PRODUCT OVERVIEW

Data recorders
Meters
Controllers
Counters
Sensors / Transmitters
Isolators / Converters
Power supplies
Accessories

2017 - 2018

Measure,
Control and Log Data

SIMEX Company exists on the market of industrial automation since 1986 as a manufacturer and distributor of test and measurement instruments. The scope of our manufacture includes equipment used to measure, control and record the temperature, humidity, pressure, level and flow. The test and measurement instruments offered are applicable in many industrial branches such as energy industry, heat engineering, mining, chemical, food and machine branch, and waste water handling.

Our commercial offer can be operationally adapted to the expectations of our Customers, by reacting quickly to trends and market needs. In addition to standard solutions, we produce the equipment as prepared jointly or customized. We arrange also information and training meetings in our company, and direct presentations of our equipment at Customer's sites.

Design of industrial control and manufacturing equipment

Manufacture of industrial digital meters, data loggers and counters

Distribution of industrial control and manufacturing equipment

Providing services in scope of the integration of automatic control systems

Warranty and after warranty maintenance (teleservice)
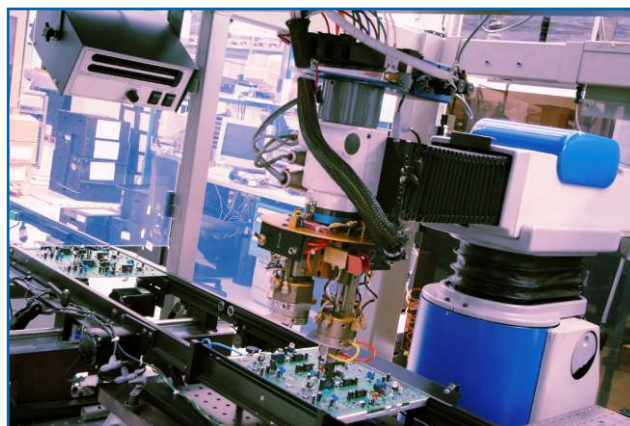
30 | simex

1986-2016

Services

We are specialized in designing the systems for weighing, among others, the storage and process tanks for food, and chemical and pharmaceutical industry.

SIMEX Ltd. specializes in advising on, designing and suppling industrial automation systems for the industry. We offer:

- advising on and technical consultancy,

- designing of automation systems - from simple few measuring points systems to more sophisticated and advanced control systems,

- assembling and supplying measuring and control instruments - our own meters as well as instruments manufactured by local and foreign companies,

- SCADA systems,

- installation and start up of designed systems,

- customer's training and support.

Transmitters / Displays / Controllers
for measuring and monitoring environmental parameters

ProSens

- ▪ transmitter, display, controller in one
- ▪ integrated humidity and/or temperature probe
- ▪ up to 2 universal inputs (I, U, RTD, TC)
- ▪ measuring and monitoring parameters such as:
  temperature, humidity, dew point etc.
- ▪ displays up to 4 independent parameters

ProSens is a series of modern industrial instruments that integrate the functionality of sensors, meters and controllers. Due to the applied technology, the devices of small external dimensions may be equipped with 2 independent universal inputs, binary control outputs, analogue outputs and RS-485 communication port, which supports the Modbus RTU protocol.

With the wide range of available variants, the **ProSens** series also offers models with integrated probes, including temperature and humidity sensors, which can be operated within an incredibly wide temperature range of -50 to +120°C. Measured values are converted into other values corresponding to humidity, such as dew point temperature, relative humidity and specific humidity.

A large local display and the available control outputs facilitate the adaptation of equipment to control systems. The implemented communication protocol makes the **ProSens** series a perfect solution for distributed monitoring systems.
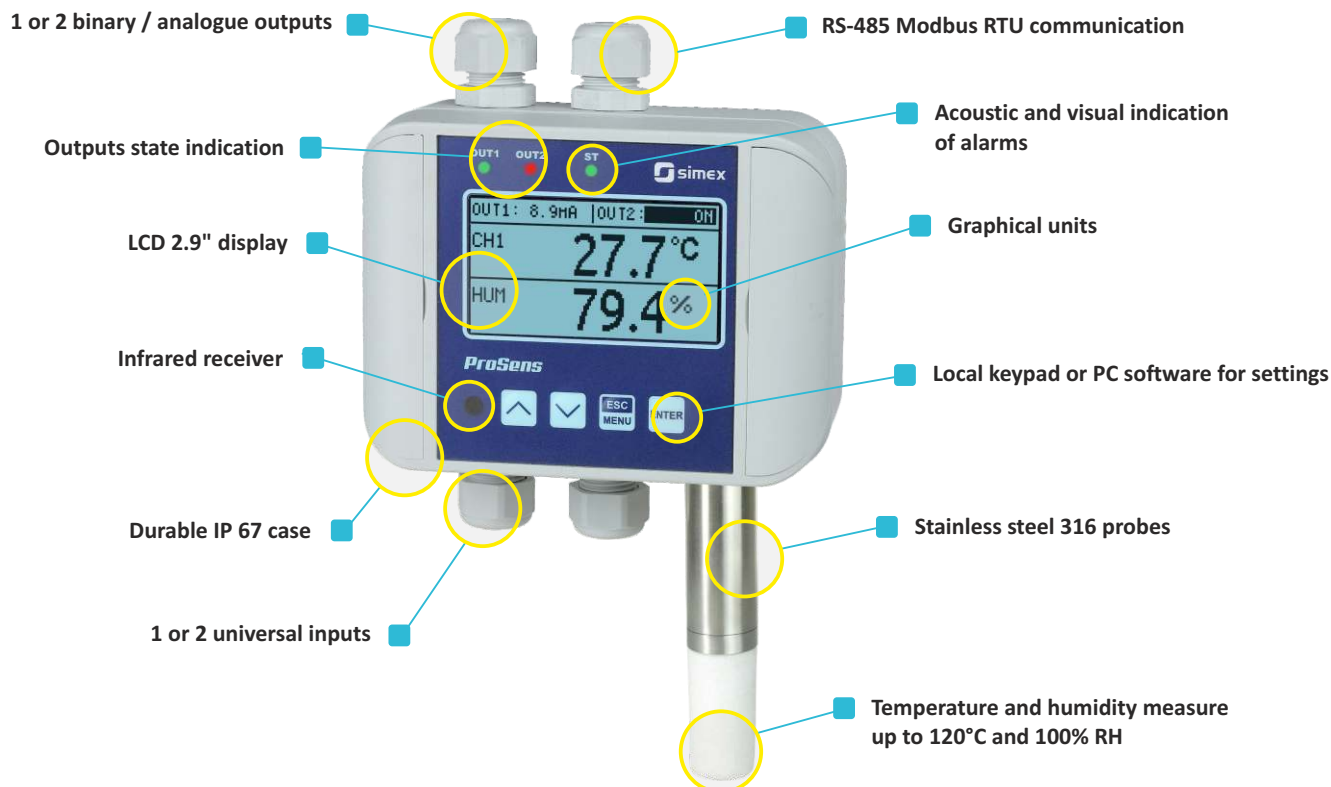
www.ProSens24.eu

Series	ProSens 100	ProSens 200		
Model	QM-100	QM-211	QM-212	QM-213
Power supply	24V DC (11 ÷ 36V DC), power consumption: 2.5 W max.			
Display	none or graphic LCD, 128 x 64 points, with backlight			
Measuring probe	none	radial, length 40 mm, Ø 18 mm, stainless steel 316L, PTFE filter cap	radial, length 90 mm, Ø 18 mm, stainless steel 316L, PTFE filter cap	radial, length 145 mm, Ø 18 mm, stainless steel 316L, PTFE filter cap
Measuring sensor	none	**temp.:** measuring range -30 ÷ 80°C, typ.err. ±0.5°C @ -10 ÷ 80°C **temp. & humidity:** measuring range -30 ÷ 80°C, typ.err. ±0.2°C @ 10 ÷ 60°C (0.4°C @ -30°C; 0.7°C @ 120°C); 0 ÷ 100% RH; typ.err. ±1.8% RH (10 ÷ 90% @ 25°C)	**temp.:** measuring range -30 ÷ 105°C; typ.err. ±0.5°C @ -10 ÷ 85°C **temp. & humidity:** measuring range -30 ÷ 105°C; typ.err. ±0.2°C @ 10 ÷ 60°C (0.4°C @ -30°C, 0.7°C @ 120°C); 0 ÷ 100% RH; typ.err. ±1.8% RH (10 ÷ 90% @ 25°C)	**temp.:** measuring range -50 ÷ 120°C; typ.err. ±0.5°C @ -10 ÷ 85°C **temp. & humidity:** measuring range -40 ÷ 120°C; typ.err. ±0.2°C @ 10 ÷ 60°C (0.4°C @ -30°C, 0.7°C @ 120°C); 0 ÷ 100% RH; typ.err. ±1.8% RH (10 ÷ 90% @ 25°C)
Number of inputs	0, 1 or 2 universal	0 or 1 universal		
Type of universal inputs	**current:** 0/4-20 mA; **voltage:** 0/1-5 V, 0/2-10V, 0-60 mV, 0-75 mV, 0-100 mV, 0-150 mV; **RTD:** Pt100, Pt500, Pt1000, measuring range: -100°C ÷ 600°C; **thermocouple:** type K, S, J, T, N, R, B, E; measuring ranges: -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**)			
Binary outputs	0, 1 or 2 electronic NO relays, 24V AC/35V DC, max. 200 mA			
Analogue outputs	0, 1 or 2: **active current:** operating range 0/4-20 mA (0-24 mA max.); **passive current:** isolated, operating range 4-20 mA (2.8-24 mA max.); **active voltage:** operating range 0/1-5V, 0/2-10V (0-11V max.)			
Communication interface	RS-485, 8N1 and 8N2, 1200 bit/s ÷ 115200 bit/s, Modbus RTU, not galvanically isolated			
Operating temperature	-30°C ÷ +80°C, case with electronics (out of range -20 ÷ +70°C LCD and IR receiver turn off)			
Protection class	IP 67 (version without display); IP 65 (version with display)			
Case	wall mounted, 120 x 90 x 50 mm, ASA LURAN			

Transmitters / Displays / Controllers
for measuring and monitoring environmental parameters

1 or 2 binary / analogue outputs

RS-485 Modbus RTU communication

Outputs state indication

Acoustic and visual indication of alarms

LCD 2.9" display

Graphical units

Infrared receiver

Local keypad or PC software for settings

Durable IP 67 case

Stainless steel 316 probes

1 or 2 universal inputs

Temperature and humidity measure up to 120°C and 100% RH

| Series	ProSens 400	ProSens 600		
Model	**QM-421 / 422**	**QM-612-XX-1 / QM-612-XX-3**	**QM-612-XX-2 / QM-612-XX-4**	**QM-621 / 622**
Power supply	24V DC (11 ÷ 36V DC), power consumption: 2.5 W max.			
Display	none or graphic LCD, 128 x 64 points, with backlight			
Measuring probe	axial, L=200 or 300 mm, Ø 12 mm, stainless steel 316L probe and filter cap	the external probe L=90 mm on the cable, Ø 18 mm, stainless steel 316L, PTFE filter cap	the external probe L=90 mm on the cable, Ø 18 mm, stainless steel 316L, PTFE filter cap, 5 pin M12 connector	the external probe L=200 or 300 mm on the cable, Ø 12 mm, stainless steel 316L probe and filter cap
Measuring sensor	<u>temp.:</u> measuring range -50 ÷ 120°C; typ.err. ±0.5°C @ -10 ÷ 80°C <u>temp. & humidity:</u> temp. measuring range -40 ÷ 120°C; typ.err. ±0.2°C @ 10 ÷ 60°C (0.4°C @ -30°C, 0.7°C @ 120°C); humidity measuring range 0 ÷ 100% RH; typ.err. ±1.8% RH (10 ÷ 90% @ 25°C)			
Number of inputs	0 or 1 universal			
Type of universal inputs	<u>current:</u> 0/4-20 mA; <u>voltage:</u> 0/1-5 V, 0/2-10V, 0-60 mV, 0-75 mV, 0-100 mV, 0-150 mV; <u>RTD:</u> Pt100, Pt500, Pt1000, measuring range: -100°C ÷ 600°C; <u>thermocouple:</u> type K, S, J, T, N, R, B, E; measuring ranges: -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**)			
Binary outputs	0, 1 or 2 electronic NO relays, 24V AC/35V DC, max. 200 mA			
Analogue outputs	0, 1 or 2: <u>active current:</u> operating range 0/4-20 mA (max. 0-24 mA); <u>passive current:</u> isolated, operating range 4-20 mA (max. 2.8-24 mA); <u>active voltage:</u> operating range 0/1-5V, 0/2-10V (max. 0-11V)			
Communication interface	RS-485, 8N1 and 8N2, 1200 bit/s ÷ 115200 bit/s, Modbus RTU, not galvanically isolated			
Operating temperature	-30°C ÷ +80°C, case with electronics (out of range -20 ÷ +70°C LCD and IR receiver turn off)			
Protection class	IP 67 (version without display); IP 65 (version with display)			
Case	wall mounted, 120 x 90 x 50 mm, ASA LURAN			

Stationary data recorders - **Multi**Con

- meter + controller + recorder + HMI in one package
- SCADALite - graphical data presentation
- controller modes: PD, PI, PID, ON/OFF
- mathematical and logical functions
- communication interfaces: Ethernet, RS-485 / Modbus RTU, USB Host
- built-in memory enabling for 125 000 000 records
- DAQ Manager software for maintenance

The MultiCon line instruments are advanced recorders with capability of control and measurement, closed in one compact case. They have been designed for both advanced and less demanding applications in industrial automatic control engineering. They feature a colour TFT display with a touch screen (3.5 or 5.7 inch, depending on version). Such a GUI is a pleasure to work with, and the operation of the MutiCon playing the HMI role is intuitive and comfortable. The kernel of the software is LINUX operating system, which ensures stable operation and enables installing advanced software.

www.multicon24.eu

MultiCon devices are equipped with a local touch screen (TFT LCD) that functions as an operator panel for configuration of the device and presentation of measured data. Easy change of the display mode for the individual channels is a very useful feature.
In the main configuration, data may be presented as:

- numerical values,
- quasi-analog indicators,
- phasor charts,
- horizontal or vertical charts,
- horizontal or vertical bars,
- simultaneous presentation of many groups.
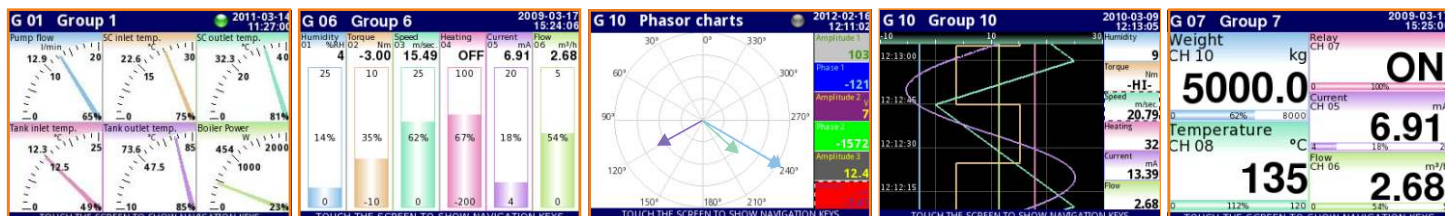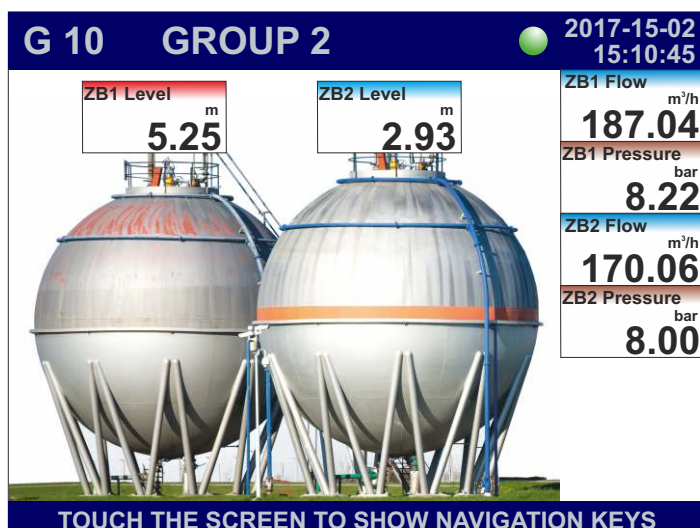
MultiCon SCADALite

NEW

SCADALite is a functionality allowing for process management directly from the MultiCon screen.
Information important for the operator can be presented in graphical form, including animations, dynamic charts, the most important numbers and, in the case of alarm, also sounds. SCADALite enables definition of a specified number of screens to present different range of the required information.
The specified measurement parameters can be included in the graphics that reflects the monitored process/facility by means of a photo or drawing.
SCADALite is an innovation in data presentation.

Stationary data recorders - MultiCon

- up to 72 analogue / digital inputs
- IP 65 front panel protection
- Ethernet
- 2 x USB Host ports
- MultiModbus - up to 3 x RS-485 interfaces
- HMI / SCADA
- HTML5 widgets
- a wide range of I/O modules

- max. 10 Hz sampling frequency
- 3.5" / 5.7" LCD touchscreen
- PC keyboard and mouse operation
- PID control
- profiles / timers
- mathematical functions
- visualization as digits, graphs, bargraphs, needles
- 125 000 000 records
- free DAQ Manager software

Data recording

The distinguishing feature of **MultiCon** is its capability of simultaneous implementation of tasks related to measurements, processing, control and recording of data.
Internal memory of **1.5 GB** is sufficient for over **125 000 000** records!, meaning that even in the intensive sampling mode (every second) you can record data, for example, from 24 channels for 2 months.

	intense (every 1 sec.)	medium (every 10 sec.)	economy (every 1 min.)
60 channels	20 days	6 months	3 years
48 channels	30 days	8 months	4 years
24 channels	50 days	15 months	7 years

Input / output / communication cards for CMC-99/141

Input cards	
UN3	3 x universal inputs U/I/RTD/TC/mV, isolated
UN5	5 x universal inputs U/I/RTD/TC/mV, isolated
UI4	4 x voltage input + 4 x current input
UI8	8 x voltage input + 8 x current input
UI12	12 x voltage input + 12 x current input
U16	16 x voltage input
U24	24 x voltage input
IS6	6 x current input, isolated
I16	16 x current input
I24	24 x current input
UI4N8	4 x voltage input + 4 x current input + 8 x NTC input
UI4D8	4 x voltage input + 4 x current input + 8 x digital input
UI8N8	8 x voltage input + 8 x current input + 8 x NTC input
UI8D8	8 x voltage input + 8 x current input + 8 x digital input
RT4	4 x RTD input
RT6	6 x RTD input
TC4	4 x TC input
TC8	8 x TC input
TC12	12 x TC input
D8	8 x digital input
D16	16 x digital input
D24	24 x digital input
CP2	2 x pulse input, universal counters
CP4	4 x pulse input, universal counters
FT2 or FT4	2 or 4 x pulse input (for flow/rate applications, each to display both actual & total flow/rate) and 2 or 4 x current input (for general purpose measurement)
FI2 or FI4	2 or 4 x current input (for flow/rate applications, each to display both actual & total flow/rate) and 2 or 4 x current input (for general purpose measurement)
HM2	2 x hourmeters, isolated
HM4	4 x hourmeters, isolated

Power supply cards	
PS32	19 ÷ 50V DC, 16 ÷ 35V AC
PS42	85 ÷ 260V AC/DC

Communication cards	
USB	USB port (rear)
ETU	1 x USB Host, 1 x Ethernet 10 Mb/s
ACM	1 x RS-485, 1 x RS-485/232, 1 x USB Host, 1 x Ethernet 10 Mb/s

Output cards	
R81	8 x SPST relay 1A output
R121	12 x SPST relay 1A output
R45	4 x SPDT relay 5A output
R65	6 x SPDT relay 5A output
S8	8 x SSR output
S16	16 x SSR output
S24	24 x SSR output
IO2	2 x 4-20 mA output, isolated
IO4	4 x 4-20 mA output, isolated
IO6	6 x 4-20 mA output, isolated
IO8	8 x 4-20 mA output, isolated

CMC-99 examplary configuration

- RS-485
- power supply
- USB Host
- sensor supply 24V DC / 200 mA
- digital input 24V DC
- Ethernet
- RS-232
- TC cold junction compensation
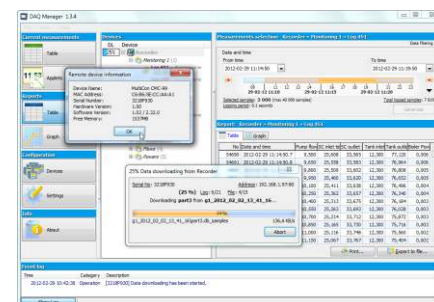- replaceable input / output cards
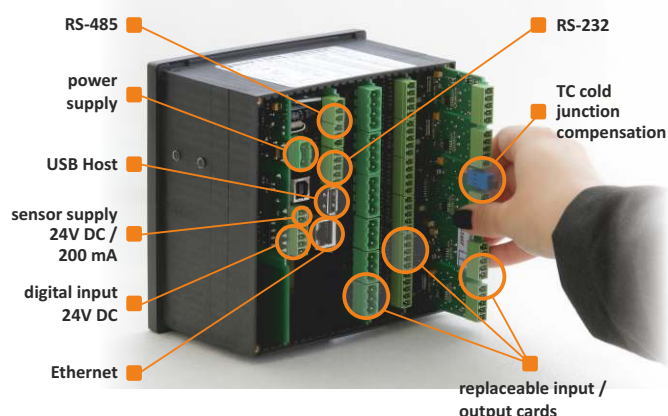
Stationary data recorders - MultiCon

The MultiCon line devices equipped with Ethernet port allow also a very easy remote monitoring of measurement results using a web browser, as well as a very attractive graphical presentation in the form of built-in or user-created websites. Along with the device, the manufacturer supplies a set of built-in visual components which using the HTML5 protocol, provide the programmers with easy mechanisms to retrieve data from the device, as well as ready-to-use formats of data presentation on the computer, tablet or mobile phone screen.

export csv file
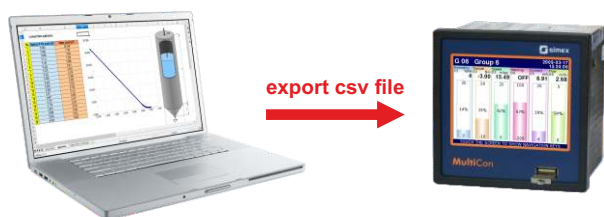
The **LookUp Table** - the user characteristics function - a great tool which allows entering individual points of the characteristics in the form of a csv file, and then importing them to any MultiCon logical channel. Edytowaną listę można zapisać w nowym pliku i wykorzystać do skalowania innego kanału. The edited list may be saved, from the device level, in a new file and used to scale another channel.

DAQ Manager software is used for service of data loggers **MultiCon** type. The software allows to visualize recorded data in the form of graphs and tables, group measurement results, create reports and export data into other files.

	CMC-99	CMC-141	CMC-N16
Power supply	19 ÷ 50V DC, 16 ÷ 35V AC or 85 ÷ 260V AC/DC; 15 VA typ., 20 VA max.	19 ÷ 50V DC, 16 ÷ 35V AC or 85 ÷ 260V AC/DC; 25 VA typ., 35 VA max.	19 ÷ 50V DC, 16 ÷ 35V AC or 85 ÷ 260V AC/DC; 15 VA typ., 20 VA max.
Display	3.5" graphic TFT, 320 x 240 pixels + touchscreen navigation	5.7" graphic TFT, 320 x 240 pixels + touchscreen navigation	3.5" graphic TFT, 320 x 240 pixels + touchscreen navigation
Measuring inputs	- up to 9 universal - up to 48 analogue - up to 24 TC - up to 12 RTD (Pt, Ni, Cu) - up to 24 NTC - up to 12 counters, flow- or ratemeters - mixed: analogue-NTC or analogue-digital	- up to 15 universal - up to 72 analogue - up to 36 TC - up to 18 RTD (Pt, Ni, Cu) - up to 24 NTC - up to 12 counters, flow- or ratemeters - mixed: analogue-NTC or analogue-digital	- 2 or 4 universal - 2 universal pulse counter / ratemeter (max. freq. 5 kHz)
Digital inputs	- up to 49 digital *	- up to 73 digital *	- up to 5 digital *
Outputs	- up to 8 analogue - up to 16 SPST relay 1A/250V - up to 4 SPDT relay 5A/250V - up to 48 SSR	- up to 24 analogue - up to 36 SPST relay 1A/250V - up to 18 SPDT relay 5A/250V - up to 72 SSR	- 2 or 4 analogue 4 ÷ 20 mA - 2 or 4 SPST relay 1A/250V - 2 or 4 SSR passive (OC with PWM) - mixed outputs: REL / 4 ÷ 20 mA / SSR
Sensor supply	- 1 x 24V DC ±5%, max. 200 mA	- 1 x 24V DC ±5%, max. 200 mA	- 1 x 24V DC ±5%, max. 200 mA
Communication interface	**Basic version**: RS-485, 1 x USB Host (front or back), **ETU**: 1 or 2 x USB Host, 1 x Ethernet 10 Mb/s **ACM**: 2 x RS-485, 1 x RS-485/232, 1 or 2 x USB Host, 1 x Ethernet 10 Mb/s		**Basic version**: RS-485, 1 x USB Host **ETE**: 1 x Ethernet wired via gland to RJ45 built-in connector **ETEC**: 1 x Ethernet wired to M12 connector **ETR**: 1 x Ethernet wired via gland to RJ45 built-in connector + 2nd RS-485 **ETRC**: 1 x Ethernet wired to M12 connector + 2nd RS-485
IP rate protection	IP 65 or IP 40 (with front USB), available additional frame IP 65 for panel cut-out sealing and transparent door IP 54 with key		IP 65
Operating temp.	0°C ÷ +50°C (option -20°C ÷ +50°C) / -10°C ÷ +70°C (option -20°C ÷ +70°C)		
Case dimensions (WxHxD)	panel mount, 96 x 96 x 100 mm	panel mount, 144 x 144 x 100 mm	wall mount, 166 x 161 x 103 mm (without glands); 166 x 191 x 103 mm (with glands)

one digital input is available in standard, integrated with power supply modules

Stationary data recorders - **Multi**Log

- universal inputs: TC + RTD or mA + V (SRD-99)
- fixed inputs: TC, RTD, mA, V (SRD-N16)
- 2 relay outputs
- display backlight: amber or white
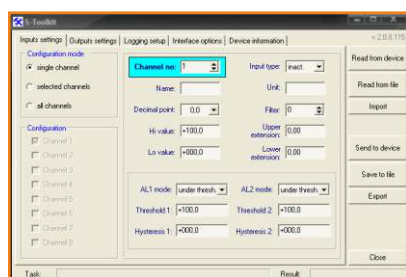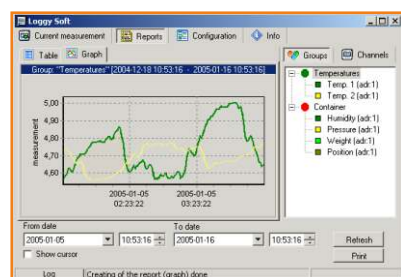- panel or wall mount IP 65 case

NEW

The **MultiLog** line instruments have been designed to display and record current values, as well as to present technological parameters in the form of graphs. The devices are equipped with up to 8 measuring inputs. The panel version, **SRD-99**, operates universal temperature (RTD+TC) or analogue (mA, V) inputs, which enables connecting different types of sensors to one device, while the wall mounted version, **SRD-N16**, operates fixed inputs. A USB flash drive enables a significant simplification of the unit application: it is no longer necessary to connect a PC and data logger via the RS-485 interface, data downloading can be completed 10 times sooner than in case of using the RS-485 interface.
The **MultiLog** is equipped with 2 relay outputs. The main function of the outputs is to signal critical situations, but thanks to the expanded menu it is possible to use it in numerous control and regulation applications. Both outputs can be driven by a single measurement channel or by a group of channels (from 1 to 8 channels) with individually adjustable thresholds for every measurement channel. Signalising output states is displayed in two fields, R1 and R2, in the left upper corner of the LCD screen.

Free software to work with data recorder:

- **S-Toolkit** : enables reading and writing configuration, updating the device firmware, and obtaining basic information through the RS-485 interface,
- **Loggy Soft**: enables visualising, archiving, and printing the measurements stored in the MultiLog device memory.

|	SRD-99X	SRD-N16
Power supply	19 ÷ 50V DC, 16 ÷ 35V AC or 85 ÷ 260V AC/DC; 7 VA typ., 12 VA max.	19 ÷ 50V DC; 16 ÷ 35V AC or 85 ÷ 260V AC/DC; 3 VA typ.; 5 VA max.
Display	graphic LCD, 128 x 64 points, with backlight (amber or white)	
Measuring inputs	1, 4 or 8 x 0/4-20 mA, 0/1-5 V, 0/2-10V or mixed; 1, 4 or 8 x Pt100/Pt500/Pt1000, TC K, S, J, T, N, R, B, E or mixed;	1, 4 or 8 x 0/4-20 mA, 0/1-5 V, 0/2-10V; Pt100/Pt500/Pt1000 or TC K, S, J, T, N, R, B, E;
Digital inputs	1 x 24V DC, optocoupled	1 x 24V DC, optocoupled
Measuring range	**current/voltage**: ± 9999 + decimal point; **RTD**: -100,0°C ÷ +600,0°C /-148,0°F ÷ +999,9°F; **TC**: -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**); 0-60 mV, 0-75 mV, 0-100 mV lub 0-150 mV	
Outputs	2 electronic relays with max. load 24V AC (35V DC) / 200 mA	2 relays (R1, R2), I_{max}=1A, U_{max}=30VDC/250VAC (cosφ=1)
Sensor supply	1 x 24V DC ±5%, max. 200 mA (only 0/4-20 mA version)	
Data recording period	1 s / 2 s / 5 s / 10 s / 15 s / 20 s / 30 s / 1 min / 2 min / 5 min / 10 min / 15 min / 20 min / 30 min / 60 min	
Communication	RS-485 (Modbus RTU), 1200 ÷ 115200 bit/s, USB PC, USB Host port	
Data memory	8 MB internal; above 3 000 000 records	
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)	
IP rate protection	IP 65 or IP 40 (with front USB), available additional frame IP 65 for panel cut-out sealing and transparent door IP 54 with key	IP 65
Case dimensions	panel mount, 96 x 96 x 100 mm	wall mount, 166 x 161 x 103 mm (without glands), number of glands depends on number of channels - 1 channel: 2 x M20, 1 x M16; 4 channels: 2 x M20, 1 x M16; 8 channels: 2 x M25, 1 x M20, 1 x M16

DAQ systems - TRS

- **acquisition, recording and sharing of data on temperature and humidity**
- **RS-485 / Modbus RTU communication**
- **possibility of connecting up to 127 modules on the RS-485 line in one network**
- **easy to operate**
- **SimCorder PC software supporting the system**

The temperature and humidity recording **TRS** system consists of a wide range of measuring instruments and the SimCorder PC software. Its main tasks can include: acquiring, recording, and sharing information on temperature and humidity, e.g. in cold rooms or production halls. The **TRS** system's main feature is its ease of mounting, so that a purchaser could install it by themselves.

CLIENT

SERVER

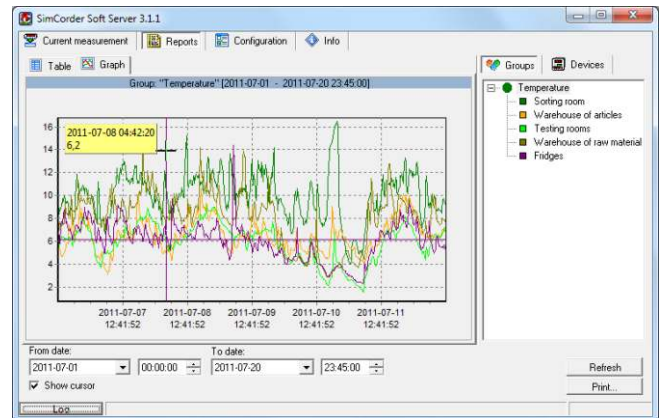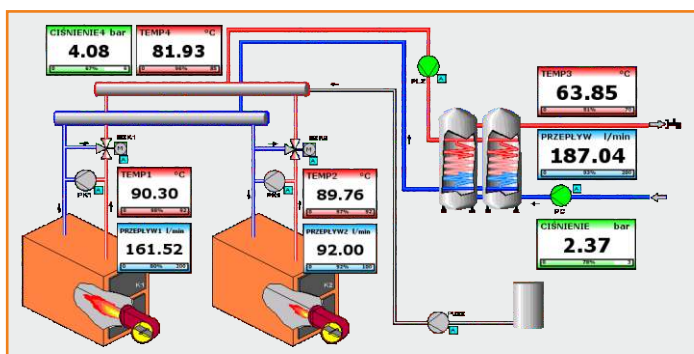**TCP/IP**

MODBUS RTU MASTER

PHYSICAL OUTPUTS
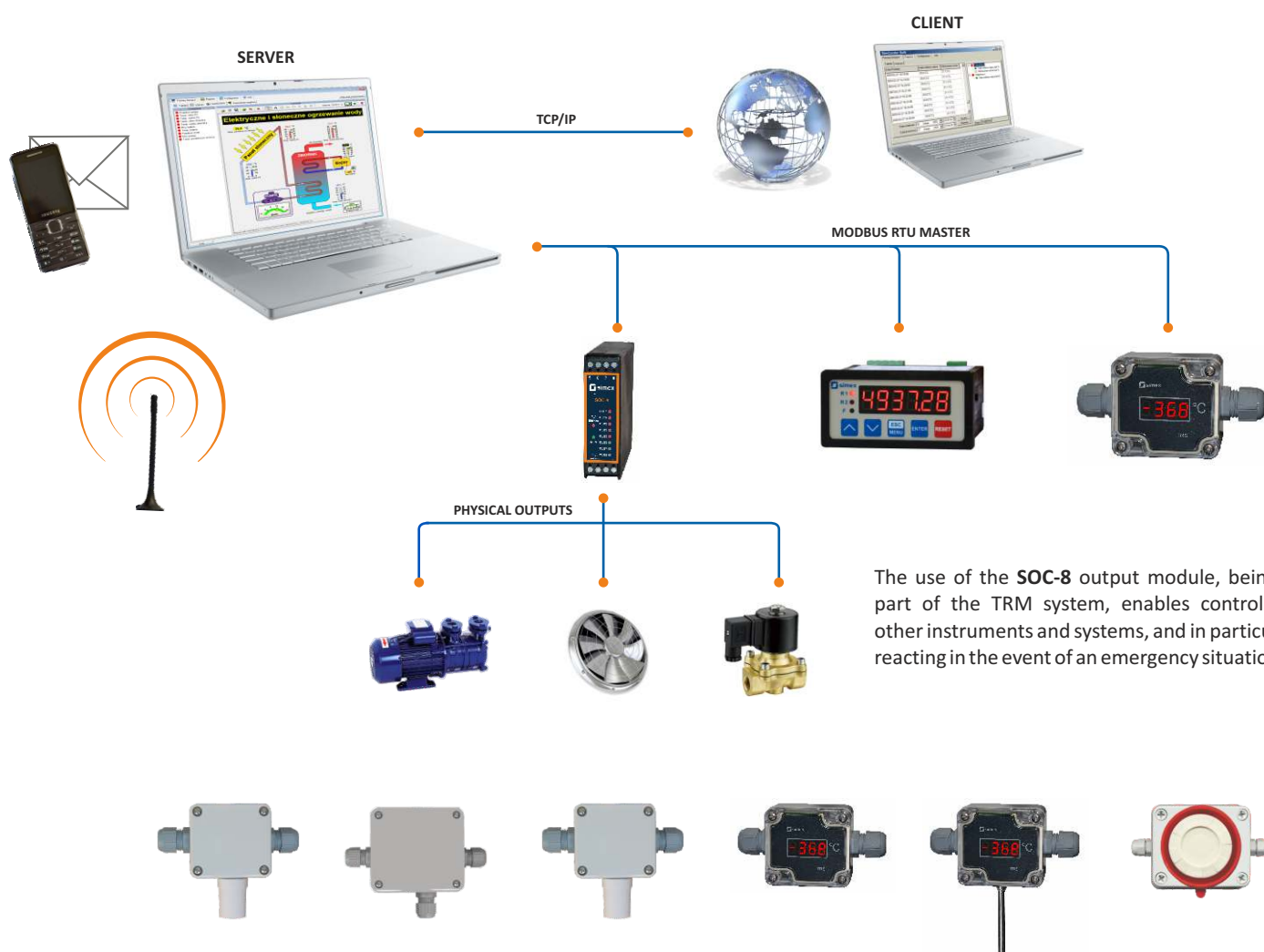
The use of the **SOC-8** output module, being a part of the TRM system, enables controlling other instruments and systems, and in particular reacting in the event of an emergency situation.

	TRS-01a	TRS-02a	TRS-04a	TRS-10a	TRS-11a	TRS-B1a
Measuring sensor	temperature sensor (semiconductor integrated circuit)	Pt 100 sensor	temperature sensor (semiconductor integrated circuit); humidity sensor	-	temperature sensor (semiconductor integrated circuit)	-
Range / Error	-40 ÷ +85°C / ±0,5°C (-10 ÷ +50°C)	-50 ÷ +550°C / ±0,2%	0 ÷ +70°C / ±0,5°C 0 ÷ 100% RH / ±2% RH	-	-40 ÷ +85°C / ±0,5°C (-10 ÷ +50°C)	-
IP rate protection	IP 65	IP 65	IP 65	IP 65	IP 65 (case) IP 40 (sensor)	IP 65
Comments	-	required external Pt 100 sensor	-	display 4 x 9 mm	display 4 x 9 mm	sound or light signal

DAQ systems - SimCorder Soft

- easy software configuration
- ability to send email notifications and SMS
- extended reporting systems
- graphical process visualisation
- operates with SIMEX instruments equipped with Modbus RTU SLAVE

SimCorder Soft visualisation software was created to improve the operation with extended networks of SIMEX Company's devices. Acquisition, archiving, visualisation, reporting, and exporting measurement data from all the devices in the network has become extremely easy. You need only one computer. SimCorder Soft communicates with equipment via RS-485/Modbus RTU interface and automatically reads measurement data from it.

The **network** module provides a preview of measurement data, alarm status, and device configuration via the Ethernet/Internet. Up to 10 various computers (terminals) can be connected to the Server of data via TCP/IP, depending on the license selected.

A more advanced **SemiSCADA** visualization allows you to graphically present a process status, which greatly facilitates the observation and analysis to persons being responsible for service and maintenance.

The **SimCorder Soft Alarm** offers wide possibilities to react to a system alarm state. The software can send notification alarms by SMS and e-mail to relevant telephone numbers and e-mail accounts. The SimCorder can also run actuators giving an immediate response if the system fails.

IN SIMCORDER SOFT OFFER THERE ARE FOLLOWING LICENSES:

SB   SimCorder Soft Basic USB License Dongle

SBS   SimCorder Soft Basic & semiSCADA USB License Dongle

SA   SimCorder Soft Alarm (software with SMS and e-mail alarm functions) USB License Dongle

SAS   SimCorder Soft Alarm (software with SMS and e-mail alarm functions) & semiSCADA USB License Dongle

SN3   SimCorder Soft Network (licence for 3 PC stations) USB License Dongle

SNS3   SimCorder Soft Network (licence for 3 PC stations) & semiSCADA USB License Dongle

SN10   SimCorder Soft Network (licence for 10 PC stations) USB License Dongle

SNS10   SimCorder Soft Network (licence for 10 PC stations) & semiSCADA USB License Dongle
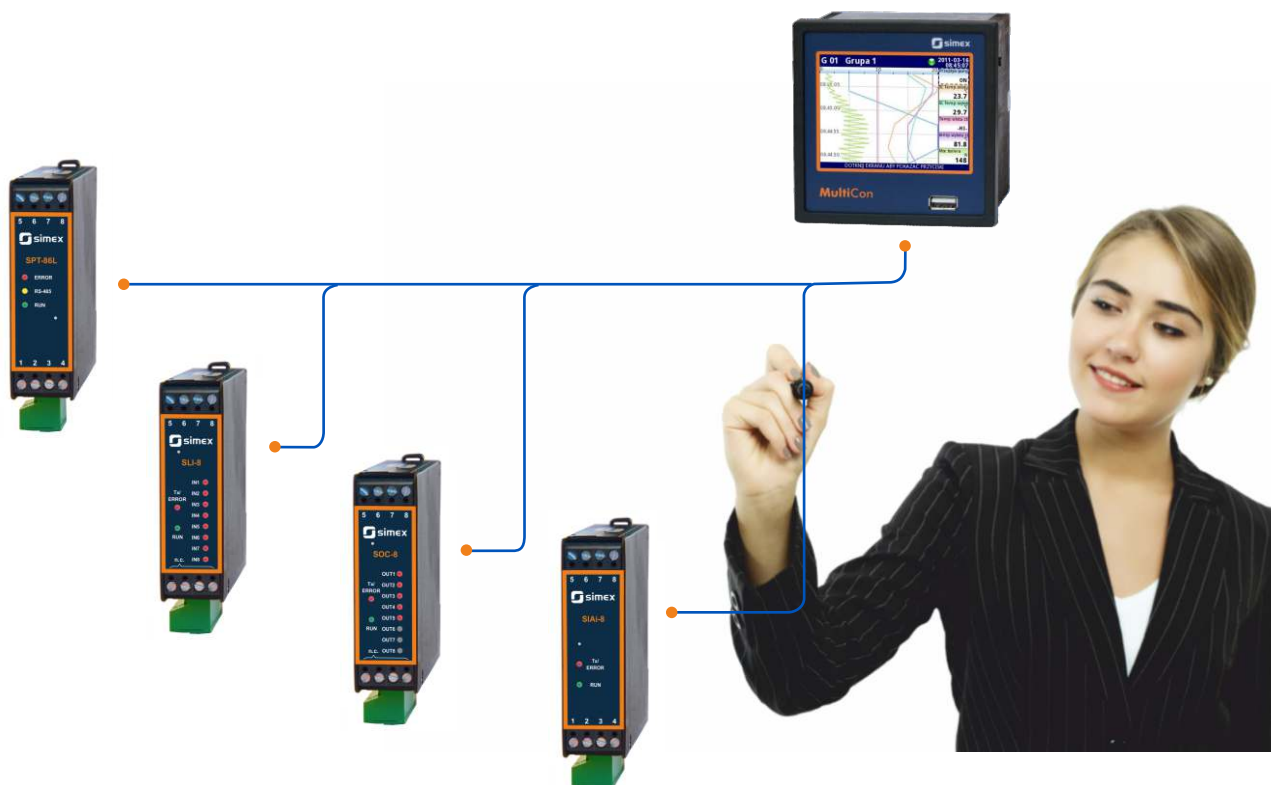
DAQ systems - TRM

- ■ Modbus RTU Slave
- ■ DIN rail mount (TS-35 or TS-32)
- ■ full equipment diagnostics
- ■ multi-point inspection of process parameters
- ■ galvanic separation of inputs/outputs from the voltage

The **TRM** DAQ system is based on multi-point communication modules. It uses the RS-485 network, Modbus RTU protocol, and enables inspecting process parameters. Thanks to a significant reduction of required wiring (usually one four-wire line) it is more and more widely used in the newly constructed and upgraded systems. The Modbus RTU communication makes it possible to inspect and diagnose an entire system, which is equal in priority to a measurement and process control themselves.

	SIN-8	SOC-8	SLI-8	SIAi-8P	SIAi-8N	SPT-86L
Power supply	24V DC (16 ÷ 30V DC)					
Inputs	8 x binary voltage: low: 0V (0 ÷ 3V) high: 24V (15 ÷ 24V)	-	8 x multi counters	8 x analog current: 0-20 mA; 4-20 mA	8 x analog voltage: 0/2-10 V; 0/1-5 V	0-60/75/100/150 mV Pt100, Pt500, Pt1000 TC (K, S, J, T, N, R, B, E)
Outputs	-	8 x binary	-	-	-	3,4 ÷ 24 mA
Case dimensions	101 x 22,5 x 80 mm					

Portable data logging systems

- portable data logging systems based on MultiCon or MultiLog devices
- up to 23 input/output/communication connectors
- RS-485, USB or Ethernet ports
- waterproof and dustproof IP 67 housing, designed to work in harsh environment

The portable data logging systems are built of high IP67 protection casing and connectors, and can include either the **MultiCon** or the **MultiLog** devices. Such a system enables autonomous operating of the controller/recorder under harsh environmental conditions.
The Ethernet or RS-485 interfaces can provide measurement data to a PC or the SCADA system.

Applications:
- Operational parameters recording in water and sewage pumping stations
- Operational parameters recording in heat chambers and heat exchange units
- Hydrophore stations pressure controlling
- Change of river level recording

	P130-SRD-99X	P130-CMC-99	P130-CMC-141
Power supply	19V ÷ 50V DC, 16V ÷ 35V AC or 85V ÷ 260V AC/DC, 50-60 Hz		
Inputs / outputs	up to 11 input/output connectors: Pt100 / Pt500 / Pt1000, TC, mV; 0/4-20 mA, 0/1-5V, 0/2-10V; 1 digital input, 10-30V DC; 2 electronic relays (ER1, ER2), 24VAC (35VDC)/200 mA	up to 23 input/output connectors: universal, analogue (0/4 ÷ 20 mA, 0/1 ÷ 5V, 0/2 ÷ 10V), termocouple (J, K, S, T, N, R, B, E, L, ± 25 mV, ± 100 mV, -10 ÷ 25 mV, -10 ÷ 100 mV), resistance (Pt100, Pt500, Pt1000, Pt'50, Pt'100, Pt'500, Ni100, Ni500, Ni1000, Cu50, Cu100, Cu'50, Cu'100, 0 ÷ 300 Ω, 0 ÷ 3 kΩ), counter/ flowmeter/ ratemeter, digital	
Sensor supply output	24V DC ±5% / max. 200 mA		
Display	2.9" LCD, graphic, 128 x 64 points, with backlight, amber or white	TFT 3.5"; colour, graphic TFT, 320 x 240 pixels, with touchscreen	TFT 5.7"; colour, graphic TFT, 320 x 240 pixels, with touchscreen
Communication interface	RS-485, Modbus RTU, 1200 ÷ 115200 bit/s; USB Host	options: RS-485, Modbus RTU, 1200 ÷ 115200 bit/sec., Ethernet; USB Host	
Memory capacity	internal 8 MB; 1 200 000 records	internal 1.5 GB; 125 000 000 records	
Protection class	IP 67		
Operating temperature	0°C ÷ +50°C (optional -20°C ÷ +50°C)		
Weight	2,5 kg (case 1,4 kg)		
Dimensions	portable case: 285 x 246 x 174 mm MultiLog SRD-99: 96 x 96 x 100 mm	portable case: 285 x 246 x 174 mm MultiCon CMC-99: 96 x 96 x 100 mm	portable case: 285 x 246 x 174 mm MultiCon CMC-141: 144 x 144 x 100 mm

Universal meters

- 1 universal input: 0/4-20 mA, 0-10V, 0-150 mV, RTD lub TC
- 1, 2 or 4 control outputs: REL or OC
- analogue output: active or passive
- power supply output: 24V DC
- RS-485 / Modbus RTU communication
- multicolour or ultra bright display: red, green, blue
- panel or wall mount

Universal meters is a specific group of equipment. The user can choose the input from the device's menu : 0/4-20 mA, 0-10V, 0-150 mV, Pt 100/500/1000, or the thermocouple (K, S, J, T, N, R, B, E). The user receives 2 or 4 REL or OC type and analogue outputs (unavailable in SWE-94-U) to control and indicate process statuses. This type of configuration enables using the meter in almost any kind of adjustment and control processes. Process meters with a universal input are of a particular importance for persons responsible for service and maintenance. As a result of eliminating many process meters configurations we can reduce the actual cost of its upkeeping.

	SWE-94-U	SUR-94	SUR-147	SUR-457
Power supply	110V AC ± 10%; 230V AC ± 10% or 24V DC	19V ÷ 50V DC; 16V ÷ 35V AC or 85 ÷ 260V AC/DC		
Display	LED, 4 x 20 mm, red	LED, 4 x 20 mm, red or green	LED, 4 x 38 mm, red or green	LED, 4 x 57 mm, red, green, blue or multicolor
Input	**current:** 0-20 mA / 4-20 mA; **voltage:** 0-5V / 1-5V / 0-10V / 2-10V; **milivoltage:** 0-60 mV / 0-75 mV / 0-100 mV / 0-150 mV; **RTD Pt100, Pt500, Pt1000:** zakres -100°C ÷ 600°C; **TC:** 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			
Binary output	none	0, 2 or 4 REL / OC		
Analogue output	none	**active current:** operating range 0/4-20 mA; **passive current:** isolated, operating range 4-20 mA **active voltage:** operating range 0/1-5V, 0/2-10V		
Communication interface	RS-485 / Modbus RTU			
IP rate protection	IP 65 (front side when an optional seal is installed); IP 40 (front side)			IP 67
Operating temperature	0°C ÷ +50°C (standard), -20°C ÷ +50°C (option)			
Case dimensions	96 x 48 x 72 mm	96 x 48 x 100 mm	144 x 72 x 100 mm	230 x 140 x 96,5 mm

Process meters

- **1 measurement input: current or voltage**
- **1, 2 or 4 control outputs: relay or OC**
- **analogue output: active or passive**
- **power supply output: 24V DC**
- **RS-485 / Modbus RTU communication**
- **red, green or blue ultra bright display**
- **standard case dimensions**
- **panel or wall mount**

The digital process meters are equipped with one measuring input: current (0/4-20 mA) or voltage (0/1-5V, 0/2-10V, 0-60 / 0-75 / 0-100 / 0-150 mV). Easy programming and installation, small size and high 1, 2 or 4 relay outputs make it possible to control the processes of ON/OFF type and to adjust the level of the measured signal. The 24V DC output is used to power the measuring transducers.

The RS-485/Modbus RTU enables data transmission in production process monitoring systems. The user can select conversion characteristics of several kinds: linear, square, square root, user defined (max. 20 points length), and volume characteristics of a cylindrical tank positioned vertically or horizontally.

		SWE-73-A	SWE-73-L	SWE-N55L	SWP-99	SRP-73	SRP-94/ SRP-946	SRL-49	SRP-147	SRP-N118/ SRP-N1186
Outputs	REL	-	1	1	2	1 or 2	2 or 4	2 or 4	2 or 4	2
	OC	-	-	-	-	1 or 2	2 or 4	2 or 4	2 or 4	2
	24V DC	-	-	-	•	•	•	•	•	•
	0-20 mA, 4-20 mA, 0-10V	-	-	-	-	-	•	•	•	•
Inputs	0-20 mA, 4-20 mA	•	•	•	2, 4 or 8	•	•	•	•	•
	0-5V, 1-5V, 0-10V, 2-10V	•	-	-	2, 4 or 8	•	•	•	•	•
	0-60, 75, 100, 150 mV	-	-	-	-	•	•	-	•	-
Supply	loop powered	-	•	•	-	-	-	-	-	-
	AC: 24V / 110V / 230V	- / • / •	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -
	DC: 24V	•	-	-	-	-	-	-	-	-
	AC DC: 85÷260V / 16÷35V	- / -	- / -	- / -	• / •	• / •	• / •	• / •	• / •	• / •
Display		LED 4 x 13 mm	LED 4 x 13 mm	LED 4 x 13 mm	graphic LCD, with backlighting	LED 4 x 13 mm or 4 x 9 mm	LED 4 x 20 mm or 6 x 13 mm	LED 4 x 9 mm + 20-points bargraph	LED 4 x 38 mm	LED 4 x 20 mm or 6 x 13 mm
Case dimensions [mm]		DC: 72 x 36 x 77 AC: 72 x 36 x 94	72 x 36 x 77	64 x 58 x 36	96 x 96 x 100	72 x 36 x 97	96 x 48 x 100	48 x 96 x 100	144 x 72 x 100	110 x 105 x 67

Legend: „•" standard, „-" option unavailable

Temperature meters

- **1 measurement input: RTD or TC**
- **1, 2 or 4 control outputs: relay or OC**
- **analogue output: active or passive**
- **power supply output: 24V DC**
- **RS-485 / Modbus RTU communication**
- **red, green or blue ultra bright display**
- **standard case dimensions**
- **panel or wall mount**

The digital temperature meters are equipped with one measuring input: thermoresistance (Pt100/500/1000) or thermocouple (K, S, J, T, N, R, B, E). Measurement is linearised by the polynomial characteristics. The devices equipped with the thermocouple input have an additional measurement range (-10 ÷ 90 mV) mainly used to diagnose the measurement circuits. Easy programming and installation, small size and high reliability are the primary advantages of these meters. 1, 2 or 4 relay outputs make it possible to control the processes of ON/OFF type, and to adjust the level of the measured signal. The 24V DC output is used to power the measuring transducers. The RS-485/Modbus RTU enables data transmission in production process monitoring systems.

		SWE-73-T	SWT-99	SRT-73	SRT-94	STN-94	SRT-147	SRT-N118	SRT-L70
Outputs	REL	-	2	1 or 2	2 or 4	1	2 or 4	2	3
	OC	-	-	1 or 2	2 or 4	-	2 or 4	2	-
	24V DC	-	•	•	•	•	•	•	•
	0-20 mA, 4-20 mA, 0-10V	-	-	-	•	-	•	•	-
Inputs	Pt100, Pt500, Pt1000	•	2, 4 or 8	•	•	•	•	•	•
	TC, mV	-	2, 4 or 8	•	•	-	•	•	-
Supply	AC: 24V / 110V / 230V	- / • / •	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -
	DC: 24V	•	-	-	-	-	-	-	-
	AC DC: 24V	-	•	•	•	•	•	•	-
	AC DC: 85÷260V / 19÷70V	- / -	• / -	• / -	• / -	• / -	• / -	• / -	• / •
Display		LED 4 x 13 mm	graphic LCD, with backlighting	LED 4 x 13 mm or 4 x 9 mm	LED 4 x 20 mm	LED 3 x 13 mm + 3 x 13 mm	LED 4 x 38 mm	LED 4 x 20 mm	LED 4 x 13 mm
Case dimensions [mm]		DC: 72 x 36 x 77 AC: 72 x 36 x 94	96 x 96 x 100	72 x 36 x 97	96 x 48 x 100	96 x 48 x 100	144 x 72 x 100	110 x 105 x 67	72 x 91 x 59

Legend: „•" standard, „-" option unavailable

Serial displays

- RS-485 serial input / Master or Slave
- display data in the binary, BCD or byte format
- power supply output: 24V DC
- red, green or blue ultra bright display
- colour and brightness adjustment of the display
- large-size models available
- programming with IR remote controller
- panel or wall mount

The serial meters are intended for displaying any numerical data and characters defined by the user and sent from a master device over the RS-485 link (Modbus RTU protocol). The user has the possibility of brightness adjustment and (in some models) colour adjustment (red, yellow, and green among others) of the display. They feature a 4-button keypad for programming basic settings. The user can change presets without opening the cover thanks to the IR receiver that has been mounted in the device. The remote controller is an equivalent to the device keypad.

The **SW-BCD-94** indicators can be used as the indicator output for PLCs to display data in the binary, BCD, or byte format, or to show typical information transmitted over the RS-485 interface.

		SWE-73-S	SWE-94-S	SWS-73	SWS-94	SW-BCD-94	SWS-N118	SWS-638	SWS-W606	SWS-W510
	24V DC output	-	-	•	•	•	•	•	-	•
Inputs	RS-485 MASTER	•	•	-	•	-	•	•	•	•
	RS-485 SLAVE	•	•	•	•	•	•	•	•	•
	BCD parallel	-	-	-	-	•	-	-	-	-
Supply	AC: 24V / 110V / 230V	- / • / •	- / • / •	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -	- / - / -
	DC: 24V	•	•	-	-	-	-	-	•	-
	AC DC: 24V / 85÷260V	- / -	- / -	• / •	• / •	• / •	• / •	• / •	- / -	• / •
LED Display		4 x 13 mm	4 x 20 mm	4 x 13 mm or 4 x 9 mm	4 x 20 mm or 6 x 13 mm	4 x 20 mm	4 x 20 mm or 6 x 13 mm	6 x 38 mm	6 x 57 mm	5 x 100 mm
IP rate protection		IP 40 front IP 65 (option)	IP 40 front IP 65 (option)	IP 40 front IP 65 (option)	IP 65 front	IP 65 front	IP 67	IP 67	IP 40	IP 30
Case dimensions [mm]		DC: 72 x 36 x 77 AC: 72 x 36 x 94	96 x 48 x 72	72 x 36 x 97	96 x 48 x 100	96 x 48 x 100	110 x 105 x 67	230 x 140 x 96,5	364 x 112 x 44	578 x 208 x 102

Legend: „•" standard, „-" option unavailable

Weight meters

- work with load cells in weighing and force measurement systems
- calibrated using theoretical characteristic or real load
- 1 digital input
- 2 relay outputs
- active current output
- RS-485 / Modbus RTU communication
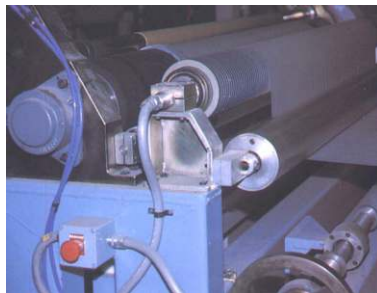- detection of peak values

The weight meter **SWI-94** has been designed to work with load cells (strain gages) in applications not required to be approved. The device is equipped with push-buttons which enable easy setting of tare and zero, and also switching between nett and gross indications. The built-in analogue output and RS-485 interface enable controlling the device remotely by a host system, if required. 2 relay outputs enable using the SWI-94 as a controller for simple systems with a batching function. The device's software enables using two calibration methods: data sheet calibration, or dead weight calibration. All critical states of the device are signalised by proper error messages.

| Force measurement in materials testing | Multi-Zone Web Tension Measurement and Control | Batching Processes Reactors and Process Vessels | Single- or Multi-Vessel Process Weighing |

Accessories

SP-4 or SP-6 load cell junction box
The junction box enables a quick and easy connection from 2 up to 6 load cells in multisensor systems, such as tank scales. The large enclosure of the junction box lets you put the excess cable of the load cells into the box (the cable's length shortening is not recommended).
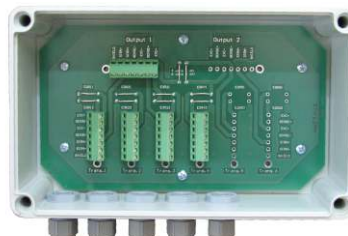
Temperature transmitters

- **fully programmable temperature transmitters**
- **universal measuring input**
- **DIN rail or in-head mount**
- **in-built, programmable digital filter**
- **any temperature range within limits**
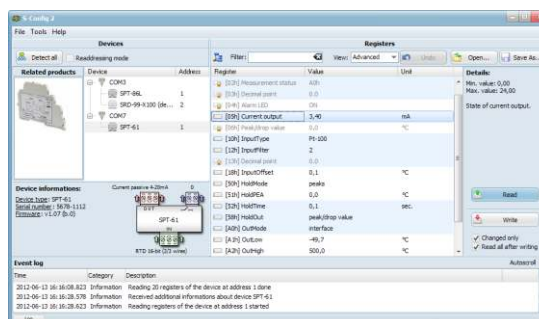- **output linear with temperature**

The smart temperature transmitters can be very useful in different industrial applications requiring temperature conversion before performing measurement and control. They are produced for in-head or DIN-rail mounting. These transmitters make it possible for the user:
- to select the sensor and input signal type,
- to select and adjust the input range,
- to perform the offset correction and device calibration,
- to specify the input ranges and output type,
- to select the output reaction on sensor break,
- to adjust the digital filter.

S-Config 2
Software and drivers for the temperature converter modules SPT-61 and SPT-86L.

	SPT-61	SPT-86L	SPT-87E	SPT-87U
Power supply	24V DC (9,5 ÷ 36V DC)	24V DC (16 ÷ 30V DC)	8 ÷ 30V DC	10 ÷ 30V DC
Input signal	Pt100, Pt500, Pt1000	Pt100, Pt500, Pt1000; TC: K, S, J, T, N, R, B, E 0 ÷ 60/75/100/150 mV	Pt100, 2-/3-wires	Pt100, Pt1000, Ni100, Ni1000; TC: K, J, N, W5, B, R, S, T, E; -10 ÷ 62 mV DC; 0 ÷ +360 Ohm, 0 ÷ +4000 Ohm
Output signal	passive, max. 3,4 ÷ 24 mA	passive, max. 3,4 ÷ 24 mA; RS-485	4 ÷ 20 mA, 2-wires	4 ÷ 20 mA, 2-wires
Galvanic isolation	-	3000 V AC	1500 V AC	1500 V AC
Mounting	DIN rail (35 mm)	DIN rail (35 mm)	in-head	in-head

Galvanic isolators

TRG
line

- galvanic isolation between input/output/supply circuits
- 1 or multi-tracks versions
- self-powered or external power supply
- DIN rail mount (TS-35 or TS-32)
- calibrating potentiometers and LED indicators in the front panel
- versions with additional 24V DC supply to power two-wire transmitters

The isolators have been designed for the galvanic separation of the input and output measuring circuits. They convert the standard input signal into the standard output signal. Applying the isolator reduces the influence of object-originated interferences, protects against overvoltage and short-circuits in field circuits, and enables matching various signal standards. A significant advantage of the isolators over the barriers is that they do not need to be earthed, and they are fully immune to interference. Apart from standard versions, our offer also includes the Ex versions designed for use in the zones under explosion hazard. Moreover, thanks to applying the Zener diodes, resistors and fuses, our isolators effectively reduce the energy level of signals transmitted into a dangerous zone.

	SGS-61	SGS-12	SGS-22	SGT-12	SGT-22	SGZ-12	SGZ-22
Output signal	4 ÷ 20 mA	0 ÷ 20 mA, 4 ÷ 20 mA	0 ÷ 20 mA, 4 ÷ 20 mA	4 ÷ 20 mA current loop supplied from external power	0/4 ÷ 20 mA 0 ÷ 10V	0/4 ÷ 20 mA, 0 ÷ 5 mA 0/1 ÷ 5V, 0 ÷ 10V	0/4 ÷ 20 mA, 0 ÷ 5 mA 0/1 ÷ 5V, 0 ÷ 10V
Input signal	4 ÷ 20 mA	direct current 0 ÷ 30 mA	direct current 0 ÷ 30 mA	0/4 ÷ 20 mA, 0 ÷ 5 mA 0/1 ÷ 5V, 0 ÷ 10V	0 ÷ 5A, 0 ÷ 750V	0/4 ÷ 20 mA, 0 ÷ 5 mA 0/1 ÷ 5V, 0 ÷ 10V	0/4 ÷ 20 mA, 0/1 ÷ 5 mA 0/1 ÷ 5V, 0 ÷ 10V
Power supply	directly from current loop	directly from current loop	directly from current loop	7 ÷ 36V DC	18V ÷ 350V DC or 18V ÷ 230V AC	21 ÷ 28 V DC	21 ÷ 28 V DC
Number of tracks	1	1 / 2	3 / 4	1 / 2	1	1	1 / 2
Case dimensions [mm]	6.1 x 80 x 93.8	12.5 x 99 x 114.5	22.5 x 99 x 114.5	12.5 x 99 x 114.5	22.5 x 99 x 114.5	12.5 x 99 x 114.5	22.5 x 99 x 114.5

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