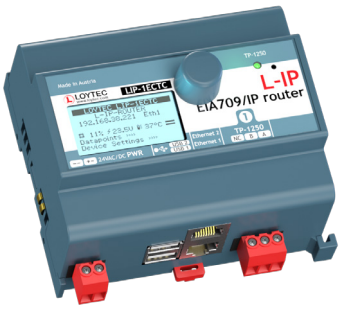
## CEA-709/IP-852 Router

BACnet ✓ CEA-709 Modbus ✓ OPC

# LIP-1ECTC, LIP-3ECTC, LIP-13ECTC, LIP-33ECTC, LIP-3333ECTC

Datasheet #89013123







The L-IP Routers LIP-1ECTC, LIP-3ECTC, LIP-13ECTC, LIP-33ECTC, and LIP-3333ECTC connect twisted pair channels (TP/FT-10 or TP/XF-1250) with the Ethernet/IP channel (IP-852) in LonMark Systems. L-IP routes CEA-709 packets through an IP based network such as a LAN (Ethernet), an Intranet, or even the Internet.

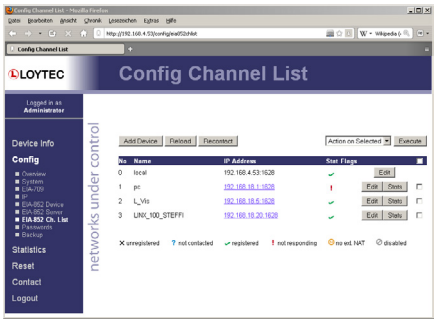
In order to provide optimal router configurations, the L-IP is available in five different versions providing either 4 x TP/FT-10, 2 x TP/FT-10, 1 x TP/FT10, 1 x TP/XF-1250, or 1 x TP/FT-10 + 1 x TP/XF-1250. Every L-IP supports the operating modes "Smart Switch Mode" and "Configured Router Mode".

For an easy integration on the IP side, the L-IP provides a web interface. On L-IP Routers LIP-1ECTC, LIP-3ECTC, LIP-13ECTC, LIP-33ECTC, and LIP-3333ECTC the Web interface can also be used via an encrypted HTTPS connection. Through this web interface, the built-in CEA-852 Configuration Server can be switched on and configured. The Configuration Server is thus always available online in the network and no additional software tool is required.

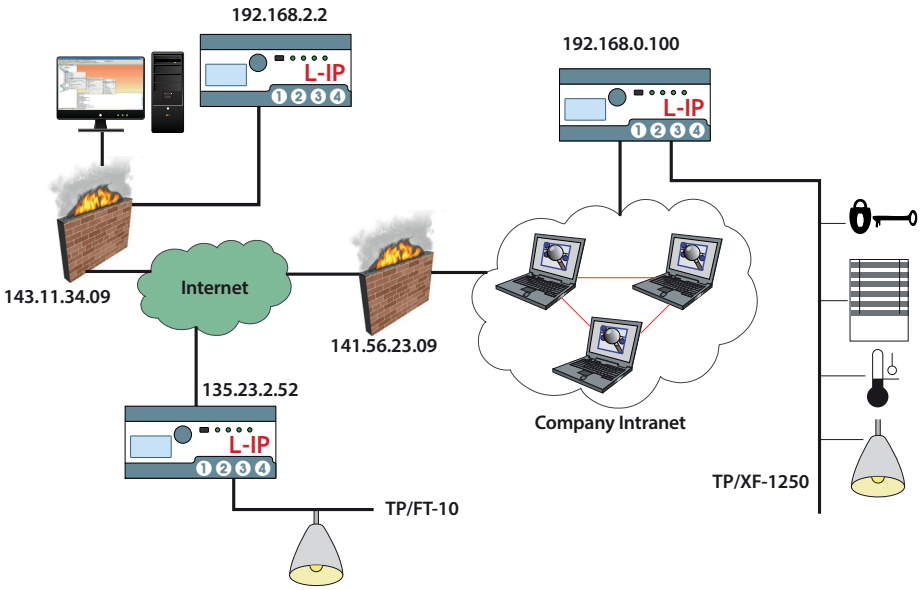
Besides the router functionality, the L-IP Routers provide outstanding capabilities for network diagnostic and analysis. They allow the LPA (LOYTEC Protocol Analyzer) transparent access to the twisted pair channels (TP/FT-10 or TP/XF-1250) on the device via Ethernet/IP – via a local Intranet or the Internet. This allows a fast analysis of data communication and reduces time-consuming troubleshooting. All system registers are available as OPC XML-DA and OPC UA data points.

The L-IP Routers LIP-1ECTC, LIP-3ECTC, LIP-13ECTC, LIP-33ECTC, and LIP-3333ECTC are 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) while the second port can be configured to be connected to an insecure network (building LAN) where the standard building automation protocols are present (e.g. IP-852). 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.



# LIP-1ECTC, LIP-3ECTC, LIP-13ECTC, LIP-33ECTC, LIP-3333ECTC

## Features

- Routes CEA-709 packets between TP/FT-10 (link power compatible) or TP/XF-1250 channels and Ethernet/IP (IP-852)
- Compliant with CEA-709, CEA-852, and ISO/IEC 14908-1 standard (LonMark System)
- Supports Configured Router mode, Smart Switch mode, and Repeater mode
- Built-in CEA-852 configuration server for up to 100 members
- Support for operation behind NAT routers and firewalls
- Easy installation, Auto-NAT, roaming, DHCP
- Remote LPA support with LPA-IP
- Integrated web server for device and IP-852 configuration
- Built-in enhanced communication test for IP-852
- Network diagnostic LEDs
- Dual Ethernet/IP interface
- Secure web interface via HTTPS
- Built-in OPC XML-DA and OPC UA server
- 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 IP-852
- Drop-in replacement for third-party LON routers

## Specifications

| Type | LIP-1ECTC | LIP-3ECTC | LIP-13ECTC | LIP-33ECTC | LIP-3333ECTC |
|---|---|---|---|---|---|
| Dimensions (mm) | 107 x 100 x 75 (L x W x H), 6 DU, DIM046 | | | | 159 x 100 x 75 (L x W x H), 9 DU, 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. 3 W | | | | |
| Storage conditions | -20 °C to +70 °C | | | | |
| Rated Impulse Voltage | 330 V | | | | |
| Interfaces | 2 x Ethernet (100Base-T):<br>LonMark IP-852, OPC XML-DA (server), OPC UA (server), HTTP, FTP, SSH, HTTPS, Firewall, NTP, VNC, SNMP<br>2 x USB-A: WLAN (needs LWLAN-800), LTE (needs LTE-800) | | | | |
| | 1 x TP/XF-1250 | 1 x TP/FT-10 | 1x TP/FT-10, 1x TP/XF-1250 | 2 x TP/FT-10 | 4 x TP/FT-10 |
| Tools | Configuration via web browser or locally via graphic display and jog dial | | | | |
| UL Certification | c UL us | c UL us | pending | c UL us | c UL us LISTED |

## Resource limits

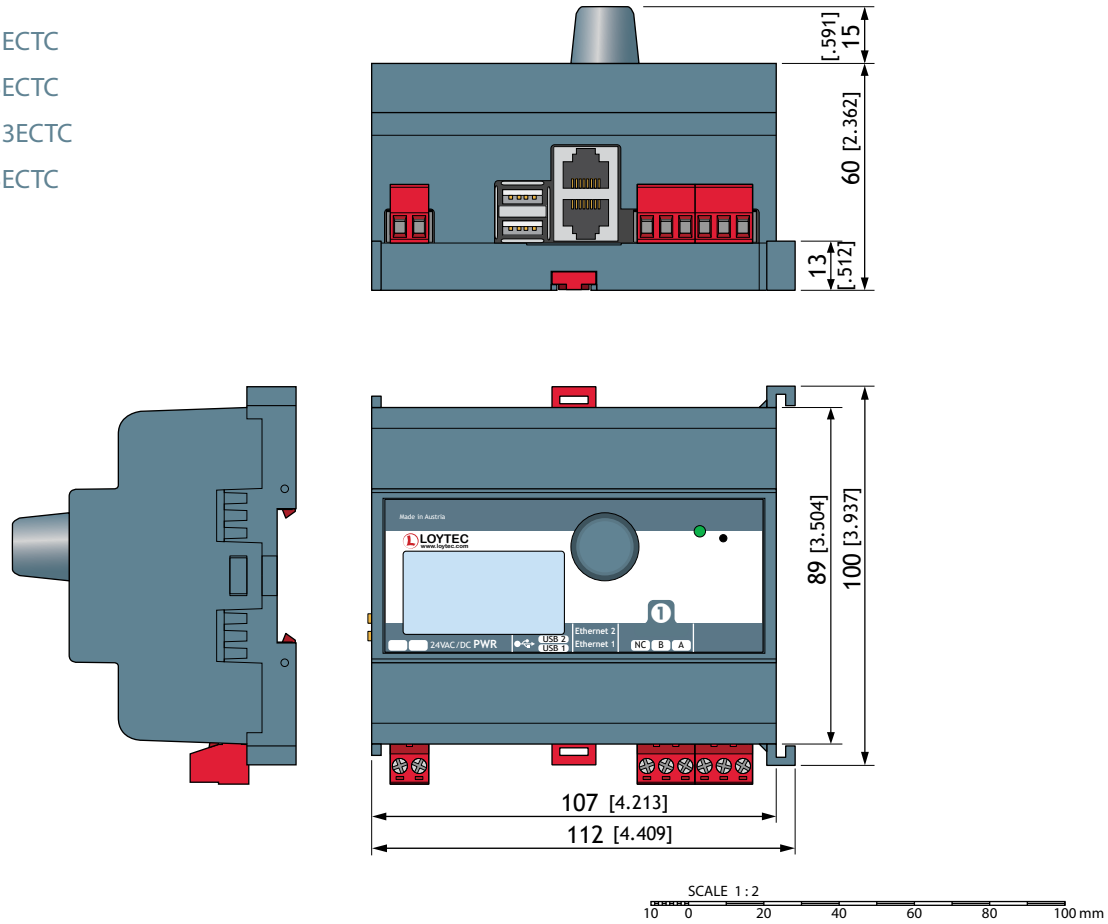
| | |
|---|---|
| Configuration Server | CEA-852 configuration server for up to 100 members on the IP-852 channel |

| Order number | Product description |
|---|---|
| LIP-1ECTC | CEA-709/IP-852 Router, 1 x TP/XF-1250, 2 x Ethernet port (IP-852) |
| LIP-3ECTC | CEA-709/IP-852 Router, 1 x TP/FT-10, 2 x Ethernet port (IP-852) |
| LIP-13ECTC | CEA-709/IP-852 Router, 1 x TP/FT-10, 1 x TP/XF-1250, 2 x Ethernet port (IP-852) |
| LIP-33ECTC | CEA-709/IP-852 Router, 2 x TP/FT-10, 2 x Ethernet port (IP-852) |
| LIP-3333ECTC | CEA-709/IP-852 Router, 4 x TP/FT-10, 2 x Ethernet port (IP-852) |
| LPOW-2415B | Power supply unit with power connector 24 V DC, 15 W |
| LWLAN-800 | Wireless LAN Interface IEEE 802.11bgn |
| LT-03 | Network terminator, 1 x TP/FT-10 or TP/LPT-10 (bus or free topology), 1 x Network Access Connector RJ45 |
| LT-13 | Network terminator, 1 x TP/FT-10 or TP/LPT-10 (bus or free topology), 1 x TP/XF-1250 |
| LT-33 | Network terminator, 2 x TP/FT-10 or TP/LPT-10 (bus or free topology) |
| LTE-800 | LTE Interface |

# Dimensions of the devices in mm and [inch]

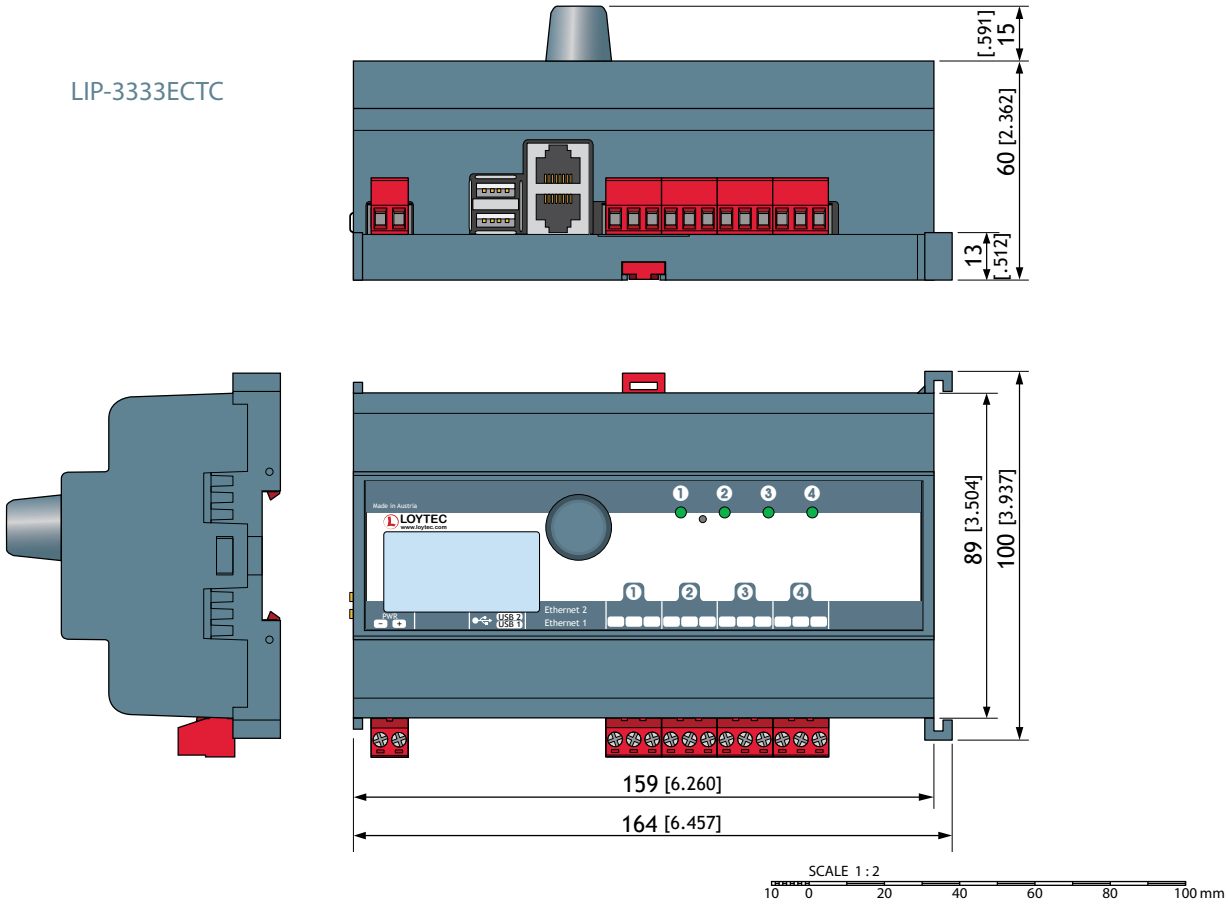
## DIM046

LIP-1ECTC
LIP-3ECTC
LIP-13ECTC
LIP-3ECTC




## DIM054

LIP-3333ECTC




Products of Delta Intelligent Building Technologies (Europe) GmbH are subject to ongoing development, and technical specifications may change without notice. The most recent datasheet can be downloaded from www.loytec.com.