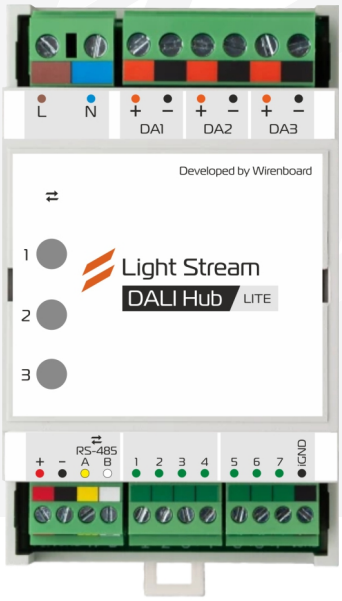
# Light Stream DALI Hub LITE

Product datasheet

Three-channel Modbus RTU — DALI-2 gateway, part number LS-DALI Hub. The Light Stream DALI Hub LITE connects an RS-485 bus to three independent DALI-2 (IEC 62386) buses and relays lighting commands from the upper-level system over Modbus RTU. Each bus has its own built-in 19.2 V power supply and its own protection. Drivers, ballasts and dimmers, as well as DALI-2 buttons and sensors, connect to the buses. DIN-rail mount enclosure.




## Features

### Three DALI-2 buses

Three independent DALI-2 buses compliant with the IEC 62386 standard in a single module. The full address space is supported for both controllable devices (IEC 62386-102) and control devices (IEC 62386-103).

### Built-in bus power supply

A dedicated 19.2 V power supply on each bus: 200 mA on DA1, and 100 mA each on DA2 and DA3. The power supply is switched on separately for each bus.

### Luminaires and sensors

Drivers, ballasts, dimmers, relays and colour control devices (DT0–DT8), as well as DALI-2 buttons, rotary controls, occupancy and light sensors. Control device events are forwarded to the upper-level system.

### Protection on every bus

Thermal protection, short-circuit protection and overvoltage protection. A protection trip on one bus does not affect the other two.

### Diagnostics

Bus status and power, communication errors, unresponsive devices, AC voltage or foreign DC voltage present on the bus, and driver temperature — all of this can be read over Modbus.

### Modbus RTU control

Isolated RS-485, Modbus RTU, speeds up to 115,200 bit/s. Scenes, groups and schedules are executed by the upper-level system.

### Batch transfer

A queue of 16 DALI frames per bus is written with a single Modbus request, and the response is stored separately for each frame.

### Bus indication

An illuminated button for each bus: red — the bus is inactive, green — active, blinking green — transfer in progress. Bus status is visible without a connection to the upper-level system.

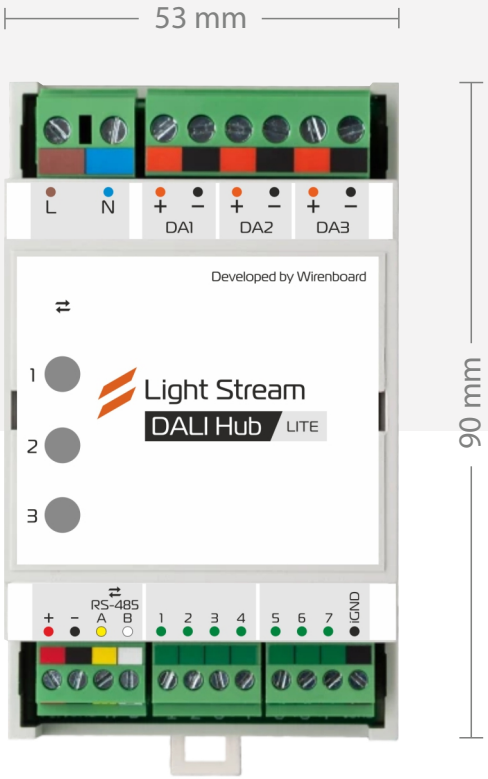
### Discrete inputs

7 dry-contact inputs with trigger counters. They recognise short press, long press, double press, and "short, then long" press.

### Firmware update

Firmware is updated over Modbus via the same RS-485 line; saved settings are preserved during the update.

# Dimensions




# Technical specifications

### Ergonomics

| | |
|---|---|
| Mounting | 35 mm DIN rail |
| Overall dimensions (W × H × D) | 53 mm • 90 mm • 58 mm |
| Weight (with box) | 169 g |
| Indication | S LED (Modbus communication),<br>3 buttons with bus-status backlighting |

### Interfaces

| | |
|---|---|
| DALI buses | 3 × DALI-2 (DA1, DA2, Da3), polarity-sensitive |
| Control interface | RS-485, isolated |
| Discrete inputs | 7, dry contact, group isolation |
| Inputs: voltage / contact current | ≈12 V DC / ~2 mA |
| Permissible input voltage | −20 to +40 V |
| Power and RS-485 terminals | V+, GND, A, B, 3.5 mm pitch |
| Wire cross-section with ferrules | control inputs: 0.35…1 $mm^2$ (twin ferrule 0.35…0.5 $mm^2$);<br>power: up to 2.5 $mm^2$ (twin ferrule up to 1.5 $mm^2$) |
| Ferrule sleeve length | 8 mm |
| Screw tightening torque | 0.2 N·m — control inputs, 0.5 N·m — power |

## Power supply

| | |
|---|---|
| RS-485 interface power | 9–28 V DC |
| DALI bus power supply input | 230 V AC |
| Power consumption | 0.4 W over DC, 3.6 W over AC |
| Ready after power-up | ~2 s |

## DALI

| | |
|---|---|
| Standard | DALI-2, IEC 62386 |
| Number of buses | 3 |
| Bus output voltage | DA1 — 200 mA, DA2 and DA3 — 100 mA each |
| Controllable devices | DT0–DT8 (IEC 62386-201…209) |
| Control devices | IEC 62386-301…304: buttons, rotary controls, occupancy and light sensors |
| Additional functions | DT49–DT52 |
| Brightness level | 0–254 |
| Thermal protection | bus power shuts off at +100 °C,<br>turns back on below +90 °C |
| Batch transfer queue | 16 frames per bus |

## Modbus

| | |
|---|---|
| Protocol | Modbus RTU |
| Address | 1–247, factory address on the label on the side of the enclosure |
| Baud rate | 1200–115,200 bit/s, default 9600 bit/s |
| Default port settings | 8 data bits, no parity, 2 stop bits |

## Operating conditions

| | |
|---|---|
| Operating temperature | от –40 до +60 °C |
| Humidity | up to 95%, non-condensing |
| Climatic design category (GOST 15150-69) | O2.1* |
| Service life | 5 years |

# Wiring

| Terminals | Purpose |
|---|---|
| V+, GND | 9–28 V DC power supply |
| A, B | RS-485 bus (Modbus RTU) |
| L, N | 230 V AC mains for the DALI bus power supplies |
| DA1, DA2, DA3 (+, –) | DALI-2 buses |
| Inputs 1–7, iGND | discrete inputs, triggered when shorted to iGND |

Wire the RS-485 bus in a daisy-chain line, no star topology, using twisted pair with terminators at both ends. Use flexible stranded wires with ferrule sleeves.

# Attention

- The gateway requires both voltages to operate: 9–28 V DC on V+/GND and 230 V AC on L/N.
- The DA ports are polarity-sensitive — observe the + and – markings.
- Do not overtighten the terminals: the screw connector can be damaged.

# Maintenance

Connecting cables and wires must be in good condition and securely fastened. If the device works properly and no new features are needed, installing updates is not required. Before updating, it is recommended to back up the settings so that you can return to the previous version.

# Safety

- Do not expose the device to rain or moisture — this will void the warranty.
- Do not remove the cover: there are no user-serviceable parts inside.
- Never connect the device to a dimmer.
- Never connect 0 V to electrical ground.

# Package contents

- Light Stream DALI Hub LITE

# Warranty

1-year limited manufacturer's warranty

**Warranty service is not provided:**

- for mechanical and other damage to the product caused by the buyer;
- for lamps, fuses, galvanic isolation and protection components;
- if the product was repaired by the buyer or by third parties;
- if the design of the product was modified;
- for equipment operated in violation of the power quality and capacity requirements of GOST 13109-97, under emergency conditions, or exposed to lightning strikes, fire or other extreme conditions;
- for product accessories (including cables, external power supplies, packaging) and parts not included in the delivery;
- if the wiring diagram or the rules of storage, transportation and operation were violated;
- if the product was exposed to chemicals or abrasive cleaning agents;
- if the product was used for purposes other than those stated in the datasheet;
- for damage caused by natural disasters or fire;
- if the manufacturer's (supplier's) label is missing.