

DMO600

Digital Micro-Ohmmeter



Features

- Clear and simple user interface
- 10-600A DC Test Current
- 0.1 $\mu\Omega$ –5 Ω Resistance
- USB Test Data storage
- 600A for 2 minutes, 15 minutes off
- 200A continuous current
- Colour LCD display
- Programmable test current
- 90-264V supply voltage
- Thermal and over-current protection
- Portable is sturdy case
- Output ripple is <2.5%
- High quality 3m lead set supplied

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

The DMO600 is a 600A micro-ohm meter. It is simple to operate, and automatically maintains desired output current. Output current, voltage and resistance are all displayed simultaneously. The DMO600 uses a four wire Kelvin connection to measure low resistance. The resistance is calculated from the test current and sense voltage.

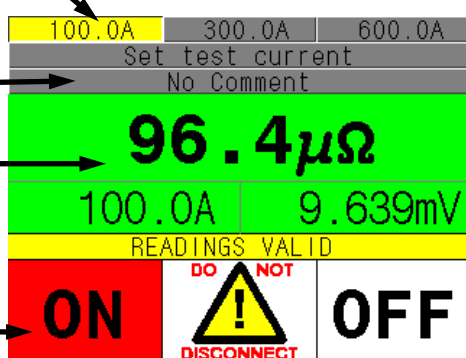
The unit can output any current from 10A to 600A, and has the option of three pre-programmable test currents, which can be selected at any time. The unit is designed to comply with BSEN61010, and is CE marked.

Three Pre-programmable test currents.

Option to enter a comment using USB keyboard.

Simultaneous display of current, mV and resistance.

Clear output status for user safety



Storing results

The DMO600 is supplied with a USB memory key and USB keyboard for storing annotated results. To enter or edit a comment tap 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.

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

	A	B	C	D	E	F	G	H	I	J
1	DMO200	V1.00	C01							
2	Time	Date	Current	V	ohm	Re	Comment			
3	10:00:00	10/05/2010	200	2.00E-04	1.00E-06	Y	South switchyard breaker 3 phase A			
4	10:01:10	10/05/2010	200	2.04E-04	1.02E-06	Y	South switchyard breaker 3 phase B			
5	10:02:13	10/05/2010	200	2.02E-04	1.01E-06	Y	South switchyard breaker 3 phase C			
6	10:00:00	10/05/2010	200	2.00E-04	1.00E-06	Y	South switchyard breaker 4 phase A			
7	10:01:10	10/05/2010	200	2.04E-04	1.02E-06	Y	South switchyard breaker 4 phase B			
8	10:02:13	10/05/2010	200	2.02E-04	1.01E-06	Y	South switchyard breaker 4 phase C			
9										

Test Limits

The DMO600 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.

DMO600 Specification

Main Output

The main output allows for output currents up to 600A.

Range	Continuous	2 minutes
5Vdc	200A	600A

The above intermittent on times must be followed by an off time of 15 minutes, and are based on an ambient temperature of 25°C.

Metering

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

Range	Resolution	Accuracy
10.0-600.0A	0.1A	$\pm 0.5\% \text{rdg} \pm 1 \text{d}$

A current trip is automatically detected.

Sense Voltage Inputs

Maximum measurement voltage is 5V dc

Range	Resolution	Accuracy
0-9.999mV	0.001mV	$\pm 0.5\% \text{rdg} \pm 5 \text{d}$
10.00-99.99mV	0.01mV	$\pm 0.5\% \text{rdg} \pm 5 \text{d}$
100.0-999.9mV	0.1mV	$\pm 0.5\% \text{rdg} \pm 5 \text{d}$
1.000-5.000V	0.001V	$\pm 0.5\% \text{rdg} \pm 5 \text{d}$

Resistance accuracy

The calculated resistance accuracy is:

Range	Resistance	Accuracy
100-600A	Full Scale	$\pm 1\% \text{rdg} \pm 2 \text{d}$
10-99A	Full Scale	$\pm 1.5\% \text{rdg} \pm 10 \text{d}$

Lead Set Specifications

The DMO600 is supplied with a lead set including:

2 x 3m 95mm² output leads, terminated in large current-clamps.

1 x 3m voltage sense leads, 1 x 5m Earth lead, 1 x 5m Mains lead.

Supply Requirements

The unit is available for operation from:

90-264Vac -10%+14% 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 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

DMO600 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

560 x 456 x 265mm

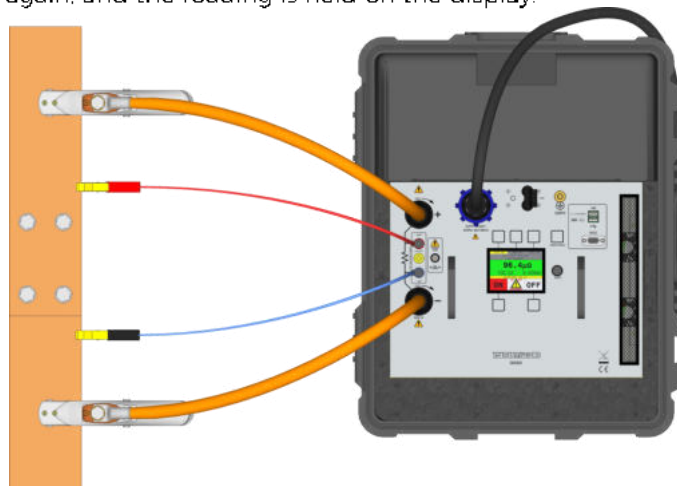
Weight

19.7kg

Example Applications

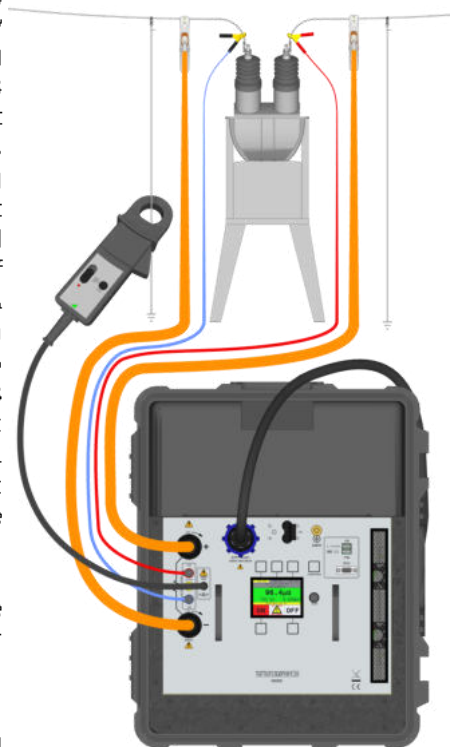
Busbar join resistance

The DMO600 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 again, and the reading is held on the display.



Circuit breaker contact resistance

The DMO600 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 600A through 20m output leads to reach the contacts of even the largest circuit breakers. Optional output 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.