

- ✓ BACnet
- ✓ DALI
- ✓ OPC

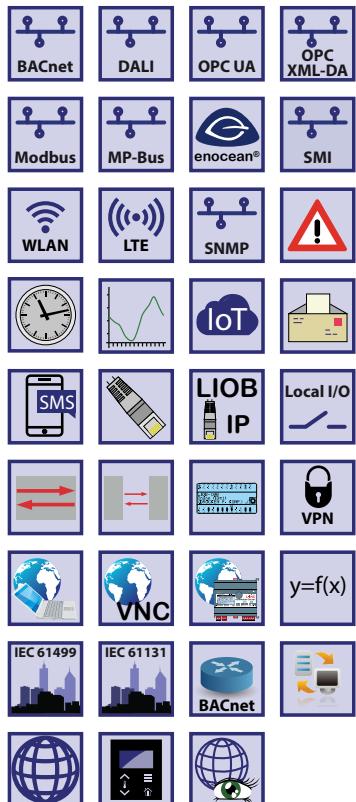
- ✓ Modbus



L-IOB Room Controller

LIOB-591

Datasheet #89072126



Features

- Room controller for 1 room segment
- Networking via redundant IP network
- Programmable with L-STUDIO (IEC 61131-3 or IEC 61499)
- Extension with physical inputs and outputs using L-IOB I/O Modules (LIOB-45x or LIOB-55x/56x)
- 128x64 graphic display with backlight for device configuration and maintenance
- Local display of device and data point information
- Manual operation using the jog dial or VNC Client
- Integrated AST™ functions (Alarming, Scheduling, and Trending) for each room segment
- Node.js support¹ for easy IoT integration (e.g. Google calendar, MQTT, Alexa & friends, multimedia equipment,...)
- Event-driven e-mail notification
- Math objects to execute mathematical operations on data points
- Stores customized graphic pages
- Visualization of customized graphic pages through LWEB-900 (Building Management), LWEB-803 (Monitoring and Control), or LWEB-802 (Web Browser)
- Support of the L-STAT Room Operator Panel
- Built-in OPC XML-DA and OPC UA server
- Access to network statistics via SNMP
- Compliant with ANSI/ASHRAE 135-2012 and ISO 16484-5:2012 standard
- Supports BACnet/IP, BACnet/SC or BACnet MS/TP
- 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
- Modbus TCP and Modbus RTU/ASCII (Master or Slave)
- Integrated web server for device configuration and monitoring data points

¹ requires L-IOT1 software license

L-IOB Room Controller

LIOB-591

- DALI integration of up to 64 DALI lamps
- Integrated DALI power supply, 16 VDC, 116 mA max. current
- Integrated 1250 W heater control
- Integrated dual fan motor control
- 8 x Universal I/O (U, I, R), 12 x Universal I/O (U)²
- Integrated heating/cooling valve control
- Supports VPN
- Configurable Bluetooth beacons and services: indoor navigation, asset tracking (requires LIC-ASSET license) and access to LWEB-900 room control solution

General Specifications

Dimensions (mm)	199 x 87 x 62 (L x W x H), DIM065
Installation	mountable directly via two oblong holes (\varnothing 4.5 mm, distance 187 mm)
Power supply	85 – 240 VAC, 50 – 60 Hz
Operating conditions	0 °C to 45 °C, 10 – 90 % RH, noncondensing, degree of protection: IP30, IP20 (terminals)
Storage conditions	-20 °C to +70 °C

Specifications

Type	LIOB-591
Power consumption	max. 15 W ³
Interfaces	<p>2 x Ethernet (100Base-T): Web services (OPC XML-DA, OPC UA), BACnet/IP*, BACnet/SC*, LIOB-IP, Modbus TCP (Master or Slave), HTTP, FTP, SSH, HTTPS, Firewall, VNC, SNMP, VPN</p> <p>2 x USB-A: WLAN (needs LWLAN-800), EnOcean (needs LENO-80x), MP-Bus (needs LMPBUS-804), SMI (needs LSMI-804), LTE (needs LTE-800)</p> <p>1 x RS-485 (ANSI TIA/EIA-485): BACnet MS/TP* or Modbus RTU/ASCII (Master or Slave) or L-STAT (Room operator panel)</p> <p>1 x DALI with integrated DALI bus power supply 16 VDC, 116 mA max. supply current⁴</p> <p>* Either BACnet/IP or BACnet/SC or BACnet MS/TP (no router)</p>
Universal I/O (IO)	8 x Universal I/O (U, I, R), 12 x Universal I/O (U) ²
Digital Output (DO)	1 x TRIAC 1250 W, 230 V AC (connector for overtemperature safety device) 3 x TRIAC 300 W, 230 V AC
Input and 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-IOB I/O extension	1 L-IOB I/O Modules of Type LIOB-45x or LIOB-55x/56x
Program cycle time	Event-triggered, 10 ms
Max. number of Rooms/Segments	1
SMI devices via LSMI-804	16
SMI devices (maximum)	16
EnOcean devices via LENO-80x	10
EnOcean devices (maximum)	10
EnOcean devices commissioning limit	10
L-STAT Room Operator Panels	1
DALI devices	64
DALI groups	16
DALI sensors	16
DALI pushbuttons (LDALI-BM2)	64 pushbutton coupler
MP-Bus devices via LMPBUS-804	8 (16 MPL)
MP-Bus devices (maximum)	16

² U: 0-10V input or 0-10V output, I: 4-20 mA input, R: resistance measurement

³ Add external load: Sum of max. current drawn from all outputs x 24V + power drawn from USB and L-STAT connectors

⁴ With high DALI traffic (e.g. during DALI-scan) increased current consumption may occur depending on the devices connected. Therefore, according to IEC62386-101 it is recommended to take an additional current of at least 20% for dynamic processes into account in system design.

Runtime licenses			
Programming, Tools	L-STUDIO software (IEC 61131-3 or IEC 61499), L-INX Configurator		
License	L-STUDIO: included		
Resource limits			
Total number of data points	10 000	Math objects	50
OPC data points	5 000	Alarm logs	10
BACnet objects	500 (analog, binary, multi-state)	Modbus data points	300
BACnet client mappings	500	Connections (Local / Global)	2 000 / 250
BACnet calendar objects	25	Number of L-WEB clients	32 (simultaneously)
BACnet scheduler objects	100 (64 data points per object)	LIOB I/O Modules (via LIOB-IP)	1
BACnet notification classes	32	LIOB Terminals (non-local)	50
Trend logs (BACnet or generic)	256 (13 000 000 entries, ≈ 200 MB)	EnOcean data points	10 per EnOcean device
Total trended data points	256	SMI devices	16
E-mail templates	50	MP-Bus devices	8 (16 MPL)
Order number	Product description		
LIOB-591	L-IOB Room Controller, 8 x Universal I/O (U, I, R), 12 x Universal I/O (U), 1 x TRIAC 1250 W, 3 x TRIAC 300 W		
L-STUDIO	Development and integration platform for programmable LOYTEC controllers		
L-IOT1	Add-on Software License to enable IoT functionality on LIOB-585/586/587/588/589/59x, LIOB-AIR, and LINX-102/103/202/203		
LIC-ASSET	Add-on Software License to activate asset tracking (for LDALI-ME20x-U, LDALI-3E10x-U, LDALI-PLCx, LROC-400, LROC-401, LIOB-AIR20, LIOB-591)		
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		
LTE-800	LTE Interface		
LRS232-802	USB to 2 x RS-232 Interface		
LMPBUS-804	MP-Bus interface for 16 devices per channel, up to 4 channels		
LSMI-804	Standard Motor Interface for 64 motors, 4 SMI channels via USB		
LIOB-450	LIOB-IP852 I/O Module: 8 UI, 2 DI, 2 AO, 8 DO (4 x Relay 6 A, 4 x Triac 0.5 A)		
LIOB-451	LIOB-IP852 I/O Module: 8 UI, 12 DI		
LIOB-452	LIOB-IP852 I/O Module: 6 UI, 6 AO, 8 DO (8 x Relay 6 A)		
LIOB-453	LIOB-IP852 I/O Module: 6 UI, 6 AO, 5 DO (4 x Relay 16 A, 1 x Relay 6 A)		
LIOB-454	LIOB-IP852 I/O Module: 7 UI, 4 AO, 7 DO (5 x Relay 6 A, 2 x Triac 0.5 A), 1 Pressure Sensor		
LIOB-550	LIOB-BIP I/O Module: 8 UI, 2 DI, 2 AO, 8 DO (4 x Relay 6 A, 4 x Triac 0.5 A)		
LIOB-551	LIOB-BIP I/O Module: 8 UI, 12 DI		
LIOB-552	LIOB-BIP I/O Module: 6 UI, 6 AO, 8 DO (8 x Relay 6 A)		
LIOB-553	LIOB-BIP I/O Module: 6 UI, 6 AO, 5 DO (4 x Relay 16 A, 1 x Relay 6 A)		
LIOB-554	LIOB-BIP I/O Module: 7 UI, 4 AO, 7 DO (5 x Relay 6 A, 2 x Triac 0.5 A), 1 Pressure Sensor		
LIOB-560	LIOB-BIP I/O Module: 20 Universal I/O (IO)		
LIOB-562	LIOB-BIP I/O Module: 40 Universal I/O, (12 optionally with 4-20 mA current output)		
LSTAT-800-G3-Lx	Room Operator Panel, black front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (Lx)		
LSTAT-801-G3-Lx	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (Lx)		
LSTAT-802-G3-Lx	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (Lx)		
LSTAT-800-G3-L20x	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (Lx)		
LSTAT-801-G3-L20x	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (Lx)		

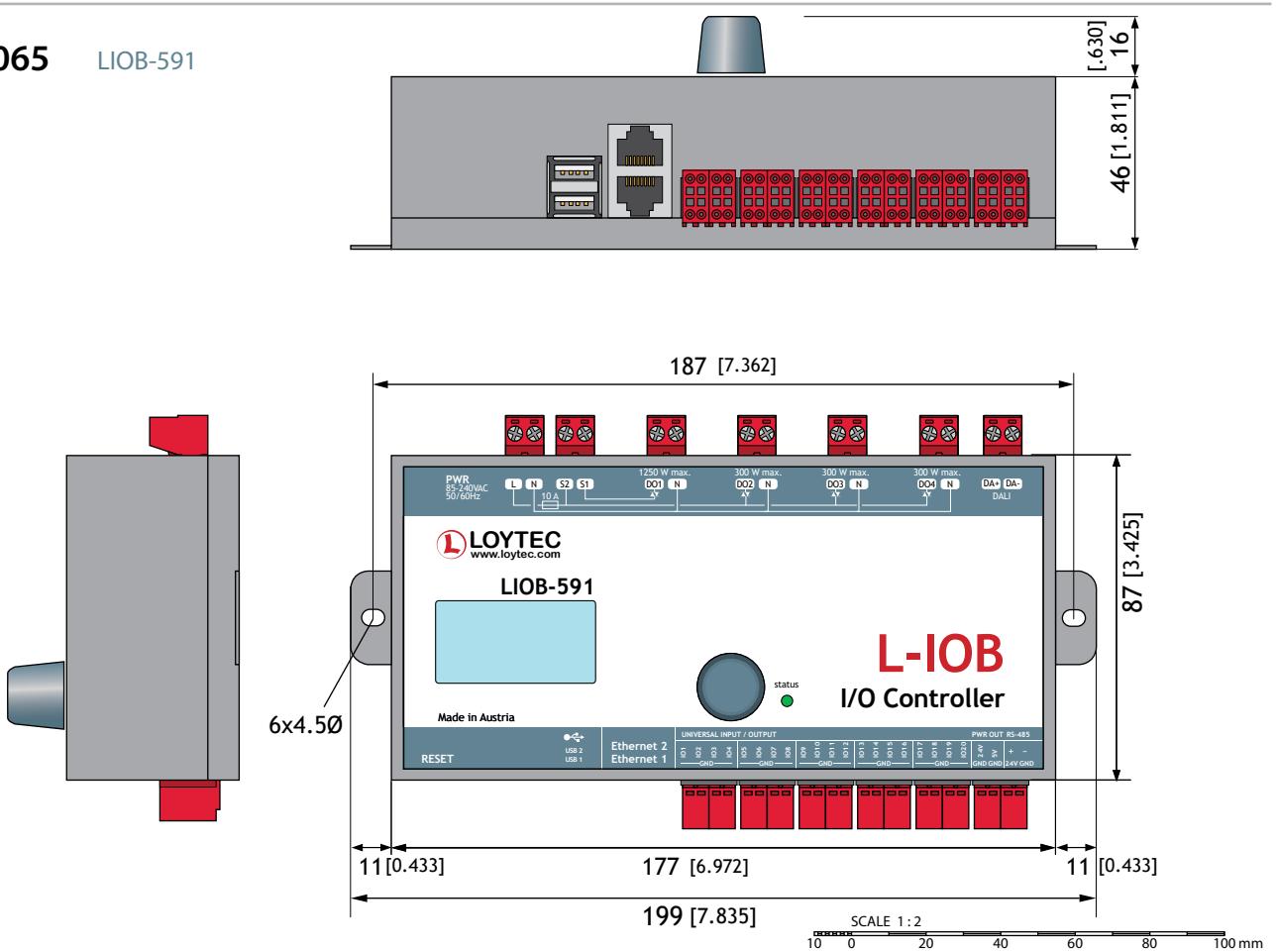
L-IOB Room Controller

LIOB-591

Order number	Product description
LSTAT-802-G3-L20x	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (Lx)
LSTAT-80x-CUSTOM	One-time customization cost for L-STAT custom design
LDALI-MS2-BT	DALI multi-sensor (presence detection, illuminance sensor, IR receiver, temperature sensor, humidity sensor, 3 digital inputs, Bluetooth), up to 12 m mounting height
LDALI-MS3-BT	DALI multi-sensor (presence detection, illuminance sensor, IR receiver, temperature sensor, humidity sensor, 3 digital inputs, Bluetooth), up to 12 m mounting height
LDALI-MS4-BT	DALI multi-sensor (presence detection, illuminance sensor, IR receiver, temperature sensor, humidity sensor, 3 digital inputs, Bluetooth, flat lens), up to 5 m mounting height
LDALI-BM2	Quadruple DALI pushbutton coupler
LDALI-RM5	DALI Relay Module 10 A, Analog Interface 1 – 10 V
LDALI-RM6	DALI Relay Module 10 A, Analog Interface 1 – 10 V, "spud-mount"
LDALI-RM8	DALI Relay Module, 8-channel
LOY-DALI-SBM1	DALI Sunblind Module, DALI, 2 x 6A/250 V AC
LDALI-PWM4	PWM module, DALI, 4 x 3 A LED outputs, 24 V DC ext.
LDALI-PWM4-TC	PWM module tunable white, DALI, 4 x 3 A LED outputs, 24 V DC ext.
LDALI-PWM4-RGBW	PWM module RGBW, DALI, 4 x 3 A LED outputs, 24 V DC ext.
LDALI-PD1	DALI Phase-Cut Dimmer Module
L-TEMP2	External temperature sensor (NTC10K) for use with L-IOB Universal Inputs

Dimensions of the devices in mm and [inch]

DIM065 LIOB-591



The products of LOYTEC electronics GmbH are subject to constant development. Therefore, LOYTEC reserves the right to modify technical specifications at any time without prior notice. The most recent datasheet can be downloaded from www.loytec.com.