



## SPT-86L

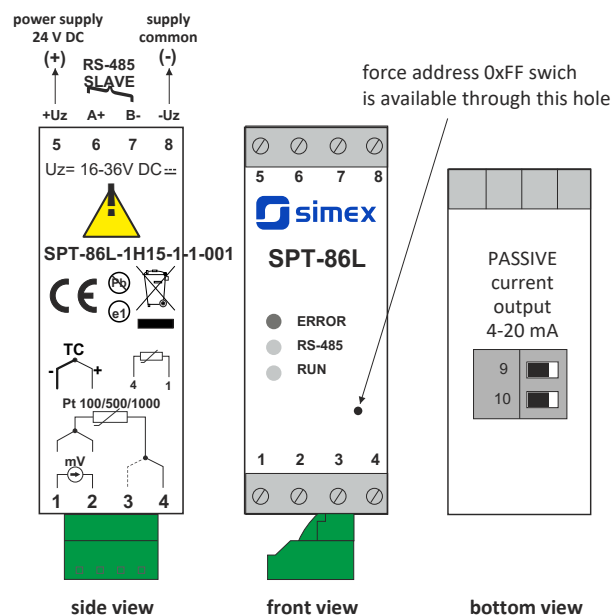
- temperature and voltage transmitter
- RTD, thermocouple or millivoltage input
- output signal 4-20 mA
- RS-485 / Modbus RTU
- peaks detection function
- free selection of characteristics
- free data reading and configuration software S-Config
- DIN rail mounting

**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.

### TECHNICAL DATA

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power supply / Power consumption | 10V ÷ 30V DC, insulated typically 0.65 W                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Input signal and ranges          | <b>millivoltage:</b> 0-60 mV, 0-75 mV, 0-100 mV, 0-150 mV, input resistance > 1,5 MΩ; accepted prolonged input overload +20% RTD: Pt100, Pt500, Pt1000, measurement wires resistance: max. 20Ω (every wire); measurement range: -100°C ÷ 600°C<br><b>thermocouple:</b> K, S, J, T, N, R, B, E; input range: -200°C ÷ +1370°C (K); -50°C ÷ +1768°C (S); -210°C ÷ +1200°C (J); -200°C ÷ +400°C (T); -200°C ÷ +1300°C (N); -50°C ÷ +1768°C (R); +250°C ÷ +1820°C (B); -200°C ÷ +1000°C (E) |
| Indication range                 | -999 ÷ 9999 + decimal point                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Accuracy                         | ± 0.1%@25°C (for TC N: ± 0.2%@25°C; for TC S, T, R, B: ± 0.5%@25°C); accuracy of cold junction temperature compensation: ± 1°C                                                                                                                                                                                                                                                                                                                                                          |
| Temperature stability            | 50 ppm/°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Output                           | passive current: range max. 2.8 ÷ 24 mA, load resistance 0... (Us - 9.5V) / 24 mA [kΩ], resolution: 12 bits                                                                                                                                                                                                                                                                                                                                                                             |
| Communication interface          | RS-485, 8N1 and 8N2, Modbus RTU, not isolated from power supply circuit                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Data memory                      | non-volatile memory, EEPROM type                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Software                         | S-Config 2 for configuration and data reading                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Operating temp.                  | 0°C ÷ +50°C (standard), -20°C ÷ +50°C (option)                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Storage temp.                    | -10°C ÷ +70°C (standard), -20°C ÷ +70°C (depending on option)                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Humidity                         | 5 to 90% no condensation                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Protection class                 | IP 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Mounting                         | DIN rail (35 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Dimensions                       | 101 x 22.5 x 80 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Weight                           | ok. 110 g                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

### WIRING



### ORDERING

**SPT-86L-1HXX-1-1-XX1**

**number of outputs:**

0

1

**type of outputs:**

0 : no output

5 : passive current output

**options:**

00 : no options

08 : operating temp. -20°C ÷ +50°C

**Note:**  
S-Config software can be downloaded from SIMEX website at [www.simex.pl](http://www.simex.pl)