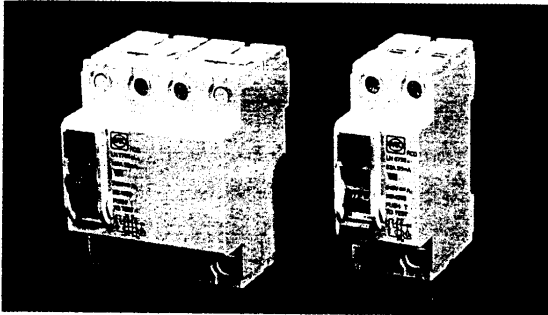


Residual Current Devices (RCDs)

261 361.



Product range

Double pole, 2 module	Rating	Tripping current
6016s	16A, 110V	10mA
6416s	16A, 110V	30mA
6316s	16A, 230V	10mA
5716s	16A, 230V	30mA
6032s	32A, 110V	30mA
6730s	32A, 230V	30mA
5740s	40A, 230V	30mA
5760s	63A, 230V	30mA
6160s	63A, 230V	100mA
5860s	63A, 230V	300mA
Double pole, pulsating d.c., fault current sensitive, 2 module		
6216s	16A, 230V	10mA
6716s	16A, 230V	30mA
6630s	32A, 230V	30mA
5640s	40A, 230V	30mA
5660s	63A, 230V	30mA
Double pole, 4 module		
5780s	80A, 230V	30mA
5880s	80A, 230V	300mA
6180s	80A, 230V	100mA
7700s	100A, 230V	30mA
6600s	100A, 230V	100mA
7800s	100A, 230V	300mA
Time delayed, double pole, 4 module		
6980s	80A, 230V	100mA
6400s	100A, 230V	100mA
Four pole, 4 module		
6425s	25A, 230/400V	30mA
6440s	40A, 230/400V	30mA
6240s	40A, 230/400V	100mA
6463s	63A, 230/400V	30mA
6363s	63A, 230/400V	100mA
6263s	63A, 230/400V	300mA
Four pole, pulsating DC, fault current sensitive, 4 module		
6625s	25A, 230/400V	30mA
6640s	40A, 230/400V	30mA

Standards and approvals

All MK Sentry RCDs are designed to fully comply with the requirements of BS EN 61008: 1995.

They all feature positive contact status indication in accordance with the 16th. edition IEE Wiring Regulations 537-02-03 and 537-03-02.

Description

The Sentry range of RCDs offers a comprehensive selection of devices designed to meet most residential, commercial and light industrial requirements.

The range includes two and four pole, A.C., D.C. fault current sensitive and time delayed models and a selection of current ratings from 16 to 100A is available in a variety of tripping sensitivities.

When in the OFF position a contact gap of 4 mm is present, enabling Sentry RCDs to be used as isolating switches where appropriate.

Positive indication of the opening of the contacts is only given when the legend 'OFF-O' can be seen on the RCD dolly.

The operating dolly may be locked in either the ON or OFF position without affecting the ability of the trip mechanism to operate, i.e. the RCD is 'trip-free'. It is not possible to hold the contacts closed when a fault condition exists.

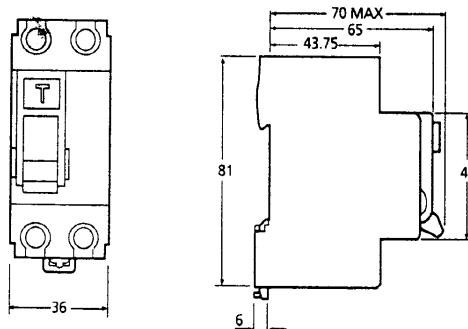
All Sentry RCDs incorporate a filtering device to provide protection against transient surges in the supply to the unit, thus reducing the occurrence of unwanted tripping.

This feature is represented by the symbol Ω on all Sentry RCDs.

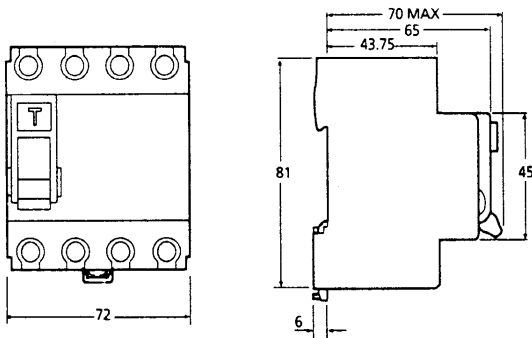
Features

- Meet BS EN and IEE Wiring Regulation requirements
- Extensive range to suit all specifications
- Protect against unwanted tripping
- Positive contact status indication
- Suitable for most residential, commercial and light industrial applications
- Offer a high degree of protection against electrocution in accidental shock hazard situations
- Two module, double pole units available up to 63A.
- Two module, double pole units, 80A & 100A available late 1996

Dimensions



Dimensions continued



Technical specification

Electrical

Rated making and breaking capacity:	Normal (I _m) 630A (16 - 63A) and residual (I _{Δm}) 800A (80 - 100A)
Rated conditional short-circuit current:	Normal (I _{nc}) 10,000A and residual (I _{Δc}) 80A Fuse (16 - 40A) 100A Fuse (63 - 100A)
Fault breaking capacity:	3,000A
When used in conjunction with a Sentry MCB, the RCD will withstand fault current up to the breaking capacity of the MCB, i.e. 6,000A.	
When backed up by a BS 88 fuse, then the breaking capacity of the RCD is increased to 10,000A.	
Operating frequency:	50 Hz
Operating voltages:	2 pole devices, 110V and 230V 4 pole devices, 230V to 400V

Physical

Ambient operating temperature:	A.C.: -5°C to + 60°C Pulsating D.C.: -25°C to + 60°C
IP rating:	Front face IP4X, screw IP2X
Max installation altitude:	2000 metres

Installation

Sentry RCDs must never be used as the sole method of direct contact protection, but are invaluable in providing supplementary protection in high risk environments where damage may occur.

Time Delayed RCDs

When two or more Sentry RCDs are installed in series with one another, measures must be taken to ensure that they discriminate properly. In event of an earth fault, only the RCD immediately upstream from the fault should operate.

RCDs do not discriminate on rated tripping current alone, i.e.; a 100mA rated RCD situated upstream from a 30mA rated RCD, will not offer inherent discrimination.

In order to ensure that discrimination is achieved, a Sentry Time Delayed RCD should be used. The in-built time delay period ensures that the downstream RCD opens the circuit before the upstream RCD starts to operate.

The maximum tripping time of a Sentry Time Delayed RCD is 450ms. Typical applications are:

- i) as main incomers on TT systems where all sockets are already protected by a 30mA instantaneous RCD, but where unwanted tripping may become a problem.

- ii) as the main incomer of split load consumer unit arrangement where all circuits are protected by a 10 or 30mA instantaneous RCD or otherwise comply with the direct and indirect contact protection requirements of the Wiring Regulations.

The Sentry Time Delay RCDs are clearly identified with the internationally agreed representative symbol; and the words; 'TIME DELAY'.

3 phase, 3 wire systems

Sentry 4 pole RCDs may be used to provide earth fault protection on 3 phase, 3 wire systems, as the current balance mechanism does not require a neutral to be connected in order to operate effectively.

However Sentry 4 pole RCDs do, ideally, require a neutral conductor to be provided on the supply side of the RCD in order to ensure that the test circuit operates satisfactorily.

Where connection of a neutral supply is not possible, then an alternative method of ensuring that the test button is operational is to fit a suitably rated resistor between the load side neutral pole and a phase pole not associated with the normal test button operation.

See below for details.

Testing

If an RCD is installed for additional protection against indirect contact, it is a requirement of the IEE Regulations that the effectiveness of the RCD be verified. This must be achieved by a test simulating an appropriate fault condition and be independent of any test facility incorporated in the RCD. The test currents to be applied are as follows:

Test current	Condition
0.5 x I _{Δn}	RCD must not trip
1.0 x I _{Δn}	RCD must trip within 200 ms
5.0 x I _{Δn}	RCD must trip within 40 ms

where I_{Δn} is the RCD's rated tripping current.

Sentry 4 pole RCD on three wire systems

