

**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**

**Date:** 24.07.2015

**Vendor Name:** Leicom AG

**Product Name:** X20

**Product Model Number:** 1586

**Application Software Version:** 2.3

**Firmware Revision:** 12.0

**BACnet Protocol Revision:** 1.12

**Product Description:**

BACnet- Library running on a PLC Controller from B&R-Automation.

**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)

**List all BACnet Interoperability Building Blocks Supported (Annex K):*****Data Sharing BIBBs***

Data Sharing Read-Property-A	DS-RP-A
Data Sharing Read-Property-B	DS-RP-B
Data Sharing Read-Property-Multiple-A	DS-RPM-A
Data Sharing Read-Property-Multiple-B	DS-RPM-B
Data Sharing Write-Property-A	DS-WP-A
Data Sharing Write-Property-B	DS-WP-B
Data Sharing Write-Property-Multiple-A	DS-WPM-A
Data Sharing Write-Property-Multiple-B	DS-WPM-B
Data Sharing COV-A	DS-COV-A
Data Sharing COV-B	DS-COV-B
Data Sharing ReadRange-B	DS-RR-B

***Alarm / Event BIBBs***

Alarm and Event-Notification Internal-B	AE-N-I-B
Alarm and Event-Notification External-B	AE-N-E-B
Alarm and Event-Acknowledge-B	AE-ACK-B
Alarm and Event-Information-B	AE-INFO-B
Alarm and Event-Alarm Summary-B	AE-ASUM-B
Alarm and Event-Enrollment Summary-B	AE-ESUM-B

***Scheduling BIBBs***

Scheduling-Internal-B	SCHEM-I-B
Scheduling-External-B	SCHEM-E-B

***Trending BIBBs***

Trending-Viewing and Modifying Trends Internal-B	T-VMT-I-B
Trending-Viewing and Modifying Trends External-B	T-VMT-E-B
Trending-Automated Trend Retrieval	T-ATR-B

## *Device Management BIBBs*

Device Management-Dynamic Device Binding-A	DM-DDB-A
Device Management-Dynamic Device Binding-B	DM-DDB-B
Device Management-Dynamic Object Binding-B	DM-DOB-B
Device Management-Device Communication Control-B	DM-DCC-B
Device Management-Time Synchronization-B	DM-TS-B
Device Management-UTC Time Synchronization-B	DM-UTC-B
Device Management-Reinitialize Device-B	DM-RD-B
Device Management-Backup and Restore-B	DM-BR-B
Device Management-List Manipulation-B	DM-LM-B
Device Management-Object Creation and Deletion-B	DM-OCD-B

## **Segmentation Capability:**

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

**Standard Object Types Supported:***Analog-Input-Object*

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Device Type Reliability Min Pres Value Max Pres Value Resolution COV Increment High Limit Low Limit Notification Class Time Delay Deadband Limit Enable Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Device Type Out Of Service Units Min Pres Value Max Pres Value COV Increment High Limit Low Limit Notification Class Time Delay Deadband Limit Enable Event Enable Acked Transitions Notify Type Profile Name	-

*Analog-Output-Object*

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Device Type Reliability Min Pres Value Max Pres Value Resolution COV Increment High Limit Low Limit Notification Class Time Delay Deadband Limit Enable Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Device Type Out Of Service Units Min Pres Value Max Pres Value Relinquish Default COV Increment High Limit Low Limit Notification Class Time Delay Deadband Limit Enable Event Enable Acked Transitions Notify Type Profile Name	-

*Analog-Value-Object*

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
☒	☒	Description Reliability Priority Array Relinquish Default COV Increment High Limit Low Limit Notification Class Time Delay Deadband Limit Enable Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Out Of Service Present Value Units Relinquish Default COV Increment High Limit Low Limit Time Delay Notification Class Deadband Limit Enable Event Enable Acked Transitions Profile Name	-

***Binary-Input-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Device Type Reliability Inactive Text Active Text Change Of State Time Change Of State Count Time Of State Count Reset Elapsed Active Time Time Of Active Time Reset Notification Class Time Delay Alarm Value Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Device Type Out Of Service Polarity Inactive Text Active Text Time Delay Notification Class Alarm Value Event Enable Acked Transitions Profile Name	-

***Binary-Output-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Device Type Reliability Inactive Text Active Text Change Of State Time Change Of State Count Time Of State Count Reset Elapsed Active Time Time Of Active Time Reset Minimum Off Time Minimum On Time Notification Class Time Delay Feedback Value Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Device Type Out Of Service Polarity Inactive Text Active Text Minimum Off Time Minimum On Time Relinquish Default Time Delay Notification Class Feedback Value Event Enable Acked Transitions Notify Type Profile Name	-

**Binary-Value-Object**

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Reliability Inactive Text Active Text Change Of State Time Change Of State Count Time Of State Count Reset Elapsed Active Time Time Of Active Time Reset Minimum Off Time Minimum On Time Priority Array Relinquish Default Notification Class Time Delay Alarm Value Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Out Of Service Inactive Text Active Text Minimum Off Time Minimum On Time Relinquish Default Time Delay Notification Class Alarm Value Event Enable Acked Transitions Notify Type Profile Name	-



***Calendar-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Profile Name	Object Name Description Date List Profile Name	-

***Device-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
-	-	Location Description Max Segments Accepted Local Time Local Date UTC Offset Daylight Savings Status APDU Segment Timeout Time Synchronization Recipients UTC Time Synchronization- Recipients Configuration Files Last Restore Time Backup Failure Timeout Backup Preparation Time Restore Preparation Time Restore Completion Time Backup and Restore State Active COV Subscriptions Time Synchronization Interval Align Intervals Interval Offset	Time Synchronization- Recipients Backup Failure Timeout UTC Time Synchronization- Recipients	-

***Event Enrollment-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Event Message Texts Event Message Texts Config	Object Name Description Event Type Notify Type Event Parameters Object Property Reference Event Enable Acked Transitions Notification Class Profile Name	-

*File-Object*

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Description Record Count	Object Name Description File Type Archive Read only	-

*Loop-Object*

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Description Reliability Update Interval Proportional Constant Proportional Constant Units Integral Constant Integral Constant Units Derivative Constant Derivative Constant Units Bias Maximum Output Minimum Output COV Increment Time Delay Notification Class Error Limit Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Out Of Service Output Units Controlled Variable-Reference Controlled Variable Units Setpoint Reference Manipulated Variable-Reference Proportional Constant Proportional Constant Units Integral Constant Integral Constant Units Derivative Constant Derivative Constant Units Bias Maximum Output Minimum Output Priority For Writing COV Increment Time Delay Notification Class Error Limit Deadband Event Enable Acked Transitions Notify Type Profile Name	-

***Multistate Input-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Device Type Reliability State Text Time Delay Notification Class Alarm Values Fault Values Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Device Type Out Of Service Number Of States State Text Time Delay Notification Class Alarm Values Fault Values Event Enable Acked Transitions Notify Type Profile Name	-

***Multistate Output-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Device Type Reliability State Text Time Delay Notification Class Feedback Value Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Device Type Out Of Service Number Of States State Text Relinquish Default Time Delay Notification Class Feedback Value Event Enable Acked Transitions Notify Type Profile Name	-

***Multistate-Value-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Reliability State Text Priority Array Relinquish Default Time Delay Notification Class Event Enable Aked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Present Value Description Device Type Out Of Service Number Of States State Text Relinquish Default Time Delay Notification Class Feedback Value Event Enable Aked Transitions Notify Type Profile Name  Alarm Values Fault Values	-

***Notification Class-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
☒	☒	Description Profile Name	Object Name Description Notification Class Priority Ack Required Recipient List Profile Name	-

*Schedule-Object*

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
☒	☒	Description Weekly Schedule Exception Schedule Profile Name	Object Name Description Effective Period Weekly Schedule Exception Schedule Schedule Default List Of Object Property- References Priority For Writing Out Of Service Profile Name	-

***Trendlog-Object***

<b>Dynamically Creatable</b>	<b>Dynamically Deleteable</b>	<b>Optional Properties Supported</b>	<b>Writable Properties</b>	<b>Proprietary Properties</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Description Start Time Stop Time Log DeviceObjectProperty Log Interval COV Resubscription Interval Client COV Increment Align Intervals Interval Offset Trigger Reliability Notification Threshold Records Since Notification Last Notify Record Notification Class Event Enable Acked Transitions Notify Type Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	Object Name Description Enable Start Time Stop Time Log DeviceObjectProperty Log Interval COV Resubscription Interval Client COV Increment Stop When Full Record Count Notification Threshold Notification Class Event Enable Acked Transitions Notify Type Profile Name Logging Type Interval Offset Trigger Profile Name	-

**Data Link Layer Options:**

BACnet IP, (Annex J)

**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

Does the BBMD support network address translation?  Yes  No

**Network 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)

**Character Sets Supported:**

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

- |   |  |                                     |
|---|--|-------------------------------------|
| <input checked="" type="checkbox"/> ISO 10646 (UTF-8) | <input type="checkbox"/> IBM <sup>™</sup> /Microsoft <sup>™</sup> 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 X 0208 |

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

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