DLRO 200
Digital Microhmmeter

- **Small and weighs less than 15 kg (33 lbs)**
- **Test currents from 10 A to 200 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 (16.4 ft.) test leads and download software**
- **Smooth, continuous applied current eliminates magnetic transients capable of inductively tripping breaker controls (115 V version)**

DESCRIPTION

Megger DLRO200 measures resistances between 0.1 µΩ and 1 Ω, at high currents.

This versatile instrument can provide test currents from 10 amps up to 200 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 DLRO200 to be kept to a minimum; the instrument weighs less than 15 kg. This small size makes DLRO200 equally at home in the workshop,on the production floor or in the field. The high current capability and compact design make DLRO200 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 DLRO200'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. DLRO200 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.

DLRO200 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

DLRO200 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. DLRO200 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 10 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 DLRO200 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 contac.

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, DLRO200 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 300 µΩ to 100 mΩ

Better than ±2% from 100 µΩ to 300 µΩ

Current Lead Resistance (Megger supplied leads)

2 x 5 m 25 mm2 current leads 8 m

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 10 minutes at 200 A @ 20 °C ambient.

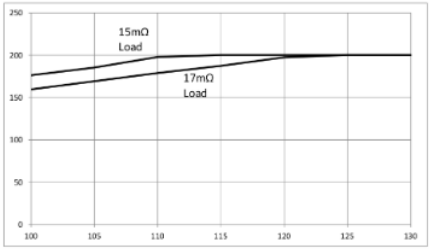
Power Supply for DLRO200 for full output (unsmoothed d.c.)

100 to 265 V 50/60 Hz with a load less than 19 mΩ (supply >207 V rms), or

11 mΩ (115 V rms) including current leads

Power Supply for DLRO200-115 V for full output (additional smoothing)

100 to 130 V 50/60 Hz with a load less than 11 mΩ including current leads



Test Modes: Manual, Auto, Continuous.

Test Time: 10 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: 160 characters max.

Test Current Range: 10 A to 200 A d.c. *

Accuracy: ±2% ±2 A

Voltmeter input impedance: >200 kΩ

Hum rejection: 5 V rms 50 Hz/60 Hz

Temperature Operation: -10 to +50 °C (-14 to +122 °F)

Storage: -25 to +65 °C (-13 to 149 °F)

Calibration: 20 °C

Co-efficient: <0.05% per °C

Max. Humidity: 95% RH non-condensing

Maxi Altitude: 2000 m

Safety: IEC61010-1

EMC: IEC61326-1

Dimensions: 410 x 250 x 270 mm (16.4 x 9.84 x 10.63 ins)

Weight: 14.5 kg (excluding test leads) (31.97 lbs)

ORDERING INFORMATION

STANDARD VERSIONS WITH TEST LEADS

Description	Part number
DLRO200 High Current Digital Low Resistance Ohmmeter (English QWERTY keyboard)	DLRO200-EN
DLRO200 High Current Digital Low Resistance Ohmmeter (French AZERTY keyboard)	DLRO200-FR
DLRO200-115 High Current Digital Low Resistance Ohmmeter 115 V with additional output smoothing (English QWERTY keyboard)	DLRO200-115

Included accessories

DLRO200-EN, DLRO200-FR	
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
DLRO200-115 5 m (16.4 ft.) Lead set in bag comprising: 2 x 25 mm2 current leads with clamps and 2 x potential leads with clips	6220-787
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
DLRO200 High Current Digital Low Resistance Ohmmeter (English QWERTY keyboard)	DLRO200-EN-NLS
DLRO200 High Current Digital Low Resistance Ohmmeter (French AZERTY keyboard)	DLRO200-FR-NLS
DLRO200-115 High Current Digital Low Resistance Ohmmeter 115 V with additional output smoothing (English QWERTY keyboard)	DLRO200-115-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 5 m Lead set (600 A) 2 x 50 mm 2 current leads with clamps and 2 x potential leads with clips.

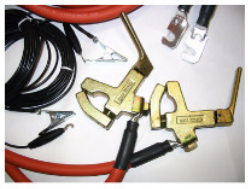
6220-787 5 m Lead set (200 A) as above but 25 mm 2 cable fitted.

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 DLRO200-EN and DLRO200-FR

6220-787 supplied as standard with DLRO200-115



6220-756 10 m Lead set 2 x 70 mm² current leads with clamps and 2 x potential leads with clips.

6220-757 15 m Lead set 2 x 95 mm² 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).

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