

Transformer testing MI 3281 WR Analyser

High Voltage Insulation / Continuity / Earth / Transformer



The MI 3281 Winding Resistance Analyser (WR Analyser) is a portable test instrument intended for diagnosing of winding resistance of single and three phase transformers with manual or automatic tap changer test and demagnetization of tested transformer. Selectable test current in range from 10 mA to 20 A. The operation is straightforward and clear to enable the user to operate the instrument without the need for special training. For advanced users the AUTO SEQUENCES and visual tests are available.

MEASURING FUNCTIONS

Available functions and features offered by the WR Analyser:

- Winding resistance measurement of single and three phase transformers;
- Winding resistance measurement of single and three phase transformers with manual or automatic tap changer test (automatic measurement of all windings);
- Demagnetization of single and three phase transformers.

KEY FEATURES

- Selectable test current up to 20 A.
- Automatic winding resistance tests of transformers with On-Load or No-Load Tap Changer.
- Automatic discharge after finished measurement.
- Built-in help screens for referencing on site.

- EMERGENCY STOP switch in case of any emergency situation.
- A 4.3" color LCD display with touch screen offers easy-to-read results and all associated parameters.
- The operation is straightforward and clear to enable the user to operate the instrument without the need for special training.
- Test results can be stored on the instrument.
- PC SW Metrel ES Manager for creation of test structures and uploading, downloading of test results, Auto Sequence® editor and report generation.
- Generation and printing of reports (optional)
- BT communication with PC, Android tablets and smart phones via built-in BT.
- Winding resistances conversion to a desired reference temperature.
- Degree of protection IP 65 (case closed), IP 40 (case open).

APPLICATION

- Three phase and single phase power transformers.
- Voltage transformers.
- Current transformers.

STANDARDS

Functionality

- C57.12.70
- C57.12.90

Electromagnetic compatibility

- EN 61326-1

Safety

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

TECHNICAL SPECIFICATION

Function	Measuring range	Resolution	Accuracy	
Winding resistance RH, RX, R10, R20, R30, R12, R23, R31	20 A, 15 A, 10 A	10.0 $\mu\Omega$... 1999.9 $\mu\Omega$ 2.000 m Ω ... 19.999 m Ω 20.00 m Ω ... 199.99 m Ω 200.0 m Ω ... 1999.9 m Ω	0.1 $\mu\Omega$ 1 $\mu\Omega$ 10 $\mu\Omega$ 100 $\mu\Omega$	$\pm 0.25\%$ of reading $\pm 0.1\%$ Range
	5 A, 1 A	0.100 m Ω ... 19.999 m Ω 20.00 m Ω ... 199.99 m Ω 200.0 m Ω ... 1999.9 m Ω 2.000 Ω ... 19.999 Ω	1 $\mu\Omega$ 10 $\mu\Omega$ 100 $\mu\Omega$ 1 m Ω	$\pm 0.25\%$ of reading $\pm 0.1\%$ Range
	100 mA	1.00 m Ω ... 199.99 m Ω 200.0 m Ω ... 1999.9 m Ω 2.000 Ω ... 19.999 Ω 20.00 Ω ... 199.99 Ω	10 $\mu\Omega$ 100 $\mu\Omega$ 1 m Ω 10 m Ω	$\pm 0.25\%$ of reading $\pm 0.1\%$ Range
	10 mA	10.0 m Ω ... 1999.9 m Ω 2.000 Ω ... 19.999 Ω 20.00 Ω ... 199.99 Ω 200.0 Ω ... 999.9 Ω 1.000 k Ω ... 9.999 k Ω	100 $\mu\Omega$ 1 m Ω 10 m Ω 100 m Ω 1 Ω	$\pm 0.25\%$ of reading $\pm 0.1\%$ Range $\pm 2\%$ of reading $\pm 2\%$ Range
GENERAL	Test current accuracy		$\pm 15\%$	
	Open terminal test voltage		<30 VDC	
	Max. short-circuit test current		20 A	
	Automatic discharge		Yes	
	Mains power supply		100 VAC ... 240 VAC, 45 Hz ... 65 HZ, 650 VA	
	Over-voltage category		300 V / CAT II	
	Pollution degree		2	
	Degree of protection		IP 65 (closed), IP 40 (open)	
	Dimensions		470 x 190 x 370 mm	
	Weight		9.3 kg, (without accessories)	
	Display		4.3" (10.9 cm) 480 x 272 pixels TFT color display	
Memory		> 1 GB		

OPTIONAL ACCESSORIES

Photo	Order No.	Acc. description
	A 1716 5M A 1716 10M A 1716 15M	X - side test cable with 5 m, 10 m or 15 m leads
	A 1715 5M A 1715 10M A 1715 15M	H - side test cable with 5 m, 10 m or 15 m leads
	S 2128 5M	Set of Kelvin test leads 5 m
	S 2128 10M S 2128 15M	Set of Kelvin test leads 10 m or 15 m
	A 1593	Large Kelvin test crocodile with jaw opening 35 mm

Photo	Order No.	Acc. description
	A 1757	Large Kelvin test clip with jaw opening 65 mm
	A 1714 20M	Two wire Kelvin extension cable 20 m
	A 1813	Tap changer control cable 10 m
	A 1814	Fastening rope 1 m with carabiner hook
	P 1101	Basic to PRO licence key upgrade for Metrel ES Manager

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ORDERING INFORMATION



MI 3281 5M set

- MI 3281 Instrument
- A 1715 5M H-side test cable
- A 1716 5M X-side test cable
- A 1757 Large Kelvin test clip with jaw opening 65 mm
- A 1813 Tap changer control cable 10 m
- USB cable
- Mains cable
- A 1552 Bag for accessories
- Metrel ES Manager BASIC license*
- Instruction manual
- Calibration certificate



MI 3281 10M set

- MI 3281 Instrument
- A 1715 10M H-side test cable
- A 1716 10M X-side test cable
- A 1777 2 x Transportation reel for cables
- A 1757 Large Kelvin test clip with jaw opening 65 mm
- A 1814 2 x Fastening rope 1 m with carabiner hook
- A 1813 Tap changer control cable 10 m
- USB cable
- Mains cable
- A 1006 Bag for accessories
- Metrel ES Manager BASIC license*
- Instruction manual
- Calibration certificate



MI 3281 15M set

- MI 3281 Instrument
- A 1715 15M H-side test cable
- A 1716 15M X-side test cable
- A 1777 2 x Transportation reel for cables
- A 1757 Large Kelvin test clip with jaw opening 65 mm
- A 1814 2 x Fastening rope 1 m with carabiner hook
- A 1813 Tap changer control cable 10 m
- USB cable
- Mains cable
- A 1006 Bag for accessories
- Metrel ES Manager BASIC license*
- Instruction manual
- Calibration certificate

* The BASIC license can be any time upgraded to PRO license with ordering the PRO license key P 1101

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