

BACnet Client 700 Series

BACnet rev. 15 PICS

Issue date: 10/2022 r1.0 ENGLISH



Important User Information

Disclaimer

The information in this document is for informational purposes only. Please inform HMS Industrial Networks of any inaccuracies or omissions found in this document. HMS Industrial Networks disclaims any responsibility or liability for any errors that may appear in this document.

HMS Industrial Networks reserves the right to modify its products in line with its policy of continuous product development. The information in this document shall therefore not be construed as a commitment on the part of HMS Industrial Networks and is subject to change without notice. HMS Industrial Networks makes no commitment to update or keep current the information in this document.

The data, examples and illustrations found in this document are included for illustrative purposes and are only intended to help improve understanding of the functionality and handling of the product. In view of the wide range of possible applications of the product, and because of the many variables and requirements associated with any particular implementation, HMS Industrial Networks cannot assume responsibility or liability for actual use based on the data, examples or illustrations included in this document nor for any damages incurred during installation of the product. Those responsible for the use of the product must acquire sufficient knowledge in order to ensure that the product is used correctly in their specific application and that the application meets all performance and safety requirements including any applicable laws, regulations, codes and standards. Further, HMS Industrial Networks will under no circumstances assume liability or responsibility for any problems that may arise as a result from the use of undocumented features or functional side effects found outside the documented scope of the product. The effects caused by any direct or indirect use of such aspects of the product are undefined and may include e.g. compatibility issues and stability issues.

INDEX

1	Protocol Implementation Conformance Statement	4
1.1	BACnet Standardized Device Profile (Annex L):	4
1.2	Segmentation Capability:	4
1.3	Data Link Layer Options:	4
1.4	Device Address Binding:	4
1.5	Networking Options:	5
1.6	Character Sets Supported	5
1.7	Gateway	5
2	BACnet Interoperability Building Blocks Supported (BIBBs)	6
2.1	Data Sharing BIBBs	6
2.2	Device Management BIBBs	6
3	Service Types	7
4	Objects	7
4.1	Supported Object Types	7
4.2	Objects and properties	7
4.2.1	IN-xxx-BAC (Device Object Type)	7

1 Protocol Implementation Conformance Statement

BACnet Protocol Implementation Conformance Statement (PICS)

Date: 2022-10-24

Vendor Name: Intesis (HMS Industrial Networks SLU)

Product Name: Intesis BACnet Client 700 Series

Product Model Number and Application Software Version: Modbus (2.0.0.0) /ASCII (2.0.0.0) /KNX (2.0.0.0)

Firmware Revision: 2.0.0.0

BACnet Protocol Revision: 15

Product Description:

Provides a BACnet client interface that brings connectivity to another network (KNX, Modbus, ...) connected to the device. It provides BACnet/MSTP and BACnet/IP (through Ethernet 10/100) physical layers.

1.1 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)

Additional BACnet Interoperability Building Blocks Supported (Annex K):
Reference of BIBBs List

1.2 Segmentation Capability:

Segmented request supported No Yes Window Size 16

Segmented responses supported No Yes Window Size 16

1.3 Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s) _____
- MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 57600, 76800, 115200
- 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: _____
- Other: _____

1.4 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

1.5 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

1.6 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

1.7 Gateway

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

Modbus RTU and Modbus TCP
KNX TP-1
Others

2 BACnet Interoperability Building Blocks Supported (BIBBs)

2.1 Data Sharing BIBBs

BIBB Type		BACnet Service	Initiate	Execute
DS-RP-A	Data Sharing-ReadProperty-A	ReadProperty	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DS-RP-B	Data Sharing-ReadProperty-B	ReadProperty	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DS-RPM-A	Data Sharing-ReadPropertyMultiple-A	ReadPropertyMultiple	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DS-RPM-B	Data Sharing-ReadPropertyMultiple-B	ReadPropertyMultiple	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DS-WP-A	Data Sharing-WriteProperty-A	WriteProperty	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DS-WP-B	Data Sharing-WriteProperty-B	WriteProperty	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DS-WPM-B	Data Sharing-WritePropertyMultiple-B	WritePropertyMultiple	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DS-COV-A	Data Sharing-COV-A	SubscribeCOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		ConfirmedCOVNotification	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		UnconfirmedCOVNotification	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2.2 Device Management BIBBs

BIBB Type		BACnet Service	Initiate	Execute
DM-DDB-A	Device Management - Dynamic Device Binding-A	Who-Is	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		I-Am	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DM-DDB-B	Device Management - Dynamic Device Binding-B	Who-Is	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		I-Am	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DM-DOB-B	Device Management - Dynamic Object Binding-B	Who-Has	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		I-Have	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DM-DCC-B	Device Management - DeviceCommunicationControl-B	DeviceCommunicationControl	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DM-TS-B	Device Management - TimeSynchronization-B	TimeSynchronization	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DM-RD-B	Device Management - ReinitializeDevice-B	ReinitializeDevice	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3 Service Types

Service type	Service name	Remarks
Alarm and Event Services	ConfirmedCOVNotification	Execute
	SubscribeCOV	Initiate
Object Access Services	ReadProperty	Execute / Initiate
	ReadPropertyMultiple	Execute / Initiate
	WriteProperty	Execute / Initiate
	WritePropertyMultiple	Execute
Remote Device Management Services	DeviceCommunicationControl	Execute
	ReinitializeDevice	Execute
Unconfirmed Services	I-Am	Execute / Initiate
	I-Have	Initiate
	UnconfirmedCOVNotification	Execute
	TimeSynchronization	Execute
	Who-Has	Execute
	Who-Is	Execute / Initiate
Network Management services	Who-Is-Router-To-Network	Initiate
	I-Am-Router-To-Network	Execute

4 Objects

4.1 Supported Object Types

The objects supported are shown in the table below.

Object Type	ID
Device	8

4.2 Objects and properties

4.2.1 IN-xxx-BAC (Device Object Type)

Property Identifier	Property Datatype	Value	ASHRAE	INTESIS
Object_Identifier	BACnetObjectIdentifier	(Device, 246)	R	W
Object_Name	CharacterString	"IN-xxx-BAC"	R	W
Object_Type	BACnetObjectType	DEVICE (8) (Device Object Type)	R	R
System_Status	BACnetDeviceStatus	OPERATIONAL (0)	R	R
Vendor_Name	CharacterString	"HMS Industrial Networks SLU"	R	R
Vendor_Identifier	Unsigned16	246	R	R
Model_Name	CharacterString	"IN-xxx-BAC "	R	R
Firmware_Revision	CharacterString	"15.0.0.0"	R	R
Application_Software_Version	CharacterString	"2.0.0.0"	R	R

Protocol_Version	Unsigned	1	R	R
Protocol_Revision	Unsigned	15	R	R
Protocol_Services_Supported	BACnetServiceSupported	Refer to section 0 [Service Types]	R	R
Protocol_Object_Types_Supported	BACnetObjectTypesSupported	Refer to section 4.1 [Object Types]	R	R
Object_List	BACnetArray[N] of BACnetObjectIdentifier	BACnetARRAY[N]	R	R
Max_APDU_Length_Accepted	Unsigned	480 when MSTP / 1476 when BACnet/IP	R	R
Segmentation_Supported	BACnetSegmentation	SEGMENTED-BOTH (0)	R	R
Max_Segments_accepted	Unsigned	16	O	R
Local_Time	Time	Current time	O	R
Local_Date	Date	Current date	O	R
APDU_Segment_Timeout	Unsigned	3000	R	R
APDU_Timeout	Unsigned	3000	R	R
Number_of_APDU_Retries	Unsigned	3	R	R
UTC_Offset	INTEGER	-	O	R
Daylight_Savings_Status	BOOLEAN	-	O	R
Device_Address_Binding	List of BACnetAddressBinding	NULL (empty)	R	R
Database_Revision	Unsigned	-	R	R
Description	CharacterString	"BACnet to xxx Gateway"	O	R
Active_COV_Subscriptions	List of BACnetCOVSubscription	List of BACnetCOVSubscription	O	R
Serial_Number	CharacterString	-	O	R
Property_List	BACnetARRAY[N] of BACnetPropertyIdentifier	-	R	R
Max_Master * **	Unsigned	127	R	W
Max_Info_Frames *	Unsigned	1-255	O	W

* Only available when MSTP is used

** Configurable through the configuration tool.