

# BACnet Protocol Implementation Conformance Statement

## BACNET PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT

**Date:** 30/01/2009

**Vendor Name:** Trend Control Systems Ltd.

**Product Name:** IQ3

**Product Model Number:** IQ3xcite/000/BAC..., IQ3xact/012/BAC., IQ3xcite/016/BAC..., IQ3xcite/096/BAC..., IQ3xcite/128/BAC..., IQ3xcite/... + IQ3xcite/BAC/UP, IQ3xact /... + IQ3xact/BAC/UP

**Applications Software Version:** N/A

**Firmware Revision:** 2.1

**BACnet Protocol Revision:** 4

### Product Description:

The IQ3 is a configurable plant controller using BACnet over IP to interface with 3rd party BACnet systems.

### 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)

### List all BACnet Interoperability Building Blocks Supported (Annex K):

ID	BIBB	Title
1.1	DS-RP-A	Data Sharing-ReadProperty-A
1.2	DS-RP-B	Data Sharing-ReadProperty-B
1.4	DS-RPM-B	Data Sharing ReadPropertyMultiple-B
1.7	DS-WP-A	Data Sharing-WriteProperty-A
1.8	DS-WP-B	Data Sharing-WriteProperty-B
1.10	DS-WPM-B	Data Sharing-WritePropertyMultiple-B
1.12	DS-COV-B	Data Sharing-ChangeOfValue-B
2.2	AE-N-I-B	Alarm and Event-Notification Internal-B
2.11	AE-INFO-B	Alarm and Event-Information-B
4.2	T-VMT-I-B	Trending-Viewing and Modifying Trends Internal- B
4.5	T-ATR-B	Trending_Automated Trend Retrieval-B
5.1	DM-DDB-A	Device Management-Dynamic Device Binding-A
5.2	DM-DDB-B	Device Management-Dynamic Device Binding-B
5.4	DM-DOB-B	Device Management-Dynamic Object Binding-B
5.6	DM-DCC-B	Device Management-DeviceCommunicationControl-B
5.12	DM-TS-B	Device Management-TimeSynchronisation-B
5.14	DM-UTC-B	Device Management-UTCTimeSynchronisation-B
Addendum L		
3.4	SCH-R-B	Scheduling Readable B

### Segmentation Capability:

- Segmented requests supported      Window Size 1
- Segmented responses supported      Window Size 1

### Standard Object Types Supported:

An object type is supported if it may be present in the device. For each standard Object Type supported provide the following data:

- 1) Whether objects of this type are dynamically creatable using the CreateObject service
- 2) Whether objects of this type are dynamically deletable using the DeleteObject service
- 3) List of the optional properties supported
- 4) List of all properties that are writable where not otherwise required by this standard
- 5) List of proprietary properties and for each its property identifier, datatype, and meaning
- 6) List of any property range restrictions

## Analog Input Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_DEVICE\_TYPE
  - BP\_RELIABILITY
  - BP\_EVENT\_ENABLE
  - BP\_HIGH\_LIMIT
  - BP\_LIMIT\_ENABLE
  - BP\_LOW\_LIMIT
  - BP\_NOTIFICATION\_CLASS
  - BP\_TIME\_DELAY
  - BP\_ACKED\_TRANSITIONS
  - BP\_NOTIFY\_TYPE
  - BP\_DEADBAND
  - BP\_EVENT\_TIMESTAMPS
  - BP\_COV\_INCREMENT
4. Writeable Properties:
  - BP\_EVENT\_ENABLE
  - BP\_HIGH\_LIMIT
  - BP\_LIMIT\_ENABLE
  - BP\_LOW\_LIMIT
  - BP\_NOTIFICATION\_CLASS
  - BP\_TIME\_DELAY
  - BP\_COV\_INCREMENT
5. Proprietary Properties: None
6. Property Range Restrictions:
 

BP_PRESENT_VALUE	1.175494351e-38F to 3.402823466e+38F, resolution: to 7 digits
BP_UNITS	0 to 255 bytes
BP_HIGH_LIMIT	-1e20 to 1e20, resolution: 7 digits
BP_LOW_LIMIT	-1e20 to 1e20, resolution: 7 digits
BP_DEADBAND	-1e20 to 1e20, resolution: 7 digits
BP_TIME_DELAY	0 to 172800, resolution: 1

## Analogue Output Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_DEVICE\_TYPE
  - BP\_RELIABILITY
  - BP\_COV\_INCREMENT
4. Writeable Properties:
  - BP\_PRESENT\_VALUE
  - BP\_COV\_INCREMENT
5. Proprietary Properties: None
6. Property Range Restrictions:
 

BP_PRESENT_VALUE	1.175494351e-38F to 3.402823466e+38F, resolution: to 7 digits
BP_UNITS	0 to 255 bytes
BP_RELINQUISH_DEFAULT	-1e20 to 1e20, resolution: 7 digits

## Analogue Value Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_RELIABILITY
  - BP\_COV\_INCREMENT
4. Writeable Properties:
  - BP\_PRESENT\_VALUE
  - BP\_UNITS
  - BP\_COV\_INCREMENT
5. Proprietary Properties: None
6. Property Range Restrictions:
  - BP\_PRESENT\_VALUE 1.175494351e-38F to 3.402823466e+38F, resolution: to 7 digits
  - BP\_UNITS 0 to 255 bytes

## Binary Input Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_DEVICE\_TYPE
  - BP\_ALARM\_VALUE
  - BP\_ELAPSED\_ACTIVE\_TIME
  - BP\_EVENT\_ENABLE
  - BP\_NOTIFICATION\_CLASS
  - BP\_NOTIFY\_TYPE
  - BP\_RELIABILITY
  - BP\_TIME\_DELAY
  - BP\_ACKED\_TRANSITIONS
  - BP\_EVENT\_TIME\_STAMPS
  - BP\_TIME\_OF\_ACTIVE\_TIME\_RESET
4. Writeable Properties:
  - BP\_ALARM\_VALUE
  - BP\_ELAPSED\_ACTIVE\_TIME
  - BP\_EVENT\_ENABLE
  - BP\_NOTIFICATION\_CLASS
  - BP\_TIME\_DELAY
5. Proprietary Properties:
6. Property Range Restrictions: None
  - BP\_ELAPSED\_ACTIVE\_TIME 0 to 235926008, resolution: 1
  - BP\_TIME\_DELAY 0 to 172800, resolution: 1

## Binary Output Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_DEVICE\_TYPE
  - BP\_CHANGE\_OF\_STATE\_COUNT
  - BP\_ELAPSED\_ACTIVE\_TIME
  - BP\_RELIABILITY
  - BP\_CHANGE\_OF\_STATE\_TIME
  - BP\_TIME\_OF\_STATE\_COUNT\_RESET
  - BP\_TIME\_OF\_ACTIVE\_TIME\_RESET
  - BP\_TIME\_DELAY
  - BP\_NOTIFICATION\_CLASS
  - BP\_FEEDBACK\_VALUE
  - BP\_EVENT\_ENABLE
  - BP\_ACKED\_TRANSITIONS
  - BP\_NOTIFY\_TYPE
  - BP\_EVENT\_TIME\_STAMPS
4. Writeable Properties:
  - BP\_PRESENT\_VALUE
  - BP\_CHANGE\_OF\_STATE\_COUNT
  - BP\_ELAPSED\_ACTIVE\_TIME
  - BP\_TIME\_DELAY
  - BP\_NOTIFICATION\_CLASS
  - BP\_EVENT\_ENABLE
5. Proprietary Properties: None
6. Property Range Restrictions:
  - BP\_CHANGE\_OF\_STATE\_COUNT 0 to 1,000,000,000
  - BP\_ELAPSED\_ACTIVE\_TIME 0 to 235926008, resolution 1
  - BP\_TIME\_DELAY 0 to 172800, resolution: 1

## Binary Value Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_RELIABILITY
4. Writeable Properties:
  - BP\_PRESENT\_VALUE
5. Proprietary Properties: None
6. Property Range Restrictions: None

## Device Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_LOCATION
  - BP\_MAX\_SEGMENTS\_ACCEPTED
  - BP\_LOCAL\_DATE
  - BP\_LOCAL\_TIME
  - BP\_UTC\_OFFSET
  - BP\_DAYLIGHT\_SAVINGS\_STATUS
  - BP\_APDU\_SEGMENT\_TIMEOUT
  - BP\_ACTIVE\_COV\_SUBSCRIPTIONS
4. Writeable Properties:
  - BP\_LOCAL\_DATE
  - BP\_LOCAL\_TIME
  - BP\_UTC\_OFFSET
5. Proprietary Properties: None
6. Property Range Restrictions:
  - BP\_UTC\_OFFSET -780 to +780, resolution: 1

## Notification Class Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported: None
4. Writeable Properties:
  - BP\_RECIPIENT\_LIST
  - BP\_NOTIFICATION\_THRESHOLD
5. Proprietary Properties: None
6. Property Range Restrictions: None

## Schedule Object Type

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_WEEKLY\_SCHEDULE
  - BP\_EXCEPTION\_SCHEDULE
4. Writeable Properties: None
5. Proprietary Properties: None
6. Property Range Restrictions: None

## Trend Log Object

1. Creatable: No
2. Deletable: No
3. Optional Properties Supported:
  - BP\_NOTIFICATION\_THRESHOLD
  - BP\_RECORDS\_SINCE\_NOTIFICATION
  - BP\_LAST\_NOTIFY\_RECORD
  - BP\_NOTIFICATION\_CLASS
  - BP\_EVENT\_ENABLE
  - BP\_ACKED\_TRANSITIONS
  - BP\_NOTIFY\_TYPE
  - BP\_EVENT\_TIME\_STAMPS
4. Writeable Properties:
  - BP\_LOG\_INTERVAL
  - BP\_RECORD\_COUNT
  - BP\_LOG\_ENABLE
5. Proprietary Properties: None
6. Property Range Restrictions:
  - BP\_LOG\_INTERVAL 0 to 235926000, resolution 1
  - BP\_RECORD\_COUNT 0 to 235926000, resolution 1

## 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):
- 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:

## 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

## Character Sets Supported:

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

- ANSI X3.4
- IBM™/Microsoft™ DBCS
- ISO 8859-1
- ISO 10646 (UCS-2)
- ISO 10646 (UCS-4)
- JIS C 6226

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

N/A

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