

# DLRO 200

## Digital Microhmmeter



- **Small and weighs less than 15kg (33 lbs)**
- **Test currents from 10A to 200 A d.c.**
- **0.1  $\mu\Omega$  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  $\mu\Omega$  and 1  $\Omega$ , 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 15kg. 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.

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 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, DLRO200 detects that all four leads are connected, carries out a test and stops. When you move to the next joint DLRO200 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  $\mu\Omega$  to 999.9 m $\Omega$   
(Subject to supply voltage and leads used)

**Accuracy:**

Voltage	$\pm 0.5\% \pm 0.1$ mV
Current	$\pm 0.5\% \pm 0.1$ A
Resistance:	Better than 1% from 300 $\mu\Omega$ to 100 m $\Omega$  Better than $\pm 2\%$ from 100 $\mu\Omega$ to 300 $\mu\Omega$

**Current Lead Resistance (Megger supplied leads)**

2 x 5 m 25 mm <sup>2</sup> current leads	8 m
2 x 5 m 50 mm <sup>2</sup> current leads	4 m $\Omega$
2 x 10 m 70 mm <sup>2</sup> current leads	5.4 m $\Omega$
2 x 15 m 95 mm <sup>2</sup> current leads	6 m $\Omega$

**Maximum Continuous Test Time**

More than 60 seconds 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 m $\Omega$  (supply >207 V rms), or  
11 m $\Omega$  (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 m $\Omega$  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:**  $\pm 2\% \pm 2$  A

**Voltmeter input**

**impedance:** >200 k $\Omega$

**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**

Item (Qty)	Order No.
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
<b>Included Accessories</b>	
<b>DLRO200-EN, DLRO200-FR</b>	
5 m (16.4 ft.) Lead set comprising 2 x 50 mm <sup>2</sup> current leads with clips and 2 potential leads with clips	6220-755
<b>DLRO200-115</b>	
5 m (16.4 ft.) Lead set in bag comprising: 2 x 25 mm <sup>2</sup> 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**

Item (Qty)	Order No.
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
<b>Included Accessories</b>	
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<sup>2</sup> current leads with clamps and 2 x potential leads with clips.

**6220-787 5m Lead set (200 A)**

as above but 25mm<sup>2</sup> 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 10m Lead set**

2 x 70mm<sup>2</sup> current leads with clamps and 2 x potential leads with clips.

**6220-757 15m Lead set**

2 x 95mm<sup>2</sup> 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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