

BACnet Protocol Implementation Conformance Statement

Date: 14.02.2019

Vendor Name: PowerTech Engineering AS

Product Name: Zaphire B-BC

Product Model Number: 750-8212

Application Software Version: Firmware Revision: 1.0.0.000

BACnet Protocol Version: 1 **BACnet Protocol Revision:** 15

Product Description:

The complete product is called PowerTech Zaphire B-BC. Software for this solution runs on hardware from WAGO Kontakttechnik which has the physical label WAGO 750-8212.

The complete product is a fully programmable, configurable and extendable field controller for Building Automation. The product as it will be sold by PowerTech consists of no standard collection of BACnet tags, except for the Device, "DefaultNotificationClass" and "Root"- objects which are always there. The collection of BACnet points present on a controller depends entirely on the user-libraries, user-configuration or user-application that the controller has downloaded. The user-content of the controller is connected to a module of the Zaphire firmware called the BACnet Stack.

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 of all BACnet Interoperability Building Blocks Supported (Annex K):

DS: DS-RP-A, DS-RP-B, DS-RPM-A, DS-RPM-B, DS-WP-A, DS-WP-B, DS-WPM-B, DS-COV-A, DS-COV-B

AE: AE-N-I-B, AE-ACK-B, AE-ASUM-B, AE-INFO-B

Scheduling: SCHED-I-B, SCHED-E-B

Trending: T-VMT-I-B, T-ATR-B

DM: DM-DDB-A, DM-DDB-B, DM-DOB-A, DM-DOB-B, DM-DDC-B, DM-TS-B, DM-UTC-B, DM-RD-B, DM-BR-B, DM-OCD-B, DM-R-B

Segmentation Capability:

- Able to transmit segmented messages Window Size ____
- Able to receive segmented messages Window Size ____

No segmentation capabilities; can neither send nor receive segmented messages

Standard Object Types Supported

Note: Objects that have been created from an internal program or are otherwise required on program startup cannot be deleted unless removed from said program or procedure

“☑ C” means Creatable

“☑ D” means Deleteable

Writability “C” means writable when out-of-service

Analog Input ☑ C ☑ D		Analog Output ☑ C ☑ D	
Property	Writability	Property	Writability
Acked Transitions	-	Acked Transitions	-
COV Increment	W	COV Increment	W
Deadband	W	Deadband	W
Description	W	Description	W
Device Type	W	Device Type	W
Event Detection Enable	W	Event Detection Enable	W
Event Enable	W	Event Enable	W
Event State	-	Event State	-
Event Timestamps	-	Event Timestamps	-
Limit Enable	W	Limit Enable	W
Low Limit	W	Low Limit	W
High Limit	W	High Limit	W
Max Present Value	W	Max Present Value	W
Min Present Value	W	Min Present Value	W
Notify Type	W	Notify Type	W
Notification Class	W	Notification Class	W
Out Of Service	W	Out Of Service	W
Present Value	C	Present Value	W
Reliability	C	Priority Array	-
Resolution	-	Reliability	C
Status Flags	-	Relinquish Default	W
Time_Delay	W	Resolution	-
Units	W	Status Flags	-
		Time_Delay	W
		Units	W

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Analog Value <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D		Binary Input <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D	
Property	Writability	Property	Writability
Acked Transitions	-	Acked Transitions	-
COV Increment	W	Active Text	W
Deadband	W	Alarm Value	W
Description	W	Description	W
Event Detection Enable	W	Device Type	W
Event Enable	W	Event Detection Enable	W
Event State	-	Event Enable	W
Event Timestamps	-	Event State	-
Limit Enable	W	Event Timestamps	-
Low Limit	W	Inactive Text	W
High Limit	W	Notify Type	W
Max Present Value	W	Notification Class	W
Min Present Value	W	Out Of Service	W
Notify Type	W	Polarity	W
Notification Class	W	Present Value	C
Out Of Service	W	Reliability	C
Present Value	W	Status Flags	-
Priority Array	-	Time_Delay	W
Reliability	C		
Relinquish Default	W		
Resolution	-		
Status Flags	-		
Time_Delay	W		
Units	W		

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Binary Output <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D		Binary Value <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D	
Property	Writability	Property	Writability
Acked Transitions	-	Acked Transitions	-
Active Text	W	Active Text	W
Description	W	Alarm Value	W
Device Type	W	Description	W
Event Detection Enable	W	Event Detection Enable	W
Event Enable	W	Event Enable	W
Event State	-	Event State	-
Event Timestamps	-	Event Timestamps	-
Feedback Value	-	Inactive Text	W
Inactive Text	W	Notify Type	W
Notify Type	W	Notification Class	W
Notification Class	W	Minimum Off Time	W
Minimum Off Time	W	Minimum On Time	W
Minimum On Time	W	Out Of Service	W
Out Of Service	W	Present Value	W
Polarity	W	Priority Array	-
Present Value	W	Reliability	C
Priority Array	-	Relinquish Default	W
Reliability	C	Status Flags	-
Relinquish Default	W	Time_Delay	W
Status Flags	-		
Time_Delay	W		

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Multistate Input <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D		Multistate Output <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D	
Property	Writability	Property	Writability
Acked Transitions	-	Acked Transitions	-
Alarm Values	-	Description	W
Description	W	Device Type	W
Device Type	W	Event Detection Enable	W
Event Detection Enable	W	Event Enable	W
Event Enable	W	Event State	-
Event State	-	Event Timestamps	-
Event Timestamps	-	Feedback Value	-
Fault Values	-	Notify Type	W
Notify Type	W	Notification Class	W
Notification Class	W	Number of States	-
Number of States	-	Out Of Service	W
Out Of Service	W	Present Value	W
Present Value	C	Priority Array	-
Reliability	C	Reliability	C
State Text	-	Relinquish Default	W
Status Flags	-	State Text	-
Time_Delay	W	Status Flags	-
		Time_Delay	W

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Multistate Value <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D		Schedule <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D	
Property	Writability	Property	Writability
Acked Transitions	-	Description	W
Alarm Values	-	Effective Period	W
Description	W	Exception Schedule	W
Event Detection Enable	W	List Of Obj. Prop. References	W
Event Enable	W	Out Of Service	W
Event State	-	Present Value	C
Event Timestamps	-	Priority For Writing	W
Fault Values	-	Reliability	C
Notify Type	W	Schedule Default	W
Notification Class	W	Status Flags	-
Number of States	-	Weekly Schedule	W
Out Of Service	W		
Present Value	W		
Priority Array	-		
Reliability	C		
Relinquish Default	W		
State Text	-		
Status Flags	-		
Time_Delay	W		

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Device <input type="checkbox"/> C <input type="checkbox"/> D		Loop <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D	
Property	Writability	Property	Writability
Active COV Subscriptions	-	Acked Transitions	-
APDU Timeout	W	Action	W
Application Software Version	-	Bias	W
Backup And Restore State	-	Controlled Variable Reference	W
Backup Failure Timeout	W	Controlled Variable Units	W
Backup Preparation Time	-	Controlled Variable Value	-
Configuration Files	-	COV Increment	W
Database Revision	-	Deadband	W
Daylight Savings Status	-	Derivative Constant	W
Description	W	Derivative Constant Units	W
Device Address Binding	-	Description	W
Firmware Revision	-	Error Limit	W
Last Restart Reason	-	Event Detection Enable	W
Last Restore Time	-	Event Enable	W
Local Date	W	Event State	-
Local Time	W	Event Timestamps	-
Location	W	Integral Constant	W
Max APDU Length Accepted	-	Integral Constant Units	W
Model Name	-	Manipulated Variable Ref.	W
Number of APDU Retries	W	Maximum Output	W
Object List	-	Minimum Output	W
Protocol Obj. Supported	-	Notification Class	W
Protocol Revision	-	Notify Type	W
Protocol Services Supported	-	Out Of Service	W
Protocol Version	-	Output Units	W
Restart Notification Recipients	-	Present Value	C
Restore Completion Time	-	Priority For Writing	W
Restore Preparation Time	-	Proportional Constant	W
Segmentation Supported	-	Proportional Constant Units	W
Serial Number	-	Reliability	C
Structured Object List	-	Setpoint	W
System Status	-	Setpoint Reference	W
Time Of Device Restart	-	Status Flags	-
Vendor Identifier	-	Time Delay	W
Vendor Name	-	Update Interval	W
UTC Offset	-		

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Calendar <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D		Characterstring Value <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D	
Property	Writability	Property	Writability
Date List	W	Description	W
Description	W	Out Of Service	W
Present Value	-	Present Value	W
		Reliability	C
		Status Flags	-

Notification Class <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D		File <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D	
Property	Writability	Property	Writability
Ack Required	W	Archive	W
Description	W	Description	W
Notification Class	-	File Access Method	-
Priority	W	File Type	-
Recipient List	W	File Size	W
		Modification Date	-
		Read Only	-

Structured View <input type="checkbox"/> C <input type="checkbox"/> D		Trendlog <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> D	
Property	Property		Writability
Description	W	Acked Transitions	-
Node Type	-	Align Intervals	W
Subordinate List	-	Buffer Size	-
		Description	W
		Enable	W
		Event Detection Enable	W
		Event Enable	W
		Event State	-
		Event Time Stamps	-
		Interval Offset	W
		Last Notify Record	-
		Log Buffer	-
		Log Device Object Property	W
		Log Interval	W
		Logging Type	W
		Notification Class	W
		Notification Threshold	W
		Notify Type	W
		Record Count	W
		Records Since Notification	-
		Reliability	-
		Start Time	W
		Status Flags	-
		Stop Time	W
		Stop When Full	W
		Trigger	W
		Total Record Count	-

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ATA 878.1, EIA-485 ARCNET (Clause 8), baud rate(s) _____
- MS/TP master (Clause 9), baud rate(s): _____
- 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

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)

Character Sets Supported:

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

- ISO 10646 (UTF-8)
- IBM™/Microsoft™ DBCS
- ISO 8859-1
- ISO 10646 (UCS-2)
- ISO 10646 (UCS-4)
- JIS X 0208

If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:

The device supports interchangeable IO-modules that can support these busses:
Bluetooth, CAN bus, DALI, KNX, M-BUS, MODBUS MS/TP, MODBUS TCP, MP-BUS