

MTO106

Transformer ohmmeter



- **2 channels with max 6 A current output**
- **$\pm 0.25\%$ 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 minimizes 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-energizes 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 x 12 x 7.6 in.)

Weight 7.3 kg (16 lbs) excl. cables

Display 4-inch, backlit, monochrome alphanumeric 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

Measurement 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	Cat. No.	
MTO106	BN-19090	
Included accessories		
Test lead black with banana connector and Kelvin clamp, 10m (33ft)	1	GC-32310
Test lead red with banana connector and Kelvin clamp, 10m (33ft)	1	GC-32312
Ground lead, 5 m (16ft) 2.5 mm ²	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