LRCD200 Series
Combined Loop and RCD Testers



- **Non-trip loop tester**
- **RCD testing from 10 mA to 1000 mA**
- **Auto RCD testing (LRCD220)**
- **Extremely easy and safe to use**
- **Built-in protective front cover**
- **Tough Rubber armoured case**
- **Weatherproof**
- **3 year warranty**

DESCRIPTION

The LRCD200 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 LRCD200 series instruments are supplied with a Megger calibration certificate.

Three instruments are available:

LRCD200

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

NOT SUITABLE FOR UK APPLICATIONS.

LRCD 210

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

LRCD220

As the LRCD210 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 LRCD 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
- AC, AC selective, DC and DC selective RCD type 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	■	■	■
Loop testing			
Non tripping loop test	■	■	■
PFC	■	■	■
Single phase	■	■	
Hi current loop test			■
Phase to phase			■
3 phase safe	■	■	■
Voltmeter	■	■	■
RCD test			
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			■
AC, AC Selective, DC & DC Selective RCD tests	■	■	■
Selectable phase 0/180	■	■	■
Ramp test (20% to 110%)	■	■	■
General testing			
Frequency	■	■	■
Phase rotation			■
Reverse polarity operation (Continental instruments only)	■	■	■
Backlight			■
Mechanical			
BS1363, CEE7/7, AS/ NZS 3112 plug variants	■	■	■
IP54	■	■	■
Working voltage 230 V	■	■	
Working voltage 110 & 230 V			■

SPECIFICATION

Voltage measurement:
(LRCD200, 210, 220):
0 V - 500 V

Accuracy:
±2% ±2 digits

Frequency measurement:
(LRCD200,210,220)

Range:
25Hz to 450Hz

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

Phase rotation indicator
(LRCD220 only)

Three wire identification of phase rotation.

Frequency:
45Hz to 65Hz

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

No Trip Loop test 3-wire (Line to Earth)
(LRCD200,210,220)

Supply:

LRCD200/210	200V - 280 V 45Hz to 65Hz
LRCD220	100V - 280 V 45Hz to 65Hz

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)
1.00 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:
0.01Ω - 9.99 Ω (±5% ±0.03 Ω)
10.0Ω - 99.9 Ω (±5% ±0.5 Ω)
100Ω - 999 Ω (±5% ±5 Ω)
1.0 kΩ - 2.00 kΩ (±5% ±30 Ω)

Line/Line (LRCD220 only)

Supply:
100 V - 480 V 45Hz to 65Hz

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

Supply voltage:

LRCD200/210 =	200 V - 280 V 45Hz to 65Hz
LRCD220 =	100 V - 280 V 45Hz to 65Hz

Test Current Accuracy:

No Trip Test:
(1/2I) –8% to –2%

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

Trip Time:
±1% ±1ms

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:
2000m

Environmental Protection:
IP54

Safety
IEC 61010

Meets the requirements of IEC61010-1 Cat III 300V 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 980gms
Dimensions:	All units 203 x 148 x 78 mm

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

ORDERING INFORMATION

Item (Qty)	Order Code
Standard BS1363 plug version	
Combined No-trip loop tester with1 x I RCD tester 230V only (Not for UK applications)	LRCD200-EN-BS
Combined No-trip loop tester with 1/2,1,5I I RCD tester 230V only	LRCD210-EN-BS
Combined No-trip loop tester with 1/2,1,5I I RCD tester 110V, 230V and Phase to Phase testing	LRCD220-EN-BS
Included accessories	
Red/Black/Green 3 wire lead set	6220-782
BS1363 Mains plug test lead	6220-740
CEE 7/7 variants	
Combined No-trip loop tester with 1 x I RCD tester 230V only	LRCD200-EN-SC
Combined No-trip loop tester with 1/2,1,5I I RCD tester 230V only	LRCD210-EN-SC
Combined No-trip loop tester with 1/2,1,5I I RCD tester 110V, 230V	LRCD220-EN-SC
Included accessories	
Red/Black/Green 3 wire lead set	6220-782
CEE 7/7 Mains plug test lead Continental Europe	6220-741
AS/NZS 3112 variants	
Combined No-trip loop tester with 1 x I RCD tester230V only	LRCD200-EN-AU

Item (Qty)	Order Code
Combined No-trip loop tester with 1/2,1,5I I RCD tester 230V only	LRCD210-EN-AU
Combined No-trip loop tester with 1/2,1,5I I RCD tester 110V, 230V	LRCD220-EN-AU
Included accessories	
Red/Black/Green 3 wire lead set	6220-782
AS/NZS 3112 Mains plug test lead	6220-790
Optional Accessories	
Red/Green 2 wire Lead set	6220-784
Earth bond test lead	6231-586
Optional Certification software	
Powersuite Pro-Lite16 Certification software	6111-694

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