

Date: 5/23/2013

Vendor Name: OEMCtrl

Product Name: I/O Zone 8112

Product Model Number: I/O Zone 8112

Applications Software Version: <depends on application> Firmware Revision: 5.54

BACnet Protocol Revision: 9

**Product Description:**

OEMCtrl's I/O Zone 8112 advanced controller delivers powerful control and communications features all in a compact, economical package. Highly flexible, yet easy-to-use programming tools allow customization for a wide variety of small equipment applications enabling OEMs to achieve optimum performance and energy efficiency. Fully capable of operating in a 100% stand-alone control mode, the I/O Zone 8112 can connect to a Building Automation System (BAS) using any of today's most popular protocols, such as BACnet, Modbus, N2, and LonWorks. The I/O Zone 8112 also supports communication to OEMCtrl's line of intelligent space sensors and keypad/display units.

**BACnet Standardized Device Profile (Annex L):**

- BACnet Operator Workstation (B-OWS)
- BACnet Advanced Operator Workstation (B-AWS)
- BACnet Operator Display (B-OD)
- 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-A	AE-N-I-B	SCHED-I-B	T-VMT-I-B	DM-DDB-A
DS-RP-B	AE-ACK-B	SCHED-E-B	T-ATR-B	DM-DDB-B
DS-RPM-A	AE-ASUM-B			DM-DOB-A
DS-RPM-B	AE-ESUM-B			DM-DOB-B
DS-RR-B	AE-INFO-B			DM-DCC-B
DS-WP-A				DM-PT-A
DS-WP-B				DM-PT-B
DS-WPM-A				DM-TS-A
DS-WPM-B				DM-TS-B
DS-COV-A				DM-UTC-A
DS-COV-B				DM-UTC-B
DS-COVU-A				DM-RD-B
DS-COVU-B				DM-LM-B
				DM-R-B
				DM-ATS-A

**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 all properties that are conditionally writable where not otherwise required by this standard.
- 6) List of proprietary properties and for each its property identifier, datatype, and meaning
- 7) List of any property range restrictions

**(List of object types starts on page 4 ...)**

**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, EIA-485 ARCNET (Clause 8), baud rate(s) \_\_\_\_\_
- MS/TP master (Clause 9), baud rate(s): **78600** \_\_\_\_\_
- MS/TP slave (Clause 9), baud rate(s): \_\_\_\_\_
- Point-To-Point, EIA 232 (Clause 10), baud rate(s): \_\_\_\_\_
- Point-To-Point, modem, (Clause 10), baud rate(s): \_\_\_\_\_
- LonTalk, (Clause 11), medium: \_\_\_\_\_
- BACnet/Zigbee (Annex O) \_\_\_\_\_
- 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.
- Annex H, BACnet Tunneling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)
  - Does the BBMD support registrations by Foreign Devices?  Yes  No
  - Does the BBMD support network address translation?  Yes  No

**Character Sets Supported:**

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

- |   |  |  |
|---|--|--|
| <input checked="" type="checkbox"/> ANSI X3.4         | <input checked="" type="checkbox"/> IBM™/Microsoft™ DBCS | <input checked="" type="checkbox"/> ISO 8859-1 |
| <input checked="" type="checkbox"/> ISO 10646 (UCS-2) | <input checked="" type="checkbox"/> ISO 10646 (UCS-4)    | <input checked="" type="checkbox"/> JIS C 6226 |

**If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports: None.**

**Network Security Options:**

- Non-secure Device – is capable of operating without BACnet Network Security
- Secure Device – is capable of using BACnet Network Security (NS-SD BIBB)
  - Multiple Application-Specific Keys
  - Supports encryption (NS-ED BIBB)
  - Key Server (NS-KS BIBB)

## 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 (ASVI\_CS):

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  
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  
time-delay  
units

5. Proprietary properties:

4168	optional/writable	cs-comb-algorithm
4169	optional/writable	cs-disp-source
4170	optional/writable	cs-sens-enable-arr
4173	optional/	cs-corrected-value-arr
4171	optional	cs-sens-status-arr
4172	optional/writable	cs-sens-calib-arr

6. Range restrictions:

description	limited to 50 octets in length
device-type	limited to 50 octets in length
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 (AVP\_CS):**

- 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 and max set via the microblock
relinquish-default	limited by min and max set via the microblock
notification-class	must be valid notification-class
time-delay	0 to 4294967295

**Analog Value (AVP\_CS\_Setpoint):**

- 1. Creatable? NO
- 2. Deletable? NO
- 3. Optional properties supported:
  - cov-increment
  - description
  - reliability
- 4. Writeable properties:
  - cov-increment
  - description
  - out-of-service
  - present-value
  - units
- 5. Proprietary properties:
 

4174	optional	Private-edit-range-min
4175	optional	Private-edit-range-max

- 6. Range restrictions:
  - description limited to 50 octets in length
  - present-value limited by min and max set via the microblock

### **Analog Value (AVS\_CS\_Setpoint):**

- 1. Creatable? NO
- 2. Deletable? NO
- 3. Optional properties supported:
  - cov-increment
  - description
  - reliability
- 4. Writeable properties:
  - cov-increment
  - description
  - out-of-service
  - units
- 5. Proprietary properties: None
- 6. Range restrictions:
  - description limited to 50 octets in length

### **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 (PID):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
  - description
  - reliability
4. Writeable properties:
  - description
5. Proprietary properties: None
6. Range restrictions: None

### 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. Writeable 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 (BVP\_CS):**

- 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 (BVP\_CS\_Momentary):**

- 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
  - notification-class
  - notify-type
  - out-of-service
  - present-value
  - relinquish-default
  - time-delay
5. Proprietary properties:
 

4176	optional	cs_momentary_state
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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
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 (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. Writable 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

### Binary Value (PAR):

7. Creatable? NO
8. Deletable? NO
9. 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
- 10. 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
- 11. Proprietary properties: None
- 12. 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

## 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
  - align-intervals
  - apdu-segment-timeout
  - description
  - interval-offset
  - list-of-session-keys
  - local-date
  - local-time
  - location
  - max-segments-accepted
  - vt-classes-supported
  - utc-offset
  - max-master
  - max-info-frames
  - last-restart-reason
  - time-of-device-restart
  - restart-notification-recipients
  - time-synchronization-recipients
  - time-synchronization-interval
  - utc-time-synchronization-recipients
4. Writeable properties:
  - object-identifier
  - object-name
  - location
  - description
  - local-time
  - local-date
  - utc-offset
  - apdu-segment-timeout
  - apdu-timeout
  - number-of-apdu-retries
  - max-master
  - max-info-frames
  - last-restart-reason
  - restart-notification-recipients
  - auto-identity-scheme
  - auto-identity-base
  - active-locale-code
  - module-configuration
  - archive-now-trigger



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

5. Proprietary properties:

Property no.	Property name	Data Type
4145	active-locale-index	unsigned
4149	auto-identity-scheme	enumerated
4150	auto-identity-base	unsigned
4151	supported-locale-codes	array of unsigned
4152	active-locale-code	unsigned
4153	serial-number	char string
4154	module-configuration	octet string
4161	array-of-mstp-baud-rates	array of unsigned
4162	test-mode	enumerated
4166	download-id	char string
4167	file-store-size	unsigned
4901	archive-valid-status	enumerated
4902	archive-now-trigger	bool
4920	lon-works-enable-metric-conversion	bool

6. Range restrictions:

Property no.	Property name	Property Restrictions	Data Type
	object-identifier	must be a valid device identifier	object identifier
	object-name	limited to 50 octets in length	char string
	location	limited to 50 octets in length	char string
	description	limited to 50 octets in length	char string
	utc-offset	-780 to 780	integer
	apdu-segment-timeout	0 to 4294967295	unsigned
	apdu-timeout	0 to 4294967295	unsigned
	number-of-apdu-retries	0 to 255	unsigned
	max-master	1 to 127	unsigned
	max-info-frames	0 to 65535	unsigned
4149	auto-identity-scheme	0 to 255	enumerated
4150	auto-identity-base	0 to 4294967295	unsigned
4152	active-locale-code		unsigned
4154	module-configuration	0 to 16 in length	octet string

**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



- 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 (MSVP\_CS):

- 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  
time-delay

must be valid state  
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