

MI 3311 GammaGT



Multifunctional Portable Appliance Tester



The new MI 3311 GammaGT is a battery powered multifunctional instrument intended to perform measurements for testing the electrical safety of portable electrical equipment. Due to large graphical LCD with backlight, two PASS / FAIL LED indicators and HELP screens for each measurement the handling of the instrument is clear and simple. Up to 1500 test results with parameters can be stored in the internal memory of the instrument and then downloaded to the PC for further data handling and creation of test report. Lightweight design, pre-programmed and custom test sequences, optional barcoding system and built-in calibration unit make the MI 3311 an ideal instrument for high volume professional safety testing of portable appliances.

THE FOLLOWING TESTS CAN BE PERFORMED:

- Earth bond resistance
- Insulation resistance
- Insulation resistance of isolated accessible conductive parts
- Substitute leakage current
- Substitute leakage current of isolated accessible conductive parts
- Functional and visual inspection
- IEC cord polarity
- Voltage TRMS

KEY FEATURES:

- Graphic LCD with resolution of 128 x 64 dots, with backlight.
- The graphic display offers easy reading of results, indications, measurement parameters and messages.
- Large green and red lights for additional PASS / FAIL indication placed at the sides of the LCD.
- Large data flash memory for storing test results & parameters (about 1500 tests can be stored in average).
- Two communication ports (USB and RS232C) for communication with PC, and barcode reader.
- Built-in real time clock.
- Barcoding system for quick test code selection and identification of DUT
- Programmable limits for PASS / FAIL evaluation.
- Fully compatible with new Metrel PATLink PRO PC software package (download, view, print and export of test results)
- Optional PC SW PATLink PRO Plus (advanced test result analysis and professional test report creation)
- Built-in calibration unit (checkbox).
- Portable and lightweight design.
- Rechargeable battery powered instrument with built-in charging circuit.

POWERFUL FUNCTIONS FOR FAST AND EFFICIENT PERIODIC TESTING:

- Pre-programmed test sequences.
- VDE organizer
- Fast testing with help of barcodes.
- Test sequences can be uploaded from PC.

APPLICATION:

- Professional portable appliance testing
- General portable appliance testing
- Multi-location portable appliance testing

STANDARDS APPLIED

Electromagnetic compatibility (EMC)
EN 61326

Safety (LVD)
EN 61010 - 1
EN 61010 - 031

Functionality
EN 61557
VDE 0404-1
VDE 0404-2
VDE 0701-702
NEN 3140

Technical specifications

1.1 Earth bond (200 mA)

Range	Resolution	Accuracy
0.00 Ω \div 19.99 Ω	0.01 Ω	\pm (5 % of reading + 3 digits)
20.0 Ω \div 199.9 Ω	0.1 Ω	Indication only
200 Ω \div 1999 Ω	1 Ω	

Test currents	200 mA into 2.00 Ω
Open circuit voltage	<9 V AC
Pass levels	0.10 Ω \div 1.00 Ω
Test duration	2 s, 5 s, 10 s, 30 s, 60 s, 120 s, ∞
Test method	2-wire measurement

1.2 Insulation resistance (250 V DC, 500 V DC)

Range	Resolution	Accuracy
0.00 M Ω \div 19.99 M Ω	0.01 M Ω	\pm (5 % of reading + 3 digits)
20.0 M Ω \div 199.9 M Ω	0.1 M Ω	

Nominal voltages	250 V DC, 500 V DC (-0 %, +10 %)
Measuring current	min. 1 mA at 250 k Ω (250 V), 500 k Ω (500 V)
Short circuit current	max. 2.0 mA
Pass levels	0.01 M Ω , 0.10 M Ω , 0.25 M Ω , 0.30 M Ω , 0.50 M Ω , 1 M Ω , 2 M Ω , 4 M Ω , 7 M Ω , 10 M Ω , — M Ω ,
Test duration	2 s, 3 s, 5 s, 10 s, 30 s, 60 s, 120 s, ∞

1.3 Substitute leakage current

Range	Resolution	Accuracy
0.00 μ A \div 9.99 mA	0.01 mA	\pm (5 % of reading + 3 digits)
10.0 μ A \div 20.0 mA	0.1 mA	

Open circuit voltage	<50 V AC at rated mains voltage
Short circuit current	<2.5 mA
Pass levels:	
Substitute leakage	0.25mA, 0.50mA, 0.75mA, 1.00mA, 1.50mA, 2.00mA, 2.25mA, 2.50mA, 3.50mA, 4.00mA, 4.50 mA, 5.00 mA, 5.50 mA, 6.00 mA, 7.00 mA, 8.00 mA, 9.00 mA, 10.0 mA, 15.0 mA, — mA
Substitute leakage-S	0.25 mA, 0.50 mA, 0.75 mA, 1.00 mA, 1.50 mA, 2.00 mA, — mA
Test duration	2 s, 3 s, 5 s, 10 s, 30 s, 60 s, 120 s, ∞
Displayed current	calculated to appliance nominal mains supply voltage (115 or 230 V) \times 1.06.

1.4 Polarity test

Test voltage	<50 V AC
Detects	PASS, L OPEN, N OPEN, PE OPEN, L-N CROSS, MULTIPLE FAULT.

1.5 Voltage measurement

Range	Resolution	Accuracy
0 \div 300 V	1 V	\pm (2 % of reading + 2 digits)

Result type	True r.m.s. (trms)
Nominal frequency range	0 Hz, 50 Hz \div 60 Hz
Frequency accuracy	Indication only

1.6 Checkbox specification

Function	Reference value	Accuracy
Earth bond	0.50 Ω	\pm 1% of value
Earth bond	2.00 Ω	\pm 1% of value
Substitute leakage current	5.90 mA	\pm 1% of value
Substitute leakage current	0.50 mA	\pm 1% of value
Insulation resistance	1.20 M Ω	\pm 1% of value
Insulation resistance	10.00 M Ω	\pm 1% of value

1.7 General data

Power supply voltage	9 VDC (6 \times 1.5 V battery or accu, size AA)
Operation	typical 8 h
Working temperature range	0 $^{\circ}$ C \div 40 $^{\circ}$ C
Maximum relative humidity	95 %RH (0 $^{\circ}$ C \div 40 $^{\circ}$ C), non-condensing
Display	128 \times 64 dots matrix display with backlight
Memory	1500 memory locations
Communication ports:	RS232 (PS/2 connector, female), USB (type B connector, female)
Overvoltage category	300 V CAT II
Protection classification	double insulation
Protection degree case	IP 40
Protection degree test connectors	IP 20
Dimensions (w \times h \times d)	14 cm \times 8 cm \times 23 cm
Weight	0.86 kg

Ordering information:

Standard set

Part No. MI 3311



- Instrument GammaGT
- IEC cable, 2 m
- Test probe, red
- Test lead, red, 1.5 m
- Crocodile clip, red
- Power supply adapter
- 6 \times AA NiMH batteries
- Small soft carrying bag
- Instruction manual
- Calibration certificate

Optional accessories:

Photo	Order No.	Acc. description
	A 1302	Set of carrying straps
	A 1303	Soft hand strap
	A 1289	Soft carrying bag
	A 1160	Fast charger for 8 AA batteries with a set of 6 NiMH bat., type AA
	A 1305	PC SW PATLink PRO with USB and RS232-PS/2 cable
	A 1306	PC SW PATLink PRO Plus with USB and RS232-PS/2 cable
	A 1203	Upgrade code PATLink PRO to PATLink PRO Plus
	A 1105	Barcode scanner
	A 1316	Three phase adapter (16 A CEE-Schuko)
	A 1317	Three phase adapter (16 A CEE-Schuko)



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