

Multifunctional 18th Edition electrical installation tester MI 3102BT XE



MI 3102BT XE is a multifunctional measuring instrument which performs a complete set of installation safety tests according to IEC/EN 61557 and BS 7671 17th Edition. It supports AUTO SEQUENCE[®] testing of the TN, TT and IT earthing systems. ISFL measurements and the IMD tests can be performed. Besides, the MI 3102 BT XE enables on-line voltage monitoring, phase sequence testing, earth resistance measurement, illuminance measurement and TRMS current measurement. XE is equipped with integrated characteristics of fuses and RCDs for PASS / FAIL evaluation of test results and is ready for automatic R1 + R2 testing. All the results can be quickly saved and referenced on the instrument and then downloaded via the MESM software (included in the standard set) to the computer for evaluation and report generation after testing.

MEASURING FUNCTIONS:

- Insulation resistance with DC voltage from 50 V to 1000 V;
- Continuity of PE conductors with 200 mA DC test current with polarity change;
- Continuity of PE conductors with 7 mA test current without RCD tripping;
- Line / Loop impedance;
- Loop impedance with Trip Lock RCD function;
- R1 + R2 impedance;
- TRMS voltage and frequency;
- Phase sequence;
- RCD testing (general and selective, type AC, A, F, B, B+);
- **EV RCD** support for verification of 30 mA a.c. and **6 mA d.c.** trip-out capabilities
- Earth resistance (3-wire and 2-clamps method);
- Specific earth resistance with Ro-adaptor (option);
- TRMS leakage and load currents (option);
- First fault leakage current (ISFL);
- Testing of Insulation Monitoring Devices (IMDs);
- Illumination (option).

*18th Edition via free FW upgrade.

KEY FEATURES:

- Predefined mini AUTOSEQUENCES:
 - **Auto TT (U, Zln, Zs, Uc);**
 - **Auto TN/RCD (U, Zln, Zs, Rpe);**
 - **Auto TN (U, Zln, Zlpe, Rpe);**
 - **Auto IT (U, Zln, Isc, Isfl, IMD).**
- **Built-in help screens** for referencing on site.
- **Built-in fuse tables** for automatic evaluation of the Line / Loop impedance result.
- Monitoring of all 3 voltages in real-time.
- **Automatic polarity reversal** on continuity test.
- Loop impedance test without tripping the RCD.
- **Built-in charger** and rechargeable batteries as standard accessory.
- **Automated RCD testing procedure.**
- Fast testing of ring circuits with optional A 1214 EASI Switch.
- **BT communication** with PC, Android tablets and smart phones via built-in BT.
- **Metrel ES Manager** for downloading test results and report creation (optional).
- **Metrel aMESM Android app** a data management tool. PRO licence included.

APPLICATION:

- Initial and periodic testing of domestic and industrial installations.
- Testing of single and multiphase systems.
- Testing of TT, TN and IT earthing systems.
- Medical installation testing.

STANDARDS:

Functionality:

EN 61557, DIN 5032

Other reference standards for testing:

IEC/EN 60364-4-41, EN 61008, EN 61009, BS 7671, AS/NZ 3017, CEI 64.8, HD 384, VDE 413

Electromagnetic compatibility (EMC):

EN 61326

Safety (LVD):

EN 61010-1, EN 61010-031, EN 31010-2-030, EN 31010-2-032

TECHNICAL SPECIFICATION

Function	Measuring range	Resolution	Accuracy
CONTINUITY, RING CONTINUITY	Test Current 7 mA 2-wire	0.00 Ω ... 19.99 Ω 20.0 Ω ... 1999 Ω	0.1 Ω 1 Ω ±(5 % of r. + 5 digits)
	Test Current 200 mA 2-wire	0.00 Ω ... 19.99 Ω 20.0 Ω ... 99.9 Ω 100.0 Ω ... 1999 Ω	0.01 Ω 0.1 Ω 1 Ω ±(3 % of r. + 3 digits) ±(5 % of r.) ±(5 % of r.)
INSULATION RESISTANCE	Test Voltage 50/100/250 V	0.00 MΩ ... 19.99 MΩ 20.0 MΩ ... 99.9 MΩ 100.0 MΩ ... 199.9 MΩ	0.01 MΩ 0.1 MΩ 1 MΩ ±(5 % of r. + 3 digits) ±(10 % of r.) ±(20 % of r.)
	Test Voltage 500/1000 V	0.00 MΩ ... 19.99 MΩ 20.0 MΩ ... 199.9 MΩ 200 MΩ ... 999 MΩ	0.01 MΩ 0.1 MΩ 1 MΩ ±(5 % of r. + 3 digits) ±(5 % of r.) ±(10 % of r.)
RCD	RCD Uc	0.00 V ... 19.99 V 20.0 V ... 99.9 V	0.1 V (-0%/±15 %) of r. ±10 digits (-0%/±15 %) of r.
	RCD (t),	0.00 ms ... 40.0 ms 0.0 V ... max.time	0.1 ms ±1 ms ±3 ms
	RCD I Ramp	0.2xIΔN ... 1.1xIΔN (AC) 0.2xIΔN ... 1.5xIΔN (A), IΔN ≥30 mA 0.2xIΔN ... 2.2xIΔN (A), IΔN <30 mA 0.2xIΔN ... 2.2xIΔN (B)	0.05xIΔN ±0.1xIΔN
IMPEDANCE	Zline L-L, L-N Ipsc	0.00 Ω ... 9.99 Ω 10.0 Ω ... 99.9 Ω 100 Ω ... 999 Ω 1.00 kΩ ... 9.99 kΩ	0.01 Ω 0.1 Ω 1 Ω 10 Ω ±(5 % of r. + 5 digits) ±(10 % of r.)
	Zloop L-PE, IpfC	0.00 Ω ... 9.99 Ω 10.0 Ω ... 99.9 Ω 100 Ω ... 999 Ω 1.00 kΩ ... 9.99 kΩ	0.01 Ω 0.1 Ω 1 Ω 10 Ω ±(5 % of r. + 5 digits) ±(10 % of r.)
VOLTAGE	TRMS	0 ... 550 V	1 V ±(2 % of r. + 2 digits)
	Frequency	0.00 Hz ... 9.99 Hz 10.0 Hz ... 499.9 Hz	0.01 Hz 0.1 Hz ±(0.2 % of r. + 1 digits)
CURRENT	TRMS, AC with A1018	0.0 mA ... 99.9 mA 100 mA ... 999 mA 1.00 A ... 19.99 A	0.1 mA 1 mA 0.01 A ±(5 % of r. + 5 digits) ±(3 % of r. + 3 digits) ±(3 % of r.)
	TRMS, AC with A1019	0.0 mA ... 99.9 mA 100 mA ... 999 mA 1.00 A ... 19.99 A	0.1 mA 1 mA 0.01 A indicative ±(5 % of r.) ±(3 % of r.)
	TRMS, AC/DC with A1391, range=40A	0.00 A ... 1.99 A 2.00 A ... 19.99 A 20.0 A ... 39.9 A	0.01 A 0.01 A 0.1 A ±(3 % of r. + 3 digits) ±(3 % of r.) ±(3 % of r.)
	TRMS, AC/DC with A1391, range = 300A	0.00 A ... 19.99 A 20.0 A ... 39.9 A 40.0 A ... 299.9 A	0.01 A 0.1 A 0.1 A indicative ±(3 % of r. + 5 digits)
	3 wire	0.00 MΩ ... 19.99 Ω 20.0 MΩ ... 199.9 Ω 200.0 MΩ ... 999.9 Ω	0.01 Ω 0.1 Ω 1 Ω ±(5 % of r. + 5 digits)
	2 clamp	0.00 MΩ ... 19.99 Ω 20.0 MΩ ... 30.0 Ω 30.1 MΩ ... 99.9 Ω	0.01 Ω 0.1 Ω 0.1 Ω ±(10 % of r. + 10 digits) ±(20 % of r.) ±(30 % of r.)
EARTH RESISTANCE	Specific earth resistance	0.0 Ωm ... 99.9 Ωm 100 Ωm ... 999 Ωm 1.00 Ωmk ... 9.99 kΩm 10.0 Ωmk ... 99.9 kΩm	0.1 Ωm 1 Ωm 0.01 kΩm 0.1 kΩm ±(5 % of r.) for Re 1 Ω ... 1999kΩ ±(10 % of r.) for Re 2 kΩ ... 19.99kΩ ±(20 % of r.) for Re > 20 kΩ
	FIRST FAULT LEAKAGE CURRENT	0.0 mA ... 19.9 mA	0.1 mA ±(5 % of r. + 3 digits)
IMD TEST	Threshold indicative insulation resistance	5 ... 640 kΩ	5 kΩ Indicative values, up to 128 steps
ILLUMINANCE	Type B	0.01 lux ... 19.99 lux 20.0 lux ... 199.9 lux 200 lux ... 1999 lux 2.00 klux ... 19.99 klux	0.01 lux 0.1 lux 1 lux 10 lux ±(5 % of r. + 2 digits) ±(5 % of r.)
	Type C	0.01 lux ... 19.99 lux 20.0 lux ... 199.9 lux 200 lux ... 1999 lux 2.00 klux ... 19.99 klux	0.01 lux 0.1 lux 1 lux 10 lux ±(10 % of r. + 3 digits) ±(10 % of r.)
GENERAL	Power supply	9 VDC (6x1.5 V battery or accu, size AA)	
	Overvoltage category	1000 V DC CAT II; 600 V CAT III; 300 V CAT IV	
	Protection class	double insulation	
	COM port	BT, USB, RS232	
	Weight	1.3 kg	
	Size (l x h x w)	230 x 103 x 115 mm	

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

ORDERING INFORMATION



MI 3102 BT Standard set

- Instrument XE
- Tip commander, 1.5 m
- Mains Plug Lead
- Test lead, 3 x 1.5 m
- Power supply adapter + 6 NiMH rechargeable batteries, size AA
- Metrel ES Manager BASIC license*
- Metrel aMESM PRO Android app
- Test probe, 3 pcs (blue, brown, green)
- Crocodile clip, 3 pcs (blue, brown, green)
- Earth spike kit (20 m brown, green, 4.5 m blue, 2 spikes)
- RS232 - PS/2 cable
- USB cable
- Soft carrying neck belt
- Soft carrying bag
- Short instruction manual
- Instruction manual on CD
- Handbook on CD
- Calibration certificate

*Metrel ES Manager can be downloaded free of charge from Metrel Web server.

OPTIONAL ACCESSORIES

Photo	Order no.	Description
		Plug commander (UK)
	A 1214	EASI Switch
	A 1018	Current clamp (low range, leakage)
	A 1019	Current clamp
	A 1391	AC/DC Current clamp
	A 1110	Three phase adapter
	A 1111	Three phase adapter with switch
	A 1201	Insulated rod for CONTINUITY measurement
	A 1202	Additional extension part for A 1201
	A 1172	Luxmeter sensor, type B (PS/2)
	A 1173	Luxmeter sensor, type C (PS/2)
	A 1456	Test lead, brown, 20 m
	A 1431	EuroLink Android APP
	A 1292	Upgrade code EuroLink PRO to EuroLink PRO Plus
	A 1160	Fast charger for 8 AA batteries with a set of 6 NiMH bat., type AA
	A 1199	Ro-adapter
	S 2027 - UK1	Earth test set, 3-wire, 50 m

