

# BACnet Litecom

ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

(This annex is part of this Standard and is required for its use.)

## BACnet Protocol Implementation Conformance Statement (PICS)

### Versions

| Date       | Version | Description                       |
|------------|---------|-----------------------------------|
| 28.04.2014 | 1       | initial                           |
| 08.08.2014 | 1.1     | final                             |
| 10.10.2016 | 1.2     | BBMD                              |
| 13.10.2016 | 1.3     | Small changes Devices Object      |
| 09.11.2016 | 1.4     | Support of COV                    |
| 21.03.2017 | 1.5     | Small changes DE, BI, BO MSI, MSO |

## Table of Contents

|       |   |    |
|-------|---|----|
| 1     | Protocol Implementation Conformance Statement (PICS) .....                | 3  |
| 2     | Product Description.....  | 3  |
| 3     | BACnet Standardized Device Profile: .....                                 | 4  |
| 4     | List all BACnet Interoperability Building Blocks Supported (Annex K)..... | 5  |
| 4.1   | Data-Sharing BIBBs .....  | 5  |
| 4.2   | Alarm and Event Management BIBBs.....                                     | 5  |
| 4.3   | Scheduling BIBBs.....   | 5  |
| 4.4   | Trending BIBBs .....  | 5  |
| 4.5   | Device Management .....   | 5  |
| 4.6   | Segmentation Capability:.....   | 5  |
| 5     | Standard Object Types Supported.....                                      | 6  |
| 5.1   | Analog Input (0).....   | 7  |
| 5.2   | Analog Output (1) .....   | 8  |
| 5.3   | Binary Input (3).....   | 10 |
| 5.4   | Binary Output (4).....  | 12 |
| 5.5   | Device (8).....   | 14 |
| 5.6   | Multi State Input (13).....   | 16 |
| 5.7   | Multi State Output (14).....  | 17 |
| 6     | Data Link Layer Options.....  | 18 |
| 7     | Device Address Binding .....  | 18 |
| 8     | Networking Options .....  | 19 |
| 9     | Networking Security Options.....  | 19 |
| 10    | Character Sets Supported .....  | 19 |
| 11    | Communication Gateway.....  | 19 |
| Annex | .....   | 20 |
| A)    | Trademarks.....   | 20 |
| B)    | Copyright .....   | 20 |

## 1 Protocol Implementation Conformance Statement (PICS)

|                              |                          |
|------------------------------|--------------------------|
| Date                         | 21.03.2017               |
| Vendor Name                  | mivune AG, Vendor ID 718 |
| Product Name                 | BACnet for LITECOM       |
| Product Model Number         | Litecom CCD              |
| Application Software Version | 2.0.5.804-238            |
| Firmware Revision            | 1.1.1                    |
| BACnet Protocol Revision     | Version 1, Revision 12   |

## 2 Product Description

The LITECOM controller is mainly used for lighting control.  
The controller operates as a BACnet server and communicates with other BACnet clients.

### 3 BACnet Standardized Device Profile:

A B-ASC is a controller with limited resources relative to a B-AAC. It is intended for use in a specific application and supports limited programmability. It enables specification of the following:

#### Data Sharing

- Ability to provide the values of any of its BACnet objects
- Ability to allow modification of some or all of its BACnet objects by another device

#### Alarm and Event Management

- No requirement

#### Scheduling

- No requirement

#### Trending

- No requirement

#### Device and Network Management

- Ability to respond to queries about its status
- Ability to respond to requests for information about any of its objects
- Ability to respond to communication control messages

- 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)

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

### 4.1 Data-Sharing BIBBs

|                  |          |
|------------------|----------|
| Read-Property-B  | DS-RP-B  |
| Write-Property-B | DS-WP-B  |
| COV-B            | DS-COV-B |

### 4.2 Alarm and Event Management BIBBs

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### 4.3 Scheduling BIBBs

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### 4.4 Trending BIBBs

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### 4.5 Device Management BIBBs

|  |          |
|--|----------|
| 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 |

### 4.6 Segmentation Capability:

- Able to transmit segmented messages    Window Size     16
- Able to receive segmented messages    Window Size     16

## 5 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 all properties that are conditionally writable where not otherwise required by this standard
- 6) List of proprietary properties and for each its property identifier, datatype, and meaning
- 7) List of any property range restrictions

## 5.1 Analog Input (0)

Dynamically Creatable: No

Dynamically Deletable: No

| Property Identifier            | Property Datatype                    | Conf Code        | LITECOM        | Restrictions  |
|--------------------------------|--------------------------------------|------------------|----------------|---------------|
| Object_Identifier              | BACnetObjectIdentifier               | R                | R              |               |
| Object_Name                    | CharacterString                      | R                | R              |               |
| Object_Type                    | BACnetObjectType                     | R                | R              |               |
| Present_Value                  | REAL                                 | R <sup>1</sup>   | R <sup>1</sup> |               |
| Description                    | CharacterString                      | O                | R              | Supported     |
| Device_Type                    | CharacterString                      | O                | -              | Not supported |
| Status_Flags                   | BACnetStatusFlags                    | R                | R              |               |
| Event_State                    | BACnetEventState                     | R                | R              |               |
| Reliability                    | BACnetReliability                    | O                | -              | Not supported |
| Out_Of_Service                 | BOOLEAN                              | R                | W              |               |
| Update_Interval                | Unsigned                             | O                | -              | Not supported |
| Units                          | BACnetEngineeringUnits               | R                | R              |               |
| Min_Pres_Value                 | REAL                                 | O                | R              | Supported     |
| Max_Pres_Value                 | REAL                                 | O                | R              | Supported     |
| Resolution                     | REAL                                 | O                | -              | Not supported |
| COV_Increment                  | REAL                                 | O <sup>2</sup>   | R              | Supported     |
| Time_Delay                     | Unsigned                             | O <sup>3,5</sup> | -              | Not supported |
| Notification_Class             | Unsigned                             | O <sup>3,5</sup> | -              | Not supported |
| High_Limit                     | REAL                                 | O <sup>3,5</sup> | -              | Not supported |
| Low_Limit                      | REAL                                 | O <sup>3,5</sup> | -              | Not supported |
| Deadband                       | REAL                                 | O <sup>3,5</sup> | -              | Not supported |
| Limit_Enable                   | BACnetLimitEnable                    | O <sup>3,5</sup> | -              | Not supported |
| Event_Enable                   | BACnetEventTransitionBits            | O <sup>3,5</sup> | -              | Not supported |
| Acked_Transitions              | BACnetEventTransitionBits            | O <sup>3,5</sup> | -              | Not supported |
| Notify_Type                    | BACnetNotifyType                     | O <sup>3,5</sup> | -              | Not supported |
| Event_Time_Stamps              | BACnetARRAY[3] of<br>BACnetTimeStamp | O <sup>3,5</sup> | -              | Not supported |
| Event_Message_Texts            | BACnetARRAY[3] of<br>CharacterString | O <sup>4,5</sup> | -              | Not supported |
| Event_Message_Texts_Config     | BACnetARRAY[3] of<br>CharacterString | O <sup>5</sup>   | -              | Not supported |
| Event_Detection_Enable         | BOOLEAN                              | O <sup>3,5</sup> | -              | Not supported |
| Event_Algorithm_Inhibit_Ref    | BACnetObjectPropertyReference        | O <sup>5</sup>   | -              | Not supported |
| Event_Algorithm_Inhibit        | BOOLEAN                              | O <sup>5,6</sup> | -              | Not supported |
| Time_Delay_Normal              | Unsigned                             | O <sup>5</sup>   | -              | Not supported |
| Reliability_Evaluation_Inhibit | BOOLEAN                              | O <sup>7</sup>   | -              | Not supported |
| Profile_Name                   | CharacterString                      | O                | -              | Not supported |

Table 1 Analog Input

1 This property is required to be writable when Out\_Of\_Service is TRUE.

2 This property is required if, and shall be present only if, the object supports COV reporting.

3 These properties are required if the object supports intrinsic reporting.

4 This property, if present, is required to be read-only.

5 These properties shall be present only if the object supports intrinsic reporting.

6 Event\_Algorithm\_Inhibit shall be present if Event\_Algorithm\_Inhibit\_Ref is present.

7 If this property is present, then the Reliability property shall be present.

## 5.2 Analog Output (1)

Dynamically Creatable: No

Dynamically Deletable: No

| Property Identifier            | Property Datatype                 | Conf code        | LITECOM | Restrictions  |
|--------------------------------|-----------------------------------|------------------|---------|---------------|
| Object_Identifier              | BACnetObjectIdentifier            | R                | R       |               |
| Object_Name                    | CharacterString                   | R                | R       |               |
| Object_Type                    | BACnetObjectType                  | R                | R       |               |
| Present_Value                  | REAL                              | W                | W       |               |
| Description                    | CharacterString                   | O                | R       | Supported     |
| Device_Type                    | CharacterString                   | O                | -       | Not supported |
| Status_Flags                   | BACnetStatusFlags                 | R                | R       |               |
| Event_State                    | BACnetEventState                  | R                | R       |               |
| Reliability                    | BACnetReliability                 | O                | -       | Not supported |
| Out_Of_Service                 | BOOLEAN                           | R                | W       |               |
| Units                          | BACnetEngineeringUnits            | R                | R       |               |
| Min_Pres_Value                 | REAL                              | O                | R       |               |
| Max_Pres_Value                 | REAL                              | O                | R       |               |
| Resolution                     | REAL                              | O                | -       | Not supported |
| Priority_Array                 | BACnetPriorityArray               | R                | R       |               |
| Relinquish_Default             | REAL                              | R                | R       |               |
| COV_Increment                  | REAL                              | O <sup>1</sup>   | R       | Supported     |
| Time_Delay                     | Unsigned                          | O <sup>2,4</sup> | -       | Not supported |
| Notification_Class             | Unsigned                          | O <sup>2,4</sup> | -       | Not supported |
| High_Limit                     | REAL                              | O <sup>2,4</sup> | -       | Not supported |
| Low_Limit                      | REAL                              | O <sup>2,4</sup> | -       | Not supported |
| Deadband                       | REAL                              | O <sup>2,4</sup> | -       | Not supported |
| Limit_Enable                   | BACnetLimitEnable                 | O <sup>2,4</sup> | -       | Not supported |
| Event_Enable                   | BACnetEventTransitionBits         | O <sup>2,4</sup> | -       | Not supported |
| Acked_Transitions              | BACnetEventTransitionBits         | O <sup>2,4</sup> | -       | Not supported |
| Notify_Type                    | BACnetNotifyType                  | O <sup>2,4</sup> | -       | Not supported |
| Event_Time_Stamps              | BACnetARRAY[3] of BACnetTimeStamp | O <sup>2,4</sup> | -       | Not supported |
| Event_Message_Texts            | BACnetARRAY[3] of CharacterString | O <sup>3,4</sup> | -       | Not supported |
| Event_Message_Texts_Config     | BACnetARRAY[3] of CharacterString | O <sup>4</sup>   | -       | Not supported |
| Event_Detection_Enable         | BOOLEAN                           | O <sup>4,5</sup> | -       | Not supported |
| Event_Algorithm_Inhibit_Ref    | BACnetObjectPropertyReference     | O <sup>4</sup>   | -       | Not supported |
| Event_Algorithm_Inhibit        | BOOLEAN                           | O <sup>4,5</sup> | -       | Not supported |
| Time_Delay_Normal              | Unsigned                          | O <sup>4</sup>   | -       | Not supported |
| Reliability_Evaluation_Inhibit | BOOLEAN                           | O <sup>6</sup>   | -       | Not supported |
| Profile_Name                   | CharacterString                   | O                | -       | Not supported |

Table 2 Analog Output

1 This property is required if, and shall be present only if, the object supports COV reporting.

2 These properties are required if the object supports intrinsic reporting.

3 This property, if present, is required to be read-only.

4 These properties shall be present only if the object supports intrinsic reporting.



**ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)**

- 5 Event\_Algorithm\_Inhibit shall be present if Event\_Algorithm\_Inhibit\_Ref is present.
- 6 If this property is present, then the Reliability property shall be present

### 5.3 Binary Input (3)

Dynamically Creatable: No

Dynamically Deletable: No

| Property Identifier           | Property Datatype                 | Conf Code        | LITECOM        | Restrictions  |
|-------------------------------|-----------------------------------|------------------|----------------|---------------|
| Object_Identifier             | BACnetObjectIdentifier            | R                | R              |               |
| Object_Name                   | CharacterString                   | R                | R              |               |
| Object_Type                   | BACnetObjectType                  | R                | R              |               |
| Present_Value                 | BACnetBinaryPV                    | R <sup>1</sup>   | R <sup>1</sup> |               |
| Description                   | CharacterString                   | O                | R              | Supported     |
| Device_Type                   | CharacterString                   | O                | -              | Not supported |
| Status_Flags                  | BACnetStatusFlags                 | R                | R              |               |
| Event_State                   | BACnetEventState                  | R                | R              |               |
| Reliability                   | BACnetReliability                 | O                | -              | Not supported |
| Out_Of_Service                | BOOLEAN                           | R                | W              |               |
| Polarity                      | BACnetPolarity                    | R                | R              |               |
| Inactive_Text                 | CharacterString                   | O <sup>2</sup>   | R              | Supported     |
| Active_Text                   | CharacterString                   | O <sup>2</sup>   | R              | Supported     |
| Change_Of_State_Time          | BACnetDateTime                    | O <sup>3</sup>   | -              | Not supported |
| Change_Of_State_Count         | Unsigned                          | O <sup>3</sup>   | -              | Not supported |
| Time_Of_State_Count_Reset     | BACnetDateTime                    | O <sup>3</sup>   | -              | Not supported |
| Elapsed_Active_Time           | Unsigned32                        | O <sup>3</sup>   | -              | Not supported |
| Time_Of_Active_Time_Reset     | BACnetDateTime                    | O <sup>4</sup>   | -              | Not supported |
| Time_Delay                    | Unsigned                          | O <sup>5,7</sup> | -              | Not supported |
| Notification_Class            | Unsigned                          | O <sup>5,7</sup> | -              | Not supported |
| Alarm_Value                   | BACnetBinaryPV                    | O <sup>5,7</sup> | -              | Not supported |
| Event_Enable                  | BACnetEventTransitionBits         | O <sup>5,7</sup> | -              | Not supported |
| Acked_Transitions             | BACnetEventTransitionBits         | O <sup>5,7</sup> | -              | Not supported |
| Notify_Type                   | BACnetNotifyType                  | O <sup>5,7</sup> | -              | Not supported |
| Event_Time_Stamps             | BACnetARRAY[3] of BACnetTimeStamp | O <sup>5,7</sup> | -              | Not supported |
| Event_Message_Texts           | BACnetARRAY[3] of CharacterString | O <sup>6,7</sup> | -              | Not supported |
| Event_Message_Texts_Config    | BACnetARRAY[3] of CharacterString | O <sup>7</sup>   | -              | Not supported |
| Event_Detection_Enable        | BOOLEAN                           | O <sup>5,7</sup> | -              | Not supported |
| Event_Algorithm_Inhibit_Ref   | BACnetObjectPropertyReference     | O <sup>7</sup>   | -              | Not supported |
| Event_Algorithm_Inhibit       | BOOLEAN                           | O <sup>7,8</sup> | -              | Not supported |
| Time_Delay_Normal             | Unsigned                          | O <sup>7</sup>   | -              | Not supported |
| Reliability_Evaluation_Inhibi | BOOLEAN                           | O <sup>9</sup>   | -              | Not supported |
| Profile_Name                  | CharacterString                   | O                | -              | Not supported |

Table 3 Binary Input

1 This property is required to be writable when Out\_Of\_Service is TRUE.

2 If one of the optional properties Inactive\_Text or Active\_Text is present, then both of these properties shall be present.

3 If one of the optional properties Change\_Of\_State\_Time, Change\_Of\_State\_Count, or Time\_Of\_State\_Count\_Reset is present, then all of these properties shall be present.

**ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)**

- 4 If one of the optional properties Elapsed\_Active\_Time or Time\_Of\_Active\_Time\_Reset is present, then both of these properties shall be present.
- 5 These properties are required if the object supports intrinsic reporting.
- 6 This property, if present, is required to be read only.
- 7 These properties shall be present only if the object supports intrinsic reporting.
- 8 Event\_Algorithm\_Inhibit shall be present if Event\_Algorithm\_Inhibit\_Ref is present.
- 9 If this property is present, then the Reliability property shall be present

## 5.4 Binary Output (4)

Dynamically Creatable: No

Dynamically Deletable: No

| Property Identifier           | Property Datatype                 | Conf Code        | LITECOM | Restrictions  |
|-------------------------------|-----------------------------------|------------------|---------|---------------|
| Object_Identifier             | BACnetObjectIdentifier            | R                | R       |               |
| Object_Name                   | CharacterString                   | R                | R       |               |
| Object_Type                   | BACnetObjectType                  | R                | R       |               |
| Present_Value                 | BACnetBinaryPV                    | W                | W       |               |
| Description                   | CharacterString                   | O                | R       | Supported     |
| Device_Type                   | CharacterString                   | O                | -       | Not supported |
| Status_Flags                  | BACnetStatusFlags                 | R                | R       |               |
| Event_State                   | BACnetEventState                  | R                | R       |               |
| Reliability                   | BACnetReliability                 | O                | -       | Not supported |
| Out_Of_Service                | BOOLEAN                           | R                | W       |               |
| Polarity                      | BACnetPolarity                    | R                | R       |               |
| Inactive_Text                 | CharacterString                   | O <sup>1</sup>   | R       | Supported     |
| Active_Text                   | CharacterString                   | O <sup>1</sup>   | R       | Supported     |
| Change_Of_State_Time          | BACnetDateTime                    | O <sup>2</sup>   | -       | Not supported |
| Change_Of_State_Count         | Unsigned                          | O <sup>2</sup>   | -       | Not supported |
| Time_Of_State_Count_Reset     | BACnetDateTime                    | O <sup>2</sup>   | -       | Not supported |
| Elapsed_Active_Time           | Unsigned32                        | O <sup>3</sup>   | -       | Not supported |
| Time_Of_Active_Time_Reset     | BACnetDateTime                    | O <sup>3</sup>   | -       | Not supported |
| Minimum_Off_Time              | Unsigned32                        | O                | -       | Not supported |
| Minimum_On_Time               | Unsigned32                        | O                | -       | Not supported |
| Priority_Array                | BACnetPriorityArray               | R                | R       |               |
| Relinquish_Default            | BACnetBinaryPV                    | R                | R       | Not supported |
| Time_Delay                    | Unsigned                          | O <sup>4,6</sup> | -       | Not supported |
| Notification_Class            | Unsigned                          | O <sup>4,6</sup> | -       | Not supported |
| Feedback_Value                | BACnetBinaryPV                    | O <sup>4,6</sup> | -       | Not supported |
| Event_Enable                  | BACnetEventTransitionBits         | O <sup>4,6</sup> | -       | Not supported |
| Acked_Transitions             | BACnetEventTransitionBits         | O <sup>4,6</sup> | -       | Not supported |
| Notify_Type                   | BACnetNotifyType                  | O <sup>4,6</sup> | -       | Not supported |
| Event_Time_Stamps             | BACnetARRAY[3] of BACnetTimeStamp | O <sup>4,6</sup> | -       | Not supported |
| Event_Message_Texts           | BACnetARRAY[3] of CharacterString | O <sup>5,6</sup> | -       | Not supported |
| Event_Message_Texts_Config    | BACnetARRAY[3] of CharacterString | O <sup>6</sup>   | -       | Not supported |
| Event_Detection_Enable        | BOOLEAN                           | O <sup>4,6</sup> | -       | Not supported |
| Event_Algorithm_Inhibit_Ref   | BACnetObjectPropertyReference     | O <sup>6</sup>   | -       | Not supported |
| Event_Algorithm_Inhibit       | BOOLEAN                           | O <sup>6,7</sup> | -       | Not supported |
| Time_Delay_Normal             | Unsigned                          | O <sup>6</sup>   | -       | Not supported |
| Reliability_Evaluation_Inhibi | BOOLEAN                           | O <sup>8</sup>   | -       | Not supported |
| Profile_Name                  | CharacterString                   | O                | -       | Not supported |

## ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

## Table 4 Binary Output

- 1 If one of the optional properties Inactive\_Text or Active\_Text is present, then both of these properties shall be present.
- 2 If one of the optional properties Change\_Of\_State\_Time, Change\_Of\_State\_Count, or Time\_Of\_State\_Count\_Reset is present, then all of these properties shall be present.
- 3 If one of the optional properties Elapsed\_Active\_Time or Time\_Of\_Active\_Time\_Reset is present, then both of these properties shall be present.
- 4 These properties are required if the object supports intrinsic reporting.
- 5 This property, if present, is required to be read only.
- 6 These properties shall be present only if the object supports intrinsic reporting.
- 7 Event\_Algorithm\_Inhibit shall be present if Event\_Algorithm\_Inhibit\_Ref is present.
- 8 If this property is present, then the Reliability property shall be present.

## 5.5 Device (8)

Dynamically Creatable: No

Dynamically Deletable: No

| Property Identifier             | Property Datatype                        | Conf Code           | LITECOM | Restrictions  |
|---------------------------------|--|---------------------|---------|---------------|
| Object_Identifier               | BACnetObjectIdentifier                   | R                   | R       |               |
| Object_Name                     | CharacterString                          | R                   | R       |               |
| Object_Type                     | BACnetObjectType                         | R                   | R       |               |
| System_Status                   | BACnetDeviceStatus                       | R                   | R       |               |
| Vendor_Name                     | CharacterString                          | R                   | R       |               |
| Vendor_Identifier               | Unsigned16                               | R                   | R       |               |
| Model_Name                      | CharacterString                          | R                   | R       |               |
| Firmware_Revision               | CharacterString                          | R                   | R       |               |
| Application_Software_Version    | CharacterString                          | R                   | R       |               |
| Location                        | CharacterString                          | O                   | R       | Supported     |
| Description                     | CharacterString                          | O                   | R       | Supported     |
| Protocol_Version                | Unsigned                                 | R                   | R       |               |
| Protocol_Revision               | Unsigned                                 | R                   | R       |               |
| Protocol_Services_Supported     | BACnetServicesSupported                  | R                   | R       |               |
| Protocol_Object_Types_Supported | BACnetObjectTypes Supported              | R                   | R       |               |
| Object_List                     | BACnetARRAY[N]of BACnetObjectIdentifier  | R                   | R       |               |
| Structured_Object_List          | BACnetARRAY[N]of BACnetObjectIdentifier  | O                   | -       | Not supported |
| Max_APDU_Length_Accepted        | Unsigned                                 | R                   | R       |               |
| Segmentation_Supported          | BACnetSegmentation                       | R                   | R       |               |
| Max_Segments_Accepted           | Unsigned                                 | O <sup>1</sup>      | R       | Supported     |
| VT_Classes_Supported            | List of BACnetVTClass                    | O <sup>2</sup>      | -       | Not supported |
| Active_VT_Sessions              | List of BACnetVTSession                  | O <sup>2</sup>      | -       | Not supported |
| Local_Time                      | Time                                     | O <sup>3,4,15</sup> | R       | Supported     |
| Local_Date                      | Date                                     | O <sup>3,4,15</sup> | R       | Supported     |
| UTC_Offset                      | INTEGER                                  | O <sup>4</sup>      | -       | Not supported |
| Daylight_Savings_Status         | BOOLEAN                                  | O <sup>4</sup>      | -       | Not supported |
| APDU_Segment_Timeout            | Unsigned                                 | O <sup>1</sup>      | R       | Supported     |
| APDU_Timeout                    | Unsigned                                 | R                   | R       |               |
| Number_Of_APDU_Retries          | Unsigned                                 | R                   | R       |               |
| Time_Synchronization_Recipients | List of BACnetRecipient                  | O <sup>5</sup>      | -       | Not supported |
| Max_Master                      | Unsigned(1..127)                         | O <sup>6</sup>      | -       | Not supported |
| Max_Info_Frames                 | Unsigned                                 | O <sup>6</sup>      | -       | Not supported |
| Device_Address_Binding          | List of BACnetAddressBinding             | R                   | R       |               |
| Database_Revision               | Unsigned                                 | R                   | R       |               |
| Configuration_Files             | BACnetARRAY[N] of BACnetObjectIdentifier | O <sup>7</sup>      | -       | Not supported |
| Last_Restore_Time               | BACnetTimeStamp                          | O <sup>7</sup>      | -       | Not supported |
| Backup_Failure_Timeout          | Unsigned16                               | O <sup>8</sup>      | -       | Not supported |
| Backup_Preparation_Time         | Unsigned16                               | O <sup>16</sup>     | -       | Not supported |

## ANNEX A - PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (NORMATIVE)

| Property Identifier                 | Property Datatype             | Conf Code          | LITECOM | Restrictions  |
|-------------------------------------|-------------------------------|--------------------|---------|---------------|
| Restore_Preparation_Time            | Unsigned16                    | O <sup>16</sup>    | -       | Not supported |
| Restore_Completion_Time             | Unsigned16                    | O <sup>16</sup>    | -       | Not supported |
| Backup_And_Restore_State            | BACnetBackupState             | O <sup>7</sup>     | -       | Not supported |
| Active_COV_Subscriptions            | List of BACnetCOVSubscription | O <sup>9</sup>     | R       | Supported     |
| Slave_Proxy_Enable                  | BACnetArray[N] of BOOLEAN     | O <sup>10</sup>    | -       | Not supported |
| Manual_Slave_Address_Binding        | List of BACnetAddressBinding  | O <sup>10,12</sup> | -       | Not supported |
| Auto_Slave_Discovery                | BACnetArray[N] of BOOLEAN     | O <sup>10,11</sup> | -       | Not supported |
| Slave_Address_Binding               | List of BACnetAddressBinding  | O <sup>10,12</sup> | -       | Not supported |
| Last_Restart_Reason                 | BACnetRestartReason           | O <sup>13</sup>    | -       | Not supported |
| Time_of_Device_Restart              | BACnetTimeStamp               | O <sup>13</sup>    | -       | Not supported |
| Restart_Notification_Recipients     | List of BACnetRecipient       | O <sup>17</sup>    | -       | Not supported |
| UTC_Time_Synchronization_Recipients | List of BACnetRecipient       | O <sup>5</sup>     | -       | Not supported |
| Time_Synchronization_Interval       | Unsigned                      | O <sup>14</sup>    | -       | Not supported |
| Align_Intervals                     | BOOLEAN                       | O <sup>14</sup>    | -       | Not supported |
| Interval_Offset                     | Unsigned                      | O <sup>14</sup>    | -       | Not supported |
| Serial_Number                       | CharacterString               | O                  | -       | Not supported |
| Profile_Name                        | CharacterString               | O                  | -       | Not supported |

Table 5 Device

- 1 Required if segmentation of any kind is supported.
- 2 If one of the properties VT\_Classes\_Supported or Active\_VT\_Sessions is present, then both of these properties shall be present. Both properties are required if support for VT Services is indicated in the PICS.
- 3 If the device supports the execution of the TimeSynchronization service, then these properties shall be present.
- 4 If the device supports the execution of the UTCTimeSynchronization service, then these properties shall be present.
- 5 Required if PICS indicates that this device is a Time Master. If present, this property shall be writable.
- 6 These properties are required if the device is an MS/TP master node.
- 7 These properties are required if the device supports the backup and restore procedures.
- 8 This property must be present and writable if the device supports the backup and restore procedures.
- 9 This property is required if the device supports execution of either the SubscribeCOV or SubscribeCOVProperty Service.
- 10 This property shall be present and writable if the device is capable of being a Slave-Proxy device.
- 11 This property shall be present if the device is capable of being a Slave-Proxy device that implements automatic discovery of slaves.
- 12 This property shall be present if the device is capable of being a Slave-Proxy device.
- 13 These properties are required if the device supports the Device Restart Procedure.
- 14 If either Time\_Synchronization\_Recipients or UTC\_Time\_Synchronization\_Recipients is present, then this property shall be present and writable.
- 15 This property shall be present if the device is capable of tracking date and time.
- 16 These properties are required if, and shall be present only if, the device supports execution of the backup and restore procedures as described in Clause 19.1 and cannot respond to subsequent communications within the minimum value it will accept in its APDU\_Timeout property.
- 17 This property is required if, and shall be present only if, the device supports execution of the restart procedure as described in Clause 19.3.

## 5.6 Multi State Input (13)

Dynamically Creatable: No

Dynamically Deletable: No

| Property Identifier            | Property Datatype                 | Conf Code        | LITECOM        | Restrictions  |
|--------------------------------|-----------------------------------|------------------|----------------|---------------|
| Object_Identifier              | BACnetObjectIdentifier            | R                | R              |               |
| Object_Name                    | CharacterString                   | R                | R              |               |
| Object_Type                    | BACnetObjectType                  | R                | R              |               |
| Present_Value                  | Unsigned                          | R <sup>1</sup>   | R <sup>1</sup> |               |
| Description                    | CharacterString                   | O                | R              | Supported     |
| Device_Type                    | CharacterString                   | O                | -              | Not supported |
| Status_Flags                   | BACnetStatusFlags                 | R                | R              |               |
| Event_State                    | BACnetEventState                  | R                | R              |               |
| Reliability                    | BACnetReliability                 | O <sup>2</sup>   | -              | Not supported |
| Out_Of_Service                 | BOOLEAN                           | R                | W              |               |
| Number_Of_States               | Unsigned                          | R                | R              |               |
| State_Text                     | BACnetARRAY[N] of CharacterString | O                | R              | Supported     |
| Time_Delay                     | Unsigned                          | O <sup>3,5</sup> | -              | Not supported |
| Notification_Class             | Unsigned                          | O <sup>3,5</sup> | -              | Not supported |
| Alarm_Values                   | List of Unsigned                  | O <sup>3,5</sup> | -              |               |
| Fault_Values                   | List of Unsigned                  | O <sup>7</sup>   | -              |               |
| Event_Enable                   | BACnetEventTransitionBits         | O <sup>3,5</sup> | -              | Not supported |
| Acked_Transitions              | BACnetEventTransitionBits         | O <sup>3,5</sup> | -              | Not supported |
| Notify_Type                    | BACnetNotifyType                  | O <sup>3,5</sup> | -              | Not supported |
| Event_Time_Stamps              | BACnetARRAY[3] of BACnetTimeStamp | O <sup>3,5</sup> | -              | Not supported |
| Event_Message_Texts            | BACnetARRAY[3] of CharacterString | O <sup>4,5</sup> | -              | Not supported |
|                                |                                   |                  | -              |               |
| Event_Message_Texts_Config     | BACnetARRAY[3] of CharacterString | O <sup>5</sup>   | -              | Not supported |
| Event_Detection_Enable         | BOOLEAN                           | O <sup>3,5</sup> | -              | Not supported |
| Event_Algorithm_Inhibit_Ref    | BACnetObjectPropertyReference     | O <sup>5</sup>   | -              | Not supported |
| Event_Algorithm_Inhibit        | BOOLEAN                           | O <sup>5,6</sup> | -              | Not supported |
| Time_Delay_Normal              | Unsigned                          | O <sup>5</sup>   | -              | Not supported |
| Reliability_Evaluation_Inhibit | BOOLEAN                           | O <sup>7</sup>   | -              | Not supported |
| Profile_Name                   | CharacterString                   | O                | -              | Not supported |

**Table 6 Multi State Input**

1 This property is required to be writable when Out\_Of\_Service is TRUE.

2 This property is required if Fault\_Values is present.

3 These properties are required if the object supports intrinsic reporting.

4 This property, if present, is required to be read only

5 These properties shall be present only if the object supports intrinsic reporting.

6 Event\_Algorithm\_Inhibit shall be present if Event\_Algorithm\_Inhibit\_Ref is present.

7 If this property is present, then the Reliability property shall be present



## 5.7 Multi State Output (14)

Dynamically Creatable: No

Dynamically Deletable: No

| Property Identifier            | Property Datatype                 | Conf Code        | LITECOM | Restrictions  |
|--------------------------------|-----------------------------------|------------------|---------|---------------|
| Object_Identifier              | BACnetObjectIdentifier            | R                | R       |               |
| Object_Name                    | CharacterString                   | R                | R       |               |
| Object_Type                    | BACnetObjectType                  | R                | R       |               |
| Present_Value                  | Unsigned                          | W                | W       |               |
| Description                    | CharacterString                   | O                | R       | Supported     |
| Device_Type                    | CharacterString                   | O                | -       | Not supported |
| Status_Flags                   | BACnetStatusFlags                 | R                | R       |               |
| Event_State                    | BACnetEventState                  | R                | R       |               |
| Reliability                    | BACnetReliability                 | O                | -       | Not supported |
| Out_Of_Service                 | BOOLEAN                           | R                | W       |               |
| Number_Of_States               | Unsigned                          | R                | R       |               |
| State_Text                     | BACnetARRAY[N] of CharacterString | O                | R       | Supported     |
| Priority_Array                 | BACnetPriorityArray               | R                | R       |               |
| Relinquish_Default             | Unsigned                          | R                | R       |               |
| Time_Delay                     | Unsigned                          | O <sup>1</sup>   | -       | Not supported |
| Notification_Class             | Unsigned                          | O <sup>1</sup>   | -       | Not supported |
| Feedback_Value                 | Unsigned                          | O <sup>1</sup>   | -       |               |
| Event_Enable                   | BACnetEventTransitionBits         | O <sup>1</sup>   | -       | Not supported |
| Acked_Transitions              | BACnetEventTransitionBits         | O <sup>1</sup>   | -       | Not supported |
| Notify_Type                    | BACnetNotifyType                  | O <sup>1</sup>   | -       | Not supported |
| Event_Time_Stamps              | BACnetARRAY[3] of BACnetTimeStamp | O <sup>1</sup>   | -       | Not supported |
| Event_Message_Texts            | BACnetARRAY[3] of CharacterString | O <sup>2</sup>   | -       | Not supported |
| Event_Message_Texts_Config     | BACnetARRAY[3] of CharacterString | O <sup>3</sup>   | -       | Not supported |
| Event_Detection_Enable         | BOOLEAN                           | O <sup>1,3</sup> | -       | Not supported |
| Event_Algorithm_Inhibit_Ref    | BACnetObjectPropertyReference     | O <sup>3</sup>   | -       | Not supported |
| Event_Algorithm_Inhibit        | BOOLEAN                           | O <sup>3,4</sup> | -       | Not supported |
| Time_Delay_Normal              | Unsigned                          | O <sup>3</sup>   | -       | Not supported |
| Reliability_Evaluation_Inhibit | BOOLEAN                           | O <sup>5</sup>   | -       | Not supported |
| Profile_Name                   | CharacterString                   | O                | -       | Not supported |

**Table 7 Multi State Output**

1 These properties are required if the object supports intrinsic reporting.

2 This property, if present, is required to be read only.

3 These properties shall be present only if the object supports intrinsic reporting.

4 Event\_Algorithm\_Inhibit shall be present if Event\_Algorithm\_Inhibit\_Ref is present.

5 If this property is present, then the Reliability property shall be present.

## 6 Data Link Layer Options

- BACnet IP, (Annex J) (Ethernet 10/100 MB/s)
- 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:

## 7 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

## 8 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

## 9 Networking 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)

## 10 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

## 11 Communication Gateway

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

## Annex

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