

SPT-86L

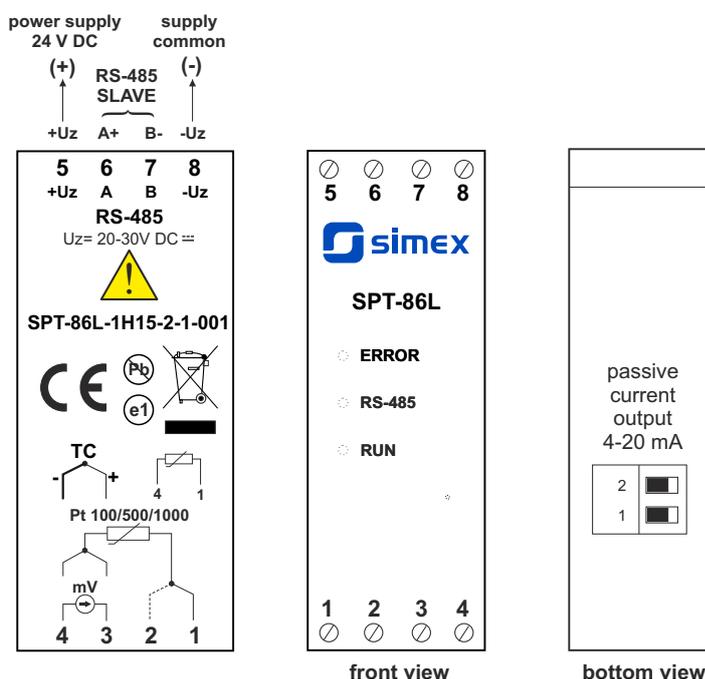
- temperature and voltage transmitter
- output signal 4-20 mA
- serial interface RS-485
- RTD, thermocouple or millivoltage input
- free data reading and configuration software
- DIN rail mounting



SPT-86L module is the insulated temperature and voltage to current in the 4-20 mA standard transmitter, and has possibility of data reading via RS-485 interface. It has one input (Pt 100/500/1000, thermocouples K/S/J/T/N/R/B/E, 0-60 / 0-75 / 0-100 / 0-150 mV) and one passive current output 4-20 mA. During the measurement one type of input can be used at a time only. The measurement inputs have full linearization of characteristics and automatic compensation of the cold junction temperature in the thermocouple mode. Pt mode handles three methods of connection: 2-, 3- and 4-wire. For the millivoltage input user can choose between linear, square, square root or user defined characteristics. In the basic configuration the measurement, after being processed, is given to the current output, but current output can be also controlled directly thru serial interface. For configuring and data reading RS-485 (Modbus RTU) interface is used. The device parameters can be set by the S-Config software, directly from PC level. Every unit can be factory pre-configured on request.

- alarm diode indicating over range or sensor failure,
- insulated power supply, measurement input and current output,
- peaks detection function,
- free selection of characteristics.

Connection terminals



Connection and principle of operation

The power supply, typically 24V DC, must be connected to the device and optionally a two-wire RS-485 interface. Correct operation of the device is indicated by flashing green LED (labeled **RUN**) on the front panel. Short flashes of the yellow LED (labeled **RS-485**) indicate transmission by the device. When the red LED (labeled **ERROR**) lights, it means that there is an error. This may mean that measured signal has exceeded the acceptable range, there has been a sensor failure or short circuit / disconnection of wires. Current output can be controlled on the basis of the measurement result or the value written through RS-485 interface.

Ordering

SPT-86L-1H00-1-1-001 : temperature transmitter, RS-485, no current output

SPT-86L-1H15-1-1-001 : temperature transmitter, RS-485, passive current output

Note:

S-Config software can be downloaded from SIMEX website at www.simex.pl

Technical data

Power supply voltage: 24V DC (16 - 30V DC), insulated

Power consumption: typically 0.65 W

Indication range: from -999 to 9999 + decimal point

Input:

- **millivoltage:** 0-60 mV, 0-75 mV, 0-100 mV, 0-150 mV, input resistance > 1.5 MΩ

- **RTD:** Pt 100, Pt 500, Pt 1000, measurement wires resistance: max. 20Ω (every wire); measurement range -100°C + 600°C

- **thermocouple:** K, S, J, T, N, R, B, E; input range K: -200°C + +1370°C;

S: -50°C + +1768°C; J: -210°C + +1200°C; T: -200°C + +400°C;

N: -200°C + +1300°C; R: -50°C + +1768°C; B: +250°C + +1820°C;

E: -200°C + +1000°C

accuracy of cold junction temperature compensation: ± 1°C

Accepted prolonged input overload: 20%

Accuracy: ± 0.1% @ 25°C (for TC N: ± 0.2% @ 25°C; for TC S, T, R, B: ± 0.5% @ 25°C)

Passive current output: range max. 3.4 + 24 mA,

load resistance 0... (Us - 9.5V) / 24 mA [kΩ]

Communication interface: RS-485, 8N1 and 8N2, Modbus RTU, not insulated from power supply

Data memory: non-volatile memory, EEPROM type

Operating temperature: 0°C to +50°C

Storage temperature: -10°C to +70°C

Humidity: 5 to 90% no condensation

Terminals protection: IP 20

Method of mounting: on the DIN rail 35 mm

Dimensions: 101 x 22.5 x 80 mm