

Date: **12/13/2011**
 Vendor Name: **OEMCtrl**
 Product Name: **I/O Pro 812u**
 Product Model Number: **I/O Pro 812u**
 Applications Software Version: **<user specified>** Firmware Revision: **4.02**
 BACnet Protocol Revision: **9**

Product Description:

The I/O Pro 812u is a general-use controller that you can easily customize to meet any sequence of operation. Fully capable of operating in a 100% stand-alone control mode, the I/O Pro 812u can connect to a Building Automation System (BAS) using any of today’s four leading protocols: BACnet (IP, Ethernet, ARC156, MS/TP, and PTP), Modbus RTU, N2, and LonWorks. The point mapping to all of these protocols can be pre-set, so that the protocol and baud rates can be easily selected in the field without any additional downloads or technician assistance. The I/O Pro 812u provides input/output capacity on the base controller, plus support for multiple expansion boards if additional I/O capacity is needed.

BACnet Standardized Device Profile (Annex L):

- BACnet Operator Workstation (B-OWS)
- BACnet Building Controller (B-BC)
- BACnet Advanced Application Controller (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS)
- BACnet Smart Actuator (B-SA)

List all BACnet Interoperability Building Blocks Supported (Annex K):

DS-RP-B	AE-N-I-B	SCHED-I-B	T-VMT-I-B	DM-DDB-A
DS-RPM-B	AE-ACK-B	SCHED-E-B	T-ATR-B	DM-DDB-B
DS-WP-B	AE-ASUM-B			DM-DOB-A
DS-WPM-B	AE-INFO-B			DM-DOB-B
DS-COV-A	AE-ESUM-B			DM-DCC-B
DS-COV-B				DM-PT-A
DS-COVU-A				DM-PT-B
DS-COVU-B				DM-TS-B
DS-RP-A				DM-UTC-B
DS-RPM-A				DM-RD-B
DS-WP-A			NM-RC-B	DM-LM-B
DS-WPM-A				DM-BR-B
				DM-R-B

Segmentation Capability:

- Able to transmit segmented messages
 - Able to receive segmented messages
- Window Size _____1_____
- Window Size _____1_____

Standard Object Types Supported:

An object type is supported if it may be present in the device. For each standard Object Type supported provide the following data:

- 1) Whether objects of this type are dynamically creatable using the CreateObject service
- 2) Whether objects of this type are dynamically deletable using the DeleteObject service
- 3) List of the optional properties supported
- 4) List of all properties that are writable where not otherwise required by this standard
- 5) List of proprietary properties and for each its property identifier, datatype, and meaning
- 6) List of any property range restrictions

(List of object types starts on page 3 ...)

Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s) **156k baud**_
- MS/TP master (Clause 9), baud rate(s): **9600, 19200, 38400, 78600**_
- MS/TP slave (Clause 9), baud rate(s): _____
- Point-To-Point, EIA 232 (Clause 10), baud rate(s): **9600, 19200, 38400, 57600, 115200**
- Point-To-Point, modem, (Clause 10), baud rate(s): **9600, 19200, 38400, 57600, 115200**
- LonTalk, (Clause 11), medium: _____
- Other: _____

Device Address Binding:

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) Yes No

Networking Options:

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
Ethernet-UDP/IP, Ethernet-PTP, BACnet/IP-UDP/IP, BACnet/IP-PTP, Ethernet-BACnet/IP, Ethernet-BACnet/IP-UDP/IP, Ethernet-BACnet/IP-PTP, ARCNET-UDP/IP, ARCNET-PTP, Ethernet-ARCNET, Ethernet-ARCNET-UDP/IP, Ethernet-ARCNET-PTP, BACnet/IP-ARCNET, BACnet/IP-ARCNET-UDP/IP, BACnet/IP-ARCNET-PTP, Ethernet-BACnet/IP-ARCNET, Ethernet-BACnet/IP-ARCNET-UDP/IP, Ethernet-BACnet/IP-ARCNET-PTP, MS/TP-UDP/IP, MS/TP-PTP, Ethernet-MS/TP, Ethernet-MS/TP-UDP/IP, Ethernet-MS/TP-PTP, BACnet/IP-MS/TP, BACnet/IP-MS/TP-UDP/IP, BACnet/IP-MS/TP-PTP, Ethernet-BACnet/IP-MS/TP, Ethernet-BACnet/IP-MS/TP-UDP/IP, Ethernet-BACnet/IP-MS/TP-PTP
- Annex H, BACnet Tunneling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)
Does the BBMD support registrations by Foreign Devices? Yes No

Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

- ANSI X3.4 IBM™/Microsoft™ DBCS ISO 8859-1
- ISO 10646 (UCS-2) ISO 10646 (UCS-4) JIS C 6226

If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports: Various protocols, depending on which firmware is loaded.

Analog Input:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - max-pres-value
 - min-pres-value
 - notification-class
 - notify-type
 - reliability
 - resolution
 - time-delay
 - update-interval
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
device-type	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Input (TLO):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - max-pres-value
 - min-pres-value
 - notification-class
 - notify-type
 - reliability
 - resolution
 - time-delay
 - update-interval
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
device-type	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Input (PTA):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - device-type
 - Event-enable
 - Event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - max-pres-value
 - min-pres-value
 - notification-class
 - notify-type
 - reliability
 - resolution
 - time-delay
 - update-interval
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
device-type	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Input (RS):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - max-pres-value
 - min-pres-value
 - notification-class
 - notify-type
 - reliability
 - resolution
 - time-delay
 - update-interval
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
device-type	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Output:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - max-pres-value
 - min-pres-value
 - notification-class
 - notify-type
 - reliability
 - resolution
 - time-delay
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
device-type	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
relinquish-default	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Output (FM):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - max-pres-value
 - min-pres-value
 - notification-class
 - notify-type
 - reliability
 - resolution
 - time-delay
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
device-type	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
relinquish-default	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Output (PWM):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - max-pres-value
 - min-pres-value
 - notification-class
 - notify-type
 - reliability
 - resolution
 - time-delay
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - device-type
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
device-type	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
relinquish-default	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Value (PAR):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - time-delay
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
relinquish-default	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Value (RS):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - reliability
 - cov-increment
4. Writeable properties:
 - out-of-service
 - present-value
 - units
 - cov-increment
5. Proprietary properties: None
6. Range restrictions: None

Analog Value (STAT):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - reliability
 - time-delay
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Input:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - active-text
 - alarm-value
 - change-of-state-count
 - change-of-state-time
 - description
 - device-type
 - elapsed-active-time
 - event-enable
 - event-time-stamps
 - inactive-text
 - notification-class
 - notify-type
 - reliability
 - time-delay
 - time-of-active-time-reset
 - time-of-state-count-reset
4. Writeable properties:
 - active-text
 - alarm-value
 - change-of-state-count
 - description
 - device-type
 - elapsed-active-time
 - event-enable
 - inactive-text
 - notification-class
 - notify-type
 - out-of-service
 - polarity
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

active-text	limited to 50 octets in length
change-of-state-count	0 to 4294967295
description	limited to 50 octets in length
device-type	limited to 50 octets in length
elapsed-active-time	0 to 4294967295
inactive-text	limited to 50 octets in length
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Output:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - active-text
 - change-of-state-count
 - change-of-state-time
 - description
 - device-type
 - elapsed-active-time
 - event-enable
 - event-time-stamps
 - feedback-value
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - reliability
 - time-delay
 - time-of-active-time-reset
 - time-of-state-count-reset
4. Writable properties:
 - active-text
 - change-of-state-count
 - description
 - device-type
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - out-of-service
 - polarity
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

active-text	limited to 50 octets in length
change-of-state-count	0 to 4294967295
description	limited to 50 octets in length
device-type	limited to 50 octets in length
elapsed-active-time	0 to 4294967295
inactive-text	limited to 50 octets in length

minimum-off-time	0 to 4294967295
minimum-on-time	0 to 4294967295
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Value (PAR):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - active-text
 - alarm-value
 - change-of-state-count
 - change-of-state-time
 - description
 - elapsed-active-time
 - event-enable
 - event-time-stamps
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - time-delay
 - time-of-active-time-reset
 - time-of-state-count-reset
4. Writeable properties:
 - active-text
 - alarm-value
 - change-of-state-count
 - description
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

active-text	limited to 50 octets in length
change-of-state-count	0 to 4294967295
description	limited to 50 octets in length
elapsed-active-time	0 to 4294967295
inactive-text	limited to 50 octets in length
minimum-off-time	0 to 4294967295

minimum-on-time	0 to 4294967295
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Value (CLOCK):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - active-text
 - alarm-value
 - change-of-state-count
 - change-of-state-time
 - description
 - elapsed-active-time
 - event-enable
 - event-time-stamps
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - time-delay
 - time-of-active-time-reset
 - time-of-state-count-reset
4. Writeable properties:
 - active-text
 - alarm-value
 - change-of-state-count
 - description
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

active-text	limited to 50 octets in length
change-of-state-count	0 to 4294967295
description	limited to 50 octets in length
elapsed-active-time	0 to 4294967295
inactive-text	limited to 50 octets in length
minimum-off-time	0 to 4294967295



minimum-on-time	0 to 4294967295
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Value (STAT):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - active-text
 - alarm-value
 - change-of-state-count
 - change-of-state-time
 - description
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - reliability
 - time-delay
 - time-of-active-time-reset
 - time-of-state-count-reset
 - event-time-stamp
4. Writeable properties:
 - active-text
 - alarm-value
 - change-of-state-count
 - description
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

active-text	limited to 50 octets in length
change-of-state-count	0 to 4294967295
description	limited to 50 octets in length
elapsed-active-time	0 to 4294967295
inactive-text	limited to 50 octets in length
minimum-off-time	0 to 4294967295
minimum-on-time	0 to 4294967295
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Value (MODULE ALARM):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - alarm-value
 - description
 - event-enable
 - event-time-stamps
 - notification-class
 - notify-type
 - time-delay
4. Writeable properties:
 - alarm-value
 - event-enable
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
5. Proprietary properties: None
6. Range restrictions:
 - notification-class must be valid notification-class
 - time-delay 0 to 4294967295

Calendar:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
description
4. Writeable properties:
date-list
description
5. Proprietary properties: None
6. Range restrictions:
date-list limited to 30 BACnetCalendarEntry
description limited to 50 octets in length

Device:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - active-cov-subscriptions
 - active-vt-sessions
 - apdu-segment-timeout
 - backup-failure-timeout
 - configuration-files
 - database-revision
 - multi-max-master
 - multi-max-info-frames
 - multi-mstp-network-numbers
 - description
 - last-restore-time
 - list_of_session_keys
 - local_date
 - local_time
 - location
 - max-segments-accepted
 - vt-classes-supported
 - utc-offset
 - time-synchronization-recipients
 - max-master
 - max-info-frames
 - last-restart-reason
 - time-of-device-restart
 - restart-notification-recipients
 - utc-time-synchronization-recipients
 - time-synchronization-interval
 - align-intervals
 - interval-offset
4. Writeable properties:
 - object-identifier
 - object-name
 - location
 - description
 - local-time
 - local-date
 - utc-offset
 - apdu-segment-timeout
 - apdu-timeout
 - number-of-apdu-retries
 - time-recipient
 - max-master
 - max-master-frames
 - multi-max-master
 - multi-max-info-frames
 - backup-failure-timeout
 - last-restart-reason

restart-notification-recipients
utc-time-synchronization-recipients
time-synchronization-interval
align-intervals
interval-offset

5. Proprietary properties:

Property no.	Property name
4146	file-free-size
4147	file-overhead-size
4149	auto-identity-scheme
4150	auto-identity-base
4153	serial-number
4162	test-mode

6. Range restrictions:

description	limited to 50 octets in length
location	limited to 50 octets in length
max-master	1 to 127
object-identifier	must be a valid device identifier
object-name	limited to 50 octets in length
utc-offset	-780 to 780
last-restart-reason	limited to BACnetRestartReason
restart-notification-recipients	0 to 10 BACnetRecipients
last-restart-reason	limited to BACnetRestartReason

File:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:

description

4. Writeable properties:

archive
description
file-type
file-size
modification-date
read-only

5. Proprietary properties: None

6. Range restrictions:

description	limited to 50 octets in length
file-type	limited to 50 octets in length

Loop Object (BACnet PID):

1. Creatable? No
2. Deletable? No
3. Optional properties supported:
 - Description
 - Update_interval
 - Proportional_constant
 - Proportional_constant_units
 - Integral_constant
 - Integral_constant_units
 - Derivative_constant
 - Derivative_constant_units
 - Bias
 - COV_increment
4. Writable properties:
 - Description
 - Update_interval
 - Action
 - Proportional_constant
 - Integral_constant
 - Derivative_constant
 - Bias
5. Proprietary properties:
 - Continuous_proportional
 - Deadband
 - Ramp_time
6. Range Restriction:

Property no.	Property name	Property Restrictions	Data Type
4163	Continuous_proportional	Can only be 0 or 1	Boolean
4164	Deadband	Must be >=0	Real
4165	Ramp_time	Must be >=0	Real

Multi-State Value (PAR):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - alarm-values
 - description
 - event-enable
 - event-time-stamps
 - fault-values
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - state-text
 - time-delay
4. Writeable properties:
 - alarm-values
 - description
 - event-enable
 - fault-values
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
notification-class	must be valid notification-class
present-value	must be valid state
relinquish-default	must be valid state
time-delay	0 to 4294967295

Multi-State Value (CLOCK):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - alarm-values
 - description
 - event-enable
 - event-time-stamps
 - fault-values
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - state-text
 - time-delay
4. Writeable properties:
 - alarm-values
 - description
 - event-enable
 - fault-values
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
notification-class	must be valid notification-class
present-value	must be valid state
relinquish-default	must be valid state
time-delay	0 to 4294967295

Multi-State Value (STAT):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - alarm-values
 - description
 - event-enable
 - event-time-stamps
 - fault-values
 - notification-class
 - notify-type
 - reliability
 - state-text
 - time-delay
4. Writeable properties:
 - alarm-values
 - description
 - event-enable
 - fault-values
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
notification-class	must be valid notification-class
present-value	must be valid state
time-delay	0 to 4294967295

Notification Class:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - description
4. Writeable properties:
 - ack-required
 - description
 - priority
 - recipient-list
5. Proprietary properties: None
6. Range restrictions: None
 - description limited to 50 octets in length
 - recipient-list limited to 5 BACnetDestinations

Program:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - description
 - description-of-halt
 - instance-of
 - program-location
 - reason-for-halt
 - reliability
4. Writeable properties:
 - description
 - program-change
 - program-location
5. Proprietary properties: None
6. Range restrictions:
 - description limited to 50 octets in length
 - program-location limited to 50 octets in length

Schedule (ENUM):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - description
 - exception-schedule
 - weekly-schedule
4. Writeable properties:
 - description
 - effective-period
 - exception-schedule
 - priority-for-writing
 - weekly-schedule
 - list-of-prop-reference
 - schedule-default
 - reliability
 - out-of-service
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
exception-schedule	limited to 30 BACnetSpecialEvents, each being limited to 6 BACnetTimeValues
present-value	0 to 4294967295
relinquish-default	0 to 4294967295
weekly-schedule	limited to 6 BACnetTimeValues per BACnetDailySchedule
schedule-default	0 to 4294967295
reliability	limited to 4 BACnetReliability
out-of-service	limited to Boolean

Schedule (UNS):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - description
 - exception-schedule
 - weekly-schedule
4. Writeable properties:
 - description
 - effective-period
 - exception-schedule
 - priority-for-writing
 - weekly-schedule
 - list-of-prop-reference
 - schedule-default
 - reliability
 - out-of-service
5. Proprietary properties: None
6. Range restrictions:
 - description limited to 50 octets in length
 - exception-schedule limited to 30 BACnetSpecialEvents,
each being limited to 6 BACnetTimeValues
 - present-value 0 to 4294967295
 - relinquish-default 0 to 4294967295
 - weekly-schedule limited to 6 BACnetTimeValues per BACnetDailySchedule
 - schedule-default 0 to 4294967295
 - reliability limited to 4 BACnetReliability
 - out-of-service limited to Boolean

Trend-log (COV or polled):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - client-cov-increment
 - cov-resubscription-interval
 - description
 - event-enable
 - event-time-stamps
 - log-device-object-property
 - log-interval
 - notification-class
 - notification-threshold
 - notify-type
 - records-since-notification
 - start-time
 - stop-time
 - last-notify-record
 - align-intervals
 - interval-offset
 - reliability
4. Writeable properties:
 - buffer-size
 - client-cov-increment
 - cov-resubscription-interval
 - Description
 - event-enable
 - log-enable
 - log-interval
 - notification-class
 - notification-threshold
 - notify-type
 - record-count
 - start-time
 - stop-time
 - stop-when-full
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
log-interval	0 to 4294967295
notification-class	must be valid notification-class
notification-threshold	0 to 4294967295
record-count	can only be written to 0
total-record-count	can only be written to 0
reliability	limited to 4 BACnetReliability

Trend-log (of a non-BACnet property, COV or polled):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - client-cov-increment
 - cov-resubscription-interval
 - description
 - event-enable
 - event-time-stamps
 - last-notify-record
 - log-interval
 - notification-class
 - notification-threshold
 - notify-type
 - records-since-notification
 - start-time
 - stop-time
 - align-intervals
 - interval-offset
 - reliability
4. Writeable properties:
 - buffer-size
 - client-cov-increment
 - cov-resubscription-interval
 - description
 - event-enable
 - log-enable
 - log-interval
 - notification-class
 - notification-threshold
 - notify-type
 - record-count
 - start-time
 - stop-time
 - stop-when-full
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
log_interval	0 to 4294967295
notification_class	must be valid notification_class
notification_threshold	0 to 4294967295
record_count	can only be written to 0
logging-type	limited to 3 BACnetLoggingType
align-intervals	limited to Boolean
interval-offset	0 to 4294967295 in hundredths of seconds

trigger	limited to Boolean
reliability	limited to 4 BACnetReliability

Trend-log (of a non-BACnet property, triggered):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - client-cov-increment
 - cov-resubscription-interval
 - description
 - event-enable
 - event-time-stamps
 - last-notify-record
 - log-interval
 - notification-class
 - notification-threshold
 - notify-type
 - records-since-notification
 - start-time
 - stop-time
 - reliability
 - trigger
4. Writeable properties:
 - buffer-size
 - client-cov-increment
 - cov-resubscription-interval
 - description
 - event-enable
 - log-enable
 - notification-class
 - notification-threshold
 - notify-type
 - record-count
 - start-time
 - stop-time
 - stop-when-full
 - trigger
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
log_interval	0 to 4294967295
notification_class	must be valid notification_class
notification_threshold	0 to 4294967295
record_count	can only be written to 0

logging-type	limited to 3 BACnetLoggingType
align-intervals	limited to Boolean
interval-offset	0 to 4294967295 in hundredths of seconds
trigger	limited to Boolean
reliability	limited to 4 BACnetReliability

Proprietary Object, AirFlow:

4. Creatable? No
5. Deletable? No
6. Optional properties supported:
 - description
 - device-type
 - profile-name
 - tab-tech-name
 - tab-org-name
 - display-name
 - max-cool-flow
 - max-cool-flow-ovr
 - max-heat-flow
 - min-occ-flow
 - min-occ-flow-ovr
 - min-unocc-flow
 - tabs-pars-seal
 - min-aux-heat-flow
 - flow-at-one-inch
 - flow-calibration
 - sens-calibration
 - lock-flags
 - flow-setpt-lock
 - aux-heat-lock
 - damper-lock
 - fan-lock
 - auto-zero
 - tab-mode
 - last-tab-date
 - air-source-obj-id
 - par-prg-dev-id
 - par-prg-obj-id
 - loop-config
 - sens-config
 - damp-config
 - status-flags
 - reliability
 - occupied-mode
 - heat-mode
 - fan-outpt
 - cooling
 - heating
 - aux-heat
 - damper
 - flow-actual
 - flow-setpoint
 - air-flow-obj-id
 - own-prg-obj-id
 - flow-rawpct
 - flow-rawsetpt
 - moves-today
 - moves-yesterday
 - prop-stat-flags
 - units
 - ovr-flags

- lock-flags-bool
- prop-stat-flags-bool
- baf-version
- 4. Writable properties:
 - description
 - device-type
 - profile-name
 - tab-tech-name
 - tab-org-name
 - display-name
 - max-cool-flow
 - max-cool-flow-ovr
 - max-heat-flow
 - min-occ-flow
 - min-occ-flow-ovr
 - min-unocc-flow
 - tab-pars-seal
 - min-aux-heat-flow
 - flow-at-one-inch
 - flow-calibration
 - sens-calibration
 - flow-setpt-lock
 - aux-heat-lock
 - damper-lock
 - fan-lock
 - auto-zero
 - tab-mode
 - last-tab-date
 - lock-flags-bool
- 5. Proprietary properties:
 - max-cool-flow
 - max-heat-flow
 - min-occ-flow
 - min-unocc-flow
 - min-aux-heat-flow
 - flow-at-one-inch
 - flow-calibration
 - sens-calibration
 - aux-heat-lock
 - damper-lock
 - flow-setpt-lock
 - auto-zero
 - tab-mode
 - lock-flags
 - par-prg-dev-id
 - par-prg-obj-id
 - air-source-obj-id
 - occupied-mode
 - heat-mode
 - cooling
 - heating
 - aux-heat
 - damper

flow-actual
flow-setpoint
air-flow-obj-id
loop-config
sens-config
damp-config
flow-rawpct
flow-rawsetpt
moves-today
moves-yesterday
fan-lock
fan-outpt
prop-stat-flags
tab-tech-name
tab-org-name
last-tab-date
display-name
own-prg-obj-id
ovr-flags
max-cool-flow-ovr
min-occ-flow-ovr
tab-pars-seal
lock-flags-bool
prop-stat-flags-bool
baf-version

6. Range Restriction:

Property no.	Property name	Property Restrictions	Data Type
4132	tab-tech-name	limited to 50 octets in length	Chrstr
4133	tab-org-name	limited to 50 octets in length	Chrstr
4135	display-name	limited to 50 octets in length	Chrstr
4096	max-cool-flow	Float – Standard Bacnet	Real
4138	max-cool-flow-ovr	Float – Standard Bacnet	Real
4097	max-heat-flow	Float – Standard Bacnet	Real
4098	min-occ-flow	Float – Standard Bacnet	Real
4139	min-occ-flow-ovr	Float – Standard Bacnet	Real
4099	min-unocc-flow	Float – Standard Bacnet	Real
4140	tab-pars-seal	Date/Time – Standard Bacnet	Date/Time
4100	min-aux-heat-flow	Float – Standard Bacnet	Real
4101	flow-at-one-inch	Float – Standard Bacnet	Real
4102	flow-calibration	Float – Standard Bacnet	Real(Array of 4 values)
4103	sens-calibration	Float – Standard Bacnet	Real(Array of 4 values)
4106	flow-setpt-lock	Float – Standard Bacnet	Real
4104	aux-heat-lock	Float – (only goes 0 – 100)	Real
4105	damper-lock	Float – (only goes 0 - 100)	Real
4129	fan-lock	Boolean – Standard Bacnet	Boolean
4107	auto-zero	Boolean – Standard Bacnet	Boolean
4108	tab-mode	0-255 (Only 0 -8 is defined)	Byte
4134	last-tab-date	Date/Time – Standard Bacnet	Date/Time
4141	lock-flags-bool		BitStr
	description	limited to 50 octets in length	ChrStr
	device-type	limited to 50 octets in length	ChrStr
	profile-name	limited to 50 octets in length	ChrStr