Light Stream UPS LITE

Product datasheet

DIN-rail uninterruptible power supply, part number LS-UPS. Light Stream UPS LITE keeps the equipment in the cabinet from shutting down when the main power is lost: controllers, modules and sensors keep running from the built-in battery. Power is 15 W (up to 20 W for short periods); at full load it lasts about 1 hour. The battery status can be monitored from the control system over RS-485 (Modbus).



Features

No interruptions

When the main power is lost, the module switches the load to the battery seamlessly - the equipment does not reboot or shut down.

An hour of battery runtime

The built-in 15 Wh battery powers a 15 W load for about 60 minutes; at a lower load, it lasts longer.

Fits your power supply

The module works with power supplies from 10 to 27 V. The output voltage adjusts automatically to the input voltage or can be set manually.

Battery information

The battery charge level, voltages, currents and temperature are available to the control system. It can warn of a low battery in advance or shut down gracefully.

More power and runtime

Several modules can be connected in parallel - their power and runtime add up. For example, three modules hold a load of up to 35–40 W, and a 15 W load for more than three hours.

Long battery life

The module monitors the charge itself and does not charge the battery "to the limit" - this makes it last noticeably longer.

Battery protection

The battery is protected against overcharge, deep discharge, overload, short circuit and overheating. Charging in the cold is prevented.

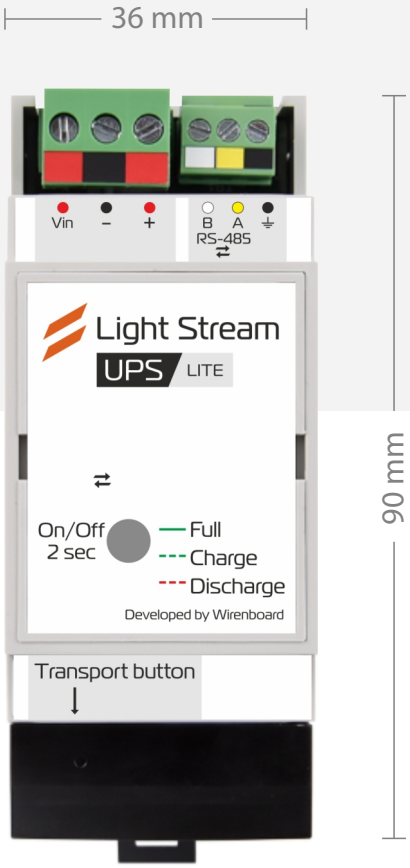
Storage and transport mode

The module can be put to "sleep" so that the battery does not discharge during storage and delivery, even when already mounted in a cabinet. It wakes up by itself when power is applied.

Backlit button

The button on the housing turns the module on and off and shows its state. Presses of the button can be used to control other devices in the system.

Dimensions



Technical specifications

Ergonomics

Mounting	35 mm DIN rail
Overall dimensions (W × H × D)	36 mm • 90 mm • 58 mm
Weight (with box)	185 g
Controls and indication	Button with state backlight

Interfaces

Control interface	RS-485, Modbus RTU
Power terminals	Vin, Vout, GND
Wire cross-section with ferrule	control inputs: 0.35…1 mm^2 (two wires in one ferrule — 0.35…0.5mm^2); power: up to 2.5 mm^2 (two wires — up to 1.5 mm^2)
Ferrule length	8 mm
Screw tightening torque	0.2 N·m — control inputs, 0.5 N·m — power

Power

Input voltage	10–27 V
Output voltage when running on battery	9–25 V
Rated power	15 W
Peak power	20 W
Power consumption while charging	up to 6 W (at a charge current of 600 mA)
Self-consumption from the input with a charged battery	up to 18 mA
Battery consumption when switched off	up to 210 mcA
Battery consumption in storage and transport mode	70 mcA

Battery

Cells	2 × Li-ion 18650, 3.6 V
Rated energy	15 Wh
Runtime at 15 W	60 min
End-of-charge voltage	8,1 V
Charge current	300–2000 mA, default 600 mA
Full charge time	up to 4.5 h
Battery temperature while charging	+5 to +50 °C
End-of-charge voltage	8,1 V
Battery temperature while running on battery	от –20 до +60 °C

Modbus

Protocol	Modbus RTU over RS-485
Address	1–247, factory address is on the sticker on the side of the housing
Speed	1200–115,200 bps, default 9600 bps
Voltage measurement limit	25,6 V
Firmware update	over RS-485, settings are preserved

Operating conditions

Air temperature	от –20 до +45 °C
Humidity	up to 95%, non-condensing
Storage temperature (recommended)	–5 to +35 °C
Service life	5 years

Connection

Terminals	Purpose
Vin, GND	input from the main power supply, 10–27 V
Vout, GND	uninterruptible output to the load

Control and status monitoring are over the RS-485 line. When connecting several modules in parallel, make the wires from each module to the common point the same length and the same cross-section.

Attention

- If the battery heats up above +60 °C, the module will switch off the output until it cools down. Do not place the module next to devices that heat up strongly — contactors, power supplies — and leave a gap of about 1 cm to neighboring devices.
- To get a power close to 15 W for the entire time of running on battery, the temperature in the cabinet must not exceed +30 °C.
- Parallel operation mode is enabled by default, and the output voltage may drop slightly in this mode. If there is only one module in the system and an exact voltage is required, this mode should be disabled.
- A charge level fluctuating roughly between 85 and 100% while power is applied is normal operation of the module, not a fault: the battery is topped up periodically rather than kept on constant charge.

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 UPS 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.