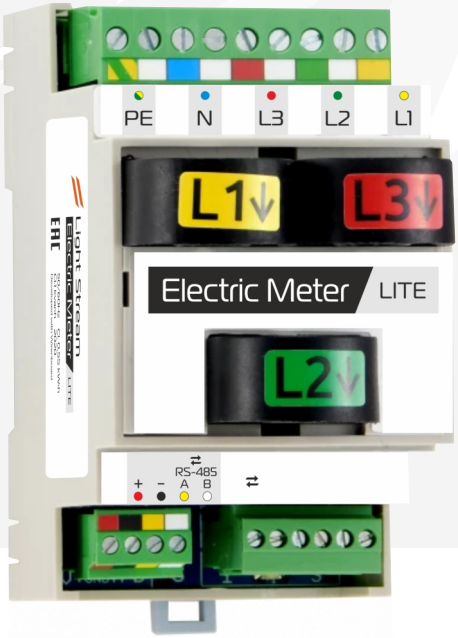
Light Stream Electric Meter LITE

Product datasheet

Three-phase electricity meter with RS-485 and Modbus RTU, part number LS-Electric Meter. Light Stream Electric Meter LITE shows how much energy each phase and the entire load consume, and transmits the data over RS-485 (Modbus RTU). Current transformers are already built in: the wire is simply passed through the hole, no calibration needed. Current up to 125 A, accuracy class 0.5S for active energy, captures surges from 300 ?s. A technical metering device for energy management and power quality monitoring. DIN-rail mounting.



Features

Per-phase energy metering

Counts the energy consumed separately for each phase and the total across all three. Accuracy class 0.5S for active energy and 1 for reactive energy.

All grid parameters in one device

Voltage, current, power (active, reactive, apparent, non-active), power factor, phase angles between current and voltage, frequency.

Bidirectional metering

Counts the energy drawn from the grid and the energy fed back into it. Accumulated values are not lost on power loss or firmware updates.

Power quality monitoring

Detects short current and voltage surges from 300 mc/s and stores the maximum value for the period — a spike is never missed between polls.

No external transformers needed

Three current transformers are built into the housing: a phase wire up to 9.5 mm is passed through the hole. Current up to 125 A is measured directly.

High currents

For currents above 125 A, it works with external transformers with a 5 A output and immediately outputs real values taking the ratio into account.

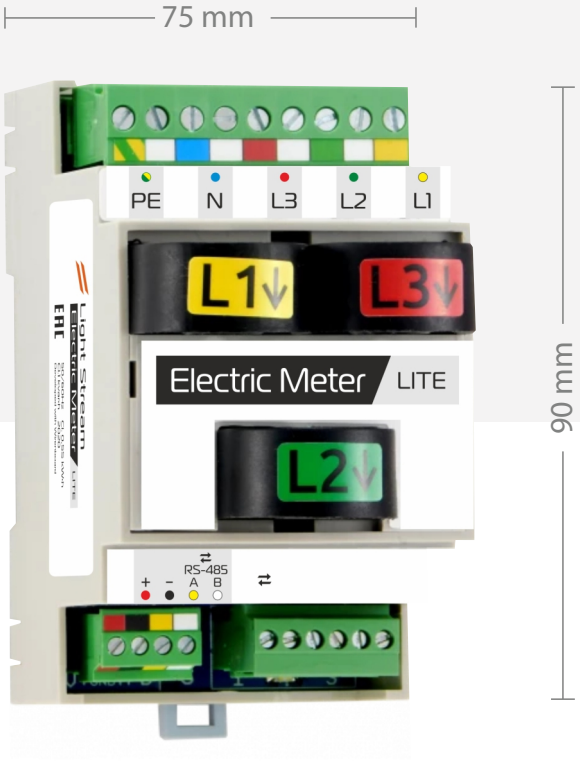
Three phases or one

Works as a single three-phase meter or as three single-phase meters. A phase wiring error can be corrected in the settings without rewiring.

Data to the control system

RS-485 with the Modbus RTU protocol, isolated from the mains. Measurements are updated every 320 ms, energy values instantly.

Dimensions



Technical specifications

Ergonomics

Mounting	35 mm DIN rail
Overall dimensions (W × H × D)	75 mm • 90 mm • 58 mm
Weight (with box)	195 g
Indication	S — Modbus exchange; CF1 — energy pulses

Measurement

Accuracy class	0.5S (active), 1 (reactive)
Channels	1 three-phase or 3 single-phase
Current transformers	built-in, no calibration needed
Rated current	5 A
Maximum current	125 A
Cable diameter through the transformer	up to 9.5 mm
Current and voltage surges	from 300 mcs
Measurement update rate	320 ms
CF1 pulse indicator	1000 pulses/kWh

Interfaces

Interfaces	RS-485, galvanically isolated
Power and RS-485 terminals	V+, GND, A, B; 3.5 mm pitch
Power terminals	L1, L2, L3, N, PE
Wire gauge with ferrule	control: 0.35–1 mm^2; power: up to 2.5 mm^2
Tightening torque	0.2 N·m (control), 0.5 N·m (power)

Power supply

Interface section	5.5–28 V DC
Measurement section	90–510 V AC, from any phase
Short-term on L1, L2, L3	1200 V for 10 ms
Consumption	0.9 W (average), 1.3 W (max)
Ready after power-on	~2 s

Modbus

Protocol	Modbus RTU
Address	1–247, factory default on the label on the side of the housing
Baud rate	1200–115,200 bps, default 9600
Default format	8N2
Firmware update	via RS-485

Operating conditions

Temperature	from –40 to +80 °C
Humidity	up to 92%, non-condensing
Climatic design category (GOST 15150-69)	O2.1*
Service life	16 years

Wiring

Terminals	Purpose
V+, GND	power for the interface section, 5.5–28 V DC
A, B	RS-485 bus
L1, L2, L3	phases A, B, C
N	neutral
PE	protective earth
Transformers L1(A), L2(B), L3©	the phase wire is passed through in the direction of the arrow towards the load

In a single-phase network, the phase is connected to L1.

Attention

- Be sure to connect the PE terminal to protective earth and N to the neutral.
- Modbus communication requires 5.5–28 V DC power on V+ and GND — power from the phases alone is not enough.
- The secondary winding of an external current transformer must always be either short-circuited or connected to the device — otherwise the transformer will be damaged.
- This is a technical metering device; it does not replace the utility company's billing meter.

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 Electric Meter 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.