

Appliance / Machine / Switchboard safety

MI 3309 BT DeltaPAT



The MI 3309 BT DeltaPAT is both battery and mains powered multifunctional instrument intended to perform measurements for testing the electrical safety of portable electrical equipment. Integrated unique PRCD testing technology prevents tripping out of mains RCD during measurement. Due to dual power capability of MI 3309 it enables performing of differential leakage current test in spite of its lightweight portable design. Large graphical LCD with backlight, two PASS / FAIL LED indicators and HELP screens for each measurement make the handling of the instrument 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, android keyboard application and RFID systems make the MI 3309 an ideal instrument for high volume professional safety testing of portable appliances.



MEASURING FUNCTIONS

- Functional and visual inspection;
- Earth bond resistance;
- Insulation resistance;
- Insulation resistance of isolated accessible conductive parts;
- Substitute leakage current;
- Substitute leakage current of isolated accessible conductive parts;
- Differential leakage current test;
- Touch leakage test;
- RCD and portable RCD testing, type (K, S);
- Power test;
- IEC cord polarity test;
- Leakage and load currents with current clamp;
- TRMS voltage meter;
- Enhanced TRMS test.

KEY FEATURES

- **Autosequencing:** pre-programmable VDE compatible Auto Sequences, up to 50 custom prepared autosequences and barcode autotests speed up testing and ensure that no tests are missed.
- **Dual powered:** the instrument can operate

from mains power or batteries.

- **PASS / FAIL:** large green and red lights for additional PASS / FAIL indication placed at the sides of the LCD.
- **Fixed appliance testing:** additional inputs and optional accessories enable testing of fixed installed appliances.
- **Scan and test:** optional QR or barcoding system and PASS / FAIL QR or barcode label printing make retesting quick and simple.
- **RFID:** support for advanced RFID identification system.
- **RCD testing:** instrument enables testing of parameters of RCDs and portable RCDs.
- **Memory:** large data flash memory allows to store up to 1500 test results and parameters for further downloading to PC.
- **Built-in charger & rechargeable batteries:** instrument has a built-in charging circuit and comes complete with a set of rechargeable NiMH batteries.
- **Bluetooth:** enables communication with PC, printers, and android devices.
- **Android application:** enables advanced data management, use of smart phones camera for scanning QR and bar-code.
- **PC SW Metrel ES Manager,** included in the

standard set enables downloading, viewing, printing of test results, creation of user-defined Auto Sequences, and exporting of data to spreadsheet applications. Printing of PRO reports and professional export to excel is available with a PRO license.

APPLICATION

- Professional PAT safety testing;
- General PAT safety testing;
- After repair PAT safety testing.

STANDARDS

Functionality

- EN 50699;
- EN 50678;
- VDE 0701-0702;
- AS/NZS 3760;
- **IET COP 5th Ed;**

Electromagnetic compatibility

- EN 61326

Safety

- EN 61010-1;
- EN 61010-031;

TECHNICAL DATA

FUNCTION	Measuring range	Resolution	Accuracy
PE continuity (200 mA)	0,00 Ω ... 19,99 Ω	0,01 Ω	±(5 % of reading + 3 digits)
	20,0 Ω ... 199,9 Ω	0,1 Ω	Indication only
	200 Ω ... 1999 Ω	1 Ω	Indication only
Insulation resistance (250 V _{DC} , 500 V _{DC})	0,00 MΩ ... 19,99 MΩ	0,01 MΩ	±(5 % of reading + 3 digits)
	20,0 MΩ ... 49,9 MΩ	0,1 MΩ	±(5 % of reading + 3 digits)
	50,0 MΩ ... 199,9 MΩ	0,1 MΩ	Indication only
Substitute leakage current (30 V _{AC})	0,00 mA ... 9,99 mA	0,01 mA	±(5 % of reading + 3 digits)
	10,0 mA ... 20,0 mA	0,1 mA	±(5 % of reading + 3 digits)
Touch leakage current	0,00 mA ... 7,00 mA	0,01 mA	±(5 % of reading + 3 digits)
Differential leakage current	0,00 mA ... 19,99 mA	0,01 mA	±(5 % of reading + 5 digits)
Functional test: apparent power	0,00 kVA ... 4,00 kVA	0,01 kVA	±(5 % of reading + 3 digits)
RCD and portable RCD: trip-out time (I _{ΔN} = 10 mA, 15 mA, 30 mA)	0 ms ... 300 ms (½xI _{ΔN})	0,1 ms	±3 ms
	0 ms ... 300 ms (I _{ΔN})	0,1 ms	±3 ms
	0 ms ... 40 ms (5xI _{ΔN})	0,1 ms	±1 ms
Clamp current	0,00 mA ... 9,99 mA	0,01 mA	±(5 % of reading + 10 digits)
	10,0 mA ... 99,9 mA	0,1 mA	±(5 % of reading + 5 digits)
	100 mA ... 999 mA	1 mA	±(5 % of reading + 5 digits)
	1,00 A ... 9,99 A	0,01 A	±(5 % of reading + 5 digits)
	10,0 A ... 16,0 A	0,1 A	±(5 % of reading + 5 digits)
Voltage TRMS	80 V ... 300 V	1 V	±(2 % of reading + 2 digits)
Polarity test	Test voltage < 50 V _{AC}		
Enhanced TRMS test (Detects: No live, active neutral reversal, N fault, PE fault, Multiple fault)			
Voltage UL-N, UL-PE, UN-PE	80 V ... 300 V	1 V	±(2 % of reading + 2 digits)
R Loop	0.00 kΩ ... 1.99 kΩ	0.01 kΩ	±(10 % of reading + 5 digits)

GENERAL

Power supply	6 x 1.2 V NiMH rechargeable batteries, type AA; 230 V, 50 Hz / 60 Hz		
Overvoltage category	CAT II / 300 V		
COM port	RS232, USB y Bluetooth		
Dimensions	140 x 80 x 230 mm		
Weight	1,2 kg		

ORDERING INFORMATION



Standard set MI 3309

- Instrument MI 3309 BT DeltaPAT
- Small soft carrying bag
- IEC cable, 2 m, 2 pcs
- Test lead, black, green, brown, 1.5 m
- Crocodile clip, black, green, brown
- Test probe, black, green, brown
- PC SW Metrel ES Manager
- RS232 cable
- USB cable
- NiMH rechargeable batteries, type AA, 6 pcs
- Instruction manual on storage media
- Short instruction manual

OPTIONAL ACCESSORIES

Photo	Order No.	Acc. description
	P 1101	License key for advanced Metrel ES Manager
	A 1105	Barcode scanner
	A 1316	3-phase adapter (16 A CEE-Schuko)
	A 1317	3-phase adapter (32 A CEE-Schuko)
	A 1107	RFID reader / writer
	A 1108	RFID tags, self-stick, 25 pcs, RFID tags, key-tag, 25 pcs
	A 1331	Test lead with crocodile, black 1.5m
	A 1472	Leakage current clamp
	A 1207	Three phase adapter
	A 1488	BT Able printer (battery or mains operated)
	A 1520	Labels for Able printer, (250 labels per roll)
	A 1450	Spare label role for S 2062
	S 2062	BT lable printer set

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