

Date: January 24, 2022

Vendor Name: LOYTEC electronics GmbH

Product Name: BACnet Router

Product Model Number: LIP-ME201C, LIP-ME202C, LIP-ME204, LIP-ME204C

Applications Software Version: V7

Firmware Revision: 7.6

BACnet Protocol Revision: 135-2020 (1.16)

Product Description:

This product implements a BACnet MS/TP to BACnet/IP router with BBMD functionality (on the IP side). It supports operation as a router, router + BBMD, and router as foreign device behind NAT. It can act as a BACnet time master and as a slave proxy for BACnet MS/TP slave devices. The LIP-ME201C is a router with one MS/TP channel. The LIP-ME202C is a router with 2 MS/TP channels. The LIP-ME204 is a router with 4 MS/TP channels. All routers provide a BACnet/IP and BACnet MS/TP packet capture interface for the Wireshark protocol analyzer.

BACnet Standardized Device Profile (Annex L):

- BACnet Building Controller (B-BC)
- BACnet Router (B-RTR)
- BACnet Broadcast Management Device (B-BBMD)

BACnet Interoperability Building Blocks Supported (Annex K):

Data Sharing – ReadProperty-B (DS-RP-B)
Data Sharing – WriteProperty-B (DS-WP-B)
Data Sharing – ReadPropertyMultiple-B (DS-RPM-B)
Data Sharing – WritePropertyMultiple-B (DS-WPM-B)
Data Sharing – COVP-B (DS-COVP-B)
Device Management – DynamicDeviceBinding-A (DM-DDB-A)
Device Management – DynamicDeviceBinding-B (DM-DDB-B)
Device Management – DynamicObjectBinding-B (DM-DOB-B)
Device Management – TimeSynchronization-A (DM-TS-A)
Device Management – TimeSynchronization-B (DM-TS-B)
Device Management – UTCTimeSynchronization-A (DM-UTC-A)
Device Management – UTCTimeSynchronization-B (DM-UTC-B)
Device Management – Automatic Time Synchronization-A (DM-ATS-A)
Device Management – DeviceCommunicationControl-B (DM-DCC-B)
Device Management – ReinitializeDevice-B (DM-RD-B)
Device Management – Backup and Restore (DM-BR-B)
Device Management – List Manipulation-B (DM-LM-B)
Device Management – Restart A (DM-R-A)
Device Management – Restart B (DM-R-B)
Device Management – Slave Proxy-B (DM-SP-B)
Network Management – Connection Establishment-A (NM-CE-A)
Network Management – Router Configuration-B (NM-RC-B)
Network Management – BBMD Configuration-B (NM-BBMD-C-B)
Network Management – Foreign Device Registration-A (NM-FDR-A)

Segmentation Capability:

Segmented requests supported, window size: 4

Segmented responses supported, window size: 4

Standard Object Types Supported:

For all the objects below the following applies if not stated otherwise:

- 1) Does not support the CreateObject and DeleteObject service
- 2) Properties Object_Name, Description support up to 64 characters
- 3) Includes the required properties as specified for the object class
- 4) All commandable objects support the Priority_Array and Relinquish_Default with 16 freely usable priorities
- 5) No additional writeable properties exist
- 6) No proprietary properties exist
- 7) No range restrictions exist

Device Object

List of optional properties supported:

Location, Description, Max_Segments_Accepted, APDU_Segment_Timeout, Max_Master¹, Max_Info_Frames¹, Active_COV_Subscriptions, Configuration_Files, Last_Restore_Time, Backup_Failure_Timeout, Local_Time, Local_Date, UTC_Offset, Daylight_Savings_Status, Time_Synchronization_Recipients, UTC_Time_Synchronization_Recipients, Time_Synchronization_Interval, Align_Intervals, Interval_Offset, Serial_Number, Backup_Preparation_Time, Restore_Preparation_Time, Restore_Completion_Time, Backup_And_Restore_State, Slave_Proxy_Enable¹, Manual_Slave_Address_Binding¹, Auto_Slave_Discovery¹, Slave_Address_Binding¹

File Object

List of optional properties supported:

Description

Object limit: 1 File object. This object is used for configuration backup and restore.

Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 57600, 76800, 115200
- MS/TP master (Clause 9) supports extended length BACnet frames

Device Address Binding:

Static device address binding is supported.

Networking Options:

- Router, Clause 6 – MS/TP to BACnet/IP
- Annex H, BACnet Tunneling Router over IP

Character Sets Supported:

The device is configurable for one of the following character sets at a time. It does not support them simultaneously.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> ANSI X3.4/UTF-8 | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input checked="" type="checkbox"/> ISO 8859-1 |
| <input checked="" type="checkbox"/> ISO 10646 (UCS-2) | <input type="checkbox"/> ISO 10646 (UCS-4) | <input type="checkbox"/> JIS C 6226 |

¹ If device is operated with BACnet MS/TP enabled.

Additional Information and Contact:

Further Information, a detailed User Manual and firmware updates can be obtained from our website <http://www.loytec.com>.

For information and technical support please contact us at the following address:

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