

DMO200

Digital Micro-Ohmmeter with USB storage



Features

- Clear and simple user interface
- 1-200A DC Test Current <2.5% ripple
- 0.1 μΩ Resolution
- USB Test Data storage
- 200A for 15 minutes with 15 minutes off
- 100A continuous current
- Colour back-lit LCD display
- Programmable test current
- 90-264V Universal supply voltage
- Thermal and over-current protection
- Portable in sturdy case
- Lightweight (6.9kg)
- High quality 3m lead set as standard

T&R Test Equipment is a market leader in the field of power test equipment.

The DMO200 is a 200A micro-ohm meter. It is simple to operate and automatically maintains desired output current. Output current, voltage and resistance are all displayed simultaneously. The DMO200 uses a four wire Kelvin connection to measure low resistance. The resistance is calculated from the test current and sense voltage.

The unit can output any current from 1A to 200A and has the option of three pre-programmable test currents, which can be selected at any time. The unit is designed to comply with BSEN61010 and is CE marked.

Storing results

The DMO200 is supplied with a USB memory key and USB keyboard for storing annotated results. To enter or edit a comment press the COMMENT/MENU button. The comment can then be edited using the keyboard. This comment is stored with each result until a new comment is entered. Each time the output of the unit is switched off, the readings from the unit are saved to the USB memory key in CSV format along with the date, time and your comment.

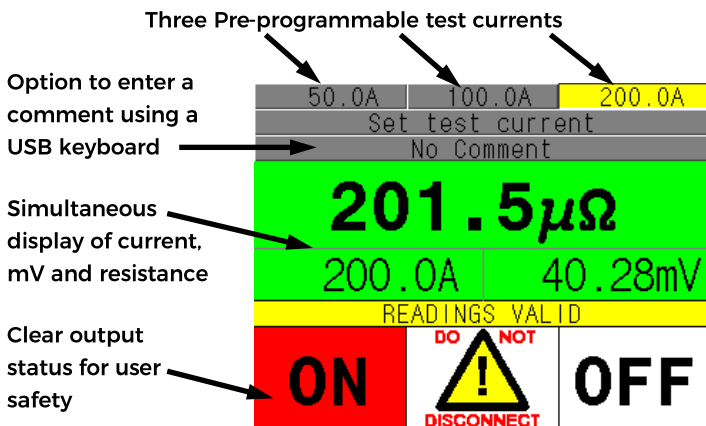
| 1 | A | B | C | D | E | F | G | H | I | J |
|---|----------|------------|---------|----------|----------|--------------------------------------|---|---|---|---|
| 2 | DMO200 | V1.00 | C01 | | | | | | | |
| 3 | Time | Date | Current | V | ohm | Re:Comment | | | | |
| 4 | 10:00:00 | 10/05/2016 | 200 | 2.00E-04 | 1.00E-06 | Y South switchyard breaker 3 phase A | | | | |
| 5 | 10:01:10 | 10/05/2016 | 200 | 2.04E-04 | 1.02E-06 | Y South switchyard breaker 3 phase B | | | | |
| 6 | 10:02:13 | 10/05/2016 | 200 | 2.02E-04 | 1.01E-06 | Y South switchyard breaker 3 phase C | | | | |
| 7 | 10:00:00 | 10/05/2016 | 200 | 2.00E-04 | 1.00E-06 | Y South switchyard breaker 4 phase A | | | | |
| 8 | 10:01:10 | 10/05/2016 | 200 | 2.04E-04 | 1.02E-06 | Y South switchyard breaker 4 phase B | | | | |
| 9 | 10:02:13 | 10/05/2016 | 200 | 2.02E-04 | 1.01E-06 | Y South switchyard breaker 4 phase C | | | | |

The CSV file can be opened with any spreadsheet program such as Microsoft Excel™ or similar application.

Test Limits

The DMO200 comes with the option of applying upper and lower pass limits for resistance and length of test for production line applications.

There is the option for up to three limit test setups each with their own resistance limits, and test current times. When the current has been set and the pre-set time has elapsed a pass or fail indication is shown.



Main Output

The main output allows for currents up to 200A.

| Range | Continuous | 15 minutes |
|-------|------------|------------|
| 5VDC | 100A | 200A |

The above intermittent ON time must be followed by an OFF time of 15 minutes, based on an ambient temperature of 25°C.

Metering

The output is metered by a true RMS digital system. Whenever the output is turned off, the current reading is held on the display.

| Range | Resolution | Accuracy |
|--------------|------------|-------------|
| 1.0 - 200.0A | 0.1A | ±0.5%rdg±1d |

A current trip is automatically detected.

Sense Voltage Inputs

Maximum measurement voltage is 5VDC.

| Range | Resolution | Accuracy |
|---------------|------------|-------------|
| 0-9.999mV | 0.001mV | ±0.5%rdg±5d |
| 10.00-99.99mV | 0.01mV | ±0.5%rdg±5d |
| 100.0-999.9mV | 0.1mV | ±0.5%rdg±5d |
| 1.000-5.000V | 1mV | ±0.5%rdg±5d |

Resistance accuracy

The calculated resistance accuracy is:

| Range | Resolution | Accuracy |
|---------|------------|--------------|
| 50-200A | Full Scale | ±1%rdg±2d |
| 10-49A | Full Scale | ±1%rdg±10d |
| 5-9.9A | Full Scale | ±1%rdg±20d |
| 1-4.9A | Full Scale | ±1.5%rdg±20d |

Lead Set Specifications

The DMO200 is supplied with a lead set including:
2 x 3m 95mm² output leads with large current clamps,
1 x 3m voltage sense leads, 1 x 5m Earth lead,
1 x 2.5m Mains supply lead.

Supply Requirements

The unit is available for operation from:
 90-264Vac 50/60Hz 1ph 3800VA

RS232

An RS232 port is provided to allow connection of a printer or PC. A PC connection allows for remote control of the output current and the recording of test results.

Temperature Range

Storage -20°C to 60°C Operating 0°C to 45°C

Accessories

Operating manual, output lead set, mains lead, earth lead, USB memory key, USB keyboard.

Optional Accessories

| | |
|--|--------------------|
| DMO200 current clamp | Part No. A224-0001 |
| Output/sense extension 3m in plastic case | Part No. A231-0004 |
| Output/sense extension 5m in plastic case | Part No. A231-0005 |
| Output/sense extension 10m in plastic case | Part No. A231-0006 |

Dimensions

360 x 290 x 165mm

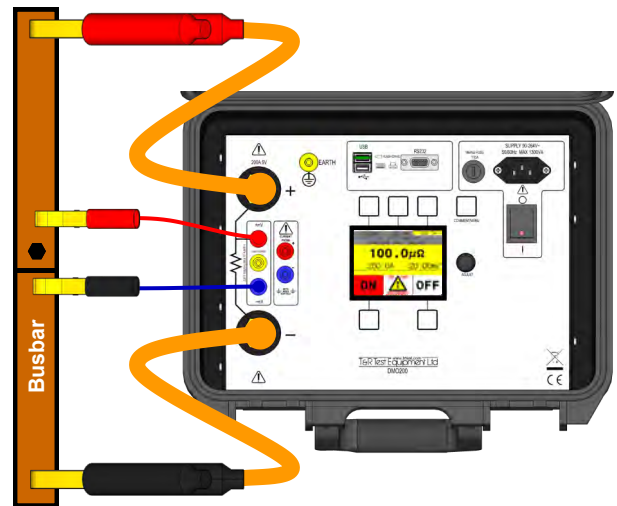
Weight

6.9kg

Example Applications

Busbar Joint Resistance

The DMO200 is ideal for measuring busbar joint resistance. Before making connections ensure that the supply is off and necessary earths have been applied. Connect the high current leads to the busbar, ensuring that the joint resistance to be measured is in the circuit. Connect the sense leads as close as possible to the joint to be measured. Select the desired test current using one of the preset test currents (or use the adjust knob to set a custom test current). Switch the output ON, and the current rises to the preset current. Switch the output OFF, the reading is held on the display.



Circuit Breaker Contact Resistance

The DMO200 is suited to all low resistance measurements on power systems, and is particularly suited to measuring contact resistances on substation circuit breakers, isolators and grounding equipment. The unit has a powerful output capable of driving 200A

through 20m output leads to reach the contacts of even the largest circuit breakers. Optional lead extensions are available which extend the high current and sense leads by 3, 5 or 10m.

Accurate measurements on circuit breakers, isolators and grounding links with both sides earthed are simple with the optional current clamp. This allows the current flowing through the earthing equipment to be subtracted from the test current.

