

# PROFITEST PVsUN and PVsUN MEMO

## Test Instrument for Testing PV Modules and Strings per DIN EN 62446 (VDE 0126-23)

3-349-671-03  
9/7.15

- **Voltage measurement:** 0 to 1000 V DC
- **Current measurement (direct):** 0 to 20 A DC
- **Insulation resistance measurement**  
Measuring range: 0 to 20 M $\Omega$   
Test voltages: 250, 500 and 1000 V DC
- **Polarity test**
- **Ground fault measurement:** 0 to 1000 V DC
- **Testing for protective conductor continuity:** 0 to 10  $\Omega$
- **Backlit LCD panel**
- **Compact and rugged:**  
for service calls under harsh conditions
- **Extensive accessories**



PROFITEST PVsUN

### PROFITEST PVsUN MEMO

- **Bidirectional USB interface**
- **Integrated memory** (> 10,000 data records)
- **PC software** (preparation of individual test structures, read-out and evaluation of measured values)

### PROFITEST PVsUN-SOR

- Sensor for acquiring irradiation, temperature and inclination angle



PROFITEST PVsUN MEMO

## Applications

With the PROFITEST PVsUN, all required electrical safety tests at photovoltaic systems can be executed simply and safely in accordance with DIN EN 62446.

The test instrument is suitable for testing PV modules and strings with up to 1000 V / 20 A.

In addition to insulation measurement, polarity testing and ground fault testing, protective conductor continuity can also be tested.

The tester is distinguished by its ergonomic design and easy handling with a weight of only 500 g.

## Applicable Regulations and Standards

Regulations and standards in accordance with which the test instrument is manufactured and tested:

IEC 61010-1 / EN 61010-1 / VDE 0411-1	Safety requirements for electrical equipment for measurement, control and laboratory use – General requirements
EN 60529 VDE 0470, part 1	Test instruments and test procedures Degrees of protection provided by enclosures (IP code)
DIN EN 61326-1 VDE 0843-20-1	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements

### Regulations and Standards for Use of the Test Instrument

IEC 62446 VDE 0126-23	Grid connected photovoltaic systems – Minimum requirements for system documentation, commissioning tests and inspection
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# PROFITEST PVSUN and PVSUN MEMO

## Test Instrument for Testing PV Modules and Strings per DIN EN 62446 (VDE 0126-23)

### Characteristic Values

#### Voltage Measurement U<sub>0</sub>

Measuring range	0 to 1000 V DC (no transient voltages)
Resolution	1 V
Accuracy	±(2% rdg. + 1 d)

#### Current (direct)

Measuring range	0 to 20 A DC, measuring time < 1 s
Voltage range	2 to 1000 V DC
Resolution	0.1 A
Accuracy	±(1% rdg. + 1 d)
Overcurrent protection	max. 24 A (shutdown of internal circuit)

#### Insulation Resistance Measurement R<sub>ISO</sub>

Test voltage	250 V DC	500 V DC	1000 V DC
Measuring range	0.5 MΩ to 1 MΩ	1 MΩ to 20 MΩ	1 MΩ to 20 MΩ
Resolution	0.1 MΩ	1 MΩ	1 MΩ
Accuracy	±(1% rdg. + 1 d)	±(1% rdg. + 2 d)	±(1% rdg. + 2 d)
Limit value	> 0.5 MΩ	> 1 MΩ	> 1 MΩ
Number of measurements	approx. 1000 (with battery set per IEC LR6)		

#### Earth Fault Measurement

Measuring range	0 to 1000 V DC
Resolution	1 V
Accuracy	±(5% rdg. + 1 d)

#### Low-resistance measurement

Measuring range	0 to 10 Ω
Test Current	> 200 mA
Resolution	0.1 Ω
Accuracy	±(1% rdg. + 1 d)
Number of measurements	approx. 500 low-resistance measurements (batteries: 1.5 V per IEC LR6)

### Display

LCD	Multiple display with background illumination Dot matrix: 128 x 64 pixels
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### Reference Conditions

Ambient temperature	+ 23 °C ± 2 K
Relative humidity	40 to 75%
Battery voltage	6 V ± 1 V

### Ambient Conditions

Operating temperature	0 to 40 °C
Storage temperature	-10 °C to 60 °C
Relative humidity	< 80%, no condensation allowed
Elevation	max. 2000 m above sea level

### Power Supply

Batteries	4 ea. 1.5 V IEC LR6, AA, AM3, MN1500
Consumption	approx. 20 µA when switched off approx. < 30 mA during normal operation approx. 190 mA with background illumination

### Electrical Safety

Voltage range	1000 V
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### Electromagnetic Compatibility (EMC)

EMC directive	EMC 2004/108/EC
Basic standard	EN 61326-1:2006

### Data Memory (PROFITEST PVSUN MEMO only)

Memory capacity	max. 10,240 data records
Memory type	non-volatile flash memory (data are retained even if batteries are depleted)

### Data Interface (PROFITEST PVSUN MEMO only)

Type	USB 2.0 (USB 2.0 full speed (12 Mbps) compatible)
Port	mini USB type B (5-pin)
Cable	USB 2.0 cable (A plug   mini B plug)

### Mechanical Design

Protection	Housing: IP 42 per DIN VDE 0470 part 1/EN 60529
Dimensions	209 x 98 x 35 mm
Weight	approx. 500 g with batteries

# PROFITEST PV<sub>SUN</sub> and PROFITEST PV<sub>SUN</sub> MEMO Test Instrument for Testing PV Modules and Strings per DIN EN 62446 (VDE 0126-23)

## Scope of Delivery

- 1 PROFITEST PV<sub>SUN</sub> or PROFITEST PV<sub>SUN</sub> MEMO test instrument
- 1 Set of 4 batteries, 1.5 V IEC LR6 (AA)
- 3 Safety measurement cables, 1.5 m, red, blue and yellow:  
banana plug – banana plug
- 1 Solar plug adapter, red: MC3 socket – banana socket
- 1 Solar plug adapter, red: MC4 socket – banana socket
- 1 Solar plug adapter, blue: MC3 plug – banana socket
- 1 Solar plug adapter, blue: MC4 socket – banana socket
- 1 Plug-on safety test probe with socket, red
- 1 Plug-on safety alligator clip with socket, yellow-gray
- 1 Carrying case with foam insert
- 1 Set of operating instructions
- 1 PC software (PROFITEST PV<sub>SUN</sub> MEMO only)  
can be downloaded from our website at:  
[www.gossenmetrawatt.com](http://www.gossenmetrawatt.com)
- 1 USB interface cable (PROFITEST PV<sub>SUN</sub> MEMO only)

## Included Accessories

### Safety Measurement Cables and Solar Plug Adapters



### Carrying Case



## Optional Accessories

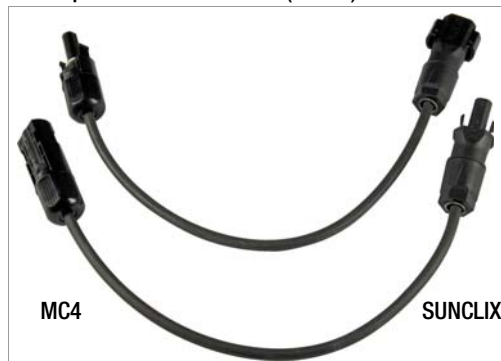
### PROFITEST PV<sub>SUN</sub>-SOR (Z360N)



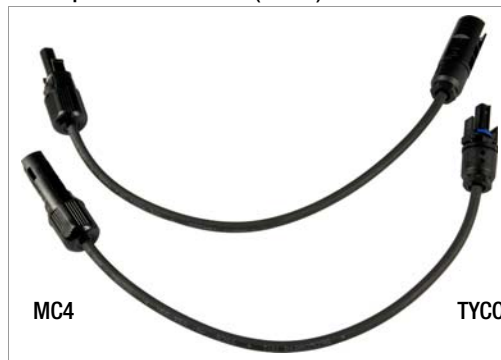
### PV Adapter Set MC3-MC4 (Z360K)



### PV Adapter Set SUNCLIX-MC4 (Z360H)



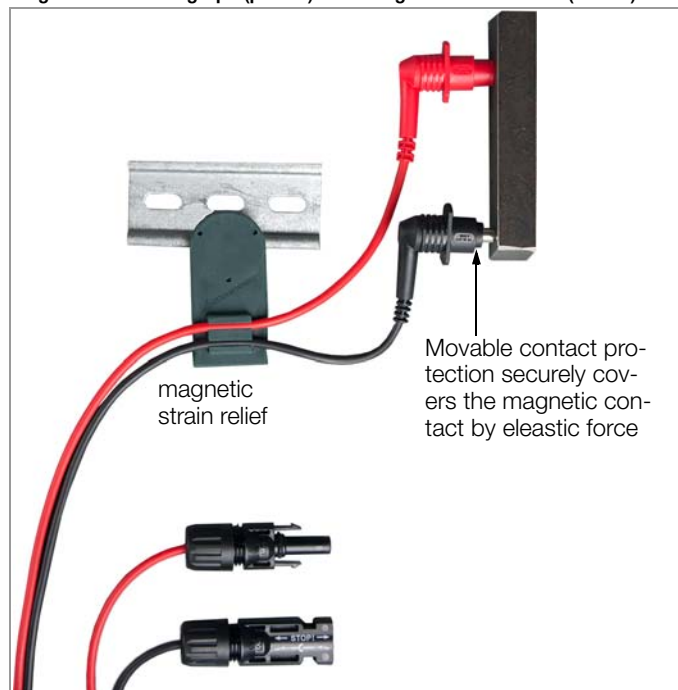
### PV Adapter Set TYCO-MC4 (Z360J)



# PROFITEST PVSUN and PVSUN MEMO

## Test Instrument for Testing PV Modules and Strings per DIN EN 62446 (VDE 0126-23)

Magnetic measuring tips (patent) with magnetic strain relief (Z502Y)



### Order Information

Description	Type	Article Number
Test instrument for testing PV modules and strings with up to 1.000 V / 20 A per DIN EN 62446. Insulation measurement with up to 1.000 V test voltage, polarity test, ground fault test and protective conductor continuity test. With measurement cables and adapters in test case.	PROFITEST PVSUN	M360C <sup>1</sup>
same as PROFITEST PVSUN, additionally with internal memory, bi-directional interface, software and USB interface cable	PROFITEST PVSUN MEMO	M360D <sup>1</sup>
Test equipment consisting of PROFITEST PVSUN MEMO, PROFITEST PVSUN-SOR, Set 2 – Magnetic Measuring Tips and test case	PV SUN PACKAGE	M360E
Sensor for irradiation, temperature and inclination angle for PROFITEST PVSUN and PROFITEST PVSUN MEMO	PROFITEST PVSUN-SOR	Z360N <sup>D</sup>
Solar connection cable, length 300 mm, diameter 4 mm	PV Adapter Set MC3-MC4	Z360K
Solar connection cable, length 300 mm, diameter 4 mm	PV Adapter Set SUNCLIX-MC4	Z360H
Solar connection cable, length 300 mm, diameter 4 mm	PV Adapter Set TYCO-MC4	Z360J
2 magnetic measuring tips with contact protection – Set with magnetic holder 5,5 mm in diameter insulated with MC4 plug (for Photovoltaic Tester), CAT III 1.000 V / 4 A, temperature between –10 °C and 60 °C, under standard conditions and flat-head screws holding force 1.200 g vertical to contact area	Set 2 – Magnetic Measuring Tips	Z502Y

<sup>D</sup> datasheet available

<sup>1</sup> DAKS calibration certificate optionally available



# Diensten van EURO-INDEX

EURO-INDEX is fabrikant, importeur en distributeur van diverse A-merken op het gebied van test- en meetinstrumenten. Daarnaast leveren wij een groot aantal diensten om het gebruik van deze instrumenten in uw bedrijfsvoering te optimaliseren. Dit omvat uiteraard onderhoud, reparatie en kalibratie van de instrumenten, maar ook kennisdeling via de EURO-INDEX Academy en verhuur van instrumenten.

## Geautoriseerd Service Centrum

EURO-INDEX b.v. is van alle vertegenwoordigde merken een Geautoriseerd Service Centrum. Dit betekent dat uw instrumenten worden behandeld door technici die zijn opgeleid door de fabrikant en beschikken over de juiste gereedschappen en software. Er worden uitsluitend originele onderdelen toegepast en de garantie van uw instrument, evenals de certificering (ATEX, EN50379, etc.) blijven intact.

## Kalibratielaboratorium

Ons moderne service- en kalibratielaboratorium beschikt over een RvA accreditatie naar NEN-EN-ISO/IEC 17025. Deze accreditatie geldt voor grootheden, zoals gespecificeerd in de scope bij accreditatienummer K105.



Kijk voor een overzicht van al onze diensten op [euro-index.nl/diensten](http://euro-index.nl/diensten)



## Mobiele Service

Naast de vaste kalibratielaboratoria in Capelle aan den IJssel en Zaventem beschikken wij ook over laboratoria op wielen met de naam "Mobiele Service". Dit biedt vertrouwde service en kwaliteit, bij u voor de deur!

## KWS®

KWS® is een uniek servicesysteem voor uw meetinstrumenten met periodiek onderhoud en kalibratie tegen vaste, lage kosten. Uw kalibratiecertificaten zijn digitaal beschikbaar via Mijn KWS (gratis webportaal en app).

## Verhuur van meetinstrumenten

- Uitgebreid assortiment
- Nauwkeurigheid aantoonbaar door actueel kalibratiecertificaat
- Deskundig advies
- Complete levering inclusief accessoires

## EURO-INDEX Academy

- Trainingen (individueel en klassikaal)
- Cursussen en workshops
- Demonstratie- en instructievideo's
- Whitepapers



Servicebalie



Onderhoud, reparatie en kalibratie



Cursussen en workshops



Mobiele Service

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