IR remote controller
SIR-25

SUR-W410

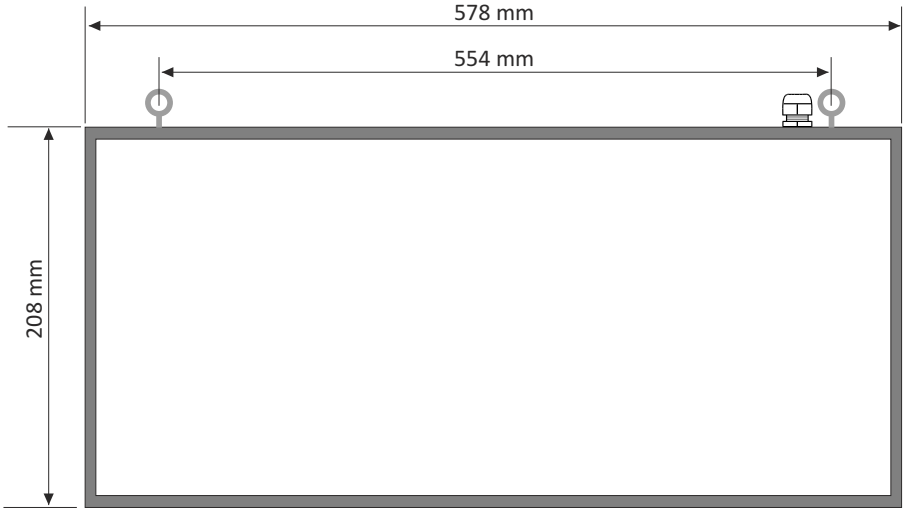
- **large-size universal meter**
- **100 mm LED display, red**
- **universal input: 0/4-20 mA, 0-10V, 0-150 mV, RTD or TC**
- **binary outputs REL / OC**
- **analogue output: active or passive, power supply output: 24V DC**
- **RS-485 / Modbus RTU**
- **signal peak value detection**
- **free configuration S-Config software**

The **SUR-W410** meter is equipped with one universal input, type: 0/4-20 mA, 0-10V, 0-150 mV, Pt 100/500/1000 or TC (K, S, J, T, N, R, B, E). During the measurement process only one kind of input is available. Due to wide range of characteristic curves (linear, square root, quadratic, user-defined and volume characteristic for cylindrical tanks) the meters may be used in various process control systems. As a main advantage, this device is equipped with a large, 100 mm high, LED display with brightness adjustable in 8 steps. The device has 4 buttons being used for main presets programming. To get high protection level, the keyboard is mounted under transparent cover. To allow user to change presets without opening the cover, an IR sensor is mounted. The 24V DC / 100 mA output is designed to supply measuring transducers, and the RS-485 port enables data transmission in production process monitoring systems. The REL / OC control outputs can adjust the level of measured signal and are controlled according to one or two threshold values. Moreover, the meter can be equipped with analogue outputs, according to the customer selection: active current output, passive isolated current output or active voltage output. The meter may be configured with no need to open the case, by using the remote controller or with free S-Config software via the RS-485 communication port.

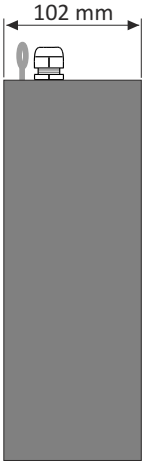
TECHNICAL DATA

Power supply **Power consumption**	19V ÷ 50V DC; 16V ÷ 35V AC or 85 ÷ 260V AC/DC, all separated for 85 ÷ 260V AC/DC: 33 VA max.; for 16V ÷ 35V AC: 22 VA max.; for 19V ÷ 50V DC: 15 W max.
Display	LED, red, 4 x 100 mm, with 8-step adjustment of brighness
Displayed values	-999 ÷ 9999 + decimal point
Input	current: 0-20 mA or 4-20 mA, input resistance < 65 Ω (typ. 30 Ω), overload-protected, input current limited to 50 mA; voltage: 0-5 V, 1-5V, 0-10V or 2-10V, input resistance > 100 kΩ milivoltage: 0-60 mV, 0-75 mV, 0-100 mV, 0-150 mV, input resistance > 1,5 MΩ thermoresistance: Pt100, Pt500, Pt1000 (automatic recognition of 2, 3 and 4-conductor connection, resistance compensation of connecting conductors to 20 Ω at any conductor); measuring range: -100°C ÷ 600°C thermocouple: type K, S, J, T, N, R, B, E; measuring 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 accepted prolonged input overload: 20%
Accuracy	0.1% @25°C ± one digit (inputs: current, voltage, milivoltage, thermoresistance, thermocouple K, J, E); 0.2%@ 25°C (thermocouple N), 0.5%@25°C (thermocouple S, T, R, B)
Stability	50 ppm/°C
Binary outputs	2 or 4 x REL I_{max}=1A, U_{max}=30VDC/250VAC (cosø=1) or OC I_{max}=30mA, U_{max}=30VDC, P_{max}=100mW
Analogue output (available with 2 x REL or OC, see ordering)	active current: operating range 0/4-20 mA (max. 0-24 mA), load resistance 700 Ω max., resolution 13 bit passive current: isolated, operating range 4-20 mA (max. 2,8-24 mA), load resistance 600 Ω@24VDC, resolution 13 bit active voltage: operating range 0/1-5V, 0/2-10V (max. 0-11V), load resistance min. 2000 Ω, resolution 13 bit
Power supply output	24V DC +5%, -10% / max. 100 mA, stabilized
Communication interface	RS-485, 8N1 and 8N2, 1200 bit/s ÷ 115200 bit/s, Modbus RTU (not galvanically isolated)
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)
Protection class	IP 30
Case	wall mounting; material: aluminium + methyl polimethacrylate
Dimensions (WxHxD)	578 x 208 x 102 mm

DIMENSIONS



Case dimensions and distances between mounting holes



Side view

OTHER MEASUREMENT UNITS ON DISPLAY

ORDERING

SUR-W410-R-J0-XXXX0-10-X-XX1-X

type of outputs:
0000 : no output
1100 : 2 x REL
2200 : 2 x OC
1111 : 4 x REL
2222 : 4 x OC
110D : 2 x REL + 1 x AO *(0/4-20 mA, active, non-isolated)*
1105 : 2 x REL + 1 x AO *(4-20 mA, passive, isolated)*
110E : 2 x REL + 1 x AO *(0/1-5V, 0/2-10V, active, non-isolated)*

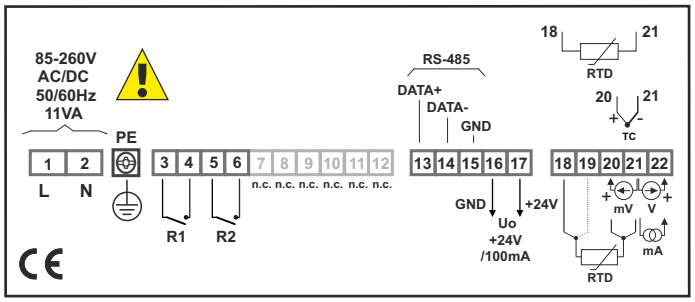
options:
00 : no options
08 : operating temp. -20°C ÷ +50°C

power supply:
3 : 24V AC/DC
4 : 85V - 260V AC/DC

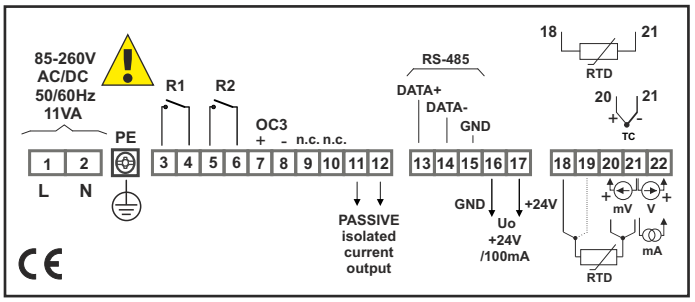
measurement unit:
0 : no measurement unit

°C	**MPa**
%	**Pa**
bar	**kW**
m	**W**
l/min	**Var**
A	**VA**
V	

EXAMPLARY PIN ASSIGNMENTS



version with 2 x REL



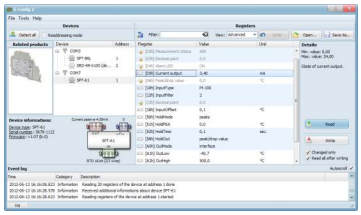
version with 2 x REL, 1 x OC and 1 x AO 4-20 mA, passive

REMOTE CONTROLLER

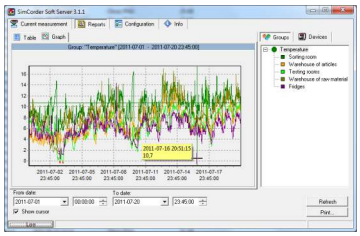
The **SIR-25** infraRed remote control may be used as external programming keyboard for all SIMEX devices equipped with IR receivers and remote programming functions. Pressing of any local IR controller key, causes transmission of it's code to the device. The remote control features a five-button keyboard, including the **F/Σ/RESET** function button dedicated to the operation of the devices in the following group: counters, flow meters, and tachometers. Functions of particular keys depend on devices features.

Power supply voltage: 3V DC - 1 lithium battery CR2032 type
Operation range: from 0,5 to 5 m (depend on programmed device features)

SOFTWARE



S-Config 2 is used for the simultaneous detection of devices in multiple Modbus RTU networks and allows user to change the configuration of most of them. For each detected device a list of its registers, which the user can modify, is displayed and also additional informations about device parameters (type, address in the network, etc.).
S-Config software can be downloaded from SIMEX website at **www.simex.pl**



SimCorder Soft is a visualisation application created to facilitate work with advanced networks of the SIMEX devices, for acquisition, visualisation, reporting, archiving, exporting and printing of measurement data from all network devices. You can download measurements from the devices automatically or on demand. There is a possibility of immediate notification about emergency states via SMS or e-mail, which will often allow to quickly resolve an arising problem while avoiding long and expensive stoppages. You can view the measurement data, emergency states and configuration via the internet at every time.

CONVERTERS

The **SRS-U4** converter is designed to connect a USB host to slave devices equipped with RS-485 interface. The PC with special software can be used as a host. The **SRS-U4** unit guarantees full galvanic isolation between USB and RS-485 circuits. The converter can work with any devices equipped with RS-485 interface and contains integrated circuit which supports USB 1.1 and USB 2.0 standards. The main purpose is connection of PC host computer with industrial data acquisition and visualisation systems based on RS-485 interface.
The **SRS-U4** can be also manufactured with DIN mounting adaptor.