

MI 3121 Insulation / Continuity

SMART^{EC}®

Professional
solution for
smart
operator



Main Features:

- Very large **LCD display** with bargraph and backlight
- **High measuring range** of up to 30 GΩ with test voltage from 50 V to 1000 V
- **Fast and reliable continuity tests** with automatic polarity reversal
- Voltage and frequency measurements
- **Preprogrammed limits**
- PASS/FAIL evaluation of measurement result
- **Bright GREEN/RED indicators** provides visual evaluation of results
- Suited for testing on **CAT IV** installations
- **Magnetic holder** allows hands-free operation
- **Built-in battery charger**
- Two level memory structure for saving of test results and parameters
- Basic downloading with EuroLink PRO PC SW package
- Compatible with EuroLink PRO Plus PC SW package
- **USB and RS232** ports
- Robust and ergonomic design

Suitable for:

Verification, maintenance and periodic testing of electrical installations:

- PE conductors
 - Main and supplementary PE connections
 - Troubleshooting (connectivity, polarity)
 - Insulation resistance
 - Testing on CAT IV installations (distribution side of installations, industrial plants etc).
 - Observation of insulation trends
- Insulation of control, signal, telecom wiring (50,100V)

Standards:

Instrument:
IEC/EN 60364
VDE 100
BS 7671 17th edition
CEI 64.8

Applications:

IEC/EN 61557 Parts 1,2,10
IEC/EN 61010-1
IEC/EN 61326



Magnetic holder for hands free operation



Large LCD screen with backlight and PASS/FAIL indicators

Technical specifications

Insulation resistance

Insulation resistance (test voltages 50 V DC, 100 V DC and 250 V DC)

Measuring range according to EN 61557 is 0.25 M Ω ÷ 199.9 M Ω

Measuring range (M Ω)	Resolution (M Ω)	Accuracy
0.00 ÷ 19.99	0.01	±(5 % of reading + 3 digits)
20.0 ÷ 99.9	0.1	±(10 % of reading)
100.0 ÷ 199.9	0.1	±(20 % of reading)

Insulation resistance (test voltages 500 V DC and 1000 V DC)

Measuring range according to EN61557 is 0.15 M Ω ÷ 30 G Ω

Measuring range (Ω)	Resolution (M Ω)	Accuracy
0.00 M ÷ 19.99 M	0.01	±(5 % of reading + 3 digits)
20.0 M ÷ 199.9 M	0.1	±(5 % of reading)
200 M ÷ 299 M	1	±(5 % of reading)
300 M ÷ 999 M	1	±(5 % of reading)
1.00 G ÷ 4.99 G	10	±(10 % of reading)
5.00 G ÷ 19.99 G	10	±(20 % of reading)
20.0 G ÷ 29.9 G	100	indicative

Open circuit voltage -0 % / +20 % of nominal voltage

Measuring current min. 1 mA at R_N=U_N×1 k Ω /V

Short circuit current max. 3 mA

Auto discharge after test

Continuity (200 mA)

Measuring range according to EN61557 is 0.16 Ω ÷ 1999 Ω

Measuring range R (Ω)	Resolution (Ω)	Accuracy
0.00 ÷ 19.99	0.01	±(3 % of reading + 3 digits)
20.0 ÷ 199.9	0.1	±(5 % of reading)
200 ÷ 1999	1	±(5 % of reading)

Open-circuit voltage 6.5 V DC ÷ 9 V DC

Measuring current min. 200 mA into load resistance of 2 Ω

Test lead compensation up to 5 Ω

Automatic polarity reversal of the test voltage.

Continuity (7 mA)

Measuring range (Ω)	Resolution (Ω)	Accuracy
0.0 ÷ 19.9	0.1	±(5 % of reading + 3 digits)
20 ÷ 1999	1	±(5 % of reading + 3 digits)

Open-circuit voltage 6.5 V DC ÷ 9 V DC

Short-circuit current max. 8.5 mA

Test lead compensation up to 5 Ω

Voltage

Measuring range (V)	Resolution (V)	Accuracy
0 ÷ 9.99	0.01	±(3 % of reading + 3 digits)
10.0 ÷ 99.9	0.1	±(5 % of reading + 3 digits)
100 ÷ 550	1	±(5 % of reading + 3 digits)

Result type True r.m.s. (TRMS)

Nominal frequency range 0 Hz, 15 Hz ÷ 500 Hz

Frequency

Measuring range (Hz)	Resolution (Hz)	Accuracy
0.00 ÷ 19.99	0.01	±(0.2 % of reading + 1 digit)
20.0 ÷ 199.9	0.1	±(0.2 % of reading + 1 digit)
200 ÷ 500	1	±(0.2 % of reading + 1 digit)

Nominal voltage range 10 V ÷ 550 V

General data

Power supply:

Battery life: 6 x 1.5 V batteries or rechargeable batteries, size AA typical 13 h (>1200 insulation resistance tests / >2000 resistance RLOW tests)

Overvoltage category: CAT III 600 V, CAT IV 300 V

Protection classification: double insulation

Pollution degree: 2

Protection degree: IP 40

Display: custom liquid crystal display with backlight

Communication transfer speed: 115200 baud (RS 232) / 256000 baud (USB)

Memory: 1900 measurements

Dimensions (w x h x d): 14 cm x 8 cm x 23 cm

Weight (without batteries): 0.80 kg

Ordering information

MI 3121

Standard set



Instrument MI 3121 Insulation / Continuity tester

Soft hand strap

Universal test cable 3 x 1,5 m

Test tips, 2 pcs (black, red)

Alligator clips, 2 pcs (black, red)

Power supply adapter + 6 NiMH AA rechargeable batteries

Instruction manual on CD

Short instruction manual

Product verification data

Handbook "Guide for testing and verification of low

voltage installations" on CD

Optional Accessories

Photo	Order No.	Description
	A 1153	Test lead 20 m (black)
	A 1154	Test lead 4 m (black)
	A 1160	Fast battery charger with a set of 6 pcs NiMH rechargeable AA batteries
	A 1198	Magnetic contact probe
	A 1244	Tip commander 1,5 m (straight cable)
	A 1270	Tip commander 1,5 m (spiral cable)
	A 1271	Small soft carrying bag
	A 1289	Soft carrying bag
	A 1290	PC SW EuroLink PRO Plus with USB and RS232/PS2 cable
	A 1291	PC SW EuroLink PRO with USB and RS232/PS2 cable

Note! Photographs in this catalogue may slightly differ from the instruments at the time of delivery. Subject to technical change without notice.



Measuring and Regulation Equipment Manufacturer

METREL d.d.

Ljubljanska 77

SI-1354 Horjul

Tel: + 386 (0)1 75 58 200

Fax: + 386 (0)1 75 49 226

E-mail: metrel@metrel.si

http://www.metrel.si