DATASHEET
MICRO-OHMMETER
MO-589R-200A

The MO-589R-200A high-current micro-ohmmeter is a portable, microprocessor-controlled instrument.

With optimized filters and protections for measurements in electrical substations.

Can be used to accurately measure very low contact resistances of high voltage circuit-breakers and switches, busbars, etc, with test currents from 5 A up to 200 A. It employs the 4 terminals-method (U/I measuring principle) to avoid errors caused by test leads and their contact resistances.

Remote control through an Android App

DESCRIPTION

The MO-589R-200A has a cooling system that allows making a large number of consecutive tests without activation of thermal protection. Under normal ambient conditions (77 °F | 25 °C) it can perform up to 30 consecutive tests with duration of 1 minute and 1 minute interval, time usually spent for repositioning the cables in another test point. This is a strong but lightweight equipment, and may be easily carried by one person. It is waterresistant and can be used under severe weather conditions (IP65 with closed lid) offering an excellent performance working both in the laboratory and out in the field.

KEY FEATURES

➜ Direct reading (up to 4½ digits)
➜ BSG mode (Both Side Grounded)
➜ Up to 30 consecutive tests
➜ Resolution: 0.1 μΩ
➜ Resistance reading: up to 1 Ω
➜ U/I (4-wires) measurement
➜ Overheating protection
➜ Built-in memory
➜ Bluetooth and USB communication interfaces
➜ Open Modbus protocol: Can be remote controlled through an Android app or through USB by customized software, Labview and PLC
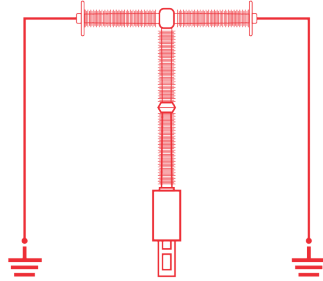
BSG MODE

The BSG (Both Side Grounded) test mode provides to the user and to the equipment a safer way to test objects in a substation, since the both sides of a switch, contact or circuit breaker are connected to the ground during the whole test.

REMOTE CONTROL BY APP

Increased safety and comfort : Set up, start and stop tests in an even safer and more comfortable way

Automatic reports : Generate test reports directly on the App

Smartphone / tablet features : Incorporate smartphone features into your reports (photo, GPS coordinates and test location map)

• Android, Google Play and the Google Play logo are trademarks of Google LLC

MODBUS® PROTOCOL

This equipment implements the Modbus® open protocol. All configuration, real-time control, monitoring of measurements, and retrieval of test information can be performed using commercial tools such as LabVIEW® and PLCs, or even through dedicated software and own development. In this way, the entire measurement and analysis process can be automated according to the application's needs. Complete documentation with accessible and controllable parameters is provided, as well as clarification of doubts about the use through technical support.

• Modbus® is a registered trademark of Schneider Automation Inc

• LabVIEW is a registered trademark of National Instruments Corporation

TECHNICAL SPECIFICATIONS

Electrical	
Test current	From 5 A up to 200 A (True DC) The test current can be adjusted in: • Steps of 0.2 A from 5 A to 20 A • Steps of 1 A from 20 A to 200 A
Resistance ranges	0.1 µΩ up to 2 mΩ (0.1 µΩ resolution) 2 mΩ up to 200 mΩ (10 µΩ resolution) 200 mΩ up to 1 Ω (1 mΩ resolution)
Basic accuracy	± 1 % of reading from 50 µΩ to 1 Ω
Auxiliary Clamp (BSG)	
Measurement range	0.1 Adc to 60 Adc
Accuracy	1 % + 3 digits
Features	
Measuring modes	Manual and automatic
BSG function	Allows to test an object with both sides grounded, providing more safety when performing measurements at substations
Programmable test time	• Allows to setup the test duration from 15 seconds up to 120 seconds for test currents from 5 A up to 200 A • Allows unlimited test duration for currents equal or lower than 100 A
Measurement principle	Four-terminal, U/I

Protections	Protections against overheating, over-current and short-circuit
Display	Alphanumerical LCD display, 4 lines / 20 characters (Big Number)
Built-in memory	Memory for storing up to 4000 readings organized by records
Communication	
Protocol	Modbus
USB	For configuration, control and download the stored values
Bluetooth	For configuration, control and download the stored values
Software	
Desktop (PC/Notebook)	TLogger software: for remote control, allowing to configure, run tests and generate reports
Android (Smartphone/ Tablet)	Tinsley Remote Control app: for remote control, allowing to configure, run tests and generate reports

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Standards	
Safety class	IEC 61010-1
Environmental	
IP rating	IP65 (with closed lid)
Operating temperature	14 °F to 122 °F (-10 °C to 50 °C)
Storage temperature	13 °F to 158 °F (-25 °C to 70 °C)
Humidity range	95% RH (non condensing)
Power Supply	
Mains	100-240 V~
Mechanical (of the Instrument)	
Weight	Approx. 24.25 lb (11 kg)
Dimensions	19.76" x 15.51" x 7.48" (502 x 394 x 190 mm)

ACCESSORIES

• Auxiliary current clamp
• Ground cable
• Power cord
• USB cable
• User manual
• TLogger software (download)
• Tinsley Remote Control App (download)
• Case for the accessories

OPTIONAL ACCESSORIES

• 2 Combined current and potential leads - 19.68 ft (6 meters)
• 2 Combined current and potential leads - 26.24 ft (8 meters)
• 2 Combined current and potential leads - 32.80 ft (10 meters)
• 2 Combined current and potential leads - 39.37 ft (12 meters)
• 2 Combined current and potential leads - 49.21 ft (15 meters)

Tinsley Precision Instruments
1 Warner Drive
Springwood Industrial Estate
Braintree, Essex
CM7 2YW

Tel: 01376 335271
E-mail: info@tinsley.co.uk
www.tinsley.co.uk