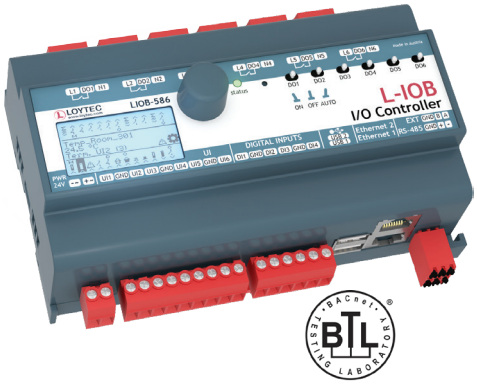
LOYTEC COMPETENCE PARTNER

L-IOB I/O Controller

LIOB-586/588/589

Datasheet #89046119



The LIOB-586/588/589 I/O Controllers are IP-enabled, compact, programmable automation stations for LonMark Systems and BACnet/IP networks with physical inputs and outputs and integrated graphical visualization.

Communication

The LIOB-586/588/589 I/O Controllers 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.

Technology data points are automatically exposed as OPC tags for higher level OPC client applications or L-WEB system via the integrated OPC server providing SSL encrypted web services (OPC XML-DA) or UA Secure Conversation (OPC UA). The L-IOB I/O Controllers further allow data exchange over global connections (network-wide data exchange), offer AST™ functions (Alarming, Scheduling, and Trending), store custom graphic pages for visualization in LWEB-802/803, and can be seamlessly integrated in the LWEB-900 Building Management System. LIOB-586 I/O Controllers implement the BACnet Building Controller (B-BC) profile and are BTL certified.

Local Operation and override

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

The six relay outputs can be overridden via 3-way switches on the LIOB-586 front panel.

Power measurement

External meters can be integrated via M-Bus or Modbus. The LIOB-586/588/589 I/O Controllers perfectly meet energy management and energy reporting applications.

Features

- Automation station with physical inputs and outputs
- IEC 61131-3 and IEC 61499 programmable with L-STUDIO
- Programmable with L-LOGICAD (a L-LOGICAD-LINX license is needed for LIOB-588 and LIOB-589 only)
- Extension with physical inputs and outputs using one L-IOB I/O Module (LIOB-10x or LIOB-45x/55x)
- 128x64 graphic display with backlight
- Local and remote access to information about device status and data points
- Manual operation using the jog dial or VNC client
- Manual override of each output through switches (LIOB-586 only)
- Alarming, Scheduling, and Trending (AST™)
- Event-driven e-mail notification
- Math objects to execute mathematical operations on data points
- Stores customized graphical pages
- Visualization of customized graphical pages through LWEB-900 (Building Management), LWEB-803 (Monitoring and Control), or LWEB-802 (Web Browser)
- Support of the L-STAT Network Thermostat
- Built-in OPC XML-DA and OPC UA server
- Dual switched or separated Ethernet ports
- Access to network statistics
- Compliant with ANSI/ASHRAE 135-2012 and ISO 16484-5:2012 standard
- Supports BACnet MS/TP and BACnet/IP
- BACnet Client Function (Write Property, Read Property, COV Subscription)
- BACnet Client Configuration with configuration tool (scan and EDE import)
- B-BC (BACnet Building Controller) functionality, BTL certified
- Compliant with CEA-709, CEA-852, and ISO/IEC 14908 Standard (LonMark System)

L-IOB I/O Controller

LIOB-586/588/589

- Supports IP-852 (Ethernet/IP)
- Support of dynamically created or static NVs
- Support of user-defined NVs (UNVTs) and Configuration Properties (SCPTs, UCPTs)
- Integrated BACnet/IP to BACnet MS/TP Router including BBMD as well as Slave-Proxy functionality
- M-Bus Master according to EN 13757-3, connection via optional M-Bus Converter (L-MBUS20 or L-MBUS80)
- Gateway functions including Smart Auto-Connect™
- Modbus TCP and Modbus RTU (Master or Slave)
- Integrated web server for device configuration and monitoring data points
- Connection to EnOcean wireless devices via LENO-80x Interface
- Supports WLAN through LWLAN-800 Interface
- Stores user-defined project documentation

General Specifications

Type	LIOB-586	LIOB-588	LIOB-589
Dimensions (mm)	159 x 100 x 75 (L x W x H), DIM005	159 x 100 x 75 (L x W x H), DIM006	159 x 100 x 75 (L x W x H), DIM007
Installation	DIN rail mounting following DIN 43880, top hat rail EN 50022		
Operating conditions	0 °C to 50 °C, 10 – 90 % RH, non condensing, degree of protection: IP40, IP20 (terminals)		
Power supply	24 V DC / 24 V AC ±10 % via L-POW, or with an external power supply		
Program cycle time	Down to 10 ms, and event-triggered		
L-IOB I/O Module	1 L-IOB I/O Module of type LIOB-10x or LIOB-45x/55x		
Interface	2 x Ethernet (100Base-T): Web services (OPC XML-DA, OPC UA), LonMark IP-852, BACnet/IP*, LIOB-IP, Modbus TCP (Master or Slave), HTTP, FTP, SSH, HTTPS, Firewall, VNC, SNMP 1 x LIOB-Connect 2 x USB-A: WLAN (needs LWLAN-800), EnOcean (needs LENO-80x) 1 x EXT: M-Bus, Master EN 13757-3 (needs L-MBUS20 or L-MBUS80) 1 x RS-485 (ANSI TIA/ EIA-485): BACnet MS/ TP*, or Modbus RTU (Master or Slave), or L-STAT Network Thermostats ** Router between BACnet/IP and BACnet MS/TP*		

Specifications LIOB I/O Controller (LIOB-58x)

Type	LIOB-586	LIOB-588	LIOB-589
Power consumption	5.4 W (Relays on)	5.9 W (Relays on)	4.5 W (Relays on)
Universal Input (UI)	6	10	10
Digital Input (DI)	4	-	6
Analog Output (AO)	-	6	6
Digital Output (DO)	6 (6 x Relay 16 A)	8 (8 x Relay 10 A)	4 (4 x Relay 10 A)
Digital Output specification	Please refer to the "General Input and Output Specification of LOYTEC devices" at the end of the L-IOB section for more details.		

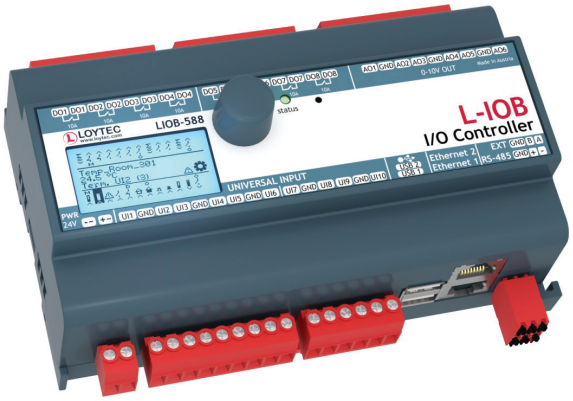
L-STUDIO 3.0 licenses

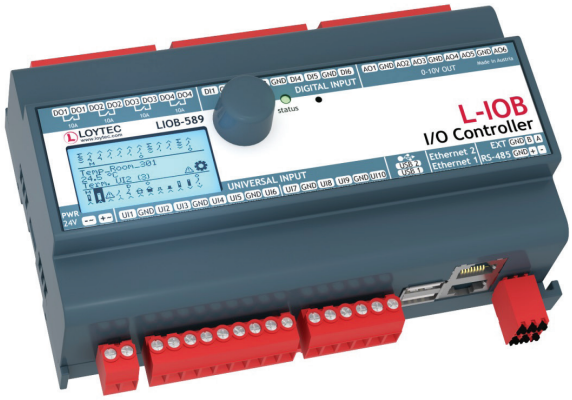
Type	LIOB-586	LIOB-588	LIOB-589
Programming, Tools	L-STUDIO (IEC 61131-3 and IEC 61499 based)		
License	L-STUDIO: included L-LOGICAD: included	L-STUDIO: included L-LOGICAD: upgradeable	L-STUDIO: included L-LOGICAD: upgradeable

LIOB-586/588/589

Resource limits			
Total number of data points	10 000	LonMark Schedulers	10
OPC data points	1 000	LonMark Alarm Servers	1
BACnet objects	500 (analog, binary, multi-state)	E-mail templates	50
BACnet client mappings	500	Math objects	50
BACnet calendar objects	25	Alarm logs	10
BACnet scheduler objects	10 (64 data points per object)	M-Bus data points	300
BACnet notification classes	32	Modbus data points	300
Trend logs (BACnet or generic)	256 (4 000 000 entries, ≈ 60 MB)	Connections (Local / Global)	500 / 100
Total trended data points	256	Number of L-WEB clients	32 (simultaneously)
CEA-709 network variables (NVs)	500	L-IOB I/O Modules	1
CEA-709 Alias NVs	500	L-STAT Network Thermostats	8
CEA-709 External NVs (polling)	500	EnOcean devices	10
CEA-709 address table entries	256 (non-ECS mode: 15)	EnOcean data points	100
LonMark Calendars	1 (25 calendar patterns)		

Order number	Product description
LIOB-586	LIOB I/O Controller: 6 UI, 4 DI, 6 DO (6 x Relay 16 A)
LIOB-588	LIOB I/O Controller: 10 UI, 6 AO, 8 DO (6 x Relay 10 A)
LIOB-589	LIOB I/O Controller: 10 UI, 6 AO, 6 DI, 4 DO (4x Relay 10 A)
L-LOGICAD-LIOB	License to activate a L-LOGICAD runtime on a single L-IOB device (only for LIOB-588 / LIOB-589 devices)
LPOW-2415A	LIOB-Connect power supply unit, 24 V DC, 15 W
LPOW-2415B	Power supply unit with power connector 24 V DC, 15 W
L-TEMP2	External temperature sensor (NTC10K) for use with L-IOB Universal Inputs
LENO-800	EnOcean Interface 868 MHz Europe
LENO-801	EnOcean Interface 902 MHz USA/Canada
LENO-802	EnOcean Interface 928 MHz Japan
LWLAN-800	Wireless LAN Interface IEEE 802.11bgn
L-MBUS20	M-Bus level converter for 20 M-Bus devices
L-MBUS80	M-Bus level converter for 80 M-Bus devices
LSTAT-800-G3-Lx	Network Thermostat, front black, white enclosure, Modbus, NFC, temperature, rel. humidity, ext. switch/NTC, Buttons (Lx)
LSTAT-801-G3-Lx	Network Thermostat, front black, white enclosure, Modbus, NFC, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (Lx)
LSTAT-802-G3-Lx	Network Thermostat, front black, white enclosure, Modbus, NFC, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (Lx)
LSTAT-80x-CUSTOM	Customized Network Thermostat, minimum quantity 100 pieces, enclosure G1: silver, G2: black, G3: white; custom print Lx, including 2 working samples, lead time 10 weeks





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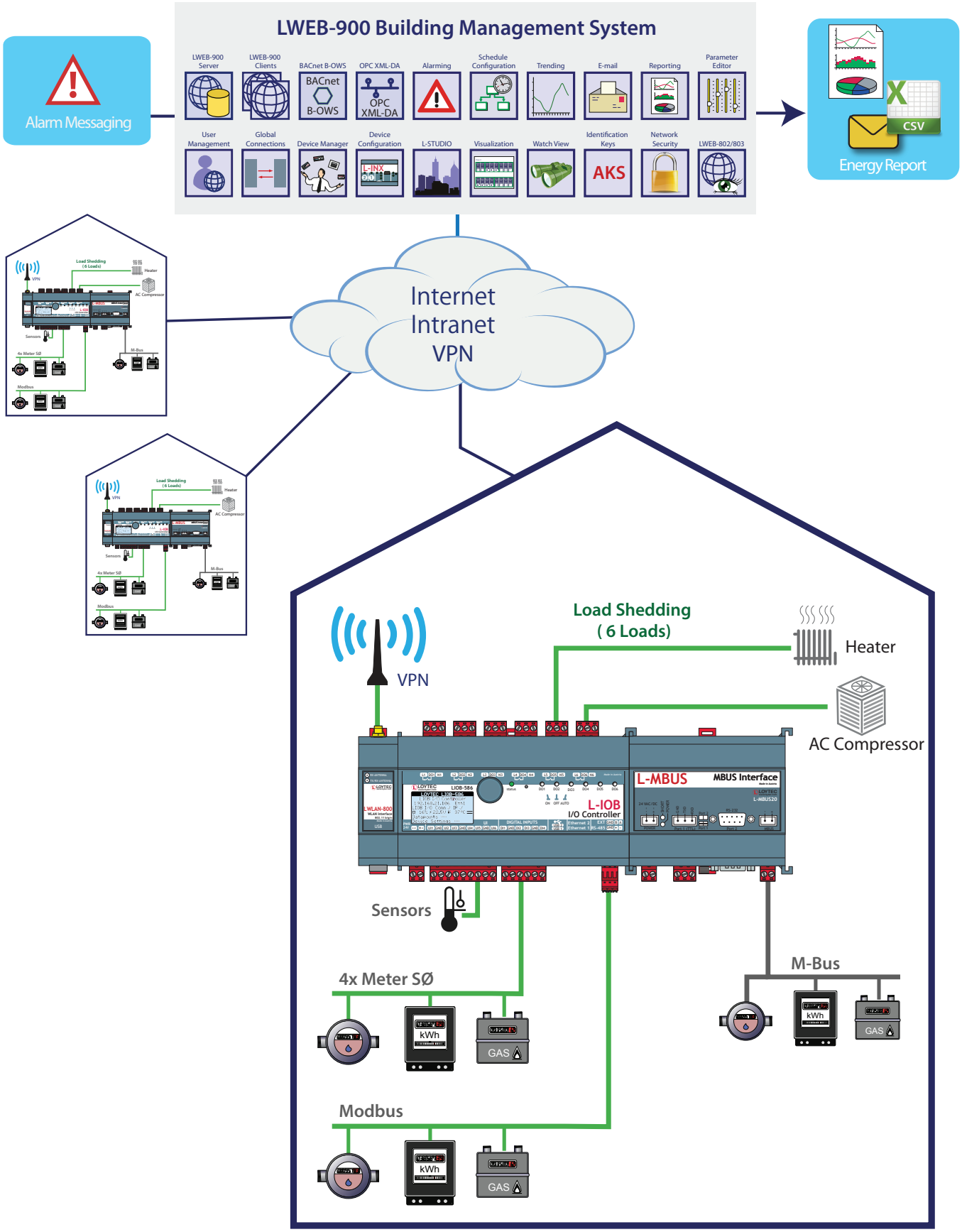

Energy Management with LIOB-586