

# Other instruments / adapters / accessories

## MI 3143 EURO Z 440 V



The MI 3143 Euro Z 440 V is a multifunctional, portable battery (Li-ion) or mains powered test instrument with excellent IP protection: IP65 (case closed), IP54 (case opened). It can be controlled via an Android app aMESM, MI 3152, MI 3152H, MI 3155 or MI 3325. The MI 3143 Euro Z 440 V is intended for measuring the effectiveness of automatic trip out protection in case of faults in transformers and other HV equipment. With its high precision line and loop impedance measurements on AC circuits, high current dR 300A loop and line measurements for testing partial voltage drops and contact voltage measurement, it is ideal for testing in industrial settings.

### KEY FEATURES

- **High precision 4-wire 220 A Z Line and Z Loop Impedance Tester;**
- **High range impedance measurements in 440 V / 16 ... 420 Hz AC Networks;**
- High current dR 300 A 4-wire **Partial Voltage drops;**
- **Ground Fault Analysis** with Contact, Touch and Step voltage;
- Floating voltmeter for partial contact results;
- **Selectable test load** (33.3 % to 100 %);
- Improved thermal performance;
- Portable battery (Li-ion) or mains powered test instrument;
- IP protection: IP65 (case closed), IP54 (case opened);
- **CAT IV 600 V (3000 m) safety category;**
- Bluetooth communication;
- **Black box design** (remote-controlled via an Android device).

### APPLICATION

- Live Power Transformer Hi Precision 4-wire 300A Z Line / Loop Impedance Testing;
- Partial voltage drops resistances;
- High Current dR 300A Integrity of Grounding system;
- Earth Potentials by method of measuring Step, Touch and Transfer voltages;
- Automatic trip-out protection evaluation in case of faults in transformers, generators, turbines, contactors, distribution boards and switchyards whenever energetic loads and sources of protection exceed 200 A;
- Power transformer and motor winding measurement;
- Contact voltage measurement;
- High current injection ground fault simulation.

### STANDARDS

#### **Electromagnetic compatibility:**

- EN 61326

#### **Safety:**

- EN 61010-1
- EN 61010-2-030
- EN 61010-031

#### **Functionality:**

- EN 61557
- IEEE 81-2012
- EN 60909-0

#### **Li-ion battery pack:**

- EN 62133-2

### SUPPORTED INSTRUMENTS

- MI 3152 EurotestXC (Bluetooth, RS-232)
- MI 3152H EurotestXC 2.5kV (Bluetooth, RS-232)
- MI 3155 EurotestXD (Bluetooth, RS-232)
- MI 3325 MultiServiserXD (Bluetooth only)
- A 1522 aMESM as a console for performing tests

## TECHNICAL SPECIFICATION

FUNCTION	Measuring range	Resolution	Accuracy
Impedance [Z]	0.1 mΩ ... 199.9 mΩ	0.1 mΩ	±(5 % of reading + 3 mΩ)
Z line mΩ	200 mΩ ... 1999 mΩ	1 mΩ	
Z loop mΩ	2.00 Ω ... 19.99 Ω	10 mΩ	±(5 % of reading + 3 digits)
Impedance [Z]	0.1 mΩ ... 199.9 mΩ	0.1 mΩ	±(5 % of reading + 3 mΩ)
High current ΔR	200 mΩ ... 1999 mΩ	1 mΩ	
	2.00 Ω ... 19.99 Ω	10 mΩ	±(5 % of reading + 3 digits)
Earth potential [U]	0.0 V ... 199.9 V	0.1 V	Calculated value
Utouch	200 V ... 999 V	1 V	
Earth potential [U]	1 mV ... 1999 mV	1 mV	±(2 % of reading + 2 digits)
Um	2.00 V ... 19.99 V	10 mV	
	20.0 V ... 199.9 V	0.1 V	

## OPTIONAL ACCESSORIES























Photo	Order No.	Acc. description
	A 1620	Test lead 5 m, black
	A 1621	Test lead 20 m, black
	A 1527	Test lead 5 m, red, 1.5 mm <sup>2</sup>
	A 1640	Test lead 20 m, red, 1.5 mm <sup>2</sup>
	A 1608	Test lead 20 m, green
	A 1654	Test lead on a cable reel, 50 m, red, 1.5 mm <sup>2</sup> , extendable
	A 1509	Test lead on a cable reel, 50 m, black, extendable
	A 1510	Test lead on a cable reel, 50 m, green, extendable
	A 1619	Test lead, 2-wire
	A 1593	Large Kelvin test clip
	A 1595	Large test crocodile, black
	A 1596	Large test crocodile, red

Photo	Order No.	Acc. description
	A 1013	Crocodile clip, black
	A 1064	Crocodile clip, red
	A 1014	Test probe, black
	A 1016	Test probe, red
	A 1530	G clamp
	A 1597	Human body resistance probe
	A 1022	Test rod
	A 1528	Professional current earth spike, 50 cm
	S 2053	Step voltage plates
	P 1101	BASIC to PRO license key upgrade for Metrel ES Manager

## GENERAL DATA

Battery power supply: 7.2 V DC (4.4 Ah Li-ion)  
 Battery charging time: typical 3.0 h (deep discharge)  
 Mains power supply: 90 ... 260 V AC, 45 ... 65 Hz, 80 VA  
 Over-voltage category: 300 V CAT II  
 Protection classification: reinforced insulation  
 Measuring category: 600 V CAT IV  
 Pollution degree: 2  
 Degree of protection: IP 65 (case closed), IP 54 (case open)  
 Dimensions (w x h x d): 36 cm x 16 cm x 33 cm  
 Weight: 6.5 kg (without accessories)

## ORDERING INFORMATION



Picture of MI 3143 EU set

### Standard set (MI 3143)

- Instrument MI 3143 Euro Z 440 V
- Mains cable
- RS232-PS/2 cable
- Test lead, 2-wire, 2 pcs\*
- Crocodile clip, black, 2 pcs
- Crocodile clip, red, 2 pcs
- Test probe, black, 2 pcs
- Test probe, red, 2 pcs
- Metrel aMESM Android PRO P 1102-AND license key integrated in instrument
- Short instruction manual
- Calibration certificate
- Protective bag for accessories

\* Replaced by 5 m and 20 m test leads in MI 3143 EU set.

### Euro set MI 3143 (EU)

- MI 3143 ST
- Test lead 5 m, black, 2 pcs
- Test lead 5 m, red, 1.5mm<sup>2</sup>, 2 pcs
- Test lead 20 m, red, 1.5mm<sup>2</sup>
- Test lead 20 m, black
- Test lead 20 m, green
- Large Kelvin test clip, 2 pcs
- G clamp
- Human body resistance probe
- Test rod, 2 pcs
- Step voltage plates, 2 pcs
- Soft carrying bag

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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.