

TR8

Multi-channel DC voltage and current analyzer



Description

It is extremely difficult to certify that a photovoltaic plant is at its peak performance without having control of the primary power generation sources that would certify it. **TR8** has been specifically designed to control string in photovoltaic plants; it knows the level of current generated in the different groups in real time, and therefore knows the current flowing through the external sensors.

Application

- Application of photovoltaic string control, up to 8 strings.

Features

Power supply	Alternating C.	Direct C.	
Nominal voltage	230 Vac	24 Vdc =	
Power supply tolerance	± 30 %	± 10 %	
Frequency	50 Hz	-	
Consumption of the equipment without transformers	8 mA / 1.84 V•A	70 mA	
Consumption of the equipment with 8 sensors (no load)	32 mA / 7.36 V•A	270 mA	
Consumption of the equipment with 8 sensors (with current)	32 mA / 7.36 V•A	270 mA	
Operating conditions			
Operating temperature	-35...+65°C		
Relative humidity	5... 95% RH (non-condensing)		
Maximum operating altitude	2,000 metres		
Protection	IP 20		
TR8-RS-485 precision			
Linearity Error	± 0.1 %	Offset Error	0.075 % I_n
Total Error	± 0.5 % I_n	Range	2,5 100% I_n
Resolution Error	± 0.075 % I_n	Voltage Error	1 %
Transformer precision			
Linearity Error (not including offset)	± 0.5%	Offset Drift / Temp.	±1 mV / °C
Offset Error 25°C	±10 mV a $I_n=0$	Thermal Gain Drift	±0.05 % / °C
Safety			
Category III – 300 Vac (EN61010)			
Double-insulated electric shock protection class II			

TR8

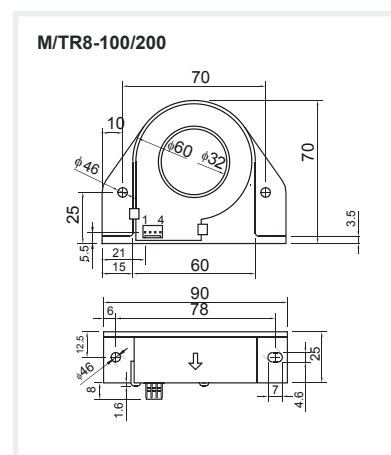
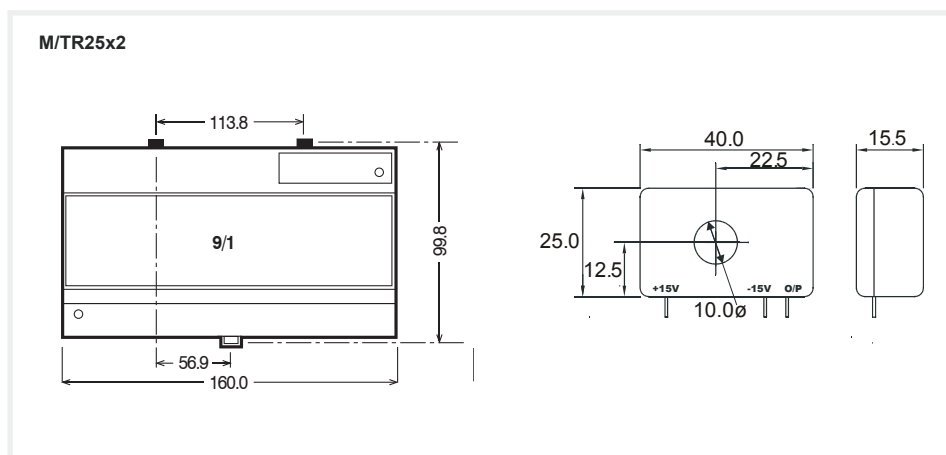
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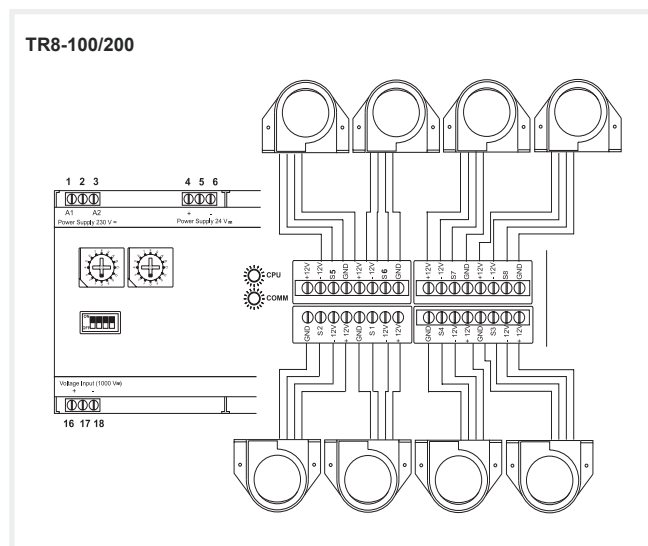
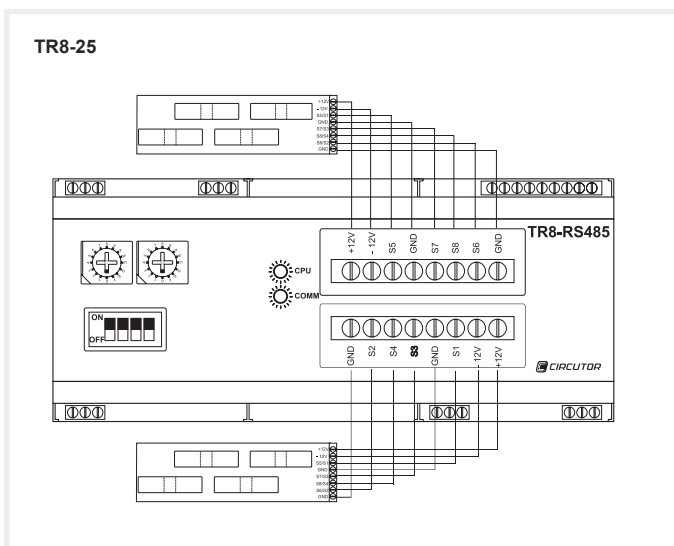
References

Current	Output	Communications	Description	Type	Code
Equipment, up to 25 A					
25 A	8	RS-485 Modbus/RTU	8 25 A _{dc} channels Connection of up to 2 M/TR8-25Ax4 (8 channels) Voltage measurement of 1000 V _{dc} 8 voltage-free digital inputs	TR8-RS-485-25	M54600
Equipment, up to 100 / 200 A					
Depends on transformer	8	RS-485 Modbus/RTU	8 100 A _{dc} channels Connection of up to 8 M/TR8-100A or M/TR8-200A One 1000 V _{dc} voltage input 8 voltage-free digital inputs	TR8-RS-485-100/200	M54601
Measurement modules					
2 circuits 25 A				M/TR-25A x2	M54606
4 circuits 25 A				M/TR-25A x4	M54602
1 circuit 100 A Ø32 mm				M/TR-100A	M54603
1 circuit 100 A Ø28 mm				M/TR-100A-CC-28Ø	M54604
1 circuit 200 A				M/TR-200A	M54605

Dimensions

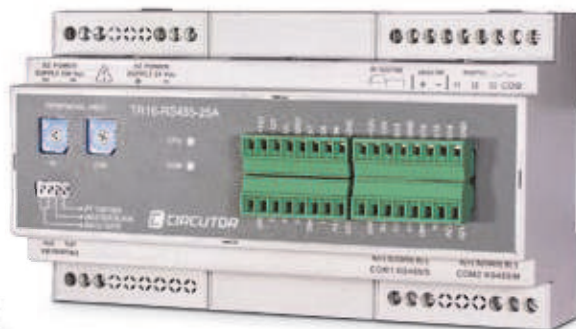
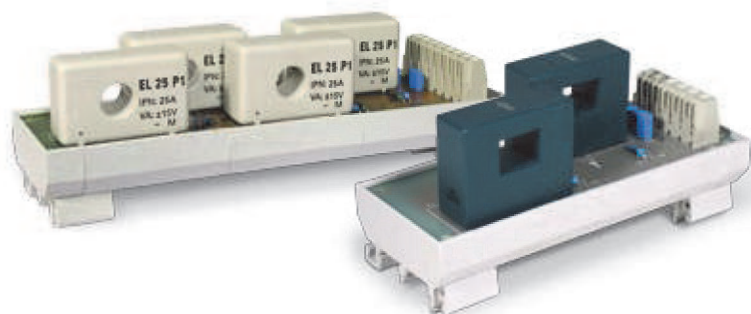


Connections



TR16

Multi-channel voltage and DC analyzer for photovoltaic strings



Description

TR16-RS-485 is an advanced version of the model **TR8** which, besides the main features of current measurement, has other useful features for large-scale photovoltaic installations such as the possibility of atmospheric temperature measurement for each area of the installation.

Application

- Application of photovoltaic string control, up to 16 strings.

Características

Power Supply	AC	DC
Nominal voltage	230 V ac \approx	24 Vdc =
Power supply tolerance	$\pm 20\%$	$\pm 10\%$
Frequency	50 Hz	-
Equipment consumption without transformers	2 V·A	2 W
Equipment consumption with 16 sensors (without load)	14 V·A	8 W
Equipment consumption with 16 sensors (with load)	24 V·A	14 W
Operating conditions		
Operating temperature	-10 ... 65 °C	
Relative humidity	5...95 RH without condensation	
Maximum operating height	2,000 metres	
Protection	IP20	
TR16-RS485 accuracy		
Current measurement (without current sensor)	$\pm 0.5\%$	
Minimum current threshold	350 mA	
Voltage measurement	$\pm 1\%$	
Temperature input accuracy		
Pt100 / Pt1000 temperature probe	$\pm 3\text{ }^{\circ}\text{C}$	
Analogue input accuracy		
Input accuracy 0...20 mA	$\pm 0.5\%$	
Input impedance	165 Ω	
Resolution in dots	1024 dots	
Converter resolution	10 bits	
Safety		
Category III – 300 V AC (EN61010)		
Double-insulated electric shock protection class II		

TR16

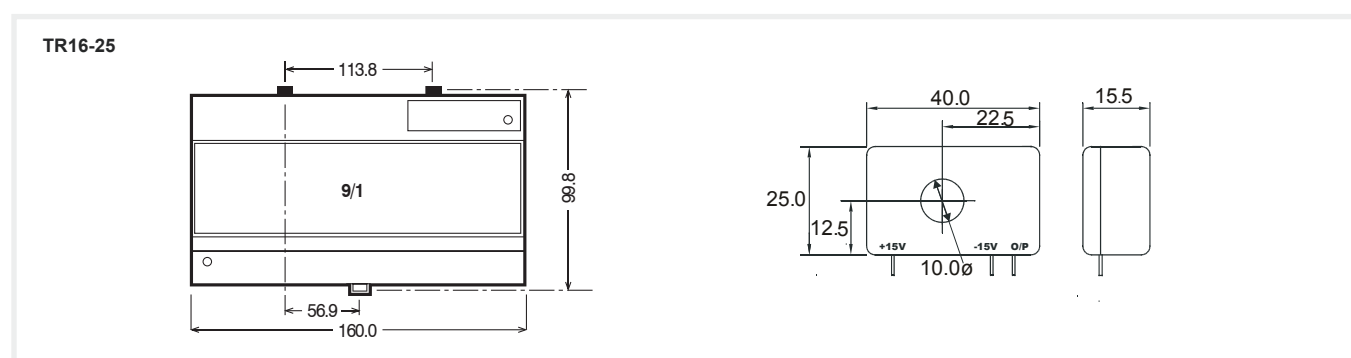
Multi-channel voltage and DC analyzer for photovoltaic strings



References

Current	Outputs	Communications	Description	Type	Code
Equipment, up to 25 A					
25 A	16	RS-485 Modbus/RTU	16 channels, 25 A _{DC} Connection of up to 2 M/TR-25Ax4 (8 channels) 1000 V _{DC} voltage meter. Three voltage-free digital inputs 1 voltage input of 1000 V _{DC} 1 temperature probe input Pt100 or Pt1000 (selectable) 1 analogue input, type 0 – 20 mA Power supply voltage 230 V _{AC} or 24 V _{DC}	TR16-RS-485-25	M55300
Measurement modules					
2 x 25 A circuits				M/TR-25 x2	M54606
4 circuits 25 A				M/TR-25 x4	M54602

Dimensions



Connections

