

# Multifunctional electrical installation tester MI 3155 EurotestXD



MI 3155 EurotestXD is the newest flagship of Metrel's most advanced line of multi-functional measuring instruments and is designed specifically for testing in industry. What differentiates this instrument from the rest is its ergonomic design and an intuitive user interface, encompassing a memory organizer and fully programmable AUTO SEQUENCES, managed through a large colour touch screen display. It is fully compliant with functionality standards (e.g. IEC/EN 61557) and other reference standards for testing (e.g. IEC/EN/HD 60364-4-41,...) as is required for any instrument that performs TRMS current measurements, RCD tests, line and loop impedance tests with 3 (and 4) wires and earth resistance measurements. Besides those, the instrument supports a wide range of tests and measuring functions, including on-line voltage monitoring, phase sequence testing, varistor testing, PI/DAR calculation, luminance measurement, discharge time testing, ISFL measurements, IMD tests as well as functional and visual inspections.

## MEASURING FUNCTIONS

- **Live Transformer's Impedance Measurement with Four Wire Test;**
- Hi-precision Short Circuit Current evaluation with Calculated Hot factor;
- **3-wire test of PE (RPE function)** without extension lead conductor;
- **Autotest insulation function between L-N, N-PE and L-PE (R ISO ALL function);**
- **4 wire continuity test;**
- Insulation resistance with **DC voltage from 50 V to 2500 V** and **PI, DAR calculation;**
- **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;
- **2-wire and 3-wire high-current loop impedance (L-PE) measurement;**
- **3-wire loop impedance (L-PE) measurement** with Trip Lock RCD function;
- **Touch voltage / Contact voltage** measurement with **external P/S probe.**
- **2-wire and 3-wire line impedance (L-L, L-N) measurement;**
- **1-phase / 3-phase TRMS voltage** and frequency measurements;
- **Line, loop and RCD** measurements at frequency range **16 ... 400 Hz;**
- Phase sequence;
- Power and THD measurement (up to the 12<sup>th</sup> harmonic);
- RCD testing (general and selective, type AC,

- A, F, B, B+, **MI RCD, EV RCD, PRCD, PRCD-K, PRCD-S);**
- Earth resistance (3-wire and 2-clamps method);
- Specific earth resistance with Ro-adapter (option);
- TRMS leakage and load currents (option);
- First fault leakage current (ISFL);
- Testing of Insulation Monitoring Devices (IMDs);
- **Machine mode support** with time discharge;
- Illumination (option);
- High resolution Loop impedance (mΩ) (option);
- **EVSE (Electrical Vehicle Supply Equipment) support** (option);
- Determining location of cables (option);
- QR and/or barcode scanner support (option).

## KEY FEATURES

- **Programmable AUTO SEQUENCES.** \*
- **Predefined profile dependent AUTO SEQUENCES.**
- **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).
- **High resolution colour touch screen, 4.3" TFT.**
- **Functional inspections.**
- **Visual inspections.**
- **Custom inspections** (visual and functional) which may be incorporated into AUTO SEQUENCES.
- **EVSE AUTO SEQUENCES and function**

## inspections.

- **Machine functional and visual inspections.**
- **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 (RCD AUTO).**
- **Automated Impedance testing procedure (Z AUTO).**
- **Measurement filtering 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** (structure and report creation, data upload/download). \*
- **Optional aMESM Android app** (structure and report creation, data upload/download). \*\*

\* Available with MESM PRO licence

\*\* Available with EU Set

## 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.)
	Test Current 200 mA 4-wire	0.000 Ω ... 0.049 Ω 0.050 Ω ... 19.999 Ω 20.00 Ω ... 199.99 Ω 200.0 Ω ... 1999.9 Ω	0.001 Ω 0.001 Ω 0.01 Ω 0.1 Ω	±(30 digits) ±(3 % of r. + 10 digits) ±(5 % of r.) ±(5 % of r.)
INSULATION RESISTANCE	R iso, R iso all <sup>1</sup> 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 0.1 MΩ	±(5 % of r. + 3 digits) ±(10 % of r.) ±(20 % of r.)
	R iso, R iso all <sup>1</sup> 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.)
	R iso, R iso all <sup>1</sup> Test Voltage 2500 V	0.00 MΩ ... 19.99 MΩ 20.0 MΩ ... 199.9 MΩ 200 MΩ ... 999 MΩ 1.00 GΩ ... 19.99 GΩ	0.01 MΩ 0.1 MΩ 1 MΩ 0.01 GΩ	±(5 % of r. + 3 digits) ±(5 % of r.) ±(10 % of r.) ±(10 % of r.)
	DAR, PI	0.01 ... 9.99 10.0 ... 100.0	0.01 0.1	±(5 % of r. + 2 digits) ±(5 % of r.)
	Varistor test AC, DC <sup>2</sup>	0 V ... 1000 V (DC) 0 V ... 625 V (AC)	1 V	±(3 % of r. + 3 digits)
	RCD	RCD Uc	0.00 V ... 19.99 V 20.0 V ... 99.9 V	0.1 V
	RCD (t),	0.00 ms ... 40.0 ms 0.0 ms ... max. time	0.1 ms	±1 ms ±3 ms
	RCD I Ramp	0.2xIΔN ... 1.1xIΔN (AC, MI, EV a.c.) 0.2xIΔN ... 1.5xIΔN (A, IΔN ≥30 mA) 0.2xIΔN ... 2.2xIΔN (A, IΔN <30 mA) 0.2xIΔN ... 2.2xIΔN (B, MI, EV d.c.)	0.05xIΔN	±0.1xIΔN
IMPEDANCE	Zline (L-L, L-N), Ipsc, Zline 4-wire <sup>3</sup>	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	±(3 % of r. + 3 digits) ±(10 % of r.)
	Zloop (L-PE), Ipf, Zloop 4-wire <sup>3</sup>	0.00 Ω ... 9.99 Ω 10.0 Ω ... 99.9 Ω 100 Ω ... 999 Ω	0.01 Ω 0.1 Ω 1 Ω	±(3 % of r. + 3 digits) ±(10 % of r.)
	Zs RCD <sup>4</sup>	1.00 kΩ ... 9.99 kΩ	10 Ω	
VOLTAGE	TRMS (0, 14 ... 500 Hz)	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, range=20 A	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, range=20 A	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	±(3 % of r. + 3 digits) ±(3 % of r.) ±(3 % of r.)
	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 <sup>5</sup>	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	±(5 % of r. + 5 digits)
	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
POWER	Power (P, S, Q)	0.00 W (VA, VAr) ... 99.9 kW (kVA, kVAr)		
	Power factor	-1.00 ... 1.00		
	Voltage THD	0.1 % ... 99.9 %		
HARMONICS	Voltage harmonics	0.1 V ... 500 V		
	Voltage THD	0.1 % ... 99.9 %		
	Current harmonics and Current THD	0.00 A ... 199.9 A		
FIRST FAULT LEAKAGE CURRENT (ISFL)	Isc1, Isc2	0.0 mA ... 19.9 mA	0.1 mA	±(5 % of r. + 3 digits)

Function		Measuring range	Resolution	Accuracy
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	0.01 lux	±(5 % of r. + 2 digits)
		20.0 lux ... 199.9 lux	0.1 lux	
200 lux ... 1999 lux		1 lux	±(5 % of r.)	
2.00 klux ... 19.99 klux		10 lux		
Type C	0.01 lux ... 19.99 lux	0.01 lux	±(10 % of r. + 3 digits)	
	20.0 lux ... 199.9 lux	0.1 lux		
	200 lux ... 1999 lux	1 lux	±(10 % of r.)	
	2.00 klux ... 19.99 klux	10 lux		
DISCHARGING TIME	Discharging time	0.0 s ... 10.0 s	0.1 s	±(5 % of r. + 2 digits)
	Peak voltage	0 V ... 550 V	1 V	±(5 % of r. + 3 digits)
GENERAL	Power supply	7.2 V (4400 mAh Li-Ion battery pack)		
	Overvoltage category	600 V CAT III; 300 V CAT IV		
	Protection class	double insulation		
	COM port	BT, USB, RS232		
	Display	Colour TFT display, 4.3 inch, 480 x 272 pixels		
	Weight	1.78 kg		
	Size ( l x h x w )	252 x 111 x 165 mm		

<sup>1</sup> Measuring current 1 mA ... 3 mA

<sup>2</sup> Threshold current 1 mA

<sup>3</sup>  $I_{test} = 20 \text{ A @ } 230 \text{ V; } 16 \dots 400 \text{ Hz}$

<sup>4</sup>  $I_{test \text{ MAX}} = 0.5 \times I_{\Delta N}$

<sup>5</sup>  $U_{oc} < 30 \text{ V}_{AC}, I_{sc} < 30 \text{ mA}, f = 125 \text{ Hz}$

## STANDARDS

### Functionality

- EN 61557;
- DIN 5032

### Other reference standards for testing:

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

### Electromagnetic compatibility (EMC):

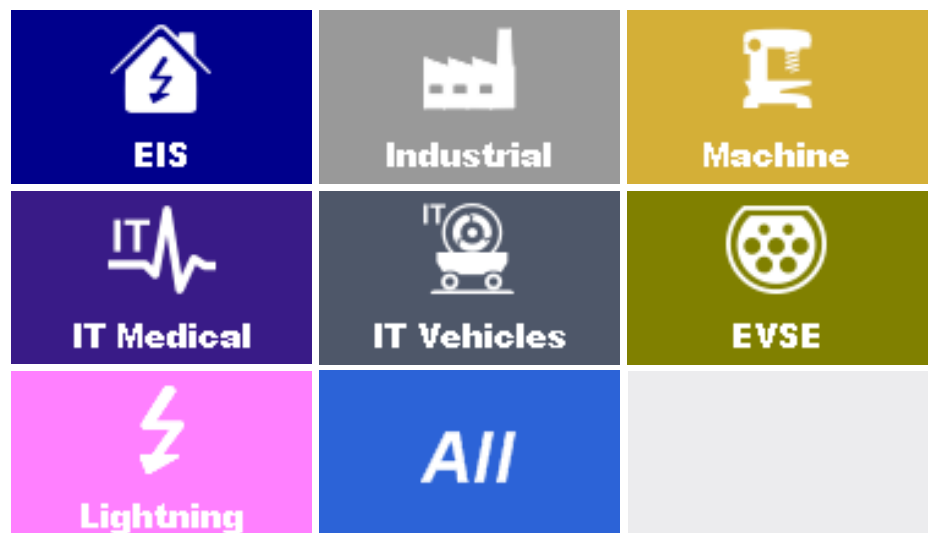
- IEC/EN 61326-1

### Safety

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

## APPLICATION

- Testing of TT, TN and IT systems;
- Testing of single and multiphase systems;
- Initial and periodic testing of domestic and industrial installations;
- LV Installation safety testing;
- Maintenance;
- Lightning installations;
- Testing on high and low frequency installations (industrial, aircraft, railway, mining, chemistry, ferry boat);
- Construction sites;
- Mobile LV Generator Units;
- Machine and switchboard testing;
- Medical installation testing;
- Fire brigades, ambulance, military and police vehicles;
- Mobile Video/Audio, Concert Halls, Fairs, Playgrounds;
- Electrical Vehicle Supply Equipment (EVSE) testing;
- Observation of insulation trends.



## OPTIONAL ACCESSORIES


































Photo	Order No.	Acc. description
	A 1569	Power supply adapter 12 V / 3 A
	A 1567	4400mAh battery pack
	A 1568	8800mAh battery pack
	A 1551	Small carrying bag with Metrel logo
	A 1552	Large carrying bag with Metrel logo
	P 1101	BASIC to PRO licence key upgrade for Metrel ES Manager
	A 1401 BLK	Tip commander
	A 1018	Current clamp (low range, leakage)
	A 1019	Current clamp
	A 1391	AC/DC Current clamp
	A 1172	Luxmeter sensor, type B (PS/2)
	A 1173	Luxmeter sensor, type C (PS/2)
	A 1191	Receiver R10K
	A 1192	Selective probe for R10K
	A 1437	Test lead with Kelvin probe
	S 2027	Earth test set, 3-wire, 50 m
	S 2058	Insulation test plates

Photo	Order No.	Acc. description
	A 1012	Test lead, green, 4 m
	A 1154	Test lead, black, 4 m
	A 1026	Test lead, red, 20 m
	A 1153	Test lead, black, 20 m
	A 1164	Test lead, black, 50 m
	S 2012	Continuity test lead, 10 m, 2 pcs (red, black)
	S 2025	Test lead, 1.5 m, 2 pcs (black, red)
	A 1198	Magnetic contact probe
	A 1201	Insulated rod for CONTINUITY measurement
	A 1202	Additional extension part for A 1201
	A 1532	A 1532 EVSE adapter
	A 1532 XA	A 1532 XA EVSE adapter
	A 1199	Ro-adapter
	A 1632	eMobility Analyser
	MI 3144	Euro Z 800V
	MI 3143	Euro Z 440V

## ORDERING INFORMATION



### Standard set MI 3155 ST

- Instrument MI 3155 EurotestXD
- 4400 mAh battery pack (installed in tester)
- Power supply adapter 12 V / 3 A
- Plug commander, 1.5 m
- Test lead, 4-wire, 1.5 m
- Test lead, 3-wire, 1.5 m
- Test lead, 2-wire, 2,5 kV, 1.5 m
- Test probe, 4 pcs (black, blue, green, red)
- Crocodile clip, 6 pcs (black – 2 pcs, blue – 1 piece, green – 1 piece, red – 2 pcs)
- Earth set 20 m
- USB cable
- Soft carrying bag
- Soft carrying neck belt
- Metrel ES Manager BASIC licence\*
- Short instruction manual
- Instruction manual (CD)
- Guide for testing and verification of Low voltage installations (CD)
- Calibration certificate
- Metrel ES Manager (program installation) A 1481 (CD)



### Euro set MI 3155 EU

- MI 3155 ST
- 8800 mAh battery pack instead of 4400 mAh battery pack (installed in tester)
- Current clamp A 1018 (low range, leakage)
- Current clamp A 1019
- Metrel ES Manager PRO licence\*
- Metrel aMESM Android app

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

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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.



# Services d'EURO-INDEX

EURO-INDEX est un fabricant, importateur et distributeur de diverses marques A dans le domaine des instruments de test et de mesure. Nous fournissons également une large gamme de services pour optimiser l'utilisation de ces instruments dans vos activités. Ces services comprennent naturellement l'entretien, la réparation et l'étalonnage des instruments, mais nous proposons aussi une assistance sous forme de formation via notre EURO-INDEX Academy et la location d'instruments.

## Centre de Service Agréé

EURO-INDEX est un Centre de Service Agréé pour toutes les marques représentées. Cela signifie que vos instruments sont pris en charge par des techniciens formés par le fabricant et disposant des outils et logiciels adéquats. Seules des pièces d'origine sont utilisées et la garantie de votre instrument, ainsi que les certifications (ATEX, EN50379, etc.) restent intactes.

## Laboratoire de maintenance et de calibrage

Le laboratoire des Pays-Bas est accrédité RvA selon la norme EN-ISO/IEC 17025. Cette accréditation est valable pour différentes grandeurs, telles que spécifiées dans le champ d'application associé au numéro d'accréditation K105. Les certificats de calibrage RvA sont acceptés à l'international et équivalents à ceux de BELAC.



## Service Mobile

Outre les laboratoires d'étalonnage fixes de Zaventem et de Capelle aan den IJssel, nous disposons également d'un laboratoire itinérant appelé "Service mobile". Nos services peuvent venir vers vous, en offrant une qualité équivalente.

## MQS®

MQS® est une formule d'entretien exclusive comportant un entretien et un calibrage périodiques de vos instruments de mesure à un coût fixe et faible. Via un portail Web gratuit ([monmq.be](http://monmq.be)), vous avez toujours accès à vos certificats de calibrage.

## Location d'instruments de mesure

- Vaste assortiment
- Précision démontrable par le certificat d'étalonnage actuel
- Conseils avisés
- Les instruments sont livrés avec leurs accessoires

## EURO-INDEX Academy

- Formations et séminaires
- Vidéos de démonstration et d'instruction
- Notes d'application



Comptoir de service



Entretien, réparation et calibrage



Formations et séminaires



Service Mobile

Sous réserve de modifications EURO-INDEX® FR 23001



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