IR remote controller
SIR-15

universal meter in tight, wall mounting case, IP 67
multicolour or ultra bright red, green and blue, 57 mm LED display
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-457** 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. As a main advantage, this device is equipped with a large, 57 mm high display offering ultra bright red, green and blue as well as multicolour LED's. Thanks to the tight housing with high (IP 67) protection degree, this device is particularly suitable for operations in harsh environments. 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. 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 19V ÷ 50V DC: max. 13,5 W; for 16V ÷ 35V AC: max. 19,5 VA; for 85 ÷ 260V AC/DC: max. 21 VA
Display	LED, 4 x 57 mm, multicolour or ultra bright red, green, blue (according to order)
Displayed values	-999 ÷ 9999 + decimal point
Input	<u>current:</u> 0-20 mA or 4-20 mA, input resistance < 65 Ω (typ. 30 Ω), overload-protected, input current limited to 50 mA; <u>voltage:</u> 0-5 V, 1-5V, 0-10V or 2-10V, input resistance > 100 kΩ <u>milivoltage:</u> 0-60 mV, 0-75 mV, 0-100 mV, 0-150 mV, input resistance > 1,5 MΩ <u>thermoresistance:</u> 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 <u>thermocouple:</u> 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)	<u>active current:</u> operating range 0/4-20 mA (max. 0-24 mA), load resistance 700 Ω max., resolution 13 bit <u>passive current:</u> isolated, operating range 4-20 mA (max. 2,8-24 mA), load resistance 600 Ω@24VDC, resolution 13 bit <u>active voltage:</u> 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 67
Case	wall mounting; material: ABS + glass fibre (standard); 100% glass fibre (on request)
Dimensions (WxHxD)	230 x 140 x 96,5 mm
Weight	1176 g max.

LED DISPLAY VERSIONS
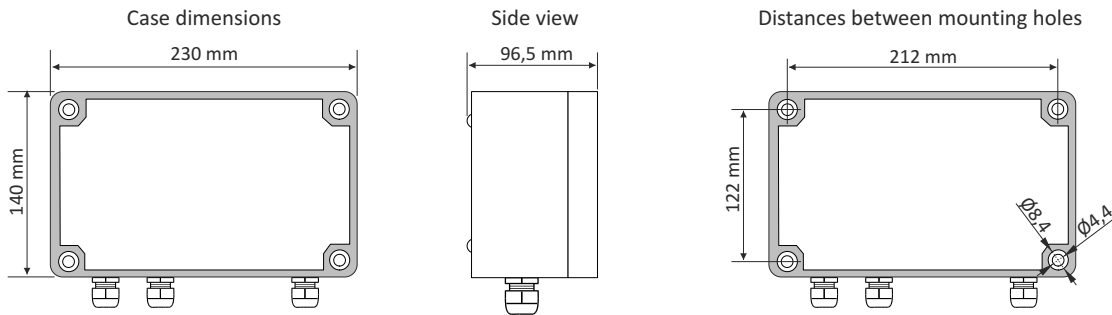
1. Ultra bright display
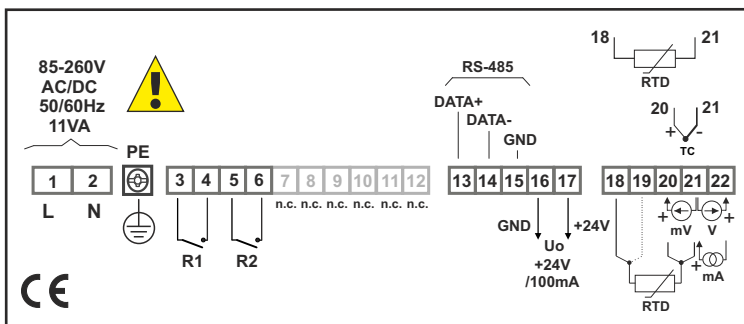
red

green

blue

2. Multicolour display

Device is also equipped with a display offering multicolour LED's. It allows any colour settings in the range of red to green with additional levels of 7 colours in between. An interesting feature is also change the display colour depending on the state of control outputs, such as alarm state will change from green to red, or otherwise declared by the user.
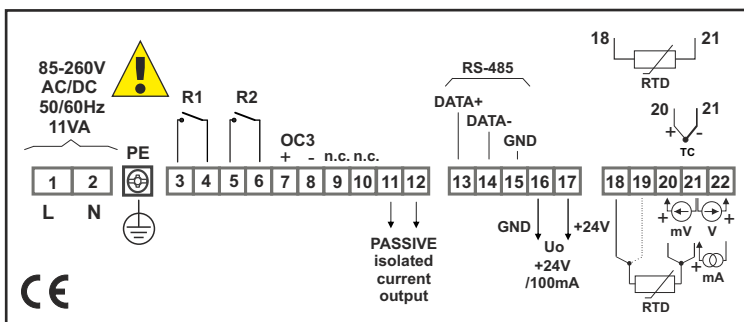
DIMENSIONS

Case dimensions

230 mm
140 mm

Side view

96,5 mm

Distances between mounting holes

212 mm
122 mm

Ø8,4   Ø4,4

EXAMPLARY PIN ASSIGNMENTS

85-260V AC/DC 50/60Hz 11VA

RS-485
DATA+
DATA-
GND

18   RTD   21
20   TC   21
18 19 20 21 22
mV   V
mA
RTD

PE

1 2   3 4 5 6 7 8 9 10 11 12
L N   n.c. n.c. n.c. n.c. n.c. n.c.

R1   R2

13 14 15 16 17
GND   Uo +24V /100mA   +24V

CE

version with 2 x REL

85-260V AC/DC 50/60Hz 11VA

R1   R2
OC3
+   -   n.c. n.c.

RS-485
DATA+
DATA-
GND

18   RTD   21
20   TC   21
18 19 20 21 22
mV   V
mA
RTD

PE

1 2   3 4 5 6 7 8 9 10 11 12
L N

PASSIVE isolated current output

13 14 15 16 17
GND   Uo +24V /100mA   +24V

CE

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

ORDERING

SUR-457-X-J0-XXXX0-10-X-XX1

display colour:
R : red, ultra bright
G : green, ultra bright
B : blue, ultra bright
M : multicolour

type of outputs:
1100 : 2 x REL
1200 : 1 x REL + 1 x OC
2200 : 2 x OC
1111 : 4 x REL
2222 : 4 x OC
1125 : 2 x REL + 1 x OC + 1 x AO *(4-20 mA, passive, isolated)*
112D : 2 x REL + 1 x OC + 1 x AO *(0/4-20 mA, active, non-isolated)*
112E : 2 x REL + 1 x OC + 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

REMOTE CONTROLLER

SIR-15
InfraRed remote controllers 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. Functions of particular keys depend on devices features.

Power supply voltage: 6V DC - 4 alkaline batteries type LR44
Operation range: from 0,5 to 5 m (depend on programmed device features)

SOFTWARE
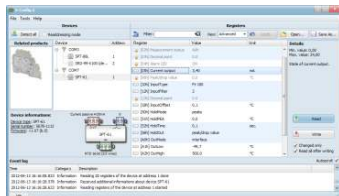
S-Config 2 is used for the simultaneous detection of devices in multiple Modbus RTU networks and allows user to change the configuration of most of them. For each detected device a list of its registers, which the user can modify, is displayed and also additional informations about device parameters (type, address in the network, etc.).
S-Config software can be downloaded from SIMEX website at **www.simex.pl**
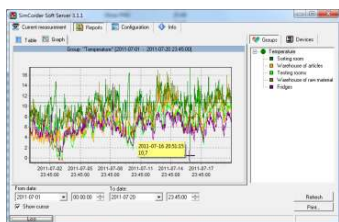
SimCorder Soft is a visualisation application created to facilitate work with advanced networks of the SIMEX devices, for acquisition, visualisation, reporting, archiving, exporting and printing of measurement data from all network devices. You can download measurements from the devices automatically 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** module 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.