

**Date:** February 26, 2016  
**Vendor Name:** LOYTEC electronics GmbH  
**Product Name:** BACnet Router  
**Product Model Number:** LIP-ME20X  
**Applications Software Version:** V6  
**Firmware Revision:** 6.0  
**BACnet Protocol Revision:** 135-2012 (1.12)

**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-ME201 and 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):**

This device is a router / BBMD.

**BACnet Interoperability Building Blocks Supported (Annex K):**

Data Sharing – ReadProperty-B (DS-RP-B)  
Data Sharing – ReadPropertyMultiple-B (DS-RPM-B)  
Data Sharing – WriteProperty-B (DS-WP-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)  
Network Management – Connection Establishment-A (NM-CE-A)

**Segmentation Capability:**

Segmented requests supported, window size: 16  
Segmented responses supported, window size: 16

**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\_Master<sup>1</sup>, Max\_Info\_Frames<sup>1</sup>, Active\_COV\_Subscriptions, Configuration\_Files, Last\_Restor\_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, Slave\_Proxy\_Enable<sup>1</sup>, Manual\_Slave\_Address\_Binding<sup>1</sup>, Auto\_Slave\_Discovery<sup>1</sup>, Slave\_Address\_Binding<sup>1</sup>

**File Object****Data Link Layer Options:**

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 76800
- MS/TP slave (Clause 9), baud rate(s): 9600, 19200, 38400, 76800
- Point-To-Point, EIA 232 (Clause 10), baud rate(s):
- Point-To-Point, modem, (Clause 10), baud rate(s):
- LonTalk, (Clause 11), medium:

**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
- BACnet/IP Broadcast Management Device (BBMD)
- Registrations by Foreign Devices

**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            |

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<sup>1</sup> 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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