2024-06-01

BACnet

Software in the PiiGAB 900 Gateway

With the BACnet software in the PiiGAB 900 Gateway, your measurement values are converted into BACnet objects automatically.
The BACnet protocol is an international standard in building automation. It enables interoperability between different manufacturers' systems and devices, such as HVAC, lighting, security and fire alarms.

AUTOMATIC CONFIGURATION

Configure the meters as usual on your gateway and choose which data you want to read out via BACnet. The software automatically creates your configuration.

Naming of meters, Object ID and description is fully configurable to fit your existing systems.

IMPLEMENTATION OF STANDARD

BACnet uses various communication media to facilitate control and monitoring of building systems.
PiiGAB has chosen to implement all of them mandatory features for BACnet IP.

ABOUT BACNET STANDARD

BACnet (Building Automation and Control Network) is a protocol for communication in building automation standardized by ASHRAE. It enables interoperability between different manufacturers' systems and devices, such as HVAC, lighting, security and fire alarms.

ITEM:
11-50-012 PiiGAB BACnet Factory Application
11-51-015 PiiGAB 900 Activation BACnet

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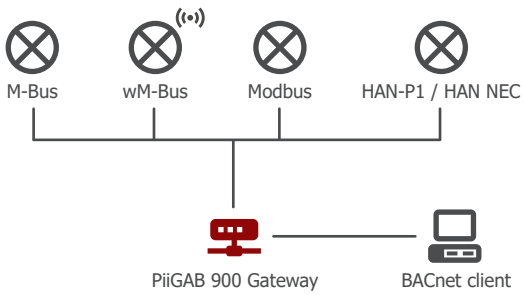
TECHNICAL INFORMATION

The PiiGAB 900 Gateway supports two types of objects, a ”Device Object” for the gateway and an ”Analog input object” for meters. All ”read only” properties are for the BACnet client.

”Device object” för PiiGAB 900 Gateway		
Property	**Example value**	**Datatype**
Object_Identifier	Device #1076	Int32 (BACnetObjectIdentifier)
Object_Name	”Serial number”	String
Object_Type	Device (8)	Enumerated (BACnetObjectType)
System_Status	Operational (plus others)	Enumerated BACnetDeviceStatus
Vendor_Name	”PiiGAB”	String
Vendor_Identifier	”123”	Unsigned16
Model_Name	”900S/T”	String
Firmware_Revision	”1.0”	String
Application_Software_Version	”1.0”	String
Description	” Mbus2Bacnet converter ”	String
Protocol_Version	1 (BACnet protocol version)	Unsigned
Protocol_Conformance_Class	2	Unsigned
Protocol_Services_Supported	readProperty, Service, I-Am, Object_list	BIT_STRING (BACnetObjectTypesSupported)
Protocol_Object_Types_Supported	Analog Input,	
Object_List	Analog Input #1, Analog Input #2, ...	BACnetARRAY[N] of BACnetObjectIdentifier
Property_List		BACnetARRAY[N] of BACnetPropertyIdentifier
Max_APDU_Length_Supported	50 (1476)	Unsigned
Segmentation_Supported	No	BACnetSegmentation
APDU_Timeout	5000 milliseconds	Unsigned
Number_Of_APDU_Retries	0	Unsigned
Device_Address_Binding	None	BACnetLIST of BACnetAddressBinding

USER EXAMPLES



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"Analog input object" for meters		
Property	**Example value**	**Datatype**
Object_Identifier	"Serial number+datarecordnumber"	Int32
Object_Name	Uppräknad OPC Tag från gateway	String
Object_Type	Analog Input	Enumerated (BACnetObjectType)
Present_Value	"Data field"	REAL32
Description	Hämta från DIB/VIB	String
Units	Enligt M-Bus standard	Enumerated (BACnetEngineeringUnits)
Status_Flags		BIT_STRING(BACnetStatusFlags)
Event_State		Enumerated (BACnetEventState)
Out_Of_Service		Bool
Property_List		BACnetARRAY[N] of BACnetPropertyIdentifier

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Supported devices		
Enumeration	**Unit**	**Unit type**
3	amperes	Electrical
5	volts	Electrical
14	degrees-phase	Electrical
15	power-factor	Electrical
245	volt-square-hours	Energy
16	joules	Energy
18	watt-hours	Energy
019	kilowatt-hours	Energy
203	watt-hours-reactive	Energy
27	hertz	Frequency
28	grams-of-water-per-kilogram-dry-air	Humidity
29	percent-relative-humidity	Humidity
48	kilowatts	Power
62	degrees-celsius	Temperature
63	degrees-kelvin	Temperature
67	years	Time
68	months	Time
69	weeks	Time
70	days	Time
71	hours	Time
72	minutes	Time
73	seconds	Time
80	cubic-meters	Volume
82	liters	Volume
83	us-gallons	Volume
85	cubic-meters-per-second	Volumetric Flow
165	cubic-meters-per-minute	Volumetric Flow
135	cubic-meters-per-hour	Volumetric Flow
87	liters-per-second	Volumetric Flow
88	liters-per-minute	Volumetric Flow
136	liters-per-hour	Volumetric Flow
98	percent	Other

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