

IG04 BACnet Gateway

PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (PICS)



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Document Management

Document Title: IG04 BACnet Gateway Protocol Implementation
Conformance Statement (PICS)

Revision History

Version Number	Date	Summary of Changes
1.0	February 2011	First Release of the PICS for Innotech BACnet Gateway.
2.0	October 2013	Document Style update, contact details updated.
2.1	January 2014	Corrected error in Table 7

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Preliminary Information

Introduction

This document is a Protocol Implementation Conformance Statement (PICS) for the Innotech® IG04 BACnet Gateway as required by the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Standard 135-2004 BACnet protocol. This document contains information on the BACnet interoperability building blocks that are currently supported by the Innotech IG04 BACnet Gateway.

Product Description

The basic operation of the Innotech IG04 BACnet Gateway is to serve as a protocol gateway to allow data communication between the Vaisala WXT5xx weather transmitter and a BACnet network. It is used for transmitting Vaisala WXT5xx weather transmitter data to BACnet enabled devices on BACnet MS/TP or BAC/IP networks. The IG04 BACnet Gateway interrogates the WXT5xx weather transmitter and stores the current values for all sensors. This data is updated regularly and is available as predefined BACnet objects, which are available on either a BACnet/IP or BACnet MS/TP network.

Product Details

Table 1: Product Details Table

Item	Details
Date	16th May 2011
Vendor Name	Innotech Control Systems Australia (BACnet Vendor ID 199)
Product Name	Innotech IG04 BACnet Gateway
Product Model Number	IG04
Application Software Version	1.00B
Firmware Version	6.30B
BACnet Protocol Revision	5

IG04 BACnet Gateway

Introduction

This section contains information on the BACnet interoperability building blocks that are currently supported by the Innotech® IG04 BACnet Gateway.

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)

BACnet Interoperability Building Blocks Supported (Annex K)

Data Sharing

Table 2: Data Sharing Table

Item	Details
Data Sharing - ReadProperty-A	DS-RP-A
Data Sharing - ReadProperty-B	DS-RP-B
Data Sharing - ReadPropertyMultiple-B	DS-RPM-B
Data Sharing - WriteProperty-A	DS-WP-A
Data Sharing - WriteProperty-B	DS-WP-B

Device Management

Table 3: Device Management Table

Item	Details
Device Management – Dynamic Device Binding-B	DM-DDB-B
Device Management – Dynamic Object Binding-B	DM-DOB-B
Device Management – DeviceCommunicationControl-B	DM-DCC-B
Device Management – TimeSynchronization-B	DM-TS-B
Device Management – UTCTimeSynchronization-B	DM-UTC-B
Device Management – ReinitializeDevice-B	DM-RD-B

Segmentation Capability

Segmentation is not supported.

Standard Object Types Supported

Table 4: Standard Supported Objects Table

Object Type	Can Be Added Dynamically	Can Be Deleted Dynamically
Analogue Input	No	No
Analogue Output	No	No
Analogue Value	No	No
Binary Input	No	No
Binary Output	No	No
Binary Value	No	No
Device	No	No

Supported Object Properties

Table 5: Supported Objects Properties - Analogue Input Table

Object Property	Read/Write	Property Data Type
Object_Identifier	Read Only	BACnetObjectIdentifier
Object_Name	Read Only	CharcterString
Object_Type	Read Only	BACnetObjectType
Description	Read Only	CharacterString
Present_Value	Read/Write	REAL
Status_Flags	Read Only	BACnetStatusFlags
Event_State	Read Only	BACnetEventState
Out_of_Service	Read Only	BOOLEAN
Units	Read Only	BACnetEngineeringUnits

Table 6: Supported Objects Properties - Custom Units Supported Table

Units	Read/Write	BACnet Engineering Units
Knots	Read Only	256
Hits	Read Only	257
Millimeters_Per_Hour	Read Only	258
Inches_Per_Hour	Read Only	259
Hits_Per_Hour	Read Only	260
Hits_Per_Square_Centimeter_Hour	Read Only	261
Hits_Per_Square_Inch_Hour	Read Only	262

Supported Object Properties (Continued)

Table 7: Supported Objects Properties - Objects Supported Table

Name	Type	Instance
Air Temperature	Analogue Input	0
Internal Pressure Temperature	Analogue Input	1
Heating Temperature	Analogue Input	2
Minimum Wind Direction	Analogue Input	10
Average Wind Direction	Analogue Input	11
Max Wind Direction	Analogue Input	12
Min Wind Speed	Analogue Input	20
Average Wind Speed	Analogue Input	21
Max Wind Speed	Analogue Input	22
Air Pressure	Analogue Input	30
Humidity	Analogue Input	40
Accumulated Rain	Analogue Input	50
Accumulated Hail	Analogue Input	51
Rain Duration	Analogue Input	60
Hail Duration	Analogue Input	61
Rain Intensity	Analogue Input	70
Hail Intensity	Analogue Input	71
Peak Rain Intensity	Analogue Input	72
Peak Hail Intensity	Analogue Input	73
Heating Voltage	Analogue Input	80
Supply Voltage	Analogue Input	81
Reference Voltage	Analogue Input	82

Supported Object Properties (Continued)

Table 8: Supported Objects Properties - Device Table

Object Property	Read/Write	Property Data Type
Object_Identifier	Read Only	BACnetObjectIdentifier
Object_Name	Read Only	CharacterString
Object_Type	Read Only	BACnetObjectType
Description	Read Only	CharacterString
System_Status	Read Only	BACnetDeviceStatus
Vendor_Name	Read Only	CharacterString
Vendor_Identifier	Read Only	Unsigned16
Model_Name	Read Only	CharacterString
Firmware_Revision	Read Only	CharacterString
Application_Software_Version	Read Only	CharacterString
Protocol_Version	Read Only	Unsigned
Protocol_Revision	Read Only	Unsigned
Protocol_Services_Supported	Read Only	BACnetServicesSupported
Protocol_Object_Types_Supported	Read Only	BACnetObjectTypesSupported
Object_List	Read Only	BACnetARRAY[N]of BACnetObjectIdentifier
Max_APDU_Length_Accepted	Read Only	Unsigned
Segmentation_Supported	Read Only	BACnetSegmentation
APDU_Timeout	Read Only	Unsigned
Number_of_APDU_Retries	Read Only	Unsigned
Max_Master	Read Only	Unsigned (1..127)
Max_Info_Frames	Read Only	Unsigned
Device_Address_Binding	Read Only	List of BACnetAddressBinding
Database_Revision	Read Only	Unsigned
Local_Time	Read Only	Time
UTC_Offset	Read Only	INTEGER
Local_Date	Read Only	Date
Daylight_Savings_Status	Read Only	BOOLEAN

Supported Object Properties (Continued)

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)
- MS/TP master (Clause 9), baud rate(s) — 9600, 19200, 38400, 57600, 115200 bps
- MS/TP slave (Clause 9), baud rate(s) — 9600, 19200, 38400, 57600, 115200 bps
- Point-To-Point, EIA 232 (Clause 10)
- Point-To-Point, modem, (Clause 10)
- LonTalk, (Clause 11), medium
- BACnet/ZigBee (ANNEX O)

Networking Options

- Router, Clause 6
- Annex H, BACnet Tunnelling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)
 - Does the BBMD support registrations by Foreign Devices?
 - Does the BBMD support network address translation?

Networking Security Options

- Non-secure device capable of operating without BACnet Network Security
- Secure device 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

- ANSI X3.4
- ISO 10646 (UCS-2)
- IBM /Microsoft DBCS
- ISO 10646 (UCS-4)
- ISO 8859-1
- JIS X 0208

Device Address Binding

Static device binding is not supported.

Innotech Support

Innotech provides technical information on the Web to assist you with using its products.

At www.innotech.com.au, you can find technical manuals, user instructions, and data sheets for all our products.

For direct product support or product information, contact your local distributor, or an Innotech representative.

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