

BACnet Protocol Implementation Conformance Statement

Date: 17-07-2026
Vendor Name: FlowCon
Product Name: FlowCon SM Actuators with BACnet
Product Model Number: SM.0.0.1.5 / SM.0.0.1.6
Actuator Software Version: FL1 V206
BACnet Firmware Revision: V110, protocol 1.22

Product Description:

Electrical actuator with BUS communication (BACnet or Modbus) for PICV valve: FlowCon SM.

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 Data Sharing - Read Property - B
DS-RPM-B Data Sharing - Read Property Multiple - B
DS-WP-B Data Sharing - Write Property - B
DS-WPM-B Data Sharing - Write Property Multiple - B
DS-COV-B Data Sharing - Change of Value - B
DM-DDB-B Device Management - Dynamic Device Binding - B
DM-DOB-B Device Management - Dynamic Object Binding - B
DM-DCC-B Device Management - Device Communication Control - B
DM-RD-B Device Management - Reinitialize Device - B

Segmentation Capability: This device does not support segmentation.

- ☐ Segmented requests supported Window Size:
- ☐ Segmented responses supported Window Size:

Standard Object types Supported:

Object Type	Supported	Dynamically Creatable	Dynamically Deletable	Optional / Source-Visible Properties	Writable Properties
Analog Input (AI)	☒	☐	☐	Description Reliability Out_Of_Service Units Min_Pres_Value Max_Pres_Value	Min_Pres_Value and Max_Pres_Value on AI.2
Analog Output (AO)	☒	☐	☐	Description Reliability Out_Of_Service Units	None confirmed from current XML
Analog Value (AV)	☒	☐	☐	Description Reliability Out_Of_Service Units Resolution COV_Increment	Present_Value on AV.4, AV.16, AV.17 and AV1.18 ¹

Note 1: AV.4 (AV_NETWORK_DEMAND) is BACnet-writable only when MSV.6 (MSV_CONTROL_SIGNAL) is set to serial / network control. The runtime code clears BACnet writability otherwise.

Object Type	Supported	Dynamically Creatable	Dynamically Deletable	Optional / Source-Visible Properties	Writable Properties
Binary Input (BI)	☒	☐	☐	Description	None
Binary Value (BV)	☒	☐	☐	Description Active_Text Inactive_Text	Present_Value on BV.1, BV.2 and BV.3
BitString Value (BSV)	☒	☐	☐	bit text / flag definitions in XML and UI mapping	Present_Value on BSV.3
CharacterString Value (CSV)	☒	☐	☐	Description	Present_Value on CSV.1
Device	☒	☐	☐	Object_List Database_Revision Device_Address_Binding APDU_Timeout Max_APDU_Length_Accepted	Object_Identifier and Object_Name
Multi-State Value (MSV)	☒	☐	☐	Description Reliability States_Text Number_Of_States	Present_Value on MSV.3, MSV.4, MSV.5, MSV.6, MSV.7, MSV.8 and MSV.13
Network Port (NP)	☒	☐	☐	Network_Type Protocol_Level Changes_Pending MAC_Address Link_Speed_Autonegotiate ²	Link_Speed and MAC_Address ²
Positive Integer Value (PIV)	☒	☐	☐	Description Units	Present_Value on PIV.22 and PIV.30

Note 2: NP.1 shows MAC_Address, Link_Speed and Link_Speed_Autonegotiate in the XML and menu tree.

Proprietary Properties

Property ID	Identifier	Data type	Meaning	Writable	Scope
#1004	Menu_Text	BACnetARRAY[N] of Character String	Object-specific text used for local display / menu presentation and enumerated UI labels	☐	object-level

Proprietary Range Restrictions

ID	Present_Value Range Restriction and Units
AI.2 (Control Signal)	Units follow control-signal mode. XML exposes configurable Min_Pres_Value / Max_Pres_Value . Source defaults are 2.0 to 10.0; runtime meaning depends on MSV.6
AV.4 (Actuator Control Demand)	0.0 to 1.0, units (98,254) in XML. Runtime interpretation depends on control mode and actuation logic. BACnet write is enabled only in serial/netwrk control mode
AV.16 (Max Flow)	XML default 79.8, min 7.68, max 76.8, resolution 7.68, units (87,254). Practical range depends on valve model (MSV.4) and flow unit scale (MSV.5)
AV.17 (Power Failsafe Position)	-1.0 to 100.0, unit is percent. -1 means fail in place
AV.18 (Control Signal Failsafe Position)	-1.0 to 100.0, unit is percent. -1 means fail in place
BV.1, BV.2, BV.3 (Reset requests)	Binary inactive / active requests. Action semantics are request-driven rather than analog range-driven
BSV.3 (User Configuration Flags)	Bit field. Writeable bits are source-defined configuration flags, not a numeric engineering range
MSV.3 (Actuator Rotation Direction)	1 = NC, 2 = NO
MSV.4 (Valve Model)	Enumerated valve model list in current XML: SM.1.1, SM.2.1, SM.3.0, SM.3.1, SM.3.2, SM.4.1, SM.4.2, SM.4.3, SM.5.1, SM.5.2, SM.6.2 and SM.0.0
MSV.5 (Flow Unit Scale)	1 = l/sec, 2 = GPM, 3 = l/hr
MSV.6 (Actuator Control Signal)	1 = 2-10 (V), 2 = 4-20 (mA), 3 = Digital, 4 = Serial/BUS

ID	Present_Value Range Restriction and Units
MSV.7 (Feedback Signal)	1 = 2-10 (V), 2 = 0-10 (V), 3 = 4-20 (mA), 4 = AU (automatic)
MSV.8 (Actuator Mode)	1 = LIN FLO, 2 = EQ PCT, 3 = LIN ROT
MSV.13 (Actuator Communication Mode)	1 = Disabled, 2 = BACnet, 3 = Modbus
PIV.22 (Auto-Stroke Frequency)	0 to 365, unit is days
PIV.30 (Network Timeout)	1 to 60, unit is minutes
CSV.1 (User Custom String)	Character string, no source-visible length restriction identified
NP.1 (Link Speed and MAC Address)	Enumerated from Link_Speed: 9600, 19200, 38400, 57600, 76800, 115200. Default is 38400 MAC Address: 1 to 127 in XML/menu path

Data Link Layer Options:

- ☐ BACnet/IP (Annex J)
- ☐ BACnet/IP, Foreign Device
- ☐ ISO 8802-3, Ethernet
- ☐ ASTM 878.1, 2.5 Mb ARCNET
- ☐ ASTM 878.1, RS-485 ARCNET
- ☒ MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 57600, 76800, 115200
- ☐ MS/TP slave
- ☐ Point-To-Point, EIA 232
- ☐ Point-To-Point, modem
- ☐ LonTalk
- ☐ Other

Device Address Binding:

Is static device binding supported?

- ☐ Yes
- ☒ No

Networking Options:

This device has no special networking options.

- ☐ Router
- ☐ Annex H, BACnet Tunneling Router over IP
- ☐ BACnet Broadcast Management Device (BBMD)

Network Security Options:

- ☒ Non-secure Device - capable of operating without BACnet Network Security
- ☐ Secure Device - capable of using BACnet Network Security
- ☐ Multiple Application-Specific Keys
- ☐ Supports encryption
- ☐ Key Server

Character Sets Supported:

- ☒ 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: This device is not a gateway.

List of Objects

Analog Input (AI):

#	Name	Description	R/W	Present-Value Options
2	Control Signal	Current control signal to actuator as well as setting of min. and max. control signal for the actuator	R/W	Unit as per MSV.6 Min. control signal = 0-7 (if unit is V), <u>2</u> Max. control signal = 3- <u>10</u> (if unit is V) Increment (if unit is V): 0.1 Min. control signal = 0-14 (if unit is mA), <u>4</u> Max. control signal = 6- <u>20</u> (if unit is mA) Increment (if unit is mA): 0.2
3	Power Supply Voltage	Power supply voltage	R	Unit = Volt
4	Battery Voltage	Actuator's battery voltage level	R	Unit = Volt <i>Only relevant for SM.0.0.1.6 (failsafe)</i>

Analog Output (AO):

#	Name	Description	R/W	Present-Value Options
1	Feedback Signal	Actuator's feedback signal	R	Feedback span and unit as per MSV.7

Analog Value (AV):

#	Name	Description	R/W	Present-Value Options
1	Actuator Position	Actuator's current position	R	Unit = ° SM.1.2 .. 5.2 valve: 0-2160° SM.6.2 valve: 0-3600°
2	Actuator Position Setpoint	Actuator's setpoint position	R	Unit = ° SM.1.2 .. 5.2 valve: 0-2160° SM.6.2 valve: 0-3600°
4	Actuator Control Demand	Control unit in BACnet	R/W	Unit = % <u>0.0</u> to 100.0
9	Internal Temperature	Actuator's internal temperature	R	Unit = °C
16	Max Flow	Actuator's maximum flow setting	R/W	0 to 277100. Unit as per MSV.5 Range and increments adapt to selected valve in valve in MSV.4
17	Power Failsafe Position	Actuator's failsafe position in case of power loss	R/W	-1.0 to 100.0. Unit in % <u>0.0</u> -1= Fail in place <i>Only relevant for SM.0.0.1.6 (failsafe)</i>
18	Control Signal Failsafe Position	Actuator's failure position in case of control signal loss	R/W	-1.0 to 100.0. Unit in % <u>0.0</u> -1= Fail in place
22	Current Flow	Actuator's current flow rate	R	Unit as per MSV.5

Binary Input (BI):

#	Name	Description	R/W	Present-Value Options
5	Digital Open Signal	Digital open status input	R	0= Inactive 1= Active
6	Digital Close Signal	Digital close status input	R	0= Inactive 1= Active

Binary Value (BV):

#	Name	Description	R/W	Present-Value Options
1	Factory Reset Request	Reset actuator to factory settings	R/W	0= Inactive 1= Active
2	Reset Error#2 Request	Reset error code 2 (over torque warning)	R/W	0= Inactive 1= Active
3	Reset Error#7 Request	Reset error code 7 (lack of valve error)	R/W	0= Inactive 1= Active

Multi State Value (MSV):

#	Name	Description	R/W	Present-Value Options
2	Actuator State	Actuator's current state	R	1= Auto Stroke 2= Standby 3= Normal 4= Alarm 5= <i>Not Active</i> 6= Failsafe / Failure 7= Calibration 8= Flushing 9= Service Override (Service Ovrdr)
3	Actuator Rotation Direction	Actuator's rotation direction	R/W	1= NC 2= NO
4	Valve Model	Valve model on which the actuator is fitted	R/W	1= SM.1.1 7= SM.4.2 2= SM.2.1 8= SM.4.3 3= SM.3.0 9= SM.5.1 4= SM.3.1 10= SM.5.2 5= SM.3.2 11= SM.6.2 6= SM.4.1 12= SM.0.0
5	Flow Unit Scale	Flow unit	R/W	1= l/sec 2= GPM 3= l/hr
6	Actuator Control Signal	Actuator's control signal	R/W	1= Volt 2= mA 3= Digital 4= Serial (= BUS)
7	Feedback Signal	Actuator's feedback signal	R/W	1= 2-10 Volt 2= 0-10 Volt 3= 4-20 mA 4= AU (=automatic) <i>If MSV.6= 4, then MSV.7= 4 is not available</i>
8	Actuator Mode	Actuator's control mode	R/W	1= LIN FLO (=linear flow) 2= EQ PCT (=equal %) 3= LIN ROT (=linear rotation)
12	Battery Status	Battery status	R	1= None (=no battery) 2= Lost (=battery lost or loose) 3= Charge level 0 (=battery level low) 4= Charge level 1 (=battery level medium low) 5= Charge level 2 (=battery level medium high) 6= Charge level 3 (=battery level full) <i>Only relevant for SM.0.0.1.6 (failsafe)</i>
13	Actuator Communication Mode	Actuator's communication mode	R/W	1= Disabled 2= BACnet 3= Modbus

Bitstring Value (BSV):

#	Name	Description	R/W	Present-Value Options
2	Actuator Alarm Flags	Actuator's current alarm flags	R	<u>000000000000</u> 0= no flag 1= flag #0 = Power fail #1 = No Valve #2 = Hardware #3 = Overtorque CW #4 = Overtorque CCW #5 = Over temperature #6 = <i>Not Active</i> #7 = No control signal #8 = Battery fail #9 = Power low #10 = Was overtorqued #11 = <i>Not Active</i> #12 = Network timeout

Bitstring Value (BSV), continued:

#	Name	Description	R/W	Present-Value Options
3	User Configuration Flags	Individual user settings	R/W	<u>000</u> 0= no flag 1= flag #0 = Password #1 = Flush #2 = Failsafe delay (from standard 1 minute to user selected 15 minutes)

Characterstring Value (CSV):

#	Name	Description	R/W	Present-Value Options
1	User Custom String	User string (any data, name etc.)	R/W	Character string

Positive Integer Value (PIV):

#	Name	Description	R/W	Present-Value Options
22	Auto-Stroke Frequency (days)	The frequency in days between auto stroke procedures	R/W	0 to 365. Unit is days <u>7</u> 0= deactivated
30	Network Timeout	Communication timeout	R/W	<u>1</u> to 60. Unit is minutes

Network Port (NP):

#	Name	Description	R/W	Present-Value Options
1	BACnet MS/TP Port		R/W	Baud Rate = Link speed Autonegotiate: True/False Baud Rate = Link Speed: 0= 9600 1= 19200 <u>2= 38400</u> 3= 57600 4= 76800 5= 115200 MAC Address = <u>1-127</u>