DLRO600
Digital Microhmmeter

- **Small and weighs less than 15kg**

- **Test currents from 10A to 600 A d.c.**

- **0.1 µΩ best resolution**

- **On board memory for up to 300 test results and notes**

- **RS232 port to download stored results or for real time output to a printer**

- **Supplied complete with 5m test leads and download software**

DESCRIPTION

Megger DLRO600 measures resistances between 0.1 µΩ and 1 Ω, at high currents.

This versatile instrument can provide test currents from 10 amps up to 600 amps subject to the load resistance and supply voltage. A large liquid crystal display provides all the information needed to perform a test; all test parameters and measurement results are displayed.

The unique design allows the weight and size of DLRO600 to be kept to a minimum; the instrument weighs less than 15kg. This small size makes DLRO600 equally at home in the workshop, on the production floor or in the field. The high current capability and compact design make DLRO600 suitable for testing circuit breaker contacts, switch contacts, busbar joints or other applications where high current is needed.

300 sets of results may be stored in DLRO600's on board memory for later download to a PC or may be output directly to a printer via the RS232 port. You may also add notes to any stored result by using the on board alphanumeric keypad, thereby making later identification of results straightforward.

As well as adding notes to stored results, the alphanumeric keypad allows you to set the test current directly by typing in the value required. DLRO600 will check the continuity of the test circuit, and will quickly ramp the test current up to the desired level. The keyboard is also used to set upper and lower limits for the result and to prevent the use of excessive currents by setting an upper limit to the allowable test current.

DLRO600 uses a four terminal measurement technique to cancel the resistance of the test leads from the measurement.

History of 'Ducter' testing

For over 100 years the 'Ducter test' has been used to describe a simple test for measuring very low contact resistances and "Ducter", which is still used as a trade mark, was the name originally given to the low resistance ohmmeter manufactured by Megger. The name Ducter was registered by Megger in June 1908 and 'Ducter' has since become the industry standard.

Test Modes

DLRO600 operates in one of three modes, which are simply selected from the on screen menu.

CONTINUOUS mode is provided for users who wish to monitor a resistance over a period of time. Connect the test leads, select the test current and press the TEST button. DLRO600 will pass a current continuously, and measure the resulting voltage at 2- second intervals, until the test button is pressed to stop the test or the test circuit is interrupted.

In NORMAL mode you connect the leads, select the test current and press the TEST button. The test current will ramp up to the desired level, hold for 2 seconds and then ramp down. The whole process takes approximately 7 seconds.

In AUTO mode select the desired current, connect the current leads and press the TEST button. The TEST lamp will flash to show that the DLRO600 is ready to carry out a test. As soon as the potential leads are connected, a test will start. To repeat a test, simply break contact with the voltage probes and remake contact.

Measuring individual joints in a busbar is a good example of the convenience to be gained by using AUTO mode. The two current leads are connected to the ends of the busbar. They will remain connected here until all tests have been completed. When the voltage leads make contact across a joint, DLRO600 detects that all four leads are connected, carries out a test and stops.

When you move to the next joint DLRO detects the new completed circuit automatically and carries out the next test, and so on until all joints have been tested. The results may be stored automatically and may be recalled to the display or downloaded for review.

SPECIFICATIONS

Measurement:

Range: 0.1 µΩ to 999.9 mΩ

(Subject to supply voltage and leads used)

Accuracy:		
	Voltage	±0.5% ± 0.1 mV
	Current	±0.5% ± 0.1 A
	Resistance:	Better than 1% from 100 µΩ to 100 mΩ
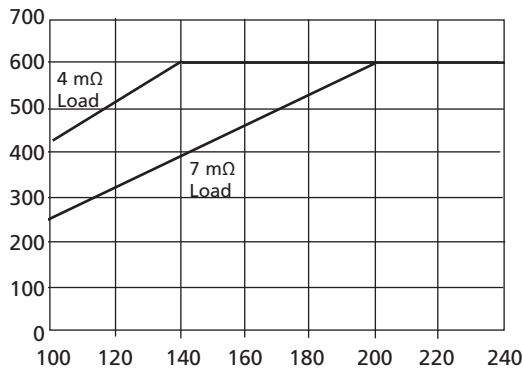
Output Current:
The chart above shows the maximum output current available at different supply voltages with a 4 mΩ load (i.e. standard 5 m current leads only) and with a 7 mΩ load

Current Lead Resistance (Megger supplied leads)
2 x 5 m 50 mm2 current leads	4 mΩ
2 x 10 m 70 mm2 current leads	5.4 mΩ
2 x 15 m 95 mm2 current leads	6 mΩ

Maximum Continuous Test Time
More than 60 seconds at 600 A @ 20ºC ambient.

Power Supply for: See chart. full output: 207 to 265 V 50/60 Hz with a load less than 7 mΩ including current leads

reduced output: Down to 100 V 50/60 Hz.

Test Modes: Manual, Auto, Continuous.

Test Time: 7 seconds NORMAL /AUTO mode. Refreshed every 2 seconds in CONTINUOUS mode

Display: Large, high resolution backlit liquid crystal display

Warnings Current flowing: - LED. Other warnings are shown on the lcd display.

Data Transfer Real time or batch download via RS232 using Download Manager.

Storage Capacity: 300 result sets and memo, battery backed for 10 years.

Memo field: 200 characters max.

Test Current Range: 10 A to 600 A unsmoothed d.c. in 1 A steps

Accuracy: ±2% ±2 A

Voltmeter input impedance: >200 kΩ

Hum rejection: 5 V rms 50 Hz/60 Hz

Operation Temperature: -10 to +50ºC

Storage Temperature: -25 to +65ºC

Calibration: 20ºC

Co-efficient: <0.05% per ºC

Max. Humidity: 95% RH non-condensing

Maxi Altitude: 2000 m

Safety: IEC61010-1

EMC: IEC61326-1

Dimensions: 410 x 250 x 270 mm

Weight: 14.5 kg (excluding test leads)

ORDERING INFORMATION

STANDARD VERSIONS WITH TEST LEADS

Description	Part number
DLRO600 High Current Digital Low Resistance Ohmmeter (English QWERTY keyboard)	DLRO600-EN
DLRO600 High Current Digital Low Resistance Ohmmeter (French AZERTY keyboard)	DLRO600-FR

Included accessories

5 m (16.4 ft.) Lead set set comprising 2 x 50 mm2 current leads with clips and 2 potential leads with clips	6220-755
Download Manager	6111-442
User Guide on CD-ROM	6172-763
RS232 download cable	25955-025
Quick Start Guide (English)	6172-782
Quick Start Guide (French)	6172-783
Warranty card.	6170-618

VERSIONS WITHOUT TEST LEADS

Description	Part number
DLRO600 High Current Digital Low Resistance Ohmmeter (English QWERTY keyboard)	DLRO600-EN-NLS
DLRO600 High Current Digital Low Resistance Ohmmeter (French AZERTY keyboard)	DLRO600-FR-NLS

Included Accessories

Download Manager	6111-442
User Guide on CD-ROM	6172-763
RS232 download cable	25955-025
Quick Start Guide (English)	6172-782
Quick Start Guide (French)	6172-783
Warranty card.	6170-618

NOTE:

For further test lead information refer to datasheet DLRO_TL_DS_en_V01.pdf

TEST LEAD INFORMATION

6220-755 5m Lead set (600 A)

2 x 50 mm^2 current leads with clamps and 2 x potential leads with clips.

DESCRIPTION

Lead set consists of pair of flexible high current capacity leads, together with a separate pair of lightweight potential leads.

Current leads are fitted with heavy duty sprung clamps (60 mm jaw capacity).

Potential leads fitted with smaller HD crocodile clips 22 mm jaw capacity).

Note:

6220-755 supplied as standard with DLRO600-EN and DLRO600-FR

6220-756 10m Lead set

2 x 70mm^2 current leads with clamps and 2 x potential leads with clips.

6220-757 15m Lead set

2 x 95mm^2 current leads with clamps and 2 x potential leads with clips.

DESCRIPTION

Lead set consists of pair of flexible high current capacity (600 A cont.) leads, together with a separate pair of lightweight potential leads.

Current leads are fitted with heavy duty sprung clamps (60 mm jaw capacity).

Potential leads fitted with smaller HD crocodile clips 22 mm jaw capacity).

Megger