



BACnet Interface Description

Smart Valve DN 15...300 / V1.0.0

General information

Date	20/04/2026
Vendor Name	DUYAR Automation
Vendor ID	1965
Product Name	Smart Valve
Product Model Number	SVxxx+BAC
Application Software Version	SV.V.0.1.0
Firmware Revision	BDSV.0.1.0.1
BACnet Protocol Revision	1.0.0
Product Description	Smart Valve, flow, energy and delta t function
Segment Capability	Segmented Both
Data Link Layer Options	BACnet IP
Object Type	Device
Object Type	Device (changeable)
Object Identifier	Device(name changeable, 389001(changeable) defaults.
Object Name	SVBD+BAC Smart Valve
Max APDU Length	1476
APDU Timeout	300 ms
# of APDU Retries	3

BACnet IP

Port Open (Default: 47'808)

Configuration

Tool Duyar Web Based Interface

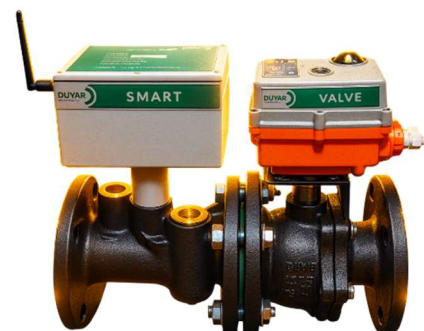


All writeable objects with instance number ≥ 90 which are persistent are **not** supposed to be written on a regular basis. Designated data points are highlighted in colour in the document

Standard object types supported

The device does not support the services CreateObject and DeleteObject.

Object type	Optional properties	Writeable properties
Device	Description Location Active COV Subscriptions Max Manager Max Info Frames Profile Name	Object Identifier Object Name Location Description APDU Timeout (1'000...60'000) Number of APDU Retries (0...10) Max Manager (1...127) Max Info Frames (1...255)
Analog Input [AI]	Description COV Increment	COV Increment
Analog Output [AO]	Description COV Increment	Present Value COV Increment Relinquish Default
Analog Value [AV]	Description COV Increment	Present Value COV Increment
Binary Input [BI]	Description Active Text Inactive Text	–
Binary Value [BV]	Description Active Text State Text	Present Value
Multi-state Input [MI]	Description State Text	–
Multi-state Output [MO]	Description State Text	Present Value Relinquish Default
Multi-state Value [MV]	Description State Text	Present Value
Positive Integer Value [PIV]	Description	–



The specified maximum length of writeable strings is based on single-byte characters.

- Object name 32 char
- Location 64 char
- Description 64 char

Object Description

Object name	Object type [Instance]	Description Comment, Status_Flags	Values	Data Type	Access
Valve_Position	[1] – Analog Input [AI]	Readable Actual Valve Position btw. 0-90° Units: [°] VALVE DEGREE	0-90°	Int16	R
Flow_Rate	[2] – Analog Input [AI]	Readable Measured Flow Units:[m3/h] UNITS_CUBIC_METERS_PER_HOUR	The nominal flow rate depends on the valve size	Int32 float	R
Energy_Value	[3] – Analog Input [AI]	Readable Measured Energy data Units: [kWh] UNITS_KILOWATT_HOURS	The measured energy data depends on the valve size	Int32 float	R
DeltaT_Value	[4] – Analog Input [AI]	Readable Measured Differential Inlet and Outlet temperature data Units: [°C] UNITS_DEGREES_CELCIUS	The measured delta t value	Int32 float	R
T1_Value	[5] – Analog Input [AI]	Temperature 1 Units: [°C] UNITS_DEGREES_CELCIUS	The measured T1 temperature value	Int32 float	R
T2_Value	[6] – Analog Input [AI]	Temperature 2 Units: [°C] UNITS_DEGREES_CELCIUS	The measured T2 temperature value	Int32 float	R
RESERVED	[7] – Analog Input [AI]	RESERVED	RESERVED	Int32 float	R
Feedback_Voltage_Rate	[8] – Analog Input [AI]	Feedback Section Units: [V - A] UNITS_VOLTS	Feedback data of the smart valve as selected voltage / current	Int32 float	R
Total_Energy_Value	[9] – Analog Input [AI]	Readable Cumulative Energy Value Units: [kWh] UNITS_KILOWATT_HOURS	Cumulative Energy Value	Int32 float	R
Total_Volume_Value	[10] – Analog Input [AI]	Readable Cumulative Volume of flow Units: [m3] UNITS_CUBIC_METERS	Cumulative Volume of flow Value	Int32 float	R

Object name	Object type [Instance]	Description Comment, Status_Flags	Values	Data Type	Access
Mode_Selection	[1] – Analog Output [AO]	Mode Selection: [0]: Position Scenario [1]: EPIV [Flow] Scenario [2]: Energy Scenario [3]: DT Scenario Units: UNITS_NO_UNITS	0-1-2-3	Int16	R / W
DT_Manager	[2] – Analog Output [AO]	Mode Selection: [0]: Delta T Manager Passive [1]: Delta T Manager Active This mode can ve used in mode such as DT Scenario and Energy Scenario Units: UNITS_NO_UNITS	0-1	Int16	R / W
Position_Setpoint	[3] – Analog Output [AO]	Position set point can be set btw 0-90° to adjust the valve clearance Units: [°] VALVE DEGREE	0-90°	Int16	R / W
Flow_Setpoint	[4] – Analog Output [AO]	This field is reserved to set the flow value to maintain the electronic pressure independent control Units: [m3/h] UNITS_CUBIC_METERS_PER_HOUR	0 to valve nominal flow value	Int32 float	R / W
DT_Setpoint	[5] – Analog Output [AO]	This field is reserved to set the delta T value. For instance, heating: 20°C and for cooling: 5°C Units: [°C] UNITS_DEGREES_CELCIUS	0 – heating and cooling value	Int32 float	R / W
Energy_Setpoint	[6] – Analog Output [AO]	This field is reserved to set the energy set point to limitation the energy Units: [kWh] UNITS_KILOWATT_HOURS	The value can be changing the valve size to set the actual correct energy value, see the datasheet	Int32 float	R / W
Flow_Treshold	[7] – Analog Output [AO]	This field is reserved to set the threshold value for the flow Units: [m3/h] UNITS_CUBIC_METERS_PER_HOUR	Defines the minimum deviation between the measured flow value and the setpoint required to trigger control action. This parameter is used to: <ul style="list-style-type: none"> • Prevent unnecessary valve movement • Avoid oscillations in control loop • Improve system stability When the difference between actual flow and setpoint is below the threshold, no control correction is applied.	Int32 float	R / W
DT_Treshold	[8] – Analog Output [AO]	This field is reserved to set the threshold value for the delta t treshold Units: [°C] UNITS_DEGREES_CELCIUS	Defines the allowable deviation between the measured temperature difference (ΔT) and the target value before corrective action is taken. This parameter ensures: <ul style="list-style-type: none"> • Stable Delta T control • Reduced actuator wear 	Int32 float	R / W

			<ul style="list-style-type: none"> Optimized thermal efficiency <p>Small fluctuations within the threshold range are ignored by the control algorithm.</p>		
Energy_Threshold	[9] – Analog Output [AO]	This field is reserved to set the threshold value of the energy Units: [kWh] UNITS_KILOWATT_HOURS	<p>Defines the minimum deviation between the measured energy value and the energy setpoint required to initiate control response. Used for:</p> <ul style="list-style-type: none"> Energy optimization Preventing unnecessary adjustments Ensuring stable operation in energy control mode <p>Control actions are only triggered when the deviation exceeds the defined threshold.</p>	Int32 float	R/W
Vmin_Point	[10] – Analog Output [AO]	This field is reserved to set the V _{min} Flow rate Units: [m3/h] UNITS_CUBIC_METERS_PER_HOUR	<p>Defines the minimum control output limit of the valve. This parameter sets the lowest allowable operating position or signal level that the valve can reach during control operation. It is used to:</p> <ul style="list-style-type: none"> Prevent the valve from fully closing below a defined limit Ensure minimum flow is maintained in the system Protect system components from low-flow conditions Improve control stability at low operating ranges <p>When the control signal falls below the defined V_{min} value, the valve output is limited to this minimum level and no further reduction is applied.</p>	Int32 float	R/W
Vmax_Point	[11] – Analog Input [AO]	This field is reserved to set the V _{max} Flow rate Units: [m3/h] UNITS_CUBIC_METERS_PER_HOUR	<p>Defines the maximum control output limit of the valve. This parameter sets the highest allowable operating position or signal level that the valve can reach during control operation. It is used to:</p> <ul style="list-style-type: none"> Limit maximum flow in the system Prevent overloading of system components Ensure operation within design limits 	Int32 float	R/W

			<ul style="list-style-type: none"> Improve energy efficiency <p>When the control signal exceeds the defined Vmax value, the valve output is limited to this maximum level and no further increase is applied.</p>		
Regime_Manager	[12] – Analog Output [AO]	<p>[0] : Regime Mode is passive [1] : Regime Mode is active Units: None UNITS_NO_UNITS</p>	0 – 1	Int16	R/W
Regime_Setpoint	[13] – Analog Output [AO]	<p>This field is setpoint section to set the value of return temperature regime set point. This value is can be affected according to heating & cooling selection.</p> <p>Units: [°C] UNITS_DEGREES_CELCIUS</p>		Int32 float	R/W
Save_Data	[14] – Analog Output [AO]	<p>This field is reserved to save whole adjustment and parameter section</p> <p>[0] – Passive [1] – Active</p> <p>Units: None UNITS_NO_UNITS</p>	0 – 1, When the set this field to 1 should be waiting 5 sec. Later, this field must set to again “0”,	Int16	R/W

Access definition: R = Read, W = Write, C = Commandable with priority array

Note: According to the present configuration settings of the Smart Valve (e.g. DN size), the HVAC application may perform a size limitation within the indicated BACnet value range. Each Smart Valve may have different HVAC value size limitations.