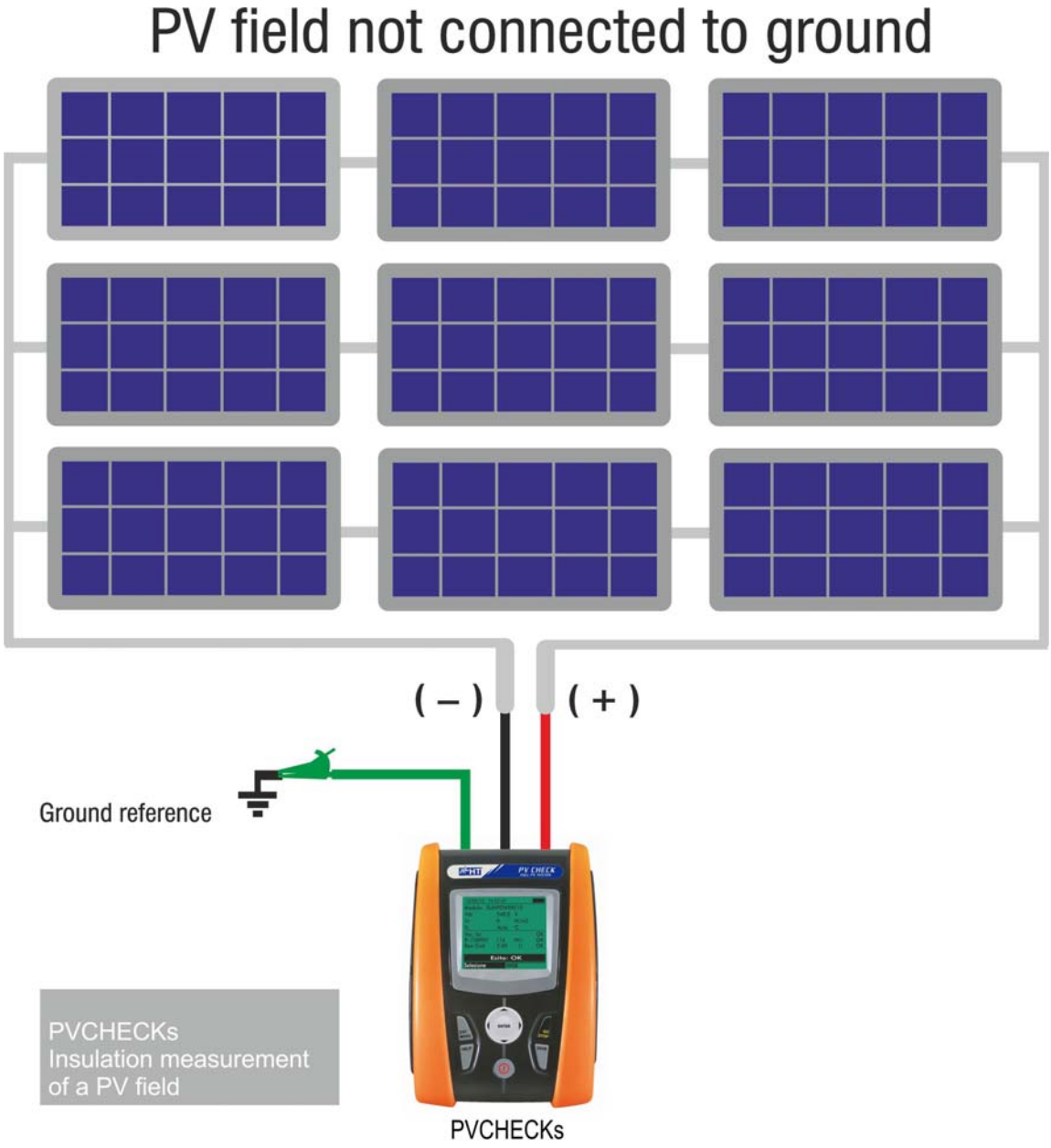
The multifunction instrument PVCHECKs performs prompt and safe electrical checks required for a PV system (DC section) and controls of the functionality of modules / strings in accordance with IEC/EN62446 guidelines.

PVCHECKs: safety checks

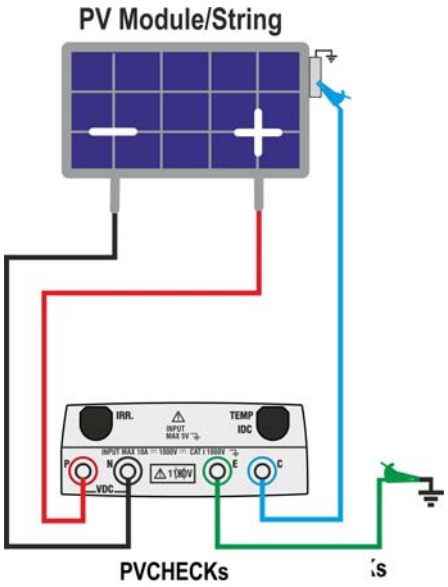
PVCHECKs verifies continuity of protective conductors (and associated connections) and measures insulation resistance of the active conductors on a module, a string, or a photovoltaic field in accordance with IEC/EN62446 guidelines, so avoiding to use any external switch to short-circuit positive and negative terminals.



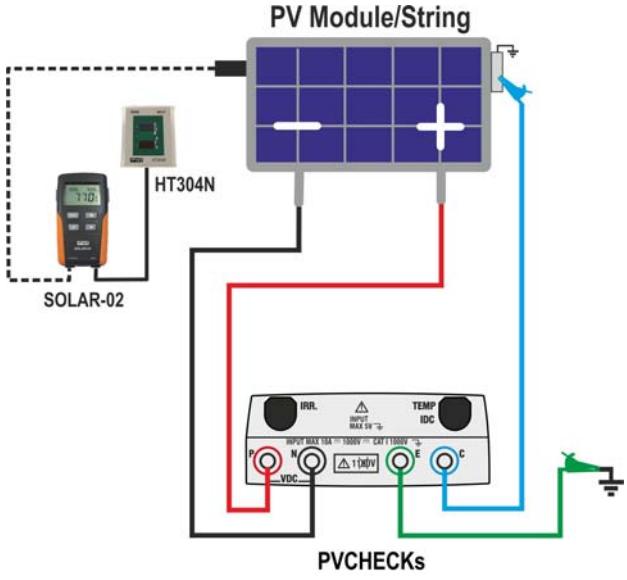
Direct measurement of insulation resistance on a PV Field not connected to ground

PVCHECKs: functionality checks

PVCHECKs verifies functionality of a PV string in accordance with the IEC/EN62446 guidelines by measuring open circuit voltage and short-circuit current under operating conditions **up to 15A** and extrapolating the results referred to the STC (by measuring the solar radiation). Finally, it displays measurements as well as comparison with the PV strings previously tested.



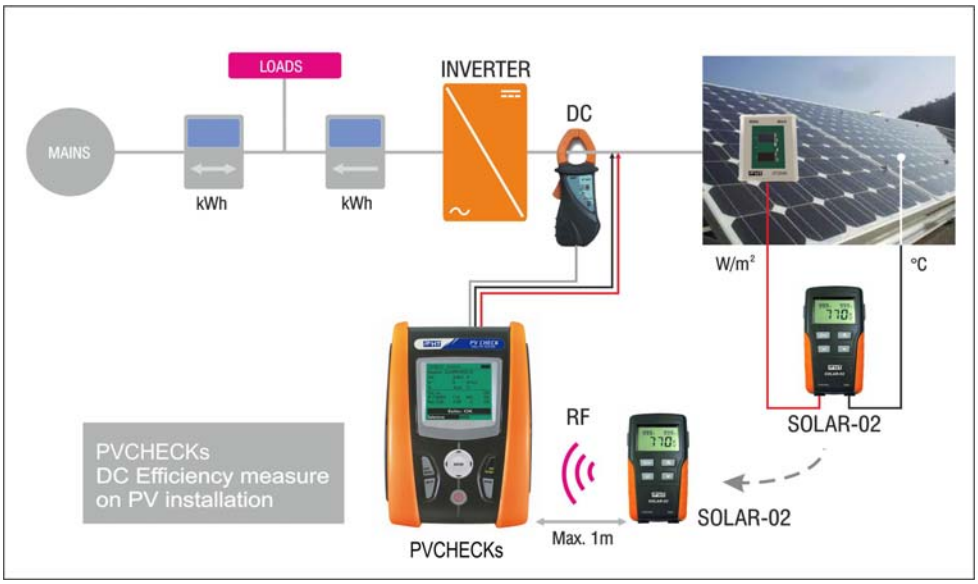
Test IVCK – Automatic measurement of Voc, Isc + Insulation + Continuity on a PV Module/String without irradiance measurement



Test IVCK – Automatic measurement of Voc, Isc + Insulation + Continuity on a PV Module/String with irradiance measurement with optional accessories SOLAR-02 and HT304N

PVCHECKs: performance checks

PVCHECKs analyses the performance of a PV array (DC) under the operating conditions (connected to the inverter) displaying the generated power and the efficiency of the PV plant in accordance with IEC/EN62446.



2. ELECTRICAL SPECIFICATIONS

Accuracy is calculated as ± [% readings + (no. of digits) * resolution] at 23°C ± 5°C, relative humidity <80%HR

2.1. PERFORMANCE TEST

DC Voltage

Range (V)	Resolution (V)	Uncertainty
5.0 ÷ 199.9	0.1	± (1.0%rdg + 2dgt)
200.0 ÷ 999.9	0.5	

DC current (by mean external clamp)

Range (mV)	Resolution (mV)	Uncertainty
-1100 ÷ -5	0.1	± (0.5%rdg + 0.6mV)
5 ÷ 1100		

DC current is always positive ;DC current zeroed if the related voltage value is < 5mV

FS DC clamp [A]	Resolution [A]	Minimum read value [A]
1< FS ≤ 10	0.001	0.05
10< FS ≤ 100	0.01	0.5
100< FS ≤ 1000	0.1	5

DC Power (Vmeas > 150V)

Clamp FS (A)	Range (W])	Resolution (W)	Uncertainty
1< FS ≤ 10	0.000k ÷ 9.999k	0.001k	±(1.5%rdg + 3dgt) (Imeas < 10%FS) ±(1.5%rdg) (Imeas ≥ 10%FS)
10< FS ≤ 100	0.00k ÷ 99.99k	0.01k	
100< FS ≤ 1000	0.0k ÷ 999.9k	0.1k	

Irradiance (by mean HT304N)

Range (mV)	Resolution (mV)	Uncertainty
1 ÷ 40.0	0.02	±(1.0%rdg + 0.1mV)

Temperature (by mean PT300N)

Range (°C)	Resolution (°C)	Uncertainty
-20.0 ÷ 100.0	0.1	± (1.0%rdg +1°C)

2.2. FUNCTIONALITY TEST

DC Voltage @ OPC

Range (V)	Resolution (V)	Uncertainty
5.0 ÷ 199.9	0.1	±(1.0%rdg+2dgt)
200 ÷ 999	1	

Minimum VPN voltage to start the test: 15V

DC Current @ OPC

Range (A)	Resolution (A)	Uncertainty
0.10 ÷ 15.00	0.01	±(1.0%rdg+2dgt)

DC Voltage @ STC

Range (V)	Resolution (V)	Uncertainty
5.0 ÷ 199.9	0.1	±(4.0%rdg+2dgt)
200 ÷ 999	1	

DC Current @ STC

Range (A)	Resolution (A)	Uncertainty
0.10 ÷ 15.00	0.01	±(4.0%rdg+2dgt)

Irradiance (by mean HT304N)

Range (mV)	Resolution (mV)	Uncertainty
1 ÷ 40.0	0.02	±(1.0%rdg + 0.1mV)

Temperature (by mean PT300N)

Range (°C)	Resolution (°C)	Uncertainty
-20.0 ÷ 100.0	0.1	± (1.0%rdg +1°C)

2.3. SAFETY TEST

Continuity Test (LOWΩ)

Range [Ω]	Resolution [Ω]	Uncertainty
0.00 ÷ 1.99	0.01	±(2.0%rdg + 2dgt)
2.0 ÷ 19.9	0.1	
20 ÷ 199	1	

Test current >200mA DC up to 2Ω (test leads included), Resolution 1mA, Uncertainty ±(5.0%rdg + 5dgt)
Open loop voltage $4 < V_0 < 10V$

Insulation Test (MΩ) – Mode TIMER

Test voltage [V]	Range [MΩ]	Resolution [MΩ]	Uncertainty
250, 500, 1000	0.01 ÷ 1.99	0.01	±(5.0%rdg+ 5dgt)
	2.0 ÷ 19.9	0.1	
	20 ÷ 199	1	

Open voltage: < 1.25 * nominal test voltage
Short circuit current: <15mA (peak) for all test voltages
Generated voltage Resolution 1V, uncertainty ±(5.0%rdg + 5dgt) @ Rmis> 0.5% FS
Test current > 1mA with load = 1kΩ x Vnom

Insulation Test (MΩ) – Mode FIELD (*), STRING (**)

Test voltage [V]	Range [MΩ]	Resolution [MΩ]	Uncertainty (***)
250	0.1 ÷ 1.9	0.1	±(20.0%rdg+ 5dgt)
	2 ÷ 99	1	
500	0.1 ÷ 1.9	0.1	
	2 ÷ 99	1	
1000	0.1 ÷ 1.9	0.1	
	2 ÷ 99	1	

(*) For FIELD mode if VPN >1V the minimum voltage VEP and VEN for the calculation of Ri(+) and Ri(-) is 1V
(**) For STRING mode minimum VPN voltage to start the test: 15V
Open voltage <1.25 x nominal test voltage
Short circuit current < 15mA (peak) for each test voltage
Generated voltage resolution 1V, accuracy ±(5.0%reading + 5digits) @ Rmis> 0.5% FS
Rated current measured > 1mA with 1kΩ @ Vnom

(***) For FIELD mode: add 5 dgts to the accuracy if $\frac{\max\{R^+, R^-\}}{\min\{R^+, R^-\}} \geq 100$

3. GENERAL SPECIFICATIONS

DISPLAY AND MEMORY:	
Features:	128x128pxl custom LCD with backlight
Memory:	max 999 test
POWER SUPPLY:	
PVCHECK internal power supply:	6x1.5V alkaline batteries type LR6, AA, AM3, MN 1500
Battery life:	approx.120 hours (DC efficiency test)
SOLAR-02 power supply:	4x1.5V alkaline batteries type AAA LR03
SOLAR-02 max recording time (@ IP=5s):	approx. 1.5h
OUTPUT INTERFACE	
PC communication port:	optical/USB
Interface with SOLAR-02:	wireless RF communication (max distance 1m)
MECHANICAL FEATURES	
Size (L x W x H):	235 x 165 x 75mm
Weight (batteries included):	1.2kg
ENVIRONMENTAL CONDITIONS:	
Reference temperature:	23°C ± 5°C
Working temperature:	0° ÷ 40°C
Working humidity:	<80%HR
Storage temperature (remove the batteries):	-10 ÷ 60°C
Storage humidity:	<80%HR
GENERAL REFERENCE STANDARDS:	
Safety:	IEC/EN61010-1
EMC:	IEC/EN61326-1
Safety of measurement accessories:	IEC/EN61010-031
Measurements:	IEC/EN62446 (PV performance, IVCK) IEC/EN 61557-1, 2, -4 (LOWΩ, MΩ))
Insulation:	double insulation
Pollution degree:	2
Overvoltage category:	CAT III 300V to ground Max 1000V DC among inputs P, N, E, C
Max height of use:	2000m

This instrument complies with the requirements of the European Low Voltage Directives 2006/95/EC (LVD) and EMC 2004/108/EC
This instrument satisfies the requirements of 2011/65/EU (RoHS) directive and 2012/19/EU (WEEE) directive

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.

Meer info

Kijk voor een overzicht van al onze diensten op 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!

Meer info

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).

Meer info

Verhuur van meetinstrumenten

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

Meer info

EURO-INDEX Academy

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

Meer info

Servicebalie

Onderhoud, reparatie en kalibratie

Cursussen en workshops

Mobiele Service

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