flow Rate	flowrate_18	✓	AV:187	data float	187	nvoEcsFlow18	inc count (9)	Output (non-pollled)	18291/18
E Valve Addr 19										
	01-Cntl Output Signal	boilerstate_19	✓	AV:191	data float	191	nvoEcsState19	inc count (9)	Output (non-pollled)	30004/19
	02-Setpoint	effectsetpt_19	✓	AV:192	data float	192	nvoEcsSetpt19	inc count (9)	Output (non-pollled)	30006/19
	03-RmSetpt	rmsetpt_19		AV:193	data float	193	nviEcsSetptRq19	inc count (9)	Input (non-polling)	40027/19
	04-Outlet Temp	localsuptemp_19	✓	AV:194	data float	194	nvoEcsSupTmp19	inc count (9)	Output (non-pollled)	30002/19
	05-FBk Sensor Temp	localrettemp_19	✓	AV:195	data float	195	nvoEcsRetTmp19	inc count (9)	Output (non-pollled)	30290/19
	06-Over Temp Alarm	unitstat_19	✓	AV:196	data float	196	nvoEcsStat19	inc count (9)	Output (non-pollled)	30075/19
	07-Flow Rate	flowrate_19	✓	AV:197	data float	197	nvoEcsFlow19	inc count (9)	Output (non-pollled)	30291/19
E Valve Addr 20										
	01-Cntl Output Signal	boilerstate_20	✓	AV:201	data float	201	nvoEcsState20	inc count (9)	Output (non-pollled)	30004/20

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	02-Setpoint	effectsetpt_20	✓	AV:202	data float	202	nvoEcsSetpt20	inc count (9)	Output (non-pollled)	30006/20
	03-RmSetpt	rmsetpt_20		AV:203	data float	203	nviEcsSetptRq 20	inc count (9)	Input (non-polling)	40027/20
	04-Outlet Temp	localsuptemp_20	✓	AV:204	data float	204	nvoEcsSupTmp 20	inc count (9)	Output (non-pollled)	30002/20
	05-FBk Sensor Temp	localrettemp_20	✓	AV:205	data float	205	nvoEcsRetTmp 20	inc count (9)	Output (non-pollled)	30290/20
	06-Over Temp Alarm	unitstat_20	✓	AV:206	data float	206	nvoEcsStat20	inc count (9)	Output (non-pollled)	30075/20
	07-Flow Rate	flowrate_20	✓	AV:207	data float	207	nvoEcsFlow20	inc count (9)	Output (non-pollled)	30291/20
E Valve Addr 21										
	01-Cntl Output Signal	boilerstate_21	✓	AV:211	data float	211	nvoEcsState21	inc count (9)	Output (non-pollled)	30004/21
	02-Setpoint	effectsetpt_21	✓	AV:212	data float	212	nvoEcsSetpt21	inc count (9)	Output (non-pollled)	30006/21
	03-RmSetpt	rmsetpt_21		AV:213	data float	213	nviEcsSetptRq 21	inc count (9)	Input (non-polling)	40027/21
	04-Outlet Temp	localsuptemp_21	✓	AV:214	data float	214	nvoEcsSupTmp 21	inc count (9)	Output (non-pollled)	30002/21
	05-FBk Sensor Temp	localrettemp_21	✓	AV:215	data float	215	nvoEcsRetTmp 21	inc count (9)	Output (non-pollled)	30290/21
	06-Over Temp Alarm	unitstat_21	✓	AV:216	data float	216	nvoEcsStat21	inc count (9)	Output (non-pollled)	30075/21
	07-Flow Rate	flowrate_21	✓	AV:217	data float	217	nvoEcsFlow21	inc count (9)	Output (non-pollled)	30291/21
E Valve Addr 22										
	01-Cntl Output Signal	boilerstate_22	✓	AV:221	data float	221	nvoEcsState22	inc count (9)	Output (non-pollled)	30004/22
	02-Setpoint	effectsetpt_22	✓	AV:222	data float	222	nvoEcsSetpt22	inc count (9)	Output (non-pollled)	30006/22
	03-RmSetpt	rmsetpt_22		AV:223	data float	223	nviEcsSetptRq 22	inc count (9)	Input (non-polling)	40027/22
	04-Outlet Temp	localsuptemp_22	✓	AV:224	data float	224	nvoEcsSupTmp 22	inc count (9)	Output (non-pollled)	30002/22
	05-FBk Sensor Temp	localrettemp_22	✓	AV:225	data float	225	nvoEcsRetTmp 22	inc count (9)	Output (non-pollled)	30290/22

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	06-Over Temp Alarm	unitstat_22	✓	AV:226	data float	226	nvoEcsStat22	inc count (9)	Output (non-pollled)	30075/22
	07-Flow Rate	flowrate_22	✓	AV:227	data float	227	nvoEcsFlow22	inc count (9)	Output (non-pollled)	30291/22
BMS Addr 128 – for C-More Controller Interface										
	01-Fire Rate Out	boilerstate_128	✓	AV:260	data float	228	nvoBlrState128	inc count (9)	Output (non-pollled)	30005/128
	02-Header Set Temp	effectsetpt_128	✓	AV:261	data float	229	nvoEffSetpt128	inc count (9)	Output (non-pollled)	30006/128
	03-Net Header Set Temp	setpt_128		AV:262	data float	230	nviSetpt128	inc count (9)	Input (non-polling)	40005/128
	04-Header Temp	localsuptemp_128	✓	AV:263	data float	231	nvoLocSupTmp128	inc count (9)	Output (non-pollled)	30002/128
	05-Outside Air Temp	localoatemp_128	✓	AV:264	data float	232	nvoLocOATmp128	inc count (9)	Output (non-pollled)	30003/128
	06-Display Code	dispcode_128	✓	AV:265	data float	233	nvoDispCode128	inc count (9)	Output (non-pollled)	30011/128
	07-Num Boilers Fired	blrfired_128	✓	AV:266	data float	234	nvoBlrsFired128	inc count (9)	Output (non-pollled)	30008/128
	08-Num Boilers Online	blronline_128	✓	AV:267	data float	235	nvoBlrsOnline128	inc count (9)	Output (non-pollled)	30009/128
	09-Last Blr Fired	blrlast_128	✓	AV:268	data float	236	nvoLastBlrFired128	inc count (9)	Output (non-pollled)	30017/128
	10-Boiler 1 Status	blr1stat_128	✓	AV:269	data float	237	nvoBlr1Stat128	inc count (9)	Output (non-pollled)	30018/128
	11-Boiler 2 Status	blr2stat_128	✓	AV:270	data float	238	nvoBlr2Stat128	inc count (9)	Output (non-pollled)	30019/128
	12-Boiler 3 Status	blr3stat_128	✓	AV:271	data float	239	nvoBlr3Stat128	inc count (9)	Output (non-pollled)	30020/128
	13-Boiler 4 Status	blr4stat_128	✓	AV:272	data float	240	nvoBlr4Stat128	inc count (9)	Output (non-pollled)	30021/128
	14-Boiler 5 Status	blr5stat_128	✓	AV:273	data float	241	nvoBlr5Stat128	inc count (9)	Output (non-pollled)	30022/128
	15-Boiler 6 Status	blr6stat_128	✓	AV:274	data float	242	nvoBlr6Stat128	inc count (9)	Output (non-pollled)	30023/128
	16-Boiler 7 Status	blr7stat_128	✓	AV:275	data float	243	nvoBlr7Stat128	inc count (9)	Output (non-pollled)	30024/128

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C.2.6- Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	17-Boiler 8 Status	blr8stat_128	✓	AV:276	data float	244	nvoBlr8Stat128	inc count (9)	Output (non-pollled)	30025/128
	18-Net Blr 1 Status	blr9stat_128	✓	AV:277	data float	245	nvoNetBlr1Stat128	inc count (9)	Output (non-pollled)	30026/128
	19-Net Blr 2 Status	blr10stat_128	✓	AV:278	data float	246	nvoNetBlr2Stat128	inc count (9)	Output (non-pollled)	30027/128
	20-Net Blr 3 Status	blr11stat_128	✓	AV:279	data float	247	nvoNetBlr3Stat128	inc count (9)	Output (non-pollled)	30028/128
	21-Net Blr 4 Status	blr12stat_128	✓	AV:280	data float	248	nvoNetBlr4Stat128	inc count (9)	Output (non-pollled)	30029/128
	22-Net Blr 5 Status	blr13stat_128	✓	AV:281	data float	249	nvoNetBlr5Stat128	inc count (9)	Output (non-pollled)	30030/128
	23-Net Blr 6 Status	blr14stat_128	✓	AV:282	data float	250	nvoNetBlr6Stat128	inc count (9)	Output (non-pollled)	30031/128
	24-Net Blr 7 Status	blr15stat_128	✓	AV:283	data float	251	nvoNetBlr7Stat128	inc count (9)	Output (non-pollled)	30032/128
	25-Net Blr 8 Status	blr16stat_128	✓	AV:284	data float	252	nvoNetBlr8Stat128	inc count (9)	Output (non-pollled)	30033/128
	26-Net Blr 9 Status	blr17stat_128	✓	AV:285	data float	253	nvoNetBlr9Stat128	inc count (9)	Output (non-pollled)	30034/128
	27-Net Blr 10 Status	blr18stat_128	✓	AV:286	data float	254	nvoNetBlr10Stat128	inc count (9)	Output (non-pollled)	30035/128
	28-Net Blr 11 Status	blr19stat_128	✓	AV:287	data float	255	nvoNetBlr11Stat128	inc count (9)	Output (non-pollled)	30036/128
	29-Net Blr 12 Status	blr20stat_128	✓	AV:288	data float	256	nvoNetBlr12Stat128	inc count (9)	Output (non-pollled)	30037/128
BMS Addr 228 – for Modulex BCM Interface										
	01-Fire Rate Out	boilerstate_228	✓	AV:300	data float	161	nvoBlrState228	inc count (9)	Output (non-pollled)	30005/228
	02-Header Set Temp	effectsetpt_228	✓	AV:301	data float	162	nvoEffSetpt228	inc count (9)	Output (non-pollled)	30006/228
	03-Net Header Set Temp	setpt_228		AV:302	data float	163	nviSetpt228	inc count (9)	Input (non-polling)	40005/228
	04-Header Temp	localsuptemp_228	✓	AV:303	data float	164	nvoLocSupTmp228	inc count (9)	Output (non-pollled)	30002/228
	05-Outside Air Temp	localoatemp_228	✓	AV:304	data float	165	nvoLocOATmp228	inc count (9)	Output (non-pollled)	30003/228

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C.2.6 - Twelve C-Mores, Six ECS/SP, Four Modulex, and Two ACS/BMS II (Cont.)

Equipment	Point Name	Name	Read Only	BACnet Type:ID	N2 Type	N2 ID	Lon SNVT NAME	Lon SNVT	Lon Direction	ModBus/Unit Address
	06-Display Code	dispcode_228	✓	AV:305	data float	166	nvoDispCode228	inc count (9)	Output (non-pollled)	30011/228
	07-Num Boilers Fired	blrfired_228	✓	AV:306	data float	167	nvoBlrsFired228	inc count (9)	Output (non-pollled)	30008/228
	08-Num Boilers Online	blronline_228	✓	AV:307	data float	168	nvoBlrsOnline228	inc count (9)	Output (non-pollled)	30009/228
	09-Last Blr Fired	blrlast_228	✓	AV:308	data float	169	nvoLastBlrFired228	inc count (9)	Output (non-pollled)	30017/228
	18-Net Blr 1 Status	blr9stat_228	✓	AV:309	data float	170	nvoNetBlr1Stat228	inc count (9)	Output (non-pollled)	30026/228
	19-Net Blr 2 Status	blr10stat_228	✓	AV:310	data float	178	nvoNetBlr2Stat228	inc count (9)	Output (non-pollled)	30027/228
	20-Net Blr 3 Status	blr11stat_228	✓	AV:311	data float	179	nvoNetBlr3Stat228	inc count (9)	Output (non-pollled)	30028/228
	21-Net Blr 4 Status	blr12stat_228	✓	AV:312	data float	180	nvoNetBlr4Stat228	inc count (9)	Output (non-pollled)	30029/228

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Appendix D. LIMITED 2 YEAR WARRANTY

AERCO International warrants its products to be free from defects in workmanship or material under normal use and service for two years after date of shipment. AERCO International will repair or replace any equipment found to be defective during the warranty period. Final determination of the nature and responsibility for defective or damaged equipment will be made by AERCO International personnel.

All warranties hereunder are contingent upon proper use in the application for which the product was intended and do not cover products which have been modified or repaired without AERCO International approval or which have been subjected to accident, improper maintenance, installation or application, or on which original identification marks have been removed or altered. This Limited Warranty also will not apply to interconnecting cables or wires, consumables or to any damage resulting from battery leakage.

In all cases AERCO International's responsibility and liability under this warranty shall be limited to the cost of the equipment. The purchaser must obtain shipping instructions for the prepaid return of any item under this warranty provision and compliance with such instruction shall be a condition of this warranty.

Except for the express warranty stated above, AERCO International disclaims all warranties with regard to the products sold hereunder including all implied warranties of merchantability and fitness and the express warranties stated herein are in lieu of all obligations or liabilities on the part of AERCO International for damages including, but not limited to, consequential damages arising out of/or in connection with the use or performance of the product.



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