



The LIOB-45x Modules are LonMark certified and communicate over Ethernet/IP-852 in the LonMark System. They provide up to 512 address table entries (ECS mode) which eliminates all binding restrictions.

**LonMark IP-852 Channel over Ethernet**

The LIOB-45x I/O Modules are equipped with two Ethernet ports including a built-in Ethernet switch. This allows for building a daisy chained line topology of up to 20 devices, which reduces costs for network installation. Dual Ethernet port devices also allow 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.

The LIOB-45x Modules are equipped with a web interface to query the device status. The local display can be accessed via VNC.

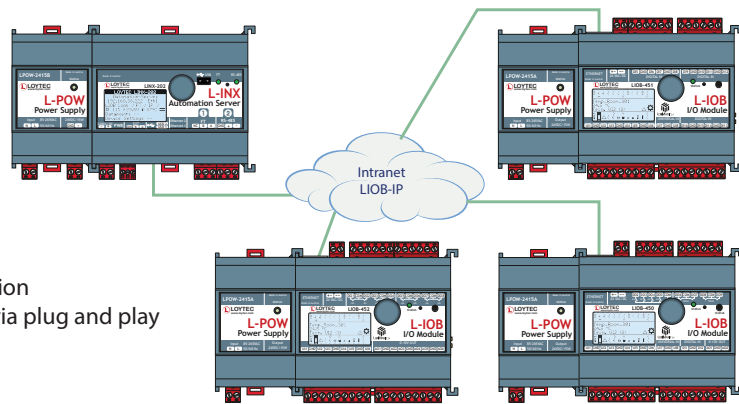
**LIOB-IP Mode**

The LIOB-45x Modules can be switched to LIOB-IP mode using manual local operation. In LIOB-IP mode, the LIOB-45x Modules extend L-INX Automation Servers, LIOB-48x I/O Controllers, and L-ROC Room Controllers with physical inputs and outputs via plug and play.

**Local Operation and Override**

All L-IOB I/O Modules are equipped with an LCD display (128x64) with backlight and jog dial for manual local operation. Device and data point information is displayed in text form and via graphical symbols.

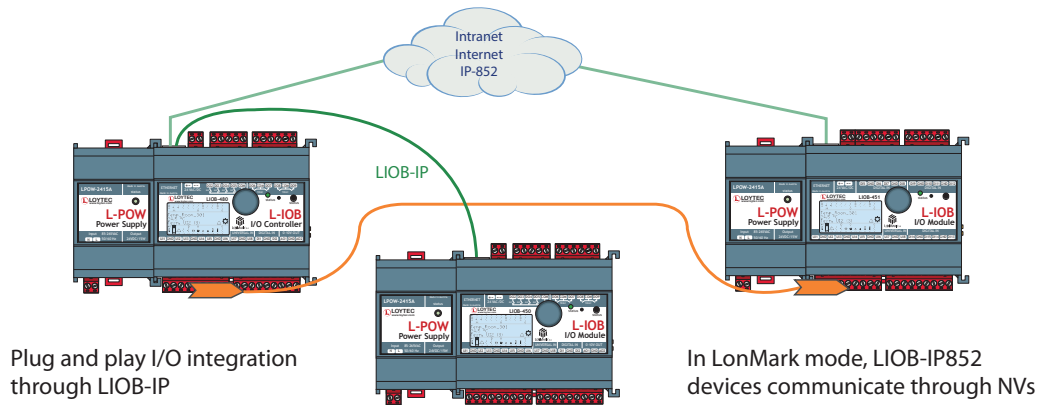
L-INX I/O integration through LIOB-IP via plug and play



**Features**

- I/O module with physical inputs and outputs
- Ethernet/IP network interface
- SNVT-based interface for integration in the LonMark IP-852 channel
- LonMark certified
- Up to 512 address table entries (ECS mode)
- Manual operation using the jog dial
- 128x64 graphic display with backlight
- Local access to information about device status and data points in clear text and symbols
- Connected to the L-INX Automation Server, L-ROC Room Controller, and LIOB-48x I/O Controller via LIOB-IP
- Automatic integration into device configurations with L-INX, L-ROC, and LIOB-48x I/O Controller
- Easy device replacement without any additional software at the L-INX, L-ROC, and LIOB-48x I/O Controller
- Integrated web server for device configuration
- LNS plug-in for device configuration in the LonMark System

# LIQB-450/451/452/453/454



## General Specifications

Dimensions (mm)	107 x 100 x 75 (L x W x H), DIM018, DIM019, DIM020, DIM021, DIM022
Installation	DIN rail mounting following DIN 43880, top hat rail EN 50022
Operating conditions	0 °C to 50 °C, 10–90 % RH @ 50 °C, non condensing, degree of protection: IP40, IP20 (terminals)
Power supply	24 VDC / 24 VAC ±10 % via L-INX, L-ROC, or L-POW, or with LIOB-Connect, or via connecting of an external power supply to the upper left terminal
Interface	2 x Ethernet (100Base-T): LIOB-IP, LonMark IP-852

## Specifications LIQB-IP852 I/O Module (LIQB-45x)

Type	LIQB-450	LIQB-451	LIQB-452	LIQB-453	LIQB-454
Power consumption	4.5 W (Relays on)	4.5 W	4.5 W (Relays on)	4.5 W (Relays on)	4.5 W (Relays on)
Universal Input (UI)	8	8	6	6	7
Digital Input (DI)	2	12	-	-	-
Analog Output (AO)	2	-	6	6	4
Digital Output (DO)	8 (4 x Relay, 4 x Triac)	-	8 (8 x Relay)	5 (4 x Relay 16 A, 1 x Relay 6 A)	7 (5 x Relay, 2 x Triac)
Digital Output specification	Relay: 6 A Triac: 1 A @ 24-230 VAC		Relay: 6 A	Relay: 16 A and 6 A	Relay: 6 A Triac: 1 A @ 24-230 VAC
Differential Pressure Sensor	-	-	-	-	0–500 Pa

## Resource limits

Network variables (NVs)	Fixed static NV interface
Address table entries	512 (non-ECS mode: 15)

Order number	Product description
LIQB-450	LIQB-IP852 I/O Module: 8 UI, 2 DI, 2 AO, 8 DO (4 x Relay 6 A, 4 x Triac 1 A)
LIQB-451	LIQB-IP852 I/O Module: 8 UI, 12 DI
LIQB-452	LIQB-IP852 I/O Module: 6 UI, 6 AO, 8 DO (8 x Relay 6 A)
LIQB-453	LIQB-IP852 I/O Module: 6 UI, 6 AO, 5 DO (4 x Relay 16 A, 1 x Relay 6 A)
LIQB-454	LIQB-IP852 I/O Module: 7 UI, 4 AO, 7 DO (5 x Relay 6 A, 2 x Triac 1 A), 1 Pressure Sensor
LPOW-2415A	LIQB-Connect power supply unit, 24 VDC, 15 W
LPOW-2415B	Power supply unit with power connector 24 VDC, 15 W
L-TEMP2	External temperature sensor (NTC10K) for use with LIOB Universal Inputs