2. ELECTRICAL SPECIFICATIONS

Accuracy is calculated as ± [% readings + (dgt * resolution)] at 23 °C ± 5 °C, relative humidity <80%RH

DC Voltage

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

AC TRMS Voltage

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

Frequency range: 42.5 ÷ 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, HW 01**); 2µF (**instruments with HW 02**)

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)	±1 module (NMOD≤35) ±3 modules (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, HW 01**)
0.05MΩ, 0.1MΩ, 0.23MΩ, 0.25MΩ, 0.50MΩ, 1.00MΩ (**instruments with HW 02**)
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, HW 01); <1.00MΩ (instruments with HW 02)**
- **Environmental conditions similar to those in which the fault was reported**

2. GENERAL SPECIFICATIONS

DISPLAY AND MEMORY:	
Features:	graphic COG 128x128pxl with backlight
Memory:	max 999 test
POWER SUPPLY:	
Battery type:	6x1.5V alkaline batteries type AA LR06 or 6x1.2V rechargeable NiMH batteries type AA LR06
Battery life:	> 500 tests (for each functions)
Auto Power OFF:	after 5 minutes of idleness
OUTPUT INTERFACE	
PC communication port:	optical/USB
MECHANICAL SPECIFICATIONS	
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:	0°C ÷ 40°C
Working humidity:	<80%RH
Storage temperature:	-10°C ÷ 60°C
Storage humidity:	<80%RH
Max height of use:	2000m
REFERENCE GUIDELINES:	
Instrument's safety:	IEC/EN61010-1, IEC/EN61010-2-030 IEC/EN61010-2-033, IEC/EN61010-2-034
EMC:	IEC/EN61326-1
Safety of measurement accessories:	IEC/EN61010-031
General:	IEC/EN62446-1
EMC environment of use :	portable, Class A, Group 1
Measurement MΩ	IEC/EN 61557-2
Measurement RPE:	IEC/EN 61557-4
Insulation:	double insulation
Pollution degree:	2
Overvoltage category:	CAT III 1500V DC, CAT III 1000V AC Max 1500V DC, 1000VAC between inputs

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