

# MK SENTRY



## Residual Current Breakers with Overcurrent Protection (RCBOs)



### Description

The MK Sentry range features solid neutral type single pole RCBOs in one module format. The one module MK Sentry RCBOs are a combination of a Type B/C 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 MK Sentry RCBOs may be locked in either the ON or OFF position without affecting the ability of the trip mechanism to operate.

MK Sentry RCBOs feature tunnel terminals of generous capacity, with 25mm<sup>2</sup> for live supply terminals and 10mm<sup>2</sup> 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

### Operating Characteristics

#### RCD Type A

These are used to respond to AC and pulsating DC Currents

#### RCD Type AC

These are used to respond to AC currents

#### MCB Curve B/C

PART	RATING	MCB CURVE	RCD TYPE	TRIPPING CURRENT	BREAKING CAPACITY
H6832s	6A	B	A	30mA	6kA
H6833s	10A	B	A	30mA	6kA
H6834s	16A	B	A	30mA	6kA
H6835s	20A	B	A	30mA	6kA
H6836s	32A	B	A	30mA	6kA
H6837s	40A	B	A	30mA	6kA
H6838s	50A	B	A	30mA	6kA
H6310s	32A	B	AC	10mA	6kA
H7932s	6A	B	AC	30mA	6kA
H7933s	10A	B	AC	30mA	6kA
H7934s	16A	B	AC	30mA	6kA
H7935s	20A	B	AC	30mA	6kA
H7936s	32A	B	AC	30mA	6kA
H7938s	45A	B	AC	30mA	6kA
H7939s	50A	B	AC	30mA	6kA
H8932s	6A	C	AC	30mA	6kA
H8933s	10A	C	AC	30mA	6kA
H8934s	16A	C	AC	30mA	6kA
H8935s	20A	C	AC	30mA	6kA
H8936s	32A	C	AC	30mA	6kA
H8937s	40A	C	AC	30mA	6kA
H8938s	50A	C	AC	30mA	6kA
H7732s	6A	B	A	30mA	10kA
H7733s	10A	B	A	30mA	10kA
H7734s	16A	B	A	30mA	10kA
H7735s	20A	B	A	30mA	10kA
H7736s	32A	B	A	30mA	10kA
H7737s	40A	B	A	30mA	10kA
H7738s	50A	B	A	30mA	10kA
H6732s	6A	B	AC	30mA	10kA
H6733s	10A	B	AC	30mA	10kA
H6734s	16A	B	AC	30mA	10kA
H6735s	20A	B	AC	30mA	10kA
H6736s	32A	B	AC	30mA	10kA
H6737s	40A	B	AC	30mA	10kA
H6738s	50A	B	AC	30mA	10kA
H6532s	6A	C	AC	30mA	10kA
H6533s	10A	C	AC	30mA	10kA
H6534s	16A	C	AC	30mA	10kA
H6535s	20A	C	AC	30mA	10kA
H6536s	32A	C	AC	30mA	10kA
H6537s	40A	C	AC	30mA	10kA
H6538s	50A	C	AC	30mA	10kA

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### TECHNICAL SPECIFICATION

#### ELECTRICAL

**CURRENT RATING**  
6-50A

**OPERATING VOLTAGE**  
230V a.c.

**OPERATING FREQUENCY**  
50Hz

**RATED SHORT CIRCUIT CAPACITY  $I_{cN}$**   
6,000A / 10,000A

**SERVICE SHORT CIRCUIT CAPACITY  $I_{cs}$**   
6,000A / 10,000A

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

RCD Type AC or RCD Type A  
MCB Curve B or C

#### PHYSICAL

**AMBIENT OPERATING TEMPERATURE**  
-5°C to + 55°C

**IP RATING**  
Front face IP4X, screw IP2X

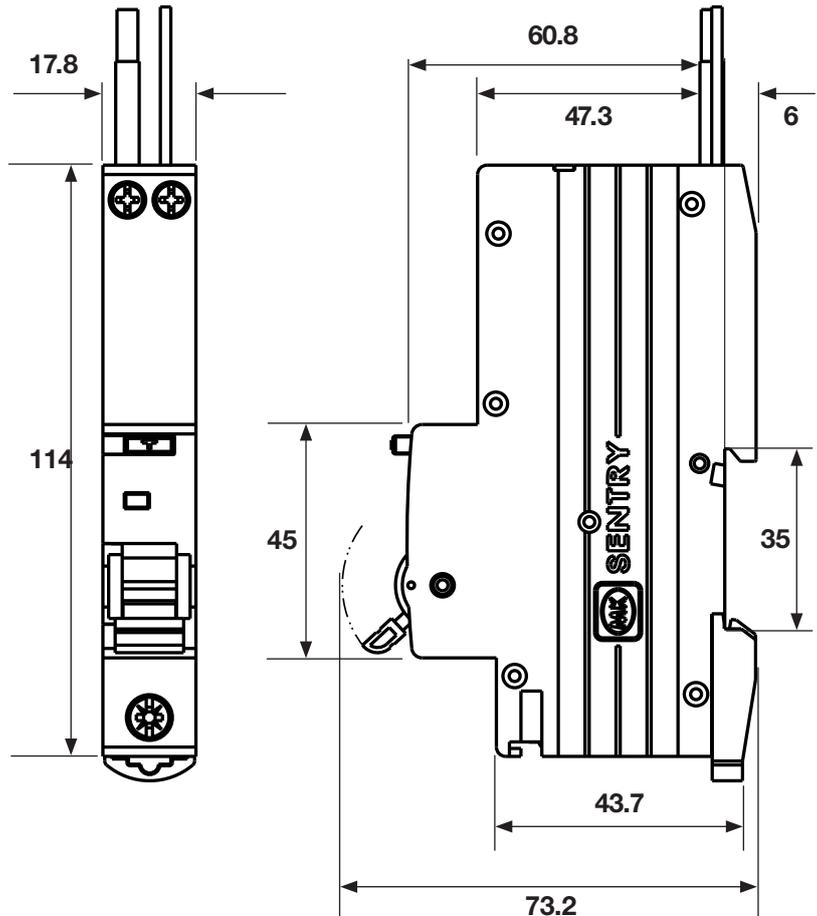
**TERMINAL CAPACITY**  
Line in 25mm<sup>2</sup>  
Line and neutral out 10mm<sup>2</sup>

**TIGHTENING TORQUE**  
2.5Nm

**MAX. INSTALLATION ALTITUDE**  
2000 metres

### Dimensions (mm)

(height) 114mm x (width) 18mm x (depth) 79mm  
weight 0.15Kg (0.2Kg packed)



### Installation

MK 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.

### Standards and approvals

Product Standard: BS EN 61009-1, BS IEC 61 009-2-2, BS 61543 (EMC)  
Product Certification: CE, UKCA  
Degree of Pollution: 2

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