Light Stream DI LITE

Product datasheet

8-input module for buttons, sensors, and meters, DIN rail, RS-485 (Modbus RTU), part number LS-DI. Light Stream DI LITE connects ordinary buttons, switches, sensors, and water, electricity, and gas meters to the control system. The module has 8 inputs: it detects every contact closure, counts pulses, and distinguishes different presses of the same button. Data is transmitted over RS-485 (Modbus RTU). Power supply 9–28 V, consumption 0.1 W.



Features

8 inputs for anything

Connect buttons, switches, reed switches, position sensors, and meters — anything that closes a contact. Up to eight devices in any combination.

Rotary knobs and encoders

Up to three AB encoders or up to two ABZ encoders can be connected — for example, a brightness control knob. The remaining inputs continue to work normally.

Metering water, electricity, and gas

The module counts pulses from meters. Readings are not reset when power is lost.

Fast signals

Counts pulses at frequencies up to 3.1 kHz and measures the input signal frequency.

Up to 4 commands from one button

The module distinguishes short, long, double, and "short then long" presses. Up to four different commands can be assigned to a single ordinary button.

Protection against wiring mistakes

The inputs withstand from −20 to +40 V: accidentally applying power to an input will not damage the module. Any buttons and cables will work.

No press is ever lost

The module counts presses itself, so the control system learns about a press even if it occurred between polls.

Testing without a computer

LEDs show the state of the inputs and the connection: close an input and you immediately see that the wiring is correct.

Dimensions



Technical specifications

Ergonomics

Mounting	35 mm DIN rail
Overall dimensions (W × H × D)	36 mm • 90 mm • 58 mm
Weight (with box)	90 g
Controls and indication	LEDs: inputs and RS-485 communication

Inputs

Quantity	8
Type	"dry contact", "open collector"; group isolation
Input voltage	about 12 V DC
Current on closure	about 2 mA
Permissible external voltage	−20 to +40 V
Pulse frequency	up to 9 Hz by default; up to 3.1 kHz
Press types	short, long, double, "short then long»
Encoders	up to 3 × AB or up to 2 × ABZ

Interfaces

Interface	RS-485, no galvanic isolation
Power and RS-485 terminals	V+, GND, A, B; 3.5 mm pitch
Wire cross-section with ferrule	0.35–1 mm^2 (single), 0.35–0.5 mm^2 (twin)
Tightening torque	0.2 N·m

Power supply

Supply voltage	9–28 V DC
Power consumption	0.1 W
Ready after power-on	~2 s

Modbus

Protocol	Modbus RTU
Address	1–247, factory address on the label on the side of the enclosure
Baud rate	1200–115,200 bps, default 9600
Default format	8N2
Firmware update	over RS-485, settings are preserved

Operating conditions

Temperature	от –40 до +80 °C
Humidity	up to 95%, non-condensing
Climatic design (GOST 15150-69)	O2.1*
Service life	5 years

Wiring

Terminals	Purpose
V+, GND	power supply 9–28 V DC
A, B	RS-485 bus
Inputs 1–8	buttons, switches, reed switches, meters, encoders
iGND	common wire for inputs: an input triggers when closed to iGND

Attention

- If devices on the RS-485 bus are powered from different sources, connect their GND terminals, otherwise communication will be unreliable.
- For an encoder, reduce the debounce time on its inputs to 2–5 ms — with the factory default of 50 ms, the encoder loses steps.

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 DI 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.