

Energy and power measuring technology

PV string monitoring

Detect errors – increase efficiency: Photovoltaic systems should achieve maximum energy yield in the shortest possible time.

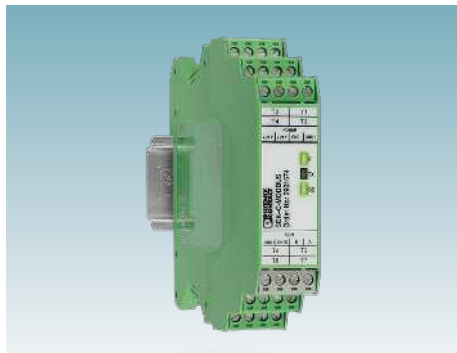
SOLARCHECK provides reliable information about the status of your photovoltaic system. You can therefore respond to malfunctions in individual strings promptly and take appropriate countermeasures.



Your advantages

- ✓ Low costs and wiring effort, as an additional power supply unit is not required in the device connection box
- ✓ Design flexibility for string combiner boxes, thanks to 4- and 8-channel versions
- ✓ Space-saving installation due to the compact design
- ✓ Easy integration into monitoring systems via Modbus/RTU communication
- ✓ Monitoring of remote indication contacts via an additional digital input

Product overview: EMpro multifunctional energy measuring devices



Communicate and supply

The communication module collects the values from the measuring modules and, as a Modbus slave, forwards them to your central control system. It is also used to supply the measuring modules in the field. The communication module is simply integrated into an existing network as a Modbus/RTU device.



Contact-free current measurement

In a current measuring module just 22.5 mm wide, the parameters of your PV systems are determined on a contact-free basis with the aid of Hall sensors and forwarded to the communication module. 4- and 8-channel versions are available.



Measure DC voltages up to 1,500 V

With the voltage measuring module, you can measure DC voltages up to 1,500 V. The module is suitable for measuring in both grounded and isolated PV systems. You can also flexibly use the voltage measurement outside the monitoring system as a simple analog device.

PV string monitoring couldn't be easier with SOLARCHECK

Feed the power cables quickly and easily through the openings in the measuring module. The two-wire communication cable is also used to supply the measuring modules with power. This means that you can supply up to 16 measuring modules with one communication module – without an additional power supply. With a width of just 22.5 mm, the narrow measuring module bundles the cables in a very compact space. This saves space in your control cabinet. Combine 4- and 8-channel current measuring modules to tailor the system perfectly to your application.



20-channel current measurement (8+8+4) with two 8-channel devices and one 4-channel device

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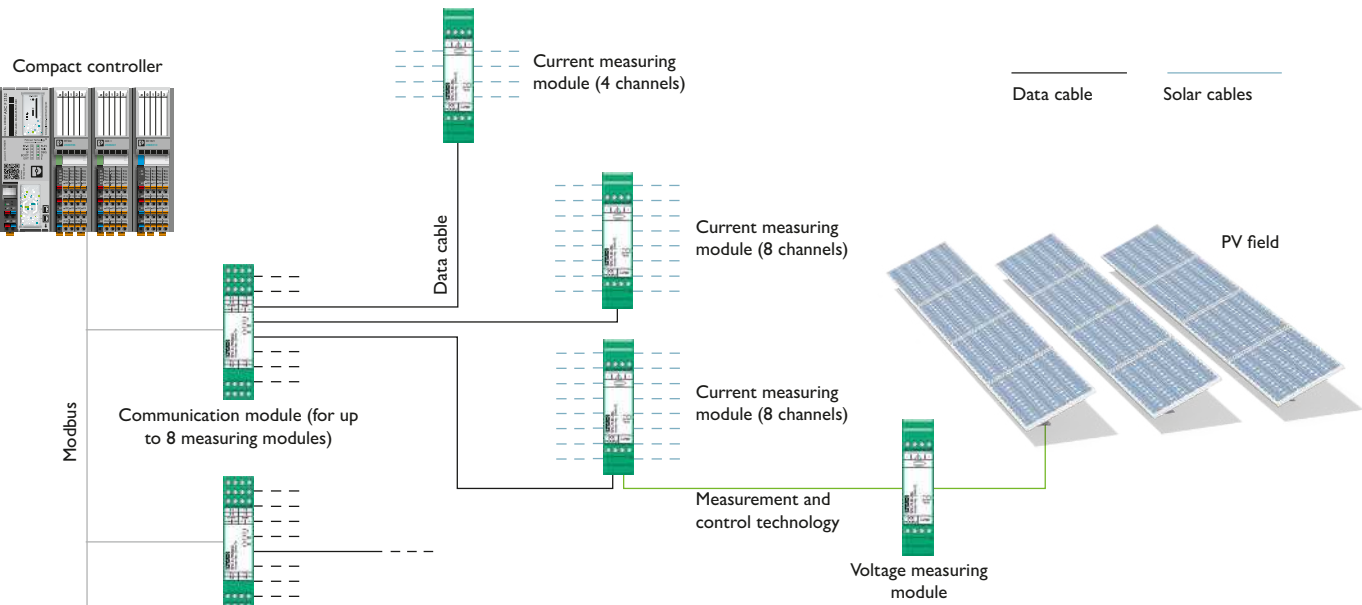
Application examples

Monitoring photovoltaic strings

The measuring system can be used to measure up to 64 direct currents and eight DC voltages at the same time. The complete system enables you to

operate 16 measuring modules on one communication module. The two-wire communication cable is also used to supply the measuring modules with power. That

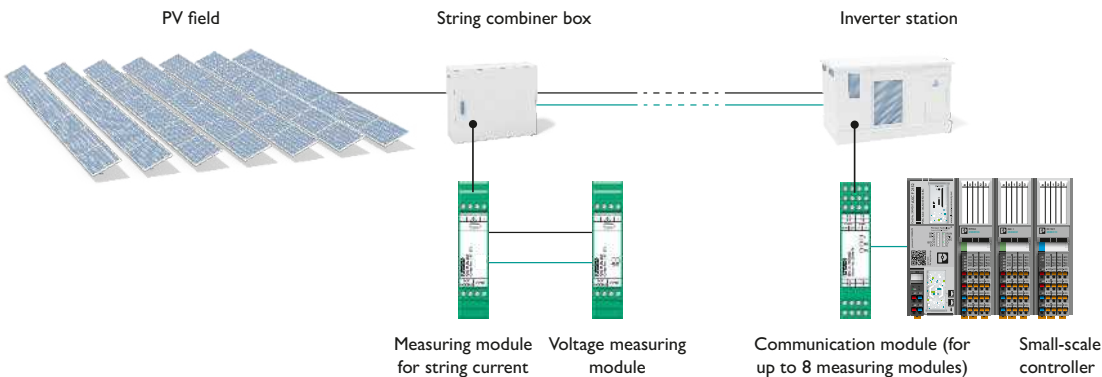
means only one central power supply is required for the communication module for this system.



Automation and visualization

Use the continuous process data acquisition as well as the data management. In doing so, you enhance the efficiency and yield of your photovoltaic system. Automation and visualization tools from Phoenix Contact enable worldwide

networking of ground-mounted systems. This enables you to acquire and evaluate data at all times. The open register structure of the Solarcheck system enables quick and easy integration into your individual software environment.



Product overview: SOLARCHECK PV string monitoring







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SOLARCHECK current and voltage measuring modules

						
Product type	Current transducers				Voltage transducers	
Description	Current measuring module, 8-channel, incl. connection for voltage measuring module		Current measuring module, 4-channel		Voltage measuring module	
Measuring range	0 ... 20 A DC				0 V DC ... 1500 V DC / 0 V DC ... 1000 V DC (UL)	
Analog input	0 V ... 10 V					
Temperature coefficient	0.02%/K				<0.01%/K	
Output signal	Proprietary to the SOLARCHECK communication module				2 ... 10 V DC	
Supply voltage	Via the SOLARCHECK communication module				21.6 V DC ... 30 V DC	
Internal current consumption	43 mA (typical) / 50 mA (maximum)				8 mA (typical) / 65 mA (maximum)	
Degree of protection	IP20					
Maximum transmission error	±1%					
Ambient temperature range	-20°C ... 70°C					
Connection method	Screw connection					
Items per packing unit	1	10	1	10	1	10
Item number	2903241	1084349	2903242	1084351	2903591	1084352

SOLARCHECK communication modules

		
Product type	Gateways/proxies	
Description	Communication module	
Supply voltage	21.6 V DC ... 30 V DC	
Internal current consumption	22 mA (typical) / 45 mA (maximum)	
Communication protocol	Modbus/RTU	
Serial transmission speed	9.6/14.4/19.2/38.4 Kbps	
Degree of protection	IP20	
Ambient temperature range	-20°C ... 70°C	
Connection method	Screw connection	
Items per packing unit	1	10
Item number	2901674	1084335