

# MI 3121 Insulation / Continuity

SMART<sup>TEC</sup>®



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 LITE PC SW package
- Compatible with EuroLink PRO 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 $\Omega$   $\div$  199.9 M $\Omega$

Measuring range (M $\Omega$ )	Resolution (M $\Omega$ )	Accuracy
0.00 $\div$ 19.99	0.01	$\pm$ (5 % of reading + 3 digits)
20.0 $\div$ 99.9	0.1	$\pm$ (10 % of reading)
100.0 $\div$ 199.9	0.1	$\pm$ (20 % of reading)

Insulation resistance (test voltages 500 V DC and 1000 V DC)  
Measuring range according to EN61557 is 0.15 M $\Omega$   $\div$  30 G $\Omega$

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

Open circuit voltage -0 % / +20 % of nominal voltage  
Measuring current min. 1 mA at R<sub>N</sub>=U<sub>N</sub> $\times$ 1 k $\Omega$ /V  
Short circuit current max. 3 mA  
Auto discharge after test

### Continuity (200 mA)

Measuring range according to EN61557 is 0.16  $\Omega$   $\div$  1999  $\Omega$

Measuring range R ( $\Omega$ )	Resolution ( $\Omega$ )	Accuracy
0.00 $\div$ 19.99	0.01	$\pm$ (3 % of reading + 3 digits)
20.0 $\div$ 199.9	0.1	$\pm$ (5 % of reading)
200 $\div$ 1999	1	$\pm$ (5 % of reading)

Open-circuit voltage 6.5 V DC  $\div$  9 V DC  
Measuring current min. 200 mA into load resistance of 2  $\Omega$   
Test lead compensation up to 5  $\Omega$   
Automatic polarity reversal of the test voltage.

### Continuity (7 mA)

Measuring range ( $\Omega$ )	Resolution ( $\Omega$ )	Accuracy
0.0 $\div$ 19.9	0.1	$\pm$ (5 % of reading + 3 digits)
20 $\div$ 1999	1	$\pm$ (5 % of reading + 3 digits)

Open-circuit voltage 6.5 V DC  $\div$  9 V DC  
Short-circuit current max. 8.5 mA  
Test lead compensation up to 5  $\Omega$

### Voltage

Measuring range (V)	Resolution (V)	Accuracy
0 $\div$ 9.99	0.01	$\pm$ (3 % of reading + 3 digits)
10.0 $\div$ 99.9	0.1	$\pm$ (5 % of reading + 3 digits)
100 $\div$ 550	1	$\pm$ (5 % of reading + 3 digits)

Result type True r.m.s. (TRMS)  
Nominal frequency range 0 Hz, 15 Hz  $\div$  500 Hz

### Frequency

Measuring range (Hz)	Resolution (Hz)	Accuracy
0.00 $\div$ 19.99	0.01	$\pm$ (0.2 % of reading + 1 digit)
20.0 $\div$ 199.9	0.1	$\pm$ (0.2 % of reading + 1 digit)
200 $\div$ 500	1	$\pm$ (0.2 % of reading + 1 digit)

Nominal voltage range 10 V  $\div$  550 V

### General data

Power supply: 6 x 1.5 V batteries or rechargeable batteries, size AA  
Battery life: 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 with USB and RS232/PS2 cable
	A 1291	PC SW EuroLink LITE 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.



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