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### FMS-1655 BACnet MS/TP Protocol Implementation Conformance Statement

**Date:** March 24, 2014

**Vendor Name:** Triatek Holdings, LLC

**Product Name:** FMS-1655 Series Isolation Controller with Safety Halo™

**Product Model Number:** FMS-1655

**Firmware Revision:** 2.14 or higher

**BACnet Protocol Revision:** 5

#### Product Description:

The TRIATEK FMS-1655 Series Isolation Controller is an ultra-sensitive instrument used to control and/or monitor air pressure in hospital rooms, labs, and clean rooms. This unit is a precision measuring system capable of measuring and displaying air pressures down to 0.0001" WC (0.025 Pa). This particular model isolation controller is capable of acting as a stand-alone device or as part of a building automation system using the BACnet MS/TP protocol.

#### 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):

DS-RP-B	Read Property
DS-RPM-B	Read Property Multiple
DS-WP-B	Write Property
DM-DDB-B	Dynamic Device Binding
DM-DOB-B	Dynamic Object Binding
DM-DCC-B	Device Communication Control
DS-TS-B	Time Synchronization
DS-UTC-B	UTC Time Synchronization
DM-RD-B	Reinitialize Device

#### Segmentation Capability:

- Segmented requests supported    Yes     No
- Segmented responses supported    Yes     No

**Standard Object Types Supported:**

**Analog Input Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

DESCRIPTION
OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Analog Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
PRESENT_VALUE	MINIMUM: 0.0; MAXIMUM: 100.0

**Analog Value Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION  
 PRIORITY\_ARRAY  
 RELINQUISH\_DEFAULT

4. List of all properties that are writable where not otherwise required by this standard:

OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Input Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

--

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION  
 INACTIVE\_TEXT  
 ACTIVE\_TEXT

4. List of all properties that are writable where not otherwise required by this standard:

OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Value Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION  
 PRIORITY\_ARRAY  
 RELINQUISH\_DEFAULT

4. List of all properties that are writable where not otherwise required by this standard:

PRESENT\_VALUE  
 OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions



**Device Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION  
 LOCAL\_TIME  
 LOCAL\_DATE  
 UTC\_OFFSET  
 DAYLIGHT\_SAVINGS\_STATUS  
 MAX\_MASTER  
 MAX\_INFO\_FRAMES

4. List of all properties that are writable where not otherwise required by this standard:

OBJECT\_IDENTIFIER  
 OBJECT\_NAME  
 NUMBER\_OF\_APDU\_RETRIES  
 APDU\_TIMEOUT  
 UTC\_OFFSET  
 MAX\_MASTER  
 MAX\_INFO\_FRAMES

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
APDU_TIMEOUT	MINIMUM: 0; MAXIMUM: 3000
NUMBER_OF_APDU_RETRIES	MINIMUM: 0; MAXIMUM: 10
MAX_MASTER	MINIMUM: 0; MAXIMUM: 127
MAX_INFO_FRAMES	MINIMUM: 1; MAXIMUM: 255

**Multistate Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION
-------------

4. List of all properties that are writable where not otherwise required by this standard:

OUT_OF_SERVICE
----------------

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
PRESENT_VALUE	MINIMUM: 1; MAXIMUM: 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 bps, 19.2Kbps, 38.4Kbps, 76.8 kbps
- 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)

**Character Sets Supported:**

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

- |   |   |                                     |
|---|---|-------------------------------------|
| <input checked="" type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2)    | <input type="checkbox"/> ISO 10646 (UCS-4)    | <input type="checkbox"/> JIS C 6226 |

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

Not Applicable



FMS-1650 BACnet MS/TP Protocol Implementation Conformance Statement

Date: March 24, 2014
Vendor Name: Triatek Holdings, LLC
Product Name: FMS-1650 Series Isolation Controller
Product Model Number: FMS-1650
Firmware Revision: 2.14 or higher
BACnet Protocol Revision: 5

Product Description:

The TRIATEK FMS-1650 Series Isolation Controller is an ultra-sensitive instrument used to control and/or monitor air pressure in hospital rooms, labs, and clean rooms. This unit is a precision measuring system capable of measuring and displaying air pressures down to 0.0001" WC (0.025 Pa). This particular model isolation controller is capable of acting as a stand-alone device or as part of a building automation system using the BACnet MS/TP protocol.

BACnet Standardized Device Profile (Annex L):

- BACnet Operator Workstation (B-OWS)
BACnet Building Controller (B-BC)
BACnet Advanced Application Controller (B-AAC)
[X] 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):

- DS-RP-B Read Property
DS-RPM-B Read Property Multiple
DS-WP-B Write Property
DM-DDB-B Dynamic Device Binding
DM-DOB-B Dynamic Object Binding
DM-DCC-B Device Communication Control
DS-TS-B Time Synchronization
DS-UTC-B UTC Time Synchronization
DM-RD-B Reinitialize Device

Segmentation Capability:

Segmented requests supported Yes [ ] No [X]
Segmented responses supported Yes [ ] No [X]

**Standard Object Types Supported:**

**Analog Input Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

DESCRIPTION
OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Analog Output Object Type**

1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
PRESENT_VALUE	MINIMUM: 0.0; MAXIMUM: 100.0

**Analog Value Object Type**

1. Dynamically creatable using BACnet's CreateObject service? Yes  No
2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION PRIORITY_ARRAY RELINQUISH_DEFAULT
---

4. List of all properties that are writable where not otherwise required by this standard:

OUT_OF_SERVICE
----------------

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Input Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

--

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions



**Binary Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION  
 INACTIVE\_TEXT  
 ACTIVE\_TEXT

4. List of all properties that are writable where not otherwise required by this standard:

OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Value Object Type**

1. Dynamically creatable using BACnet's CreateObject service? Yes  No
2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION PRIORITY_ARRAY RELINQUISH_DEFAULT
---

4. List of all properties that are writable where not otherwise required by this standard:

PRESENT_VALUE OUT_OF_SERVICE
---------------------------------

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Device Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION  
 LOCAL\_TIME  
 LOCAL\_DATE  
 UTC\_OFFSET  
 DAYLIGHT\_SAVINGS\_STATUS  
 MAX\_MASTER  
 MAX\_INFO\_FRAMES

4. List of all properties that are writable where not otherwise required by this standard:

OBJECT\_IDENTIFIER  
 OBJECT\_NAME  
 NUMBER\_OF\_APDU\_RETRIES  
 APDU\_TIMEOUT  
 UTC\_OFFSET  
 MAX\_MASTER  
 MAX\_INFO\_FRAMES

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
APDU_TIMEOUT	MINIMUM: 0; MAXIMUM: 3000
NUMBER_OF_APDU_RETRIES	MINIMUM: 0; MAXIMUM: 10
MAX_MASTER	MINIMUM: 0; MAXIMUM: 127
MAX_INFO_FRAMES	MINIMUM: 1; MAXIMUM: 255

**Multistate Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
PRESENT_VALUE	MINIMUM: 1; MAXIMUM: 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 bps, 19.2Kbps, 38.4Kbps, 76.8 kbps
- 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)

**Character Sets Supported:**

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

- |   |   |                                     |
|---|---|-------------------------------------|
| <input checked="" type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2)    | <input type="checkbox"/> ISO 10646 (UCS-4)    | <input type="checkbox"/> JIS C 6226 |

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

Not Applicable

### HMS-1655 BACnet MS/TP Protocol Implementation Conformance Statement

**Date:** March 24, 2014

**Vendor Name:** Triatek Holdings, LLC

**Product Name:** HMS-1655 Series Fume Hood Controller with Safety Halo™

**Product Model Number:** HMS-1655

**Firmware Revision:** 2.14 or higher

**BACnet Protocol Revision:** 5

**Product Description:**

The TRIATEK HMS-1655 Series Fume Hood Controller is an ultra-sensitive instrument used to control and/or monitor the face velocity at the sash opening of laboratory fume hoods. This unit is a precision measuring system capable of measuring and displaying face velocities from zero to 200 ft/min with an accuracy of ±2 ft/min over the primary operating range of 60 ft/min to 140 ft/min. This particular model fume hood controller is capable of acting as a stand-alone device or as part of a building automation system using the BACnet MS/TP protocol.

**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):**

DS-RP-B	Read Property
DS-RPM-B	Read Property Multiple
DS-WP-B	Write Property
DM-DDB-B	Dynamic Device Binding
DM-DOB-B	Dynamic Object Binding
DM-DCC-B	Device Communication Control
DS-TS-B	Time Synchronization
DS-UTC-B	UTC Time Synchronization
DM-RD-B	Reinitialize Device

**Segmentation Capability:**

- Segmented requests supported    Yes     No
- Segmented responses supported    Yes     No

**Standard Object Types Supported:**

**Analog Input Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

DESCRIPTION
OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Analog Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
PRESENT_VALUE	MINIMUM: 0.0; MAXIMUM: 100.0



**Analog Value Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION  
 PRIORITY\_ARRAY  
 RELINQUISH\_DEFAULT

4. List of all properties that are writable where not otherwise required by this standard:

OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Input Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

--

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION  
 INACTIVE\_TEXT  
 ACTIVE\_TEXT

4. List of all properties that are writable where not otherwise required by this standard:

OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Value Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION  
 PRIORITY\_ARRAY  
 RELINQUISH\_DEFAULT

4. List of all properties that are writable where not otherwise required by this standard:

PRESENT\_VALUE  
 OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Device Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION  
 LOCAL\_TIME  
 LOCAL\_DATE  
 UTC\_OFFSET  
 DAYLIGHT\_SAVINGS\_STATUS  
 MAX\_MASTER  
 MAX\_INFO\_FRAMES

4. List of all properties that are writable where not otherwise required by this standard:

OBJECT\_IDENTIFIER  
 OBJECT\_NAME  
 NUMBER\_OF\_APDU\_RETRIES  
 APDU\_TIMEOUT  
 UTC\_OFFSET  
 MAX\_MASTER  
 MAX\_INFO\_FRAMES

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
APDU_TIMEOUT	MINIMUM: 0; MAXIMUM: 3000
NUMBER_OF_APDU_RETRIES	MINIMUM: 0; MAXIMUM: 10
MAX_MASTER	MINIMUM: 0; MAXIMUM: 127
MAX_INFO_FRAMES	MINIMUM: 1; MAXIMUM: 255

**Multistate Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?    Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
PRESENT_VALUE	MINIMUM: 1; MAXIMUM: 3

**Data Link Layer Options:**

- BACnet IP, (Annex J)
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- 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): \_\_\_\_\_
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- 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)

**Character Sets Supported:**

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- |   |   |                                     |
|---|---|-------------------------------------|
| <input checked="" type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2)    | <input type="checkbox"/> ISO 10646 (UCS-4)    | <input type="checkbox"/> JIS C 6226 |

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

Not Applicable

### HMS-1650 BACnet MS/TP Protocol Implementation Conformance Statement

**Date:** March 24, 2014

**Vendor Name:** Triatek Holdings, LLC

**Product Name:** HMS-1650 Series Fume Hood Controller

**Product Model Number:** HMS-1650

**Firmware Revision:** 2.14 or higher

**BACnet Protocol Revision:** 5

**Product Description:**

The TRIATEK HMS-1650 Series Fume Hood Controller is an ultra-sensitive instrument used to control and/or monitor the face velocity at the sash opening of laboratory fume hoods. This unit is a precision measuring system capable of measuring and displaying face velocities from zero to 200 ft/min with an accuracy of  $\pm 2$  ft/min over the primary operating range of 60 ft/min to 140 ft/min. This particular model fume hood controller is capable of acting as a stand-alone device or as part of a building automation system using the BACnet MS/TP protocol.

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DM-DDB-B	Dynamic Device Binding
DM-DOB-B	Dynamic Object Binding
DM-DCC-B	Device Communication Control
DS-TS-B	Time Synchronization
DS-UTC-B	UTC Time Synchronization
DM-RD-B	Reinitialize Device

**Segmentation Capability:**

- Segmented requests supported    Yes     No
- Segmented responses supported    Yes     No



**Standard Object Types Supported:**

**Analog Input Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

DESCRIPTION
OUT_OF_SERVICE

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Property Identifier	Property Datatype	Meaning

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Property Identifier	Restrictions

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DESCRIPTION

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OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
PRESENT_VALUE	MINIMUM: 0.0; MAXIMUM: 100.0

**Analog Value Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION  
 PRIORITY\_ARRAY  
 RELINQUISH\_DEFAULT

4. List of all properties that are writable where not otherwise required by this standard:

OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Input Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

--

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION  
 INACTIVE\_TEXT  
 ACTIVE\_TEXT

4. List of all properties that are writable where not otherwise required by this standard:

OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Binary Value Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION  
 PRIORITY\_ARRAY  
 RELINQUISH\_DEFAULT

4. List of all properties that are writable where not otherwise required by this standard:

PRESENT\_VALUE  
 OUT\_OF\_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions

**Device Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service? Yes  No
- 2. Dynamically deletable using BACnet's DeleteObject service? Yes  No

3. List of optional properties supported:

DESCRIPTION  
 LOCAL\_TIME  
 LOCAL\_DATE  
 UTC\_OFFSET  
 DAYLIGHT\_SAVINGS\_STATUS  
 MAX\_MASTER  
 MAX\_INFO\_FRAMES

4. List of all properties that are writable where not otherwise required by this standard:

OBJECT\_IDENTIFIER  
 OBJECT\_NAME  
 NUMBER\_OF\_APDU\_RETRIES  
 APDU\_TIMEOUT  
 UTC\_OFFSET  
 MAX\_MASTER  
 MAX\_INFO\_FRAMES

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
APDU_TIMEOUT	MINIMUM: 0; MAXIMUM: 3000
NUMBER_OF_APDU_RETRIES	MINIMUM: 0; MAXIMUM: 10
MAX_MASTER	MINIMUM: 0; MAXIMUM: 127
MAX_INFO_FRAMES	MINIMUM: 1; MAXIMUM: 255

**Multistate Output Object Type**

- 1. Dynamically creatable using BACnet's CreateObject service?      Yes     No
- 2. Dynamically deletable using BACnet's DeleteObject service?      Yes     No

3. List of optional properties supported:

DESCRIPTION

4. List of all properties that are writable where not otherwise required by this standard:

OUT_OF_SERVICE

5. List of proprietary properties:

Property Identifier	Property Datatype	Meaning

6. List of any property value range restrictions:

Property Identifier	Restrictions
PRESENT_VALUE	MINIMUM: 1; MAXIMUM: 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 bps, 19.2Kbps, 38.4Kbps, 76.8 kbps
- 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)

**Character Sets Supported:**

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

- |   |   |                                     |
|---|---|-------------------------------------|
| <input checked="" type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2)    | <input type="checkbox"/> ISO 10646 (UCS-4)    | <input type="checkbox"/> JIS C 6226 |

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

Not Applicable