

## SIRAX MT7100 and SIRAX MT7150 Three phase network analyzer

### Description

The SIRAX MT7100 or MT7150 is an all-in-one three phase network analyzer with integrated energy meter and universal current input. They are designed for DIN rail mounting installation and can be connected to all standard insulated current sensors. The devices measure RMS AC and DC, average min. and max. values, frequency, crest factor, harmonic up to the 63rd, THD,  $I_{peak}$  and  $U_{peak}$  and many more. They are equipped with a serial output RS485 Modbus RTU for measurements and a digital output for alarms. The free configuration software makes it very easy to configure the devices.

### Characteristics

- Break-resistant plastic housing made of PBT
- Flame retardant and self extinguishing according to UL94 V0
- All common current sensors and temperature sensors can be connected
- Configuration by configuration software
- Serial RS485 Modbus/RTU output
- DIN rail or wall mounting for vertical or horizontal position



### Technical specifications

	SIRAX MT7100	SIRAX MT7150
Type of measure	RMS AC and DC	
Installation form	DIN rail mounting	
Mounting position	arbitrarily, vertically or horizontally	
Input		
Current sensors	Rogowski probe; Current transformer secondary 1A / 5A; Voltage transformer 0 ... 333 mV	
Available measure	$I_{rms}$ ; $U_{rms}$ ; $I_{pk}$ ; $U_{pk}$ per phase; Active power: $P_1, P_2, P_3$ ; Reactive power: $Q_1, Q_2, Q_3$ ; Apparent power: $S_1, S_2, S_3$ ; Frequency; Power factor total and per phase; Energy (kWh) total and per phase; bidirectional Energy (kWh) total and positive/negative per phase; $\cos\phi$ ; Active and reactive energy (kVARh) total and per phase; Crest factor total and per phase $\tan\phi$ per phase and average; Power factor total, per phase and average; Power factor distortion per phase and average; power measurement min/max total, per phase and average; monitoring phase sequence; max demand over 15 min. total and per phase; time at which arises max demand (per month) total and per phase; time above a threshold total and per phase; K factor; THD; TDD; harmonics up to 63 <sup>th</sup> ; interharmonics up to 63 <sup>th</sup> ; SAG; SWELL; Voltage interruption;	
Power supply	10 ... 30 VDC or 19 ... 28 VAC (50/60 Hz)	
Working frequency	1 ... 70 Hz	
Power consumption	< 0.7 W	

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## Three phase network analyzer

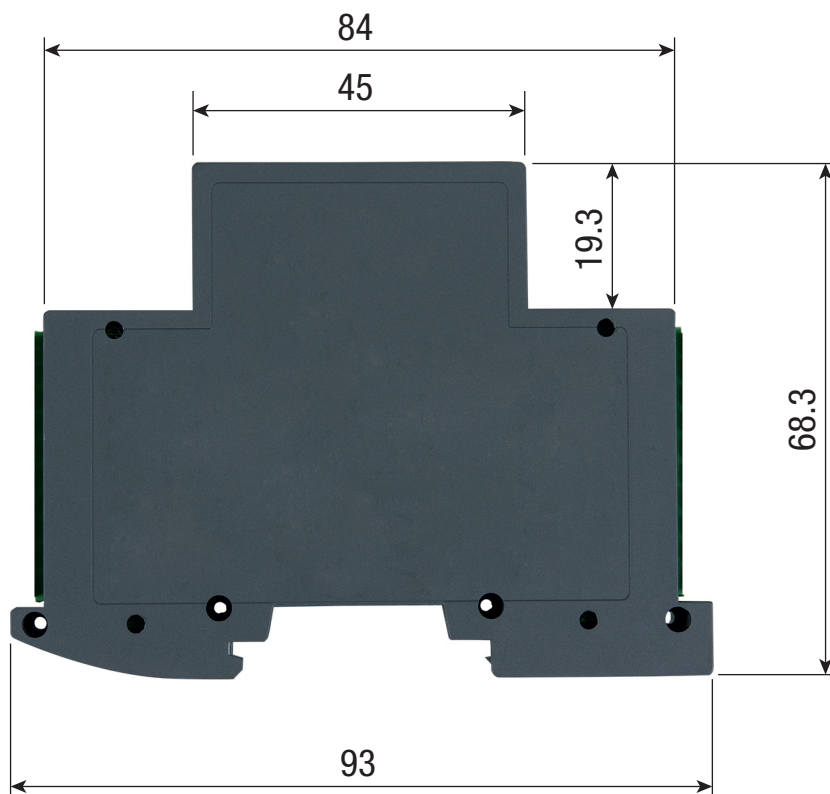
	SIRAX MT7100	SIRAX MT7150
<b>Voltage input</b>		
Nominal voltage $U_n$	300 V <sub>LN</sub> / 500 V <sub>LL</sub>	
Impedance	400 kΩ	
Continuous overload $U_{max}$	400 V <sub>LN</sub> / 700 V <sub>LL</sub>	
Overload for 500 ms	600 V <sub>LN</sub> / 1000 V <sub>LL</sub>	
<b>Current input</b>		
Type	not isolated (external CTs necessary)	
<b>Current output CT's</b>		
Nominal current $I_n$	5 AAC	
Impedance	< 0.5 VA per phase	
Continuous overload $I_{max}$	6 AAC	
Overload for 500 ms	40 AAC	
Crest factor	< 4 (20 A <sub>PK</sub> max.)	
<b>Voltage output CT's</b>		
Nominal voltage $U_n$	333 mVAC	
Impedance	220 kΩ	
Continuous overload $U_{max}$	2.1 V <sub>PK</sub>	
Overload for 500 ms	13 V <sub>PK</sub>	
Crest factor	< 3 (1 V <sub>PK</sub> max.)	
<b>Output</b>		
Digital output	RS485 Modbus/RTU	
Analog output	0...10 V or 4...20 mA (configurable via software)	
Relay output	Free contact (alarm) <100 mA, <40 VDC (Optomos contact)	
<b>Accuracy (@25°C, 50 Hz)</b>		
Voltage ( $U_n$ : 230/400V)	± 0.5% RDG (10 ... 100% $U_n$ )	
Current ( $I_n$ : 5A)	± 0.5% RDG (5 ... 100% $I_n$ )	
Frequency	± 0.1 Hz (40 ... 70 Hz)	
Active and reactive power	± 0.5% RDG	
Active energy	Class C according to EN50470-1/3 or Class 0.5S according to EN62053-22	
Reactive energy	Class 0.5S according to EN62053-24	
Power factor	± (0.001 +1%(1.00-PF))	
Bandwidth (-3dB)	> 2 kHz	
Temperature coefficient	< 100 ppm/°C	
Absorption	< 500 mW @ 24 VDC	
Sampling rate	6400 Hz @ 50 Hz or 7280 Hz @ 60 Hz	
Energy backup	Via Flash, minimum lifetime: 3 years	
<b>Safety and environmental conditions</b>		
Operating temperature	-10 ... +60 °C	
Humidity	10 ... 90 % (not condensing)	
Housing protection IP	IP20	
Altitude	max. 2000 m	
Overvoltage category	CATIII	
Isolation	4 kV <sub>RMS</sub> between power supply and measuring inputs 4 kV <sub>RMS</sub> between RS485 and measuring inputs 1.5 kV <sub>RMS</sub> between power supply and RS485	

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## Three phase network analyzer

	SIRAX MT7100	SIRAX MT7150
<b>Mechanical properties</b>		
housing material	PBT	
Flammability	UL94 V-0, self-extinguishing, non-dripping, halogen-free	
Weight	60 g	
Connections	Plug-in terminals 3.5 mm, 1 x 2 Pol, 1 x 3 Pol, 1 x 6 Pol Plug-in terminals 5.08 mm, 1 x 4 Pol	
DIP switch	2 Pol	
Programming	Via DIP switch, Modbus RTU and software	
Dimensions	93 x 17.7 x 68.3 mm (without terminals)	
<b>Standards</b>		
Adhered standards	EN61000-6-2 ; EN61000-6-4; EN61000-4-2; EN61000-4-3; EN61000-4-4; EN61000-4-5; EN61000-4-6; EN61010-1; EN61010-2-30	
<b>Order data</b>		
Article-No.	180034	180042

### Dimensions



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