



2. ELECTRICAL SPECIFICATIONS

Accuracy is calculated as $\pm [\% \text{ readings} + (\text{no. of digits}) * \text{resolution}]$ at $23^\circ\text{C} \pm 5^\circ\text{C}$, relative humidity $<80\%\text{RH}$

DC Voltage

Range (V)	Resolution (V)	Accuracy
3 ÷ 1500	1	$\pm (1.0\% \text{rdg} + 2 \text{dgt})$

AC TRMS Voltage

Range (V)	Resolution (V)	Accuracy
3 ÷ 1000	1	$\pm (1.0\% \text{rdg} + 3 \text{dgt})$

Frequency range: 42.5 ÷ 69Hz ; Voltage zeroed for measured values $<3\text{V}$

Insulation Resistance ($\text{M}\Omega$) – DUAL Mode

Test voltage DC [V]	Range [$\text{M}\Omega$]	Resolution [$\text{M}\Omega$]	Accuracy (*)
250, 500, 1000, 1500	0.1 ÷ 0.99	0.01	$\pm (5\% \text{rdg} + 5 \text{dgt})$
	1.0 ÷ 19.9	0.1	
	20 ÷ 100	1	

(*) Accuracy indicated for $\text{VPN} \geq 240\text{V}$, $\text{R}_{\text{fault}} \geq 10\text{M}\Omega$. Accuracy of Rp and $\text{R}(+)$ not declared if $\text{R}(+) \geq 0.2\text{M}\Omega$ and $\text{R}(-) < 0.2\text{M}\Omega$

Accuracy of Rp and $\text{R}(-)$ not declared if $\text{R}(+) < 0.2\text{M}\Omega$ and $\text{R}(-) \geq 0.2\text{M}\Omega$

Open voltage $< 1.25 \times \text{nominal test voltage}$

Short circuit current $< 15\text{mA}$ (peak) for each test voltage

Nominal measured current $> 1\text{mA}$ on $\text{R} = 1\text{k}\Omega \times \text{V}_{\text{nom}}$ (with VPN , VPE , $\text{VNE} = 0$)

Insulation Resistance ($\text{M}\Omega$) – TIMER Mode

Test voltage DC [V]	Range [$\text{M}\Omega$]	Resolution [$\text{M}\Omega$]	Accuracy
250, 500, 1000, 1500	0.01 ÷ 9.99	0.01	$\pm (5.0\% \text{rdg} + 5 \text{dgt})$
	10.0 ÷ 99.9	0.1	

Open voltage $< 1.25 \times \text{nominal test voltage}$

Short circuit current $< 15\text{mA}$ (peak) for each test voltage

Nominal measured current $> 1\text{mA}$ on $\text{R} = 1\text{k}\Omega \times \text{V}_{\text{nom}}$ (with VPN , VPE , $\text{VNE} = 0$)

Setting timer: 3s ÷ 999s

Continuity of protection conductors (RPE)

Range [Ω]	Resolution [Ω]	Accuracy
0.00 ÷ 9.99	0.01	$\pm (2\% \text{rdg} + 2 \text{dgt})$
10.0 ÷ 99.9	0.1	
100 ÷ 1999	1	

Test current: $> 200\text{mA}$ DC up to 5Ω (included cables), Resolution 1mA, Accuracy $\pm (5.0\% \text{rdg} + 5 \text{dgt})$

Open voltage $4 < \text{V}_0 < 10\text{V}$

GFL (Ground Fault Locator) function

Test voltage DC [V]	Range [$\text{M}\Omega$]	Resolution [$\text{M}\Omega$]	Accuracy (*)	Position accuracy
250, 500, 1000, 1500	0.1 ÷ 0.99	0.01	$\pm (5\% \text{rdg} + 5 \text{dgt})$	$\pm 1 \text{module}$
	1.0 ÷ 19.9	0.1		
	20 ÷ 100	1		

(*) Accuracy indicated for $\text{VPN} \geq 240\text{V}$, $\text{R}_{\text{fault}} \geq 10\text{M}\Omega$. Accuracy of Rp and $\text{R}(+)$ not declared if $\text{R}(+) \geq 0.2\text{M}\Omega$ and $\text{R}(-) < 0.2\text{M}\Omega$

Accuracy of Rp and $\text{R}(-)$ not declared if $\text{R}(+) < 0.2\text{M}\Omega$ and $\text{R}(-) \geq 0.2\text{M}\Omega$

Open voltage $< 1.25 \times \text{nominal test voltage}$

Short circuit current $< 15\text{mA}$ (peak) for each test voltage

Nominal measured current $> 1\text{mA}$ on $\text{R} = 1\text{k}\Omega \times \text{V}_{\text{nom}}$ (with VPN , VPE , $\text{VNE} = 0$)

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

- Test carried out with $\text{V}_{\text{test}} \geq \text{V}_{\text{nom}}$ 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 $< 0.1\text{M}\Omega$
- 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
6x1.1V rechargeable batteries type AA LR06
Battery life: approx. 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: $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Working temperature: $0^{\circ}\text{C} \div 40^{\circ}\text{C}$
Working humidity: $<80\%\text{RH}$
Storage temperature: $-10^{\circ}\text{C} \div 60^{\circ}\text{C}$
Storage humidity: $<80\%\text{RH}$
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
Measurement $M\Omega$: 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