

Residual Current Breakers with Overcurrent Protection (RCBOs)

Standards and approvals

All Sentry RCBOs are designed to fully comply with the relevant requirements of BS EN 61009-1, BS IEC 61 009-2-2, BS 61543 for EMC.

The RCBOs feature positive contact status indication in accordance with 17th edition IEE Wiring Regulations (537.2.2.2 and 537.3.2.2).



Technical specification

Electrical

Operating voltage: 230V a.c.

Operating frequency: 50Hz

Rated Short circuit capacity I_{cn} : 6,000A

Service short circuit capacity I_{cs} : 6,000A

When backed up by a BS 1361, 100A fuse, then the breaking capacity of the RCBO is increased to 16,000A.

Type AC

Physical

Ambient operating temperature: -25°C to $+40^{\circ}\text{C}$

IP rating:

Front face IP4X, screw IP2X

Terminal capacity:

Line in 25mm²

Line and neutral out 25mm²

Tightening torque:

2.5Nm

Max. installation altitude: 2000 metres

Description

The Sentry range features solid neutral type single pole RCBOs in one module format.

The one module Sentry RCBOs are a combination of a Type B MCB and a Residual Current Device. This enables both overcurrent protection and earth fault current protection to be provided by a single unit.

This combination allows earth fault protection to be restricted to a single circuit, thus ensuring that only the circuit with the fault is interrupted. (When groups of circuits are protected by an RCD, all circuits would be interrupted under fault conditions, which may cause unnecessary inconvenience).

The operating switch on all Sentry RCBOs may be locked in either the ON or OFF position without affecting the ability of the trip mechanism to operate.

Sentry RCBOs feature tunnel terminals of generous capacity, with 25mm² for live supply for live and neutral load terminals. The neutral supply (blue) and earth supply (white/cream) are provided via flying leads.

Mode of operation

As the RCBO is a combination of an MCB and RCD, reference should be made to the relevant technical information regarding these devices.

Features

- Single module
- Meet BS EN and IEE Wiring Regulation requirements
- Allows both overcurrent and earth fault protection and detection
- Available in a range of current ratings
- Tunnel type terminals
- Generous terminal capacity
- Positive contact status indication

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Rating specification

Rating RCBO	Tripping Current	List No.
6A, 230V	30mA	7932s
10A, 230V	30mA	7933s
16A, 230V	30mA	7934s
20A, 230V	30mA	7935s
32A, 230V	30mA	7936s
40A, 230V	30mA	7937s
45A, 230V	30mA	7938s
50A, 230V	30mA	7939s

Installation

Sentry RCBOs may be installed anywhere along the length of the busbar and will occupy one outgoing way.

Selection of the most suitable RCBO should take into account the following considerations:

1. Operating voltage and frequencies

2. Fault breaking capacity

For applications where the prospective fault current is in excess of this, a BS 1361, 100A (maximum) fuse should be used upstream of the RCBO to provide a system breaking capacity of 16,000A.

3. Cable protection

The current carrying capacity of the cable should always exceed the current rating of the RCBO, to prevent damage. However, should this not be the case, a further calculation may show that the RCBO can still interrupt the current in a sufficiently short time to prevent overheating of the cable insulation. Although this will prevent mechanical damage to the cables, further overload protection should be provided by a separate device, e.g. a motor overload relay.

In case of doubt please contact the Technical Sales and Service Department.

Dimensions (mm)

