Functions
L-WEB, L-STUDIO
L-ROC
L-INX
L-IOB
Gateways
LPAD-7, L-VIS, L-STAT
L-DALI
Routers, NIC
Interfaces
Accessories

BACnet/IP Router

✓ BACnet	Modbus
CEA-709	M-Bus
KNX	✓ OPC

LIP-ME201C, LIP-ME202C, LIP-ME204C

Datasheet #89015523

The LIP-ME201C, LIP-ME202C, and LIP-ME204C BACnet/IP Routers connect BACnet MS/TP channels to a BACnet/IP network. The BACnet routers are compliant with the standards ASHRAE 135-2012 and ISO 16484-5:2012. The routers can be configured to act as a BACnet Broadcast Management Device (BBMD). The L-IP BACnet/IP Routers also provide Foreign Device support and BACnet/SC.

The BACnet router can act as a BACnet Time Master and as a BACnet MS/TP Slave Proxy. Extended features like the optional write protection of the BDT, a BACnet/IP Access Control List (ACL), and a simple communications test for BBMD help to locate issues on the network. The BACnet router also features remote MS/TP data packet capturing. BACnet MS/TP data packets are captured by the device and can be analyzed using Wireshark (free Protocol Analyzer, www.wireshark.org). Wireshark can either connect to the L-IP online or the capture file is loaded from the L-IPs web server and analyzed offline in Wireshark.

The entire device configuration of the BACnet router is done via the built-in web server, optionally also secured via HTTPS protocol. All system registers are available as OPC XML-DA and OPC UA data points.

The BACnet router is BTL certified as BACnet Building Controllers (B-BC).

Each L-IP BACnet/IP Router is equipped with two Ethernet ports. It can either be configured to use the internal switch to interconnect the two ports or every port is configured to work in a separate IP network.

When the Ethernet ports are configured for two separate IP networks, one port can be connected for instance to a WAN (Wide Area Network) with enabled network security (HTTPS) and BACnet/SC while the second port can be configured to be connected to an insecure network (LAN) where the standard building automation protocols like BACnet/IP are present. These devices also feature firewall functionality of course to isolate particular protocols or services between the ports. The built-in VPN function provides for simple VPN setup and secure access to remote sites. The LTE-800 interface enables wireless access to remote sites through a mobile carrier.

Using the internal switch, a daisy chained line topology of up to 20 devices can be built, which reduces costs for network installation. The IP switch also allows the setup of a redundant Ethernet installation (ring topology), which increases reliability. The redundant Ethernet topology is enabled by the Rapid Spanning Tree Protocol (RSTP), which is supported by most managed switches.

Features

- Routes packets between BACnet MS/TP and BACnet/IP, BACnet/SC
- Compliant with ANSI/ASHRAE 135-2012 and ISO 16484-5:2012 standard
- BBMD (BACnet Broadcast Management Device)
- Foreign device support
- Slave Proxy for up to 32 MS/TP slave devices
- Configuration via built-in web server
- Built-in OPC XML-DA and OPC UA server
- Dual Ethernet/IP interface
- Access to network statistics via web browser
- BACnet MS/TP diagnostic LED

- BACnet MS/TP diagnostic via web interface
- MS/TP remote data packet capture (Wireshark)
- Ethernet link and activity LED
- Secure web interface via HTTPS
- 128x64 graphic display with backlight
- Local display of device information
- Manual operation using the jog dial or VNC client
- Supports WLAN through LWLAN-800 Interface
- Supports LTE through LTE-800 Interface
- Stores user-defined project documentation
- Supports VPN for BACnet/IP

LIP-ME201C, LIP-ME202C, LIP-ME204C

Specifications

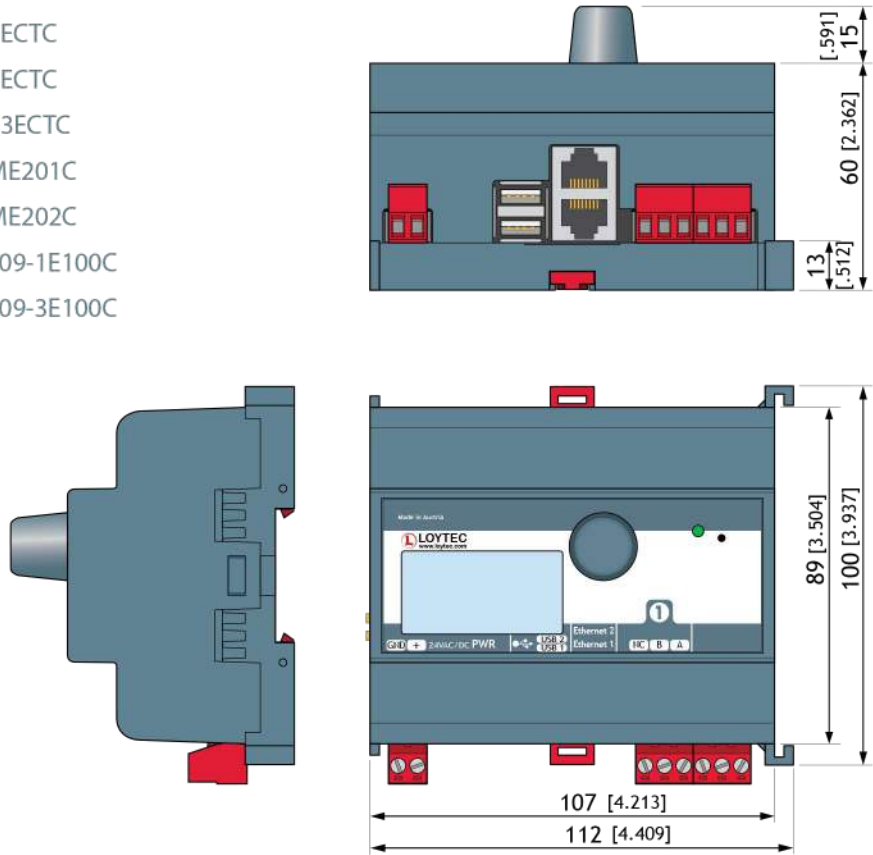| Type	LIP-ME201C	LIP-ME202C	LIP-ME204C
Dimensions (mm)	107 x 100 x 75 (L x W x H), DIM046		159 x 100 x 75 (L x W x H), DIM054
Installation	DIN rail mounting following DIN 43880, top hat rail EN 50022		
Purpose of control	Operating control		
Construction of control	Independently mounted control		
Feature of automatic action	Type 1		
Operating conditions	0 °C to 50 °C, 10 – 90 % RH, noncondensing, degree of protection: IP40, IP20 (terminals), pollution degree 2		
Power supply	24 V DC/ V AC SELV ±10 %, typ. 2.5 W		
Rated Impulse Voltage	330 V		

Interfaces	2 x Ethernet (100Base-T):
	     BACnet/IP, BACnet/SC, OPC XML-DA (server), OPC UA (server),
	     HTTP, FTP, SSH, HTTPS, Firewall, NTP, VNC, SNMP
	 2 x USB-A: WLAN (needs LWLAN-800), LTE (needs LTE-800)		

	1 x BACnet MS/TP	2 x BACnet MS/TP	4 x BACnet MS/TP
Tools	Configuration via web browser or locally via graphic display and jog dial		
UL Certification	c**RU**us	c**RU**us	c(UL)us LISTED
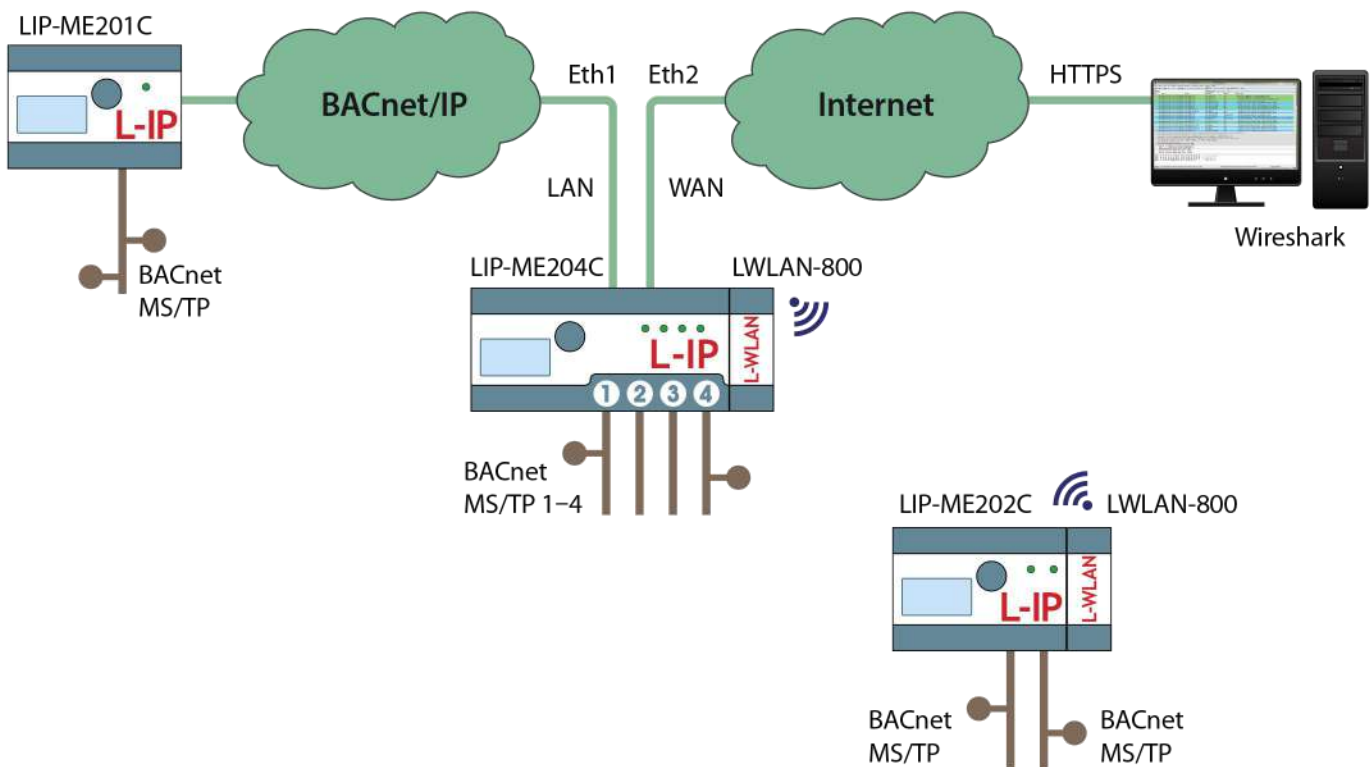
LIP-ME201C, LIP-ME202C, LIP-ME204C

Order number	Product description
LIP-ME201C	BACnet/IP Router, 1 x BACnet MS/TP (RS-485), 2 x Ethernet port (BACnet/IP)
LIP-ME202C	BACnet/IP Router, 2 x BACnet MS/TP (RS-485), 2 x Ethernet port (BACnet/IP)
LIP-ME204C	BACnet/IP Router, 4 x BACnet MS/TP (RS-485), 2 x Ethernet port (BACnet/IP)
LPOW-2415B	Power supply unit with power connector 24 V DC, 15 W
LWLAN-800	Wireless LAN Interface IEEE 802.11bgn
LT-04	Network terminator, 1 x RS-485 (bus topology, ANSI TIA/EIA-485), 1 x Network Access Connector RJ45
LT-B4	Network terminator, 1 x RS-485 (bus topology, ANSI TIA/EIA-485) with biasing circuit (failsafe biasing)
LTE-800	LTE Interface

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L-IOB
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Dimensions of the devices in mm and [inch]

DIM046

LIP-1ECTC
LIP-3ECTC
LIP-33ECTC
LIP-ME201C
LIP-ME202C
NIC709-1E100C
NIC709-3E100C

15 [.591]
60 [2.362]
13 [.512]
89 [3.504]
100 [3.937]
107 [4.213]
112 [4.409]

SCALE 1:2
10 0 20 40 60 80 100 mm

DIM054

LINX-154
LIP-3333ECTC
LIP-ME204C

15 [.591]
60 [2.362]
13 [.512]
89 [3.504]
100 [3.937]
159 [6.260]
164 [6.457]

SCALE 1:2
10 0 20 40 60 80 100 mm