

Control Panel BACnet Specification



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IGD BACnet Vendor ID: 1437

BACnet Protocol Revision	19
BACnet Device Profile	B-ASC (BACnet Application Specific Controller)

Supported BACnet BIBBs:

Designation

B-ASC Profile Required

Data Sharing – Read Property – B	DS-RP-B
Data Sharing – Write Property – B	DS-WP-B
Device Management – Device Communication Control - B	DM-DCC-B
Device Management – Dynamic Device Binding - B	DM-DDB-B
Device Management – Dynamic Object Binding - B	DM-DOB-B

B-ASC Profile Optional BIBBS Supported

Device Management – Time Synchronization - B	DM-TS-B
Device Management – UTC Time Synchronization - B	DM-UTC-B
Device Management – ReinitializeDevice - B	DM-RD-B
Data Sharing – Read Property Multiple – B	DS-RPM-B

Standard Object Types Supported:

- Analog Input (Gas Sensor)
- Binary Input (Relay State)
- Device (Hub Info)
- Network Port

Analog Input (x means property is implemented):

- Dynamically Creatable: No
- Dynamically Deletable: No

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Range
Object Identifier	X				BACnet Object Identifier	
Object Name	X				Character String	
Object Type	X				BACnet Object Type	
Present Value	X				REAL	-1 million to 1 million

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Range
Description		X			Character String	
Status Flags	X				BACnet Status Flags	
Event State	X				BACnet Event State	
Out Of Service	X				BOOLEAN	
Units	X		256 = %VOL 257 = %LEL		BACnet Engineering Units	
Min Present Value		X			REAL	-1 million to 1 million
Max Present Value		X			REAL	-1 million to 1 million
Reliability		X			BACnet Reliability	
Range			X	9001	REAL	0 to +1 million
Gas Name			X	9002	Character String	
Alarm 1 Level			X	9003	REAL	0 to +1 million
Alarm 2 Level			X	9004	REAL	0 to +1 million
Alarm 3 Level			X	9005	REAL	0 to +1 million
Address			X	9006	Unsigned	1-99
Cable			X	9007	Unsigned	1-6
Calibration Bottle Value			X	9008	REAL	0 to +1 million

Binary Value:

- Dynamically Creatable: No
- Dynamically Deletable: No

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Range
Object Identifier	X				BACnet Object Identifier	
Object Name	X				Character String	
Object Type	X				BACnet Object Type	
Present Value	X				BACnet Binary PV	
Status Flags	X				BACnet Status Flags	
Device Type		X			Character String	
Description		X			Character String	
Event State	X				BACnet Event State	

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Range
Reliability		X			BACnet Reliability	
Out of Service	X				BOOLEAN	
Polarity		X			BACnet Polarity	
Address			X	9006	Unsigned	100-199
Cable			X	9007	Unsigned	1-6

Device:

- Dynamically Creatable: No
- Dynamically Deletable: No

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Range
Object Identifier	X				BACnet Object Identifier	
Object Name	X				Character String	Maximum 32 characters
Object Type	X				BACnet Object Type	
System Status	X				BACnet Object Status	
Vendor Name	X				Character String	
Vendor Identifier	X				Unsigned 16	
Model Name	X				Character String	
Firmware Revision	X				Character String	
Application Software Version	X				Character String	
Description		X			Character String	
Protocol Version	X				Unsigned	
Protocol Revision	X				Unsigned	
Protocol Services Supported	X				BACnet Services Supported	
Protocol Object Types Supported	X				BACnet Object Types Supported	
Object List	X				BACnet Array of BACnet Object Identifier	
Max APDU Length Supported	X				Unsigned	
Segmentation Supported	X				BACnet Segmentation	
APDU Timeout	X				Unsigned	

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Range
Number of APDU Retries	X				Unsigned	
Max Master		X			Unsigned (0..127)	
Max Info Frames		X			Unsigned	
Device Address Binding	X				BACnetList of BACnet Address Binding	
Serial Number			X	9009	Unsigned	
Total Sensors			X	9010	Unsigned	0-350
Total Relays			X	9011	Unsigned	0-192

Network Port:

- Dynamically Creatable: No
- Dynamically Deletable: No

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Range
Object Identifier	X				BACnet Object Identifier	
Object Name	X				Character String	
Object Type	X				BACnet Object Type	

BACnet Engineering Units – Proprietary:

Unit Name	Value
Percent Volume (%VOL)	256
Percent Lower Explosive Limit (%LEL)	257

BACnet Data Link Layer Options:

MS/TP Master (Non-isolated transceiver) with 680 Ohm fail-safe biasing resistors.

Baud rates supported: 9600, 19200, 57600, 115200

ASCII Character Set

Panel WiFi Settings:

MAC Address Range: 0 to 127 inclusive. Default MAC address is 1

Device ID: 0 to 4194303 inclusive. Default Device ID is 9000

When enabling BACnet via WiFi settings, ensure to reboot hub so BACnet module can initialize. BACnet settings in WiFi can be modified before performing reboot.

Change serial port protocol from Modbus to BACnet. Click apply button.

Edit Settings

Warmup (s)	900
Alarm Trigger	10
Fault Trigger	2
Alarm Hold (s)	0
Concentration Clamp (v)	0
Highway Timeout (ms)	25
Hub Timeout (ms)	30
Sounds	Disabled
Serial Port Protocol	BACnet
Access Key	Disabled
Battery Backup	None
Display Mode	2x8 Display

Cancel

Apply

After clicking 'Apply' button, additional details in the Settings menu should appear for BACnet options:

- BACnet MAC Address
- BACnet Device Identifier

Settings

Warmup (s)	900
Alarm Trigger	10
Fault Trigger	2
Alarm Hold (s)	0
Concentration Clamp (v)	0
Highway Timeout (ms)	25
Hub Timeout (ms)	30
Sounds	Disabled
Alarms	Enabled
Serial Port Protocol	BACnet
BACnet MAC Address	1
BACnet Device Identifier	9000
Access Key	Disabled
Battery Backup	None
Display Mode	2x8 Display

Set these 2 parameters to desired values and click Apply button again.

To change the baud rate, use the Modbus settings drop down. Other parameters are ignored when Serial Port Protocol is configured to **BACnet** operation but are still saved.

Edit Modbus Settings

Address	100
Baud Rate	19200
Parity	None
Delay (ms)	0
Register Offset	Enabled

Cancel

Apply

Reboot the hub after all changes are made, and connect via “Modbus RS485” port.

To test connectivity, Yabe BACnet Explorer can be used with Windows PC and USB-RS485 converter. To revert to Modbus operation, change Serial Port Protocol setting back to Modbus and reboot hub.