



# 6kA Compact Bi-Directional RCBO 1P+N Type A

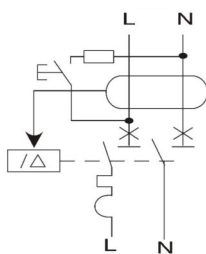
Residual current circuit breaker with integral overcurrent protection

## General Information

In alternative power supplies such as Solar photovoltaic (PV), generators, and energy storage systems, the possibility of bi-directional power flow must be considered with respect to protective devices. Uni-directional RCBOs are not suitable for such applications.

This Lewden range of bi-directional RCBOs are designed for use with Lewden branded distribution boards, and are suitable for bi-directional power flow.

This device must be installed by a qualified electrician in accordance with the latest edition of the IET wiring regulations for electrical installations BS7671



Current rating	Part Number
6A	RCBO-B06/30/1PNAB
10A	RCBO-B10/30/1PNAB
16A	RCBO-B16/30/1PNAB
20A	RCBO-B20/30/1PNAB
25A	RCBO-B25/30/1PNAB
32A	RCBO-B32/30/1PNAB
40A	RCBO-B40/30/1PNAB



THIS GUIDE MUST BE LEFT WITH THE UNIT FOR FUTURE REFERENCE

Technical Data	
Reference standard	IEC /BS EN61009-1
Rated Voltage (Un)	230-240V ac
Rated Current (In)	6-40A
Rated Frequency (Fn)	50/60Hz
Rated short circuit capacity	6kA
Rated impulse withstand (Uimp)	4kV
Tripping Characteristic	B
Rated residual current	30mA
Types Available	A
Neutral pole	Switched
Terminals line/load	1-16mm <sup>2</sup>
Neutral conductor length	400mm (can be cut to suit)
Terminal tightening torque	Line 2.5Nm Load 1.2-1.5Nm
Dimension (mm)	W18 x H96
Operating temperature	-5 to +40°C
Reference calibration temp.	+30°C
I $\Delta$ m	500A

Compact (reduced height) RCBOs occupy less space within a consumer unit (CU) or distribution board (DB) than conventional RCBOs, therefore offering the advantage of increased space for the wiring installation.

RCBOs in accordance with EN61009-1 are considered suitable as a means of isolation. 1P+N RCBOs are suitable for use in TN-S, TN-C-S, & TT network systems.

The switched neutral pole is particularly appropriate for systems featuring a TT earthing arrangement, or installations where it is necessary to disconnect all live conductors in order to achieve safe isolation of individual circuits, for example EV charging.

Appliance manufacturer's instructions must be considered when selecting the appropriate type of RCBO for a particular item of equipment.

Type	Protection level
A	Provides protection against AC earth fault currents and pulsating DC currents, whether suddenly applied or slowly increasing. Tripping is achieved for residual pulsating DC currents superimposed on a smooth DC current up to 6mA.  Particularly suited to single phase loads featuring electronic components. e.g. Lighting controls and LED drivers, induction hobs, power supplies for class II equipment, multimedia equipment, inverters etc. Type A devices are also suitable for type AC RCD applications such as immersion heaters, tungsten and halogen lighting, ovens, showers etc.

Adjacent thermal magnetic MCBs/RCBOs should not be continuously loaded at their nominal rated currents when mounted within enclosures.

A rated diversity factor (RDF) should be applied to the nominal rated current of the MCB/RCBO where it is intended to load circuits continuously and simultaneously.

CU ways	RDF	CU ways	RDF
1 way	1	6-9 ways	0.6
2-3 ways	0.8	10 ways +	0.5
4-5 ways	0.7		

## Testing of the Installation

After completion of the installation, it is essential that it is tested in accordance with the latest edition of the IET wiring regulations for electrical installations (BS7671)

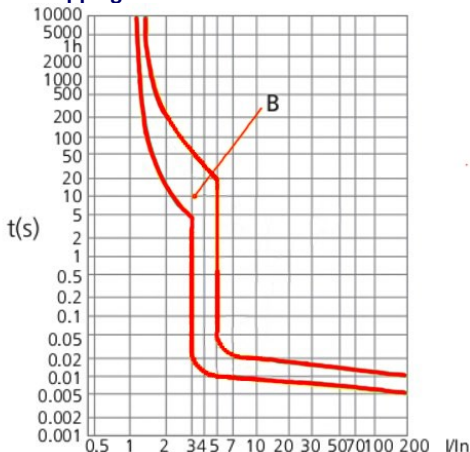
Test equipment manufacturers instructions should be referred to in order to establish the correct procedure for testing type A devices.

RCBOs with a switched neutral pole DO NOT require the blue neutral flying lead or the final circuit conductors to be disconnected during insulation resistance testing.

Insulation testing should be conducted at the top L-N terminals with the device in the OFF position

Test Parameter (AC setting)	Result
0.5x I $\Delta$ n	RCBO will not trip
1.0x I $\Delta$ n	0 & 180° RCBO must trip within 300ms
5.0x I $\Delta$ n	0 & 180° RCBO must trip within 40ms

## Tripping characteristics



## Maintenance

The RCBO should be tested on a regular basis by pressing the TEST button (T) in accordance with the latest edition of the IET wiring regulations for electrical installations (BS7671)

### What to do if an MCB/RCBO trips

Reset tripped MCB/RCBO to the ON position. If device trips again, disconnect all appliances connected to this circuit. Switch RCBO ON and safely connect appliances one at a time to identify which one trips the device.

**In all cases, once the faulty appliance has been identified, do not continue to use the item until it has been checked.**