

18th Edition Multifunctional electrical installation tester MI 3152 XC

NEW

Electrical Installation Safety



MI 3152 XC is an instrument from the new generation of Metrel's multifunctional measuring instruments. The already well known functions like complete installation safety testing according to IEC/EN 61557 and AUTO SEQUENCE testing of TN, TT and IT earthing systems are managed by a completely new user interface based on large colour touch screen display. A wide range of functions is included: from on-line voltage monitoring, phase sequence testing, varistor testing, earth resistance measurement, illuminance measurement and TRMS current measurement up to RCD tests, line and loop impedance tests, earth resistance measurements as well as ISFL measurements and the IMD tests.

MEASURING FUNCTIONS

- Insulation resistance with DC voltage from 50 V to 1000 V;
- **Varistor test;**
- 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 combined also in one function **Z AUTO**;
- Loop impedance with Trip Lock RCD function;
- TRMS voltage and frequency;
- Phase sequence;
- Power and (up to the 12th harmonic);
- 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);
- High resolution Loop impedance (mΩ) (option);
- Determining location of cables (option);
- Added QR and/or barcode scanner support (option).

KEY FEATURES

- **Predefined profile dependent AUTOSEQUENCES.**
- **EVSE AUTO SEQUENCES and functional inspections;**
- Predefined Automatic tests:
 - **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.
- Automated RCD testing procedure.
- **Automated Impedance testing procedure (Z AUTO).**
- Added functional inspections.
- Added possibility of filtering available measurements according to the selected **area group.**
- **Built-in charger** and rechargeable batteries as standard accessory.
- **BT communication with PC, Android tablets and smart phones** via built-in BT.
- **PC SW Metrel ES Manager** for creation of test structures and uploading, downloading of test results and report creation.
- Support for **aMESM Android APP**, data management tool (option).

APPLICATION

- Testing on high and low frequency installations e.g. testing in aviation, railway networks etc.;
- Testing of single and multiphase systems;
- Testing of TT, TN and IT systems;
- High volume testing (industrial, aircraft, railway, mining, chemistry, ferry boat);
- Medical installation testing
- Electrical Vehicle Supply Equipment testing.

STANDARDS

Functionality:

EN 61557

Other reference standards for testing:

IEC/EN/HD 60364-4-41; IEC/EN 61008; IEC/EN 61009; BS 7671; AS/NZ 3017; DIN 5032

Electromagnetic compatibility (EMC):

IEC/EN 61326-1

Safety:

IEC/EN 61010-1; IEC/EN 61010-031; IEC/EN 61010-2-030; IEC/EN 61010-2-032

*18th Edition via free FW upgrade.

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TECHNICAL SPECIFICATION

Function		Measuring range	Resolution	Accuracy	
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. + 3 digits)	
	Test Current 200 mA 2-wire	0.00 Ω ... 19.99 Ω 20.0 Ω ... 199.9 Ω 200.0 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	±(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 A 1018	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 A 1019	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 A 1391, range=40 A	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
	TRMS, AC/DC with A 1391, range = 300 A	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 indicative ±(3 % of r. + 5 digits)	
		EARTH RESISTANCE	3 wire	0.00 Ω ... 19.99 Ω 20.0 Ω ... 199.9 Ω 200.0 Ω ... 9999 Ω	0.01 Ω 0.1 Ω 1 Ω
2 clamp	0.00 Ω ... 19.99 Ω 20.0 Ω ... 30.0 Ω 30.1 Ω ... 39.9 Ω		0.01 Ω 0.1 Ω 0.1 Ω	±(10 % of r. + 10 digits) ±(20 % of r.) ±(30 % of r.)	
Specific earth resistance	0.0 Ωm ... 99.9 Ωm 100 Ωm ... 999 Ωm 1.00 kΩm ... 9.99 kΩm 10.0 kΩm ... 99.9 kΩm 100 kΩm ... 9999 kΩm		0.1 Ωm 1 Ωm 0.01 kΩm 0.1 kΩm 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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ORDERING INFORMATION



Standard set MI 3152-S

- Instrument MI 3152 XC
- Mains Plug Lead
- Test leads, 3 pcs (blue, brown, green), 5m
- Power supply adapter + 6 NiMH rechargeable batteries, type AA
- Test probe, 3 pcs (blue, brown, green)
- Crocodile clip, 3 pcs (blue, brown, green)
- Earth set 20 m
- RS232 - PS/2 cable
- USB cable
- Soft carrying bag
- Soft carrying neck belt
- PC Software Metrel ES Manager
- Short instruction manual

Standard set MI 3152-E

- Instrument MI 3152 XC (as -S above)
- Current clamp A 1018 (low range, leakage)
- Current clamp A 1019
- Licence for Advanced PC Software Metrel ES Manager

OPTIONAL ACCESSORIES

Photo	Order No.	Acc. description
	A 1143	Euro Z 290 A
	A 1199	Ro-adaptor
	A 1191	Receiver R10K
	A 1018	Current clamp (low range, leakage)
	A 1019	Current clamp
	A 1110	Three phase adapter
	A 1111	Three phase adapter with switch
	A 1314 UK	Plug commander BLK
	A 1401	BLKTip commander
	A 1172	Luxmeter sensor, type B (PS/2)
	A 1173	Luxmeter sensor, type C (PS/2)
	A 1160	Fast charger for 8 AA batteries with a set of 6 NiMH bat., type AA
	S 2027	Earth test set, 3-wire, 50 m
	P 1101	BASIC to PRO licence key upgrade for Metrel ES Manager
	P 1102	License key for aMESM

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