

**Megger.**

## **LRC200 Series**

### **Combined Loop and RCD Testers**



- **Non-trip loop tester**
- **RCD testing from 10 mA to 1000 mA**
- **Auto RCD testing (LRC220)**
- **Extremely easy and safe to use**
- **Built-in protective front cover**
- **Tough Rubber armoured case**
- **Weatherproof**
- **3 year warranty**

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#### **DESCRIPTION**

The LRC200 series is the latest generation of combined non-tripping loop tester and RCD test instruments that provide simple, affordable and flexible test tools for electrical contractors testing energised circuits.

All LRC200 series instruments are supplied with a Megger calibration certificate.

Three instruments are available:

##### **LRC200**

This instrument provides 3 phase safe non trip loop testing and 1xl tests of 10 mA to 500 mA RCDs.

**NOT SUITABLE FOR UK APPLICATIONS.**

##### **LRC210**

This instrument provides three phase safe nontrip loop testing and 1/2I, I, and 5I RCD testing for standard, selective and pulsed DC RCDs. Suitable for domestic installers testing to UK Part P requirements.

##### **LRC220**

As the LRC210 with the addition of 110 V loop testing and 2 wire fast testing, plus phase to phase and phase to earth measurement and automatic RCD testing with result recall.

All three instruments will not trip RCDs rated at 30 mA or greater during loop testing, even electronic RCDs.

#### **GENERAL FEATURES**

All instruments are designed using the new Megger electricians tester case, providing tough rubber armouring, built-in front cover, weatherproof to IP54 and easy-to-use functions and layout.

The instruments can be hung around the neck or hand held and will not slip if placed on a bench or shelf.

Test leads can remain attached with the front cover open or closed.

L-N-E connection indicator LEDs show connection status and reverse polarity supplies.

#### **NON-TRIPPING LOOP TESTING**

The Megger 'No-Trip' loop test is designed for loop testing on circuits where an RCD is fitted. The RCD is guaranteed not to trip if rated 30 mA or greater.

The 'No-Trip' loop test is also guaranteed not to trip electronic RCDs.

##### **All LRC2 testers offer**

- Non-tripping Loop test. RCDs rated 30 mA or greater are not tripped by the loop test, even electronic RCDs.
- 3 wire low current non-tripping loop test provides measurements from 0.01 ohms to 2 kohms.
- Auto-ranging tests.
- PFC calculation and display from the loop test measurement
- Supply voltage display on connection to circuit.
- Supply frequency measurement

**Additionally for the LRCD220**

- 2-wire fast test is provided
- 415 V Phase to Phase loop measurement
- 110 V operation
- Backlit LCD display
- Phase rotation display

**RCD Testing**

Testing the trip times of RCDs with all commonly found RCD current ratings.

For most international applications and the UK, 5 tests must be performed:

- 1) 1/2 x RCD current rating, to ensure the RCD does not trip when half the rated current is flowing in the RCD.
- 2) 1 x RCD current rating. This is a trip test to ensure the RCD trips with the specified trip time.
- 3) 5 x RCD current rating. A Trip test to ensure the RCD trips within the specified time.
- 4 & 5) both the 1x and 5x tests must be performed at both 0 degrees and 180 degrees (positive and negative supply half cycles) to ensure worst case time is recorded.

The auto RCD test on the LRCD220 allows all the above tests to be performed automatically whilst the operator stands by the RCD and rests its as it trips. Results can then be recalled to the screen.

**All LRCD testers offer:**

- 10 mA to 500 mA RCD testing
- 1 x I RCD Test
- Type AC, Type A and Type S selection
- 0/180 degree selection
- Ramp testing
- 25 V or 50 V Touch voltage selection
- Optional Touch voltage display

**Additionally the LRCD210 and LRCD220 offers:**

- 1/2 x I and 5 x I RCD testing plus the LRCD220 offers:
- 1000 mA RCD testing
- Display backlight
- Test lock
- Phase rotation display

Additionally, instruments for non-UK markets can operate with the Live/Neutral supply reversed.

SELECTION GUIDE	LRCD200 (NOT UK)	LRCD210	LRCD220
Calibration certificate	■	■	■
<b>Loop testing</b>			
Non tripping loop test	■	■	■
PFC	■	■	■
Single phase	■	■	
Hi current loop test			■
Phase to phase			■
3 phase safe	■	■	■
Voltmeter	■	■	■
<b>RCD test</b>			
1/2 x I test		■	■
1 x I test	■	■	■
5 x I Test		■	■
Auto RCD			■
Touch / Contact voltage display	■	■	■
Selectable 25 / 50 V touch voltage	■	■	■
10, 30, 100, 300, 500 mA ranges	■	■	■
1000 mA			■
Type AC, Type A and Type S tests	■	■	■
Selectable phase 0 / 180	■	■	■
Ramp test (20% to 110%)	■	■	■
<b>General testing</b>			
Frequency	■	■	■
Phase rotation			■
Reverse polarity operation (Continental instruments only)	■	■	■
Backlight			■
<b>Mechanical</b>			
BS1363, CEE7/7, AS / NZS 3112 plug variants	■	■	■
IP54	■	■	■
Working voltage 230 V	■	■	
Working voltage 110 and 230 V			■

**SPECIFICATION**

**Voltage measurement:**

(LRCD200, 210, 220): 0 V – 500 V

**Accuracy:** ±2% ±2 digits

**Frequency measurement:**

(LRCD200,210,220)

**Range:** 25 Hz to 450 Hz

**Accuracy:** 25.0 Hz to 199.9 Hz ±0.1 Hz  
200 Hz to 450 Hz ±1 Hz

**Phase rotation indicator** (LRCD220 only)  
Three wire identification of phase rotation.

**Frequency:** 45 Hz to 65 Hz

**Loop testing:** Loop ranges (to EN 61557-3)

**No Trip Loop test 3-wire (Line to Earth)**

(LRCD200, 210, 220)

**Supply:** LRCD200/210 200 V – 280 V  
45 Hz to 65 Hz  
LRCD220 100 V – 280 V  
45 Hz to 65 Hz

**Nominal test current:** 15 mA

**Loop Accuracy:** 0.01 Ω – 9.99 Ω (±5% ±0.03 Ω)  
10.0 Ω – 99.9 Ω (±5% ±0.5 Ω)  
100 Ω – 999 Ω (±5% ±5 Ω)  
1.0 kΩ – 2.00 kΩ (±5% ±30 Ω)

**HI current Line/Earth loop test 2 wire (LRCD220 only)**

**Supply:** 100 V – 480 V

**Nominal Test Current:** 15 mA to 2.4 A

**Loop accuracy:** 0.01 Ω – 9.99 Ω (±5% ±0.03 Ω)  
10.0 Ω – 99.9 Ω (±5% ±0.5 Ω)  
100 Ω – 999 Ω (±5% ±5 Ω)  
1.0 kΩ – 2.00 kΩ (±5% ±30 Ω)

**Line/Line (LRCD220 only)**

**Supply:** 100 V – 480 V 45 Hz to 65 Hz

**Prospective Fault Current (PSCC)**

Prospective fault current = Nominal supply voltage/Loop resistance

Accuracy is derived from loop test

1 A – 199 A 1 A resolution  
0.20 kA – 1.99 kA 10 A resolution  
2.0 kA – 19.9 kA 100 A resolution

**RCD Testing**

RCD Test Ranges (to EN61557-6)

LRCD200/210 10 mA, 30 mA, 100 mA, 300 mA,  
500 mA

LRCD220 10 mA, 30 mA, 100mA, 300 mA,  
500 mA, 1000 mA

**Supply voltage:**

LRCD200/210 200 V – 280 V 45 Hz to 65 Hz

LRCD220 100 V – 280 V 45 Hz to 65 Hz

**Test Current Accuracy:**

**No Trip Test:** (1/2I) -8% to -2%

**Trip Test:** (I, 5I) +2% to +8%

**Trip Time:** ±1% ±1 ms

**Fault (Touch) Voltage**

**Displayed range:** 0 V to 50 V

**Error:** +5% / +15% ±0.5 V

**Temperature and humidity**

**Operating Range:** -5 °C to +40 °C

**Operating Humidity:** 93% R.H. at +40 °C max.

**Storage Range:** -25 °C to +70 °C

**Maximum altitude:** 2000 m

**Environmental Protection:** IP54

**Safety** IEC 61010

Meets the requirements of IEC61010-1 Cat III 300 V phase to earth.

**EN61557**

Complies with the following parts of EN61557,Electrical safety in low voltage systems up to 1000 V ac and 1500 V dc- Equipment for testing, measuring or monitoring of protective measures:

Part1- General Requirements

Part3- Loop resistance

Part6- Residual current devices

**Power supply**

**Battery:** 8 x 1,5 V cells IEC LR6 type (AA alkaline).

**Rechargeable:** 8 x 1.2V NiCd or NiMH cells.

**Battery Life:** 2000 consecutive tests

**Weight:** All units 980 gms

**Dimensions:** All units 203 x 148 x 78 mm

**E.M.C.** In accordance with IEC61326-1

### ORDERING INFORMATION

Description	Order Code	Description	Order Code
Standard BS1363 plug version			
Combined No-trip loop tester with 1 x I RCD tester 230 V only (Not for UK applications)	LRCD200-EN-BS	<b>Included accessories</b>	
Combined No-trip loop tester with 1/2,1,5I I RCD tester 230 V only	LRCD210-EN-BS	Red/Black/Green 3 wire lead set	6231-592
Combined No-trip loop tester with 1/2,1,5I I RCD tester 110 V, 230 V and Phase to Phase testing	LRCD220-EN-BS	AS/NZS 3112 Mains plug test lead	6220-790
<b>Included accessories</b>			
Red/Black/Green 3 wire lead set	6231-592	<b>Optional Accessories</b>	
BS1363 Mains plug test lead	6220-740	Red/Green 2 wire Lead set	6220-784
CEE 7/7 variants			
Combined No-trip loop tester with 1 x I RCD tester 230 V only	LRCD200-EN-SC	Earth bond test lead	6231-586
Combined No-trip loop tester with 1/2,1,5I I RCD tester 230 V only	LRCD210-EN-SC	<b>Optional Certification software</b>	
Combined No-trip loop tester with 1/2,1,5I I RCD tester 110 V, 230 V	LRCD220-EN-SC	Powersuite Pro-Lite16 Certification software	6111-694
<b>Included accessories</b>			
Red/Black/Green 3 wire lead set	6231-592		
CEE 7/7 Mains plug test lead			
Continental Europe	6220-741		
<b>AS/NZS 3112 variants</b>			
Combined No-trip loop tester with 1 x I RCD tester 230 V only	LRCD200-EN-AU		
Combined No-trip loop tester with 1/2,1,5I I RCD tester 230 V only	LRCD210-EN-AU		
Combined No-trip loop tester with 1/2,1,5I I RCD tester 110 V, 230 V	LRCD220-EN-AU		

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