MTO106
Transformer ohmmeter

- **2 channels with max 6 A current output**
- **±0.25% measurement accuracy**
- **48 V test voltage for fast saturation of transformers**
- **Multimeter type operation, intuitive and fast**
- **Safety through automatic, passive discharge circuitry**
- **True portability – compact size and low weight**

DESCRIPTION

The MTO106 transformer ohmmeter is an easy-to-use, line-operated instrument specifically designed for safe and accurate field measurement of winding resistance in smaller transmission and distribution transformers.

It has dual channels with a wide measurement range and can accurately provide information about the vast majority of power transformers, reactors and instrument transformers. The test current can be manually set in five different ranges to fit transformers of various sizes.

The instrument is exceedingly simple to use, which minimises the need to train service engineers. It has a single selector switch for test current and a single button to activate the test cycle. The instrument is also supplied with test leads fitted with Kelvin clamps that allow for a single, one-time connection to the unit under test. The test leads are 10 m (33 ft) in length to allow for easy testing of pole mounted transformers.

The compact and lightweight instrument is housed in a rugged plastic case for true portability. When closed, the case is rated IP67, which means your instrument will always arrive safely to the testing location even in the harshest conditions.

Users are protected by an automatic discharge function that de-energises the transformer winding at the end of every test. The discharge function is passive and thus also functions if there is an inadvertent loss of power or if the test or mains leads are accidentally pulled.

APPLICATIONS

The MTO106 is mainly intended for field measurements of smaller transmission and distribution transformers:

- To verify factory test readings.
- As part of a regular maintenance program.
- To help locate the presence of defects in transformers such as increased contact resistance in terminal connections and tap changers.

The instrument can also be used for general resistance measurements including: control wiring, voltage regulators, motors, generators and all types of connections.

SPECIFICATIONS

Specifications are valid at nominal input voltage. Specifications are subject to change without notice.

Environment

Application field	The instrument is intended for use in high-voltage substations and industrial environments.
Temperature	
Operating	-20°C to +50°C (-4°F to +122°F)
Storage & transport	-50°C to +70°C (-58°F to +158°F)
Humidity (operating)	0% – 90% RH, non-condensing

CE-marking

LVD	2014/35/EU
EMC	2014/30/EU
RoHS	2011/65/EU

General

Mains voltage	100-240 V AC, 50/60 Hz
Input power	400 VA (max)
Case	Ruggedized plastic case with removable lid and carrying handle, IP 67 when closed
Dimensions (W x D x H)	360 x 304 x 194 mm (14.2 x12 x 7.6")
Weight	7.3 kg (16 lbs) excl. cables
Display	4-inch, backlit, monochrome alphanumerical display
Test leads	2 x 10 m (33 ft), with banana connectors and Kelvin clamps
Ground lead	1 x 5 m (16 ft), 2.5 mm²

Measurement section

Measurment range	10 µOhm to 30 kOhm
Resolution	Up to 4 digits
Open circuit test voltage	up to 48 V DC
Measurement voltage	up to 20 V DC

Current range	Resistance range	Inaccuracy	Resolution
6 A	10.00 mΩ to 5.000 Ω	±(0.25%rdg + 1 digit)	4 digits
	0.010 mΩ to 9.999 mΩ	±(0.25%rdg + 2 digits)	0.001 mΩ
1 A	100.0 mΩ to 30.00 Ω	±(0.25%rdg + 1 digit)	4 digits
	0.10 mΩ to 99.99 mΩ	±(0.25%rdg + 2 digits)	0.01 mΩ
100 mA	1.000 Ω to 300.0 Ω	±(0.25%rdg + 1 digit)	4 digits
	1.0 mΩ to 999.9 mΩ	±(0.25%rdg + 2 digits)	0.1 mΩ
10 mA	10.00 Ω to 3000 Ω	±(0.25%rdg + 1 digit)	4 digits
	0.010 Ω to 9.999 Ω	±(0.25%rdg + 2 digits)	0.001 Ω
1 mA	100.0 Ω to 30.00 kΩ	±(0.25%rdg + 1 digit)	4 digits
	0.10 Ω to 99.99 Ω	±(0.25%rdg + 2 digits)	0.01 Ω

INCLUDED ACCESSORIES


GC-32310


GC-32312


GA-00200

2000-091

OPTIONAL ACCESSORIES


1009-744

Transport case suited for the instrument and cables.

ORDERING INFORMATION

Item		Order No.
MTO106		BN-19090
Included accessories		
Test lead black with banana connector and Kelvin clamp, 10 m (33 ft)	1	GC-32310
Test lead red with banana connector and Kelvin clamp, 10 m (33 ft)	1	GC-32312
Ground lead, 5 m (16 ft) 2.5 mm²	1	GA-00200
Mains cable	1	AA-00010
User's manual	1	ZP-BN01E
MTO106 Report pad	1	XP-BN01E
MTO106 Reporting template file	1	SB-0022E
Carry bag	1	2000-091
MTO106 Without accessories		BN-19000
Optional accessories		
Transport case for instrument and leads		1009-744
MTO106 dual channel measurement lead set		GA-03310
Parts included in the MTO106 dual channel measurement lead set (GA-03310).		
Sensing lead, black, 10 m (33 ft)	1	KG-00530
Sensing lead, red, 10 m (33 ft)	1	KG-00532
Timing clamp	2	KD-03040
Test cable, black, 2 m (6.5 ft)	1	04-35030

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MTO106_DS_en_V04a
ZI-BN01E • Doc. BN034793DE • 2019