1. ELECTRICAL SPECIFICATIONS

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

SAFETY TEST

DMM – DC Voltage

Range [V]	Resolution [V]	Accuracy
3 ÷ 1500	1	± (1.0%rdg + 2dgt)

DMM – AC TRMS Voltage

Range [V]	Resolution [V]	Accuracy
3 ÷ 1000	1	± (1.0%rdg + 3dgt)

Frequency range: 42.5Hz ÷ 69Hz ; Voltage zeroed for measured values <3V

Insulation Resistance (MΩ) – DUAL Mode

Test voltage DC [V]	Range [MΩ]	Resolution [MΩ]	Accuracy (*)
250, 500, 1000, 1500	0.1 ÷ 0.99	0.01	±(5%rdg + 5dgt)
	1.0 ÷ 19.9	0.1	
	20 ÷ 100	1	

(*) Accuracy indicatec for VPN ≥240V, Rfault≥10Ω. Accuracy of Rp and R(+) not declared if R(+)≥ 0.2MΩ and R(-) <0.2MΩ
Accuracy of Rp and R(-) not declared if R(+) < 0.2MΩ and R(-) ≥0.2MΩ

Open voltage <1.25 x nominal test voltage
Short circuit current <15mA (peak) for each test voltage
Nominal measured current >1mA on R = 1kΩ x Vnom (with VPN, VPE, VNE= 0)
Managed capacity per poles: 1µF (**instruments with HW 00**); 2µF (**instruments with HW 01**)

Insulation Resistance (MΩ) –TMR Mode

Test voltage DC [V]	Range [MΩ]	Resolution [MΩ]	Accuracy
250, 500, 1000, 1500	0.01 ÷ 9.99	0.01	±(5.0%rdg+ 5dgt)
	10.0 ÷ 99.9	0.1	

Open voltage <1.25 x nominal test voltage
Short circuit current <15mA (peak) for each test voltage
Nominal measured current >1mA on R = 1kΩ x Vnom (with VPN, VPE, VNE= 0)
Setting timer: 3s ÷ 999s

Continuity of protection conductors (RPE)

Range [Ω]	Resolution [Ω]	Accuracy
0.00 ÷ 9.99	0.01	±(2%rdg + 2dgt)
10.0 ÷ 99.9	0.1	
100 ÷ 1999	1	

Test current: >200mA DC up to 5Ω (included cables), Resolution 1mA, Accuracy ±(5.0%rdg + 5dgt)
Open voltage $4 < V_0 < 10V$

GFL (Ground Fault Locator) function

Test voltage DC [V]	Range [MΩ]	Resolution [MΩ]	Accuracy (*)	Position accuracy
250, 500, 1000, 1500	0.1 ÷ 0.99	0.01	±(5%rdg + 5dgt)	± 1module (NMOD≤35) ± 3module (NMOD>35)
	1.0 ÷ 19.9	0.1		
	20 ÷ 100	1		

(*) Accuracy indicatec for VPN ≥240V, Rfault≥10Ω. Accuracy of Rp and R(+) not declared if R(+)≥ 0.2MΩ and R(-) <0.2MΩ
Accuracy of Rp and R(-) not declared if R(+) < 0.2MΩ and R(-) ≥0.2MΩ

Open voltage <1.25 x nominal test voltage
Short circuit current <15mA (peak) for each test voltage
Nominal measured current >1mA on R = 1kΩ x Vnom (with VPN, VPE, VNE= 0)
Set limit threshold on measure 0.05MΩ, 0.1MΩ, 0.23MΩ (**instruments with HW 00**)
0.05MΩ, 0.1MΩ, 0.23MΩ, 0.25MΩ, 0.50MΩ, 1.00MΩ (**instruments with HW 01)**
Number of set modules: 4 ÷ 60

The GFL function allows obtaining correct results with the following conditions:

- **Test carried out with Vtest ≥Vnom on a single string disconnected from the inverter, from possible arresters and from earth connections**
- **Test performed upstream of any blocking diodes**
- **Single fault of low insulation located at any position in the string**
- **Insulation resistance of the single fault <0.23MΩ (instruments with HW 00); <1.00MΩ (instruments with HW 01)**
- **Environmental conditions similar to those in which the fault was reported**

FUNCTIONALITY TEST (IVCK)

DC Voltage @ OPC

Range [V]	Resolution [V]	Accuracy
3.0 ÷ 1500.0	0.1	±(1.0%rdg+2dgt)

Minimum VPN voltage to start the test: 15V

IDC Current @ OPC

Range [A]	Resolution [A]	Accuracy
0.10 ÷ 40.00	0.01	±(1.0%rdg+2dgt)

DC Voltage @ STC

Range [V]	Resolution [V]	Accuracy
3.0 ÷ 1500.0	0.1	±(4.0%rdg+2dgt)

IDC Current @ STC

Range [A]	Resolution [A]	Accuracy
0.10 ÷ 40.00	0.01	±(4.0%rdg+2dgt)

2. GENERAL SPECIFICATIONS

DISPLAY AND MEMORY	
Features:	240x240pxl custom LCD with backlight
Memory:	max 999 test
Internal database for PV modules:	max 64 saving modules
POWER SUPPLY	
Internal power supply:	6x1.5V alkaline batteries type LR6, AA or 6x1.2V rechargeable NiMH batteries type LR6, AA (External adapter needed for NiMH batteries recharging)
Battery life (@Temp = 20°C):	RPE: >500 Test (RPE ≥ 0.1Ω) GFL, MΩ: >500 test (Riso ≥ 1kΩxVTest) IVCK: >500 test (no SOLAR03)
Auto Power OFF:	after 5 minutes of idleness
OUTPUT INTERFACE	
PC communication port:	optical/USB and WiFi
Interface with SOLAR03:	Bluetooth BLE communication (up to 100m/328ft in free space)
MECHANICAL FEATURES	
Dimensions (L x W x H):	235 x 165 x 75mm
Weight (batteries included):	1.2kg
Mechanical protection:	IP40
ENVIRONMENTAL CONDITIONS	
Reference temperature:	23°C ± 5°C
Working temperature:	-10°C ÷ 50°C
Working humidity:	<80%RH (without condensation)
Storage temperature:	-10°C ÷ 60°C
Storage humidity:	<80%RH (without condensation)
Max height of use:	2000m
REFERENCE GUIDELINES	
Safety:	IEC/EN61010-1, IEC/EN61010-2-030 IEC/EN61010-2-033, IEC/EN61010-2-034
EMC:	IEC/EN61326-1, IEC/EN61326-2-2
Safety of measurement accessories:	IEC/EN61010-031
IVCK measurements:	IEC/EN62446-1, IEC/EN60891, IEC/EN60904-1-2-5
MΩ measurement:	IEC/EN61557-2
RPE measurement:	IEC/EN61557-4
Insulation:	double insulation
Pollution degree:	2
Radio:	ETSI EN300328, ETSIEN301489-1, ETSIEN301489-17
Measurement category:	CAT III 1000VAC, CAT III 1500VDC to ground Max 1000VAC, 1500VDC between inputs

This instrument complies with the requirements of the European Low Voltage Directives 2014/35/EU (LVD), EMC directive 2014/30/EU and RED 2014/53/EU directive
This instrument satisfies the requirements of 2011/65/EU (RoHS) directive and 2012/19/EU (WEEE) directive