BACnet object list for Power Xpert Multi-Point Meter, energy portal module (EPM)
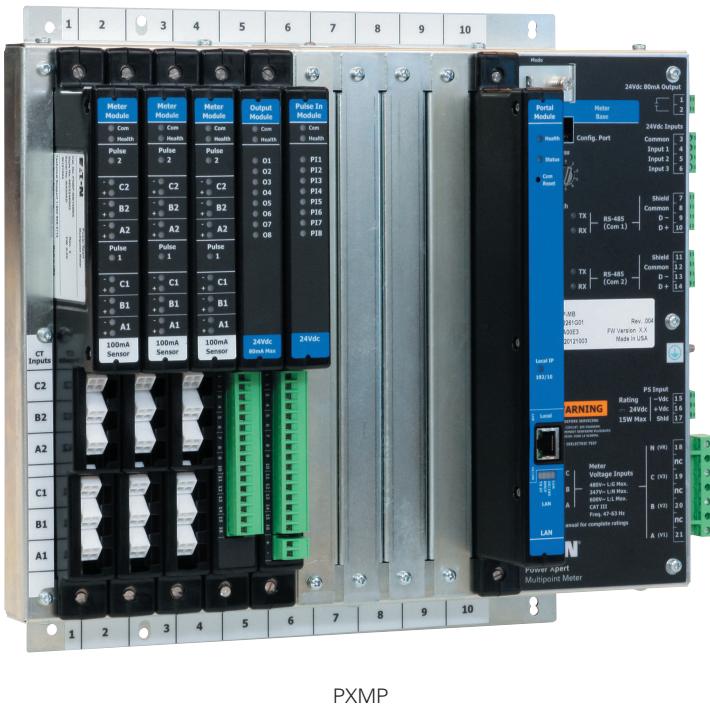
PXMP

Contents

Eaton's Power Xpert Meters offer comprehensive world-class power and energy measurements and monitoring that reduce day-to-day operating cost. The Power Xpert Meter product line can be configured to communicate over IP (Annex J) with the option of registering as a foreign device for participation in wide-area BACnet inter-networks. Eaton's Power Xpert meters conform to the ASHRAE 135 Standard and are regularly tested in accordance with the ASHRAE 135-1 Testing Standard.

The following document is intended for building automation professionals (technicians, engineers, and end-users alike) that will integrate the Power Xpert Meter into their control system. The table(s) provides commonly needed information for data residing in the device including BACnet Object identifiers, helpful descriptions, and native names that are observed by way of "discovery".

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The following BACnet object map provides object adressing information for the PXMP base meter. The base meter BACnet device provides system voltage, current, power, and energy detail for the overall meter profile of the device.

Table 1. Main meter object list.

BACnet object name	Bacnet object identifier	Description
Meter base device	Device	Meter base device object
/0/mACVAB	Analog input:14	Volts A-B
/0/mACVBC	Analog input:15	Volts B-C
/0/mACVCA	Analog input:16	Volts C-A
/0/mACVAN	Analog input:17	Volts A-N
/0/mACVBN	Analog input:18	Volts B-N
/0/mACVBN	Analog input:19	Volts C-N
/0/mACMinVan	Analog input:38	Minimum value - volts A-N
/0/mACMinVbn	Analog input:39	Minimum value - volts B-N
/0/mACMinVcn	Analog input:40	Minimum value - volts C-N
/0/mACMinVab	Analog input:41	Minimum value - volts A-B
/0/mACMinVbc	Analog input:42	Minimum value - volts B-C
/0/mACMinVca	Analog input:43	Minimum value - volts C-A
/0/mACMaxVan	Analog input:50	Maximum value - volts A-N
/0/mACMaxVbn	Analog input:51	Maximum value - volts B-N
/0/mACMaxVcn	Analog input:52	Maximum value - volts C-N
/0/mACMaxVab	Analog input:53	Maximum value - volts A-B
/0/mACMaxVbc	Analog input:54	Maximum value - volts B-C
/0/mACMaxVca	Analog input:55	Maximum value - volts C-A
/0/mACIA	Analog input:62	Current phase A
/0/mACIB	Analog input:63	Current phase B
/0/mACIC	Analog input:64	Current phase C
/0/mWA	Analog input:80	Real power phase A
/0/mWB	Analog input:81	Real power phase B
/0/mWC	Analog input:82	Real power phase C
/0/mWtotal	Analog input:83	Real power system total
/0/mWAMax	Analog input:84	Real power phase A max.
/0/mWBMax	Analog input:85	Real power phase B max.
/0/mWCMax	Analog input:86	Real power phase C max.
/0/mWtotalMax	Analog input:87	Real power system total max.
/0/mVAA	Analog input:104	Apparent power phase A
/0/mVAB	Analog input:105	Apparent power phase B
/0/mVAC	Analog input:106	Apparent power phase C
/0/mVAtotal	Analog input:107	Apparent power system total
/0/mVAAMax	Analog input:108	Apparent power phase A max.
/0/mVABMax	Analog input:109	Apparent power phase B max.
/0/mVACMax	Analog input:110	Apparent power phase C max.
/0/mVAMax	Analog input:111	Apparent power system total max.
/0/mVarA	Analog input:128	Reactive power phase A
/0/mVarB	Analog input:129	Reactive power phase B
/0/mVarC	Analog input:130	Reactive power phase C
/0/mVARtotal	Analog input:131	Reactive power system total
/0/mVarAMax	Analog input:132	Reactive power phase A max.
/0/mVarBMax	Analog input:133	Reactive power phase B max.
/0/mVarCMax	Analog input:134	Reactive power phase C max.
/0/mVARtotalMax	Analog input:135	Reactive power total max.
/0/mTemperature	Analog input:136	Temperature
/0/mMinTemp	Analog input:137	Min. temperature
/0/mMaxTemp	Analog input:138	Max. temperature

Table 1. Main meter object list (continued).

BACnet object name	Bacnet object identifier	Description
/0/mPFapparentTotal	Analog input:155	Power factor apparent total
/0/mPFapparentSysMin	Analog input:156	Power factor system min.
/0/mPFapparentSysMax	Analog input:158	Power factor system max.
/0/mForwardEnergy	Analog input:163	Forward real energy
/0/mReverseEnergy	Analog input:164	Reverse real energy
/0/mVARhQ1	Analog input:165	Q1 reactive energy
/0/mVARhQ2	Analog input:166	Q2 reactive energy
/0/mVARhQ3	Analog input:167	Q3 reactive energy
/0/mVARhQ4	Analog input:168	Q4 reactive energy
/0/mVAhForward	Analog input:169	VAh forward apparent energy
/0/mVAhReverse	Analog input:170	VAh reverse apparent energy
/0/mLastResetReverseEnergy	Analoginput:173	Last reset reverse energy
/0/mDemandForwardWatts	Analog input:180	Demand forward watts
/0/mPeakDemandForwardWatts	Analog input:181	Peak demand forward watts
/0/mDemandReverseWatts	Analog input:183	Demand reverse watts
/0/mPeakDemandReverseWatts	Analog input:184	Peak demand reverse watts
/0/mDemandVARs	Analoginput:186	Demand VARs
/0/mDemandVAs	Analoginput:187	Demand VAs
/0/mPeakDemandVAsForward	Analog input:189	Peak demand VA forward
/0/mPeakDemandVAsReverse	Analog input:190	Peak demand VA reverse
/0/mLastResetPeakDemandForwardWatts	Analoginput:193	Last reset peak demand forward watts
/0/mLastResetPeakDemandReverseWatts	Analoginput:194	Last reset peak demand reverse watts
/0/aEvent1	Characterstringvalue:201	Event 1
/0/aEvent2	Characterstringvalue:202	Event 2
/0/aEvent3	Characterstringvalue:203	Event 3
/0/aEvent4	Characterstringvalue:204	Event 4
/0/aEvent5	Characterstringvalue:205	Event 5
/0/aEvent6	Characterstringvalue:206	Event 6
/0/aEvent7	Characterstringvalue:207	Event 7
/0/aEvent8	Characterstringvalue:208	Event 8
/0/aEvent9	Characterstringvalue:209	Event 9
/0/aEvent10	Characterstringvalue:210	Event 10
/0/aEvent11	Characterstringvalue:211	Event 11
/0/aEvent12	Characterstringvalue:212	Event 12
/0/aEvent13	Characterstringvalue:213	Event 13
/0/aEvent14	Characterstringvalue:214	Event 14
/0/aEvent15	Characterstringvalue:215	Event 15
/0/aEvent16	Characterstringvalue:216	Event 16
/0/aEvent17	Characterstringvalue:217	Event 17
/0/aEvent18	Characterstringvalue:218	Event 18
/0/aEvent19	Characterstringvalue:219	Event 19
/0/aEvent20	Characterstringvalue:220	Event 20
/0/mACMinVanTime	Datetimevalue:44	Time of min. Van
/0/mACMinVbnTime	Datetimevalue:45	Time of min. Vbn
/0/mACMinVcnTime	Datetimevalue:46	Time of min. Vcn
/0/mACMinVabTime	Datetimevalue:47	Time of min. Vab
/0/mACMinVbcTime	Datetimevalue:48	Time of min. Vbc
/0/mACMinVcaTime	Datetimevalue:49	Time of min. Vca
/0/mACMaxVanTime	Datetimevalue:56	Time of max. Van
/0/mACMaxVbnTime	Datetimevalue:57	Time of max. Vbn
/0/mACMaxVcnTime	Datetimevalue:58	Time of max. Vcn
/0/mACMaxVabTime	Datetimevalue:59	Time of max. Vab
/0/mACMaxVbcTime	Datetimevalue:60	Time of max. Vbc

Table 1. Main meter object list (continued).

BACnet object name	Bacnet object identifier	Description
/0/mACMaxVcaTime	Datetimevalue:61	Time of max. Vca
/0/mWAMaxTime	Datetimevalue:100	Time of max. real power phase A
/0/mWBMaxTime	Datetimevalue:101	Time of max. real power phase B
/0/mWCMaxTime	Datetimevalue:102	Time of max. real power phase C
/0/mWtotalMaxTime	Datetimevalue:103	Time of max. real power
/0/mVAAMaxTime	Datetimevalue:124	Time of max. apparent power phase A
/0/mVABMaxTime	Datetimevalue:125	Time of max. apparent power phase B
/0/mVACMaxTime	Datetimevalue:126	Time of max. apparent power phase C
/0/mVAMaxTime	Datetimevalue:127	Time of max. apparent power
/0/mVarAMaxTime	Datetimevalue:151	Time of max. reactive power phase A
/0/mVarBMaxTime	Datetimevalue:152	Time of max. reactive power phase B
/0/mVarCMaxTime	Datetimevalue:153	Time of max. reactive power phase C
/0/mVARtotalMaxTime	Datetimevalue:154	Time of max. reactive power
/0/mPFapparentSysMinTime	Datetimevalue:157	Time of min. system PF (app)
/0/mPFapparentSysMaxTime	Datetimevalue:159	Time of max. system PF (app)
/0/mEnergyResetTime	Datetimevalue:171	Time of energy reset
/0/mTimeDatePeakDemandForwardWatts	Datetimevalue:182	Peak demand forward watts time
/0/mTimeDatePeakDemandReverseWatts	Datetimevalue:185	Peak demand reverse watts time
/0/mTimeDateLastResetPeakDemandForwardWatts	Datetimevalue:195	Last reset peak demand forward watts time
/0/mTimeDateLastResetPeakDemandReverseWatts	Datetimevalue:196	Last reset peak demand reverse watts time

The following BACnet object map provides object addressing information for virtual energy meters (sub-meters, tenants) that are monitored by the PXMP. This virtual device provides basic energy and power information for the individual meter.

Table 2. Energy meter object list.

BACnet object name	Bacnet object identifier	Description
Virtual Meter Device Object	Device	Virtual energy meter device object
/0/mForwardEnergy	Analog input:163	Forward watt hours
/0/mReverseEnergy	Analog input:164	Reverse watt hours
/0/mVARhQ1	Analog input:165	Q1 VARh
/0/mVARhQ2	Analog input:166	Q2 VARh
/0/mVARhQ3	Analog input:167	Q3 VARh
/0/mVARhQ4	Analog input:168	Q4 VARh
/0/mVAhForward	Analog input:169	VAh forward
/0/mVAhReverse	Analog input:170	VAh reverse
/0/mDemandForwardWatts	Analog input:180	Demand forward watts
/0/mPeakDemandForwardWatts	Analog input:181	Peak demand forward watts
/0/mDemandReverseWatts	Analog input:183	Demand reverse watts
/0/mPeakDemandReverseWatts	Analog input:184	Peak demand reverse watts
/0/mPeakDemandVAsForward	Analog input:189	Peak demand VA forward
/0/mPeakDemandVAsReverse	Analog input:190	Peak demand VA reverse

The following BACnet object map provides object adressing information for virtual pulse meters defined with the PXMP.

Table 3. Pulse meter object list.

BACnet object name	BACnet object identifier	Description
Virtual Pulse Meter Device Object	Device	Virtual pulse meter device object
/0/2/39/ModelName	characterStringValue:3	PXMP pulse meter
/0/2/39/mDIUnits	characterStringValue:198	Units of measure
/0/2/39/mDIRawCount	positiveIntegerValue:199	Raw pulse counts

Notes:

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