

LSTAT-800, LSTAT-801, LSTAT-802

Datasheet #89034323



The L-STAT is a room operator panel device with a modern, minimalistic look that fits any interior design. It is directly connected to a LOYTEC controller with a Modbus interface such as a L-IOB I/O or L-ROC controller.

Up to 16 L-STAT devices can be connected to one controller to offer control at different locations in- or outside even for the largest rooms. The L-STAT is equipped with a segmented LCD display featuring an RGB backlight with adjustable color, offering a neat way to make the L-STAT match the interior color concept of an office building. Eight capacitive touch buttons are used to cycle through sensor values, display parameters, and adjust setpoints. Up to four external buttons can be accessed and processed by the controller.

The L-STAT's internal sensors measure temperature, humidity, dew point, occupancy, and CO₂ level. Sensor values can be displayed in SI or US units. Additionally, the date and time as well as the current level of eco-friendliness in the form of green leaves are also displayed on the LCD display. Parameters controlled by the controller's logic can be overridden on the L-STAT, such as for occupancy, air conditioning, and ventilation. A direct access mode is available to quickly adjust the most important setpoints e.g. for temperature and ventilation control.

A buzzer provides acoustic feedback for the touch buttons and can also be used to indicate alarms and error states. To prevent unauthorized modifications, two access levels (end user, system integrator) are used, which are secured via 4-digit pin codes. Device replacement, firmware upgrade, and L-STAT configuration are performed with very little effort through the controller. The L-STAT device is represented in the controller by a simple data point interface, which can be directly connected to the IEC 61131 or IEC 61499 logic application and offers all common functions for data points such as alarming, scheduling, trending, historic filters, math functions, etc.

Last but not least, the L-STAT comes with a built-in infrared receiver for comfortable remote control of the room's lights, sunblinds and HVAC system via the optionally available IR remote control L-RC1.

The L-STAT is available in three different hardware versions, with six different button layouts, and two front cover color options (36 models in total). Furthermore, Custom versions can also be ordered (minimum quantity 100 pieces).

In this case, custom printing on the front of the L-STAT allows for any button layout, individual button symbols and even catering the end customer's corporate identity.

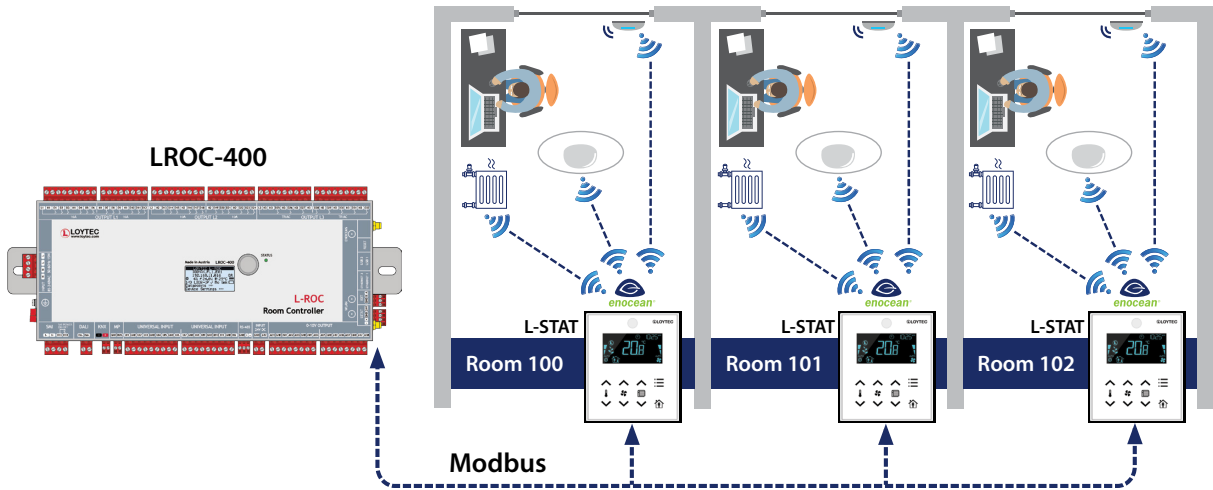
L-STAT Custom Designs



L-STAT Room Operator Panel

LSTAT-800, LSTAT-801, LSTAT-802

Custom versions of the L-STAT are available with all three different hardware versions. Additionally, they can be equipped with an EnOcean interface. In this case, the L-STAT acts as a remote EnOcean transceiver for all controllers supporting an L-STAT interface.



Features

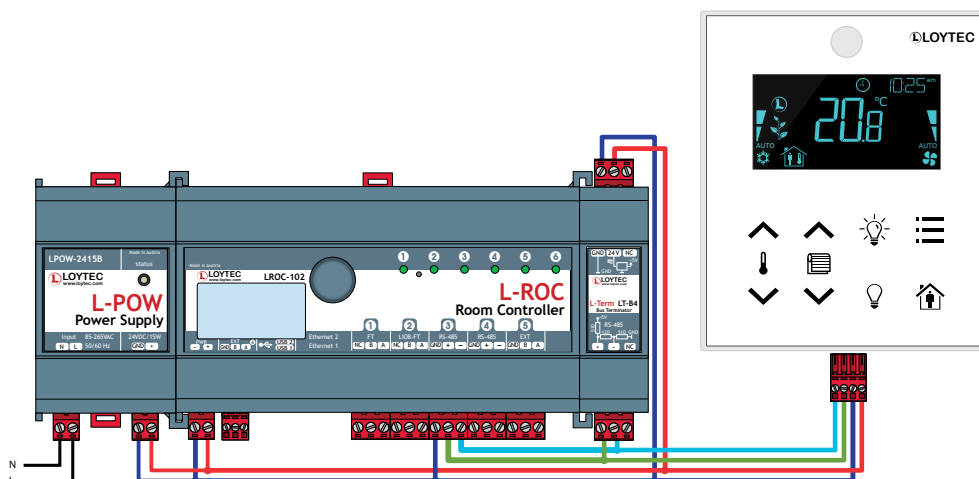
- Modbus RTU interface for integration into controllers
- Easy integration into LOYTEC controllers such as L-INX, L-ROC or L-IOB I/O controller
- Segmented LCD display
- LCD RGB backlight color can be adjusted via network
- Display time and date
- Symbols for eco-friendliness level (green leaves)
- Up to 8 buttons (capacitive touch)
- Temperature sensor
- Humidity sensor
- 3 digital inputs (dry contact)
- 1 universal input (digital/NTC10k)
- Buzzer to provide acoustic feedback for the touch buttons or to indicate alarms
- Two access levels (end user, system integrator), which are secured via 4-digit pin codes
- Enclosure color options black and white
- Individual layout of touch symbols on request to match room functions
- Individual front cover printing on request to match clients room design or corporate identity
- Optional occupancy sensor (LSTAT-801 and LSTAT-802 models only)
- Optional CO₂ sensor (LSTAT-802 models only)
- Optional EnOcean interface (custom models only) to work as remote EnOcean transceiver for LOYTEC controllers

Specifications

Type	LSTAT-800-Gx-Lxxx	LSTAT-801-Gx-Lxxx	LSTAT-802-Gx-Lxxx
Dimensions (mm)	94.5 x 110 x 19.5 (L x W x H), DIM032		
Installation	Onto a flush-mounted box		
Power supply	24 VDC \pm 10 %, max. 0.8 W		24 VDC \pm 10 %, max. 1.8 W
Operating conditions	0 °C to 50 °C, 10 – 90 % RH, noncondensing, degree of protection: IP30		
Display	LCD display featuring an RGB backlight with adjustable color		
Interfaces, sensors	1 x RS-485 (ANSI TIA/EIA-485): Modbus RTU (Master or Slave), adjustable bus speed 1 200 – 115 200 bit/s (default 57 600 bit/s), configurable transmission mode (default "8N2", 1 start bit, 8 data bits, parity none, 2 stop bits) 1 x Buzzer 1 x Internal temperature sensor 1 x Internal relative humidity sensor 3 x Digital Input for connection of standard switches and pushbuttons 1 x Universal Input, configurable either for L-TEMP2 (NTC temperature sensor) or for connection of standard switches and pushbuttons 1 x Infrared receiver 1 x EnOcean Wireless Interface conforming to ISO/IEC 14543-3-10 (optional for L-STAT custom versions)		
		1 x Occupancy sensor	
			1 x CO ₂ sensor
Buttons (capacitive touch)	LSTAT-80x-Gx-Lxx1: 4 x Button with temperature up/down, occupancy, and menu LSTAT-80x-Gx-Lxx2: 6 x Button with temperature up/down, fan up/down, occupancy, and menu LSTAT-80x-Gx-Lxx3: 8 x Button with temperature up/down, fan up/down, light on/off, occupancy, and menu LSTAT-80x-Gx-Lxx4: 8 x Button with temperature up/down, sunblinds up/down, light on/off, occupancy, and menu LSTAT-80x-Gx-Lxx5: 8 x Button with temperature up/down, fan up/down, sunblinds up/down, occupancy, and menu LSTAT-80x-Gx-Lxx6: 8 x Button with temperature up/down, fan up/down, sunblinds up/down, light, and menu		

Specifications of the sensors

Temperature measurement	Sensor type: CMOS, range: -40 – 125 °C, resolution: 0.1 °C, accuracy: \pm 0.5 °C (5 – 60 °C)
Relative Humidity (R.H.)	Sensor type: capacitive humidity sensor, range: 0% – 100% R.H., resolution: 0.1% R.H., accuracy: \pm 2% R.H. @ 25 °C, 20% – 80% R.H. \pm 3% R.H. @ 25 °C, 0% – 20% R.H. and 80% – 100% R.H., respectively
Infrared occupancy detector, maximum detection range	5 m, 64 zones, opening angle horizontal: 94°, vertical: 82°, difference in temperature: target to environment: > 4 °C
CO ₂	0 – 2 000 ppm, \pm 30 ppm or \pm 3%
Infrared receiver	NEC protocol (Apple Remote compatible)

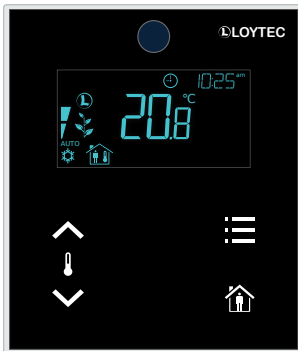


L-STAT Room Operator Panel

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L-STAT Button Configuration Overview

L-STAT-80x-G3-L1



L-STAT-80x-G3-L2



L-STAT-80x-G3-L3



L-STAT-80x-G3-L4



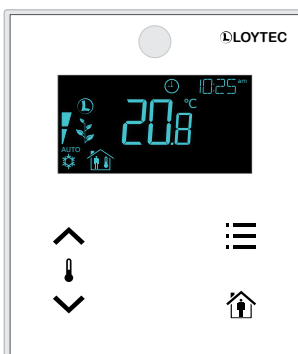
L-STAT-80x-G3-L5



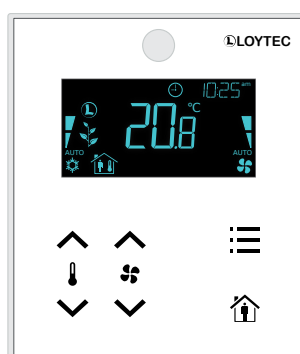
L-STAT-80x-G3-L6



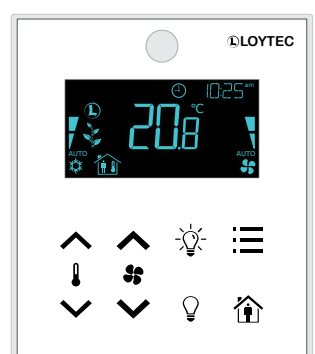
L-STAT-80x-G3-L201



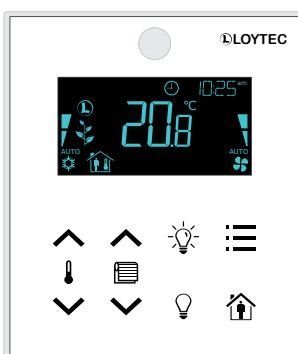
L-STAT-80x-G3-L202



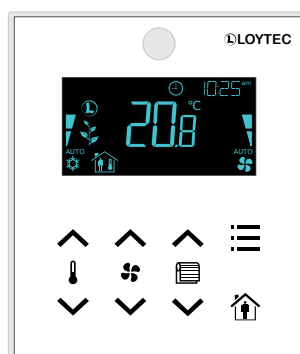
L-STAT-80x-G3-L203



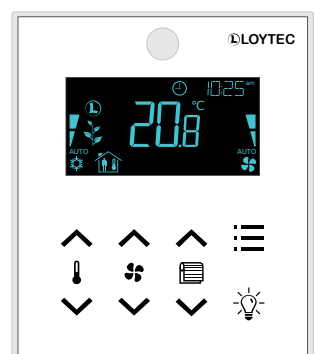
L-STAT-80x-G3-L204



L-STAT-80x-G3-L205



L-STAT-80x-G3-L206



LSTAT-800, LSTAT-801, LSTAT-802

Order number	Product description
LSTAT-800-G3-L1	Room Operator Panel, black front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L1): temperature up_down/occupancy/menu
LSTAT-800-G3-L2	Room Operator Panel, black front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L2): temperature up_down/fan up_down/occupancy/menu
LSTAT-800-G3-L3	Room Operator Panel, black front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L3): temperature up_down/fan up_down/light on_off/occupancy/menu
LSTAT-800-G3-L4	Room Operator Panel, black front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L4): temperature up_down/sunblinds up_down/light on_off/occupancy/menu
LSTAT-800-G3-L5	Room Operator Panel, black front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L5): temperature up_down/fan up_down/sunblinds up_down/occupancy/menu
LSTAT-800-G3-L6	Room Operator Panel, black front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L6): temperature up_down/fan up_down/sunblinds up_down/light/menu
LSTAT-801-G3-L1	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L1): temperature up_down/occupancy/menu
LSTAT-801-G3-L2	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L2): temperature up_down/fan up_down/occupancy/menu
LSTAT-801-G3-L3	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L3): temperature up_down/fan up_down/light on_off/occupancy/menu
LSTAT-801-G3-L4	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L4): temperature up_down/sunblinds up_down/light on_off/occupancy/menu
LSTAT-801-G3-L5	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L5): temperature up_down/fan up_down/sunblinds up_down/occupancy/menu
LSTAT-801-G3-L6	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L6): temperature up_down/fan up_down/sunblinds up_down/light/menu
LSTAT-802-G3-L1	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L1): temperature up_down/occupancy/menu
LSTAT-802-G3-L2	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L2): temperature up_down/fan up_down/occupancy/menu
LSTAT-802-G3-L3	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L3): temperature up_down/fan up_down/light on_off/occupancy/menu
LSTAT-802-G3-L4	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L4): temperature up_down/sunblinds up_down/light on_off/occupancy/menu
LSTAT-802-G3-L5	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L5): temperature up_down/fan up_down/sunblinds up_down/occupancy/menu
LSTAT-802-G3-L6	Room Operator Panel, front black, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L6): temperature up_down/fan up_down/sunblinds up_down/light/menu
L-RC1	Infrared remote control for room automation applications

A complete list of L-STAT models is available on our website www.loytec.com/lstat.

L-STAT Custom Designs

LSTAT-80x-CUSTOM	One-time customization cost for L-STAT custom design, including 2 working samples
LSTAT-800-GX-LX-CU	LSTAT-800 based custom design, Room Operator Panel, minimum quantity 100 pieces, enclosure G1: silver, G2: black, G3: white; custom print Lx, including 2 working samples, typical lead time 10 weeks
LSTAT-801-GX-LX-CU	LSTAT-801 based custom design, Room Operator Panel, minimum quantity 100 pieces, enclosure G1: silver, G2: black, G3: white; custom print Lx, including 2 working samples, typical lead time 10 weeks
LSTAT-802-GX-LX-CU	LSTAT-802 based custom design, Room Operator Panel, minimum quantity 100 pieces, enclosure G1: silver, G2: black, G3: white; custom print Lx, including 2 working samples, typical lead time 10 weeks
LSTAT-810-GX-LX-CU	LSTAT-800 based custom design, Room Operator Panel, minimum quantity 100 pieces, EnOcean optional, enclosure G1: silver, G2: black, G3: white; custom print Lx, including 2 working samples, typical lead time 10 weeks
LSTAT-812-GX-LX-CU	LSTAT-802 based custom design, Room Operator Panel, minimum quantity 100 pieces, EnOcean optional, enclosure G1: silver, G2: black, G3: white; custom print Lx, including 2 working samples, typical lead time 10 weeks

L-STAT Room Operator Panel

LSTAT-800, LSTAT-801, LSTAT-802

Order number	Product description
LSTAT-800-G3-L201	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L1): temperature up_down/occupancy/menu
LSTAT-800-G3-L202	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L2): temperature up_down/fan up_down/occupancy/menu
LSTAT-800-G3-L203	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L3): temperature up_down/fan up_down/light on_off/occupancy/menu
LSTAT-800-G3-L204	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L4): temperature up_down/sunblinds up_down/light on_off/occupancy/menu
LSTAT-800-G3-L205	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L5): temperature up_down/fan up_down/sunblinds up_down/occupancy/menu
LSTAT-800-G3-L206	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, IR receiver, Buttons (L6): temperature up_down/fan up_down/sunblinds up_down/light/menu
LSTAT-801-G3-L201	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L1): temperature up_down/occupancy/menu
LSTAT-801-G3-L202	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L2): temperature up_down/fan up_down/occupancy/menu
LSTAT-801-G3-L203	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L3): temperature up_down/fan up_down/light on_off/occupancy/menu
LSTAT-801-G3-L204	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L4): temperature up_down/sunblinds up_down/light on_off/occupancy/menu
LSTAT-801-G3-L205	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L5): temperature up_down/fan up_down/sunblinds up_down/occupancy/menu
LSTAT-801-G3-L206	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, Buttons (L6): temperature up_down/fan up_down/sunblinds up_down/light/menu
LSTAT-802-G3-L201	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L1): temperature up_down/occupancy/menu
LSTAT-802-G3-L202	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L2): temperature up_down/fan up_down/occupancy/menu
LSTAT-802-G3-L203	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L3): temperature up_down/fan up_down/light on_off/occupancy/menu
LSTAT-802-G3-L204	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L4): temperature up_down/sunblinds up_down/light on_off/occupancy/menu
LSTAT-802-G3-L205	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L5): temperature up_down/fan up_down/sunblinds up_down/occupancy/menu
LSTAT-802-G3-L206	Room Operator Panel, white front, white enclosure, Modbus, temperature, rel. humidity, ext. switch/NTC, occupancy, IR receiver, CO2, Buttons (L6): temperature up_down/fan up_down/sunblinds up_down/light/menu
L-RC1	Infrared remote control for room automation applications

A complete list of L-STAT models is available on our website www.loytec.com/lstat.

LSTAT-810-G3-L0, LSTAT-820-G3-L0, LSTAT-830-G3-L0

Datasheet #89077722



The L-STAT Remote EnOcean Antenna integrates wireless EnOcean sensors and devices seamlessly into building automation. The L-STAT Remote EnOcean Antenna only needs to be connected to the Modbus port.

The L-STAT Remote EnOcean Antenna is available in three different versions for worldwide use:

- LSTAT-810-G3-L0 Europe 868 MHz band
- LSTAT-820-G3-L0 USA/Canada 902 MHz band
- LSTAT-830-G3-L0 Japan 928 MHz band

In addition to the remote antenna capability, it also features a temperature and humidity sensor.

Features

- Supports all common EnOcean Profiles (EEPs) for sensors and actuators
- Configurable through device templates within the L-INX Configurator software
- Web interface for teach-in, signal strength, and value test through LOYTEC controller
- Easy device replacement
- Connected via Modbus RTU
- Support of multi-channel EnOcean devices
- Encrypted wireless connection if the EnOcean device supports this function
- Supports Mailbox function for sleepy actuators (e.g., battery-powered radiator valve)
- Up to 16 L-STAT Remote EnOcean Antennas per LOYTEC controller
- EnOcean Alliance certified

Specifications

Type	LSTAT-810-G3-L0	LSTAT-820-G3-L0	LSTAT-830-G3-L0
Dimensions (mm)	94.5 x 110 x 19.5 (L x W x H), DIM067		
Installation	Onto a flush-mounted box		
Power supply	24 VDC \pm 10 %, max. 0.4 W		
Operating conditions	0 °C to 50 °C, 10 – 90 % RH, noncondensing, degree of protection: IP30		
Interfaces	1 x RS-485 (ANSI TIA/EIA-485): Modbus RTU (Slave), bus speed 57 600 bit/s, address range 1-16 1 x EnOcean Wireless Interface conforming to ISO/IEC 14543-3-10		
Temperature measurement	Sensor type: CMOS, range: -40 – 125 °C, resolution: 0.1 °C, accuracy: \pm 0.5 °C (5 – 60 °C)		
Relative Humidity (R.H.)	Sensor type: capacitive humidity sensor, range: 0 % – 100 % R.H., resolution: 0.1 % R.H., accuracy: \pm 2 % R.H. @ 25 °C, 20 % – 80 % R.H. \pm 3 % R.H. @ 25 °C, 0 % – 20 % R.H. and 80 % – 100 % R.H., respectively		
Frequency	868.3 MHz	902.875 MHz	928.35 MHz
RF output power	3 dBm	1 dBm	0 dBm
EnOcean data rate	125 kbit/s		
Tools	L-INX Configurator		
Number of L-STAT antennas per LOYTEC controller (maximum)	16		
Number of EnOcean devices per L-STAT antenna (maximum)	30 (20 SmartAck)		
EnOcean Alliance certification	EnOcean Alliance certified	EnOcean Alliance certified	EnOcean Alliance certified

Order number

Product description

LSTAT-810-G3-L0	Remote EnOcean Antenna, Europe, White
LSTAT-820-G3-L0	Remote EnOcean Antenna, USA/CA, White
LSTAT-830-G3-L0	Remote EnOcean Antenna, Japan, White