

# ENCLOSED PRODUCTS



AUTOMATIC CHANGEOVER SWITCHES  
LIFE SAFETY AUTO CHANGEOVER SWITCHES  
RCBO3 (CBR / MCCB WITH ELR)  
ROTARY MCCBS

## Introduction

Automatic Changeover Switches are vital in situations where an uninterrupted power supply is critical to maintain the continuity of essential processes. In this regard, Protek's SCO Automatic Changeover Switches are equipped with a contactor changeover system that can operate in either 2 pole or 4 pole. These changeover switches are rated at 230V or 400V AC and feature electromechanical interlocked AC1 / AC3 rated contactors that meet the essential requirements necessary for switching to a replacement power supply.

The SCO range of Automatic Changeover Switches are managed by a door-mounted front panel controller, which provides options for automatic or manual switching of the load from a **MAIN LINE** to a stand-by or emergency **SECONDARY LINE** or vice versa. The controller monitors two three-phase voltage inputs coming from two sources and connects to the output line that is within the limits. This controller is designed for use in both three-phase and neutral or two-phase systems and controls the contactors to perform the transfer between the lines.



The front panel controller is user-friendly and shows all the necessary information with LEDs, which provide a clear visualization of the Automatic Transfer System's status. The push buttons on the controller allow you to select the operating mode, automatic or manual, and change the operating mode to manual switching of the load in position 1 (Line 1), position 0 (Neutral position), or position 2 (Line 2) as required, without needing to program any settings on the controller.

Moreover, the front panel mounted controller features NFC connectivity, allowing you to configure the controller's parameters easily and quickly using an Apple iPhone or Android-based device (NFC functionality required) with the NFC App. Additionally, on the back of the controller, there are two potentiometers that enable manual setting of line presence delays or tripping delays for the protection threshold.

## Features and Benefits



### Features

- Designed and built in the UK to BS EN 60947-6-1
- IP40 Sheet steel enclosure
- RAL 7035W Powder coating
- Galvanized steel mounting plate
- Fully welded construction
- Foamed-in door PU sealing gasket
- Solid top and bottom gland plates with PE gasket
- 5mm Double-bit insert polyamide lock
- Wall mountable
- Easy install

### Benefits

- Single and Three Phase ATS
- Mains to Mains and Mains to Generator
- Programmable using NFC App
- Front panel controller with LED visualization showing status of ATS
- Automatic switching of the load from main line to standby / secondary line
- Manual mode switchable on door or remotely
- Two potentiometers allow manual setting of line presence or tripping delays for the protection threshold

## Front Panel Mounted Controller Overview & Self-Seeking Power Supply

### LINE 1 and LINE 2 status

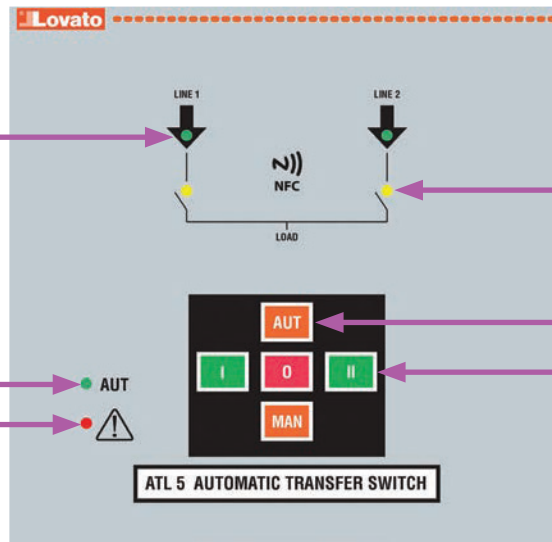
- ON** = line ok
- OFF** = line not present
- Flashing** = line out of limits

### Operating mode active

- ON** = automatic mode
- OFF** = manual mode or device not powered

### Alarm

Flashing in case of active alarm. The number of flashing identifies the type of alarm



### LINE 1 and LINE 2 changeover device status

Steady indicates the status of the changeover device (off=opened/on=closed), flashing during the transitions

### Operating mode selection

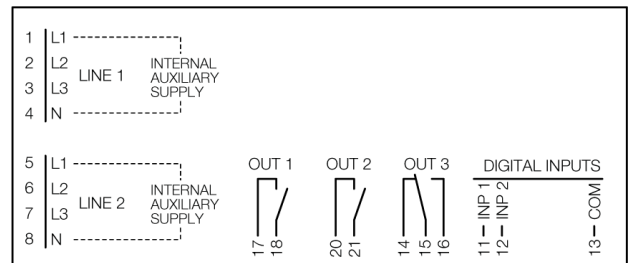
- AUT** = automatic mode
- Man** = manual mode

### Manual changeover command

- I** = switch to LINE 1
- O** = neutral position
- II** = switch to LINE 2

The self-seeking power supply enables automatic selection of the most optimal available line for internal supply.

This selection is based on the two measuring inputs with a rated voltage range of 110 to 240VAC L-N. The power supply accomplishes this without requiring any external circuitry or dual power supply module for selecting the auxiliary supply.



## Potentiometers

The controller is provided with two potentiometers on the back, one for each line (LINE 1 and LINE 2), which can be used for the following functions:

- Setting of the line presence delays (default setting)
- Setting of the tripping delays of the protection thresholds

The delays can be adjusted between 0 and 60 seconds. The function of the potentiometers can be modified with the NFC App.

## Control Functions of Lines 1 & 2

For each line, the controller monitors the status of the voltage and the frequency to detect if the line is available and all the parameters are within the correct limits. The following controls are performed:

- Phase sequence and phase loss
- Minimum and maximum voltage
- Voltage asymmetry
- Minimum and maximum frequency.

The tripping thresholds and delays of controller already have default settings. If necessary, it is possible to adjust these values using the NFC App.

## Product Part Numbers

Part Number	Amp	Pole	AC-1	Type	Dimensions
SCO040AL	40A	2 / 4 Pole	40A	Mains to Mains / Main to Generator	H500xW400xD200
SCO060AL	60A	2 / 4 Pole	60A	Mains to Mains / Main to Generator	H500xW400xD200
SCO080AL	80A	2 / 4 Pole	80A	Mains to Mains / Main to Generator	H500xW400xD200
SCO100AL	100A	2 / 4 Pole	100A	Mains to Mains / Main to Generator	H500xW400xD200
SCO125AL	125A	2 / 4 Pole	125A	Mains to Mains / Main to Generator	H600xW400xD200
SCO160AL	160A	2 / 4 Pole	160A	Mains to Mains / Main to Generator	H600xW400xD200
SCO200AL	200A	2 / 4 Pole	200A	Mains to Mains / Main to Generator	H700xW500xD300
SCO250AL	250A	2 / 4 Pole	250A	Mains to Mains / Main to Generator	H700xW500xD300
SCO400AL	400A	2 / 4 Pole	400A	Mains to Mains / Main to Generator	H800xW600xD300

## Introduction

With Life Safety Systems becoming increasingly more important in the UK, Protek is pleased to be able to offer a range of compact and affordable Life Safety ATS units.

The implementation of Life Safety Systems aims to guarantee the safety of individuals during emergency situations by facilitating evacuation and providing access to essential services such as lifts, emergency & exit lighting, and fire alarms. Maintaining a reliable power supply to ensure people's safety in public spaces or during essential processes is crucial. In case of a power loss, the ATS automatically switches to a secondary power source, such as a generator or alternative source.

Protek's Life Safety ATS range feature a bypass function which allows for isolation by diverting the supply directly through to the outgoing load. This enables crucial maintenance operations to be carried out in compliance with life safety recommendations. In the event of an emergency or testing situation, a manual handle is accessible by opening the door providing for a safe and convenient source transfer, whether it be electrical or non-electrical.

The ATS device is housed in a sturdy, wall mountable, fully welded metal IP40 enclosure featuring removable gland plates top & bottom and is finished in a tough RAL 7035W powder coating. The hinged door has status indication LEDs mounted upon it and features a double-bit insert polyamide lock for security.

The ATS device ensures full enclosure of all current-carrying parts, eliminating exposed wiring and offering protection against direct contact. Protek's Life Safety ATS units are suitable for network/network and network/gen-set applications and feature configurable transfer and back-switching delays and adjustable over and under-voltage thresholds.

## Features and Benefits



### Features

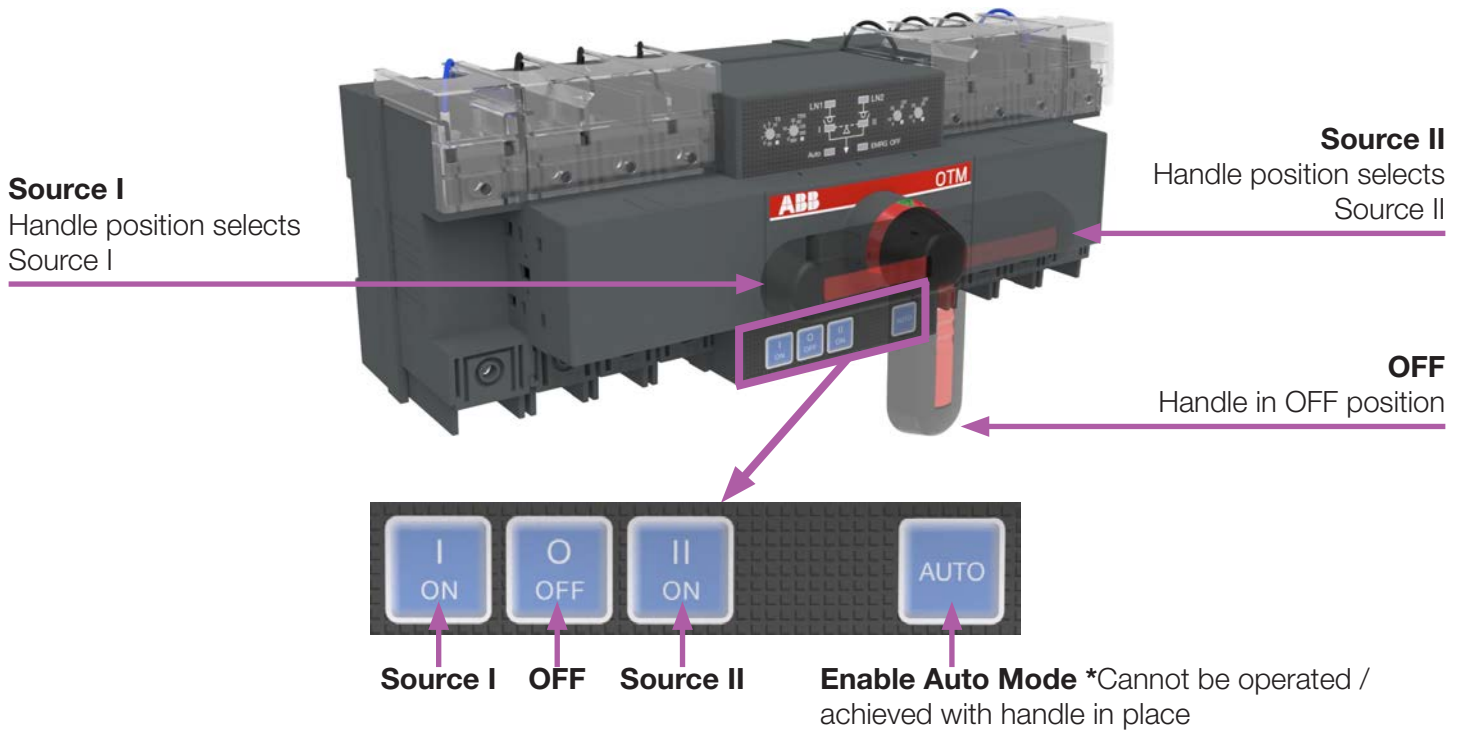
- Designed and built in the UK to BS EN 60947-6-1
- Complies with BS EN 9999
- Complies with BS EN 8519 \*\*  
**\*\* Single or Dual-line bypass are not available for Protek Life Safety ATS**
- IP40 Sheet steel enclosure
- RAL 7035W Powder coating
- Galvanized steel mounting plate
- Fully welded construction
- Foamed-in door PU sealing gasket
- Solid top and bottom gland plates with PE gasket
- Door mounted LED indicators
- 5mm Double-bit insert polyamide lock
- Wall mountable
- Easy install

### Benefits

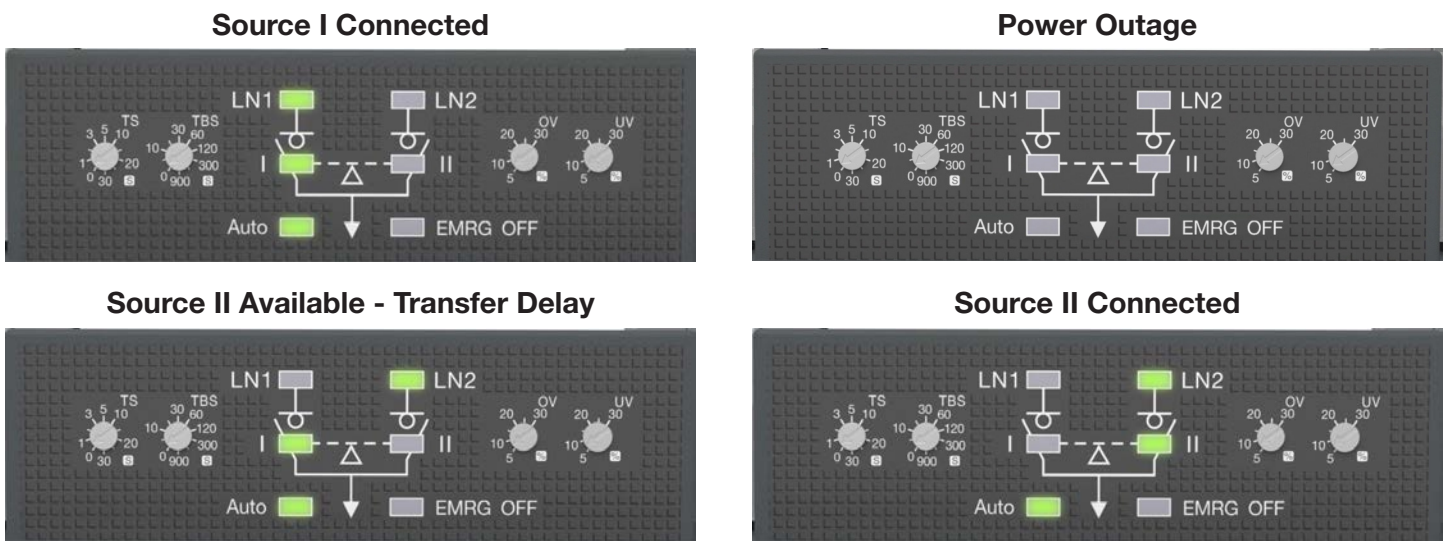
- Single and Three Phase ATS
- Rated at 230V or 400V AC
- Network/network and network/gen-set
- Motorised changeover
- Automatic switching on power source failure
- Bypass function allows for isolation
- Can be used in manual mode if required
- Terminal shrouds supplied
- Adjustable transfer threshold delay
- Adjustable back-switching delay
- Adjustable over and under-voltage thresholds
- Parallel connecting kit available
- Auxiliary contacts available
- ATS device padlockable when handle removed



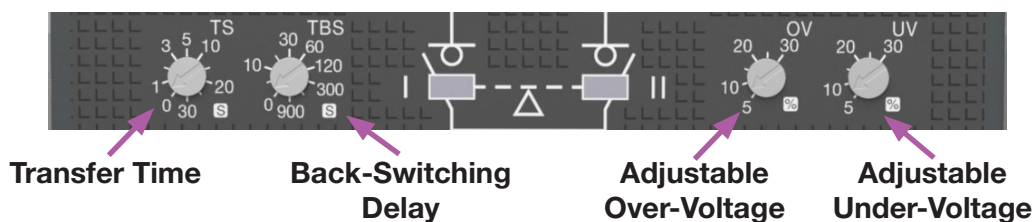
## Manual Operation Overview (Handle or Front Panel)



## On Device LED Display



## Adjustable Transfer Settings



## Product Part Numbers

Part Number	Amp	Pole	Type	Dimensions
ATS40	40A	2 / 4 Pole	Life Safety Mains to Mains / Main to Generator	H500xW400xD200
ATS63	63A	2 / 4 Pole	Life Safety Mains to Mains / Main to Generator	H500xW400xD200
ATS80	80A	2 / 4 Pole	Life Safety Mains to Mains / Main to Generator	H600xW400xD200
ATS125	125A	2 / 4 Pole	Life Safety Mains to Mains / Main to Generator	H600xW400xD200

## Introduction

Electrical systems are susceptible to dangerous short circuits and overloads, which can occur for various reasons. It is crucial to ensure that electrical installations are as safe as possible. Proteks range of enclosed CBRs (circuit breakers with intergral residual current protection) and MCCBs with ELR (Earth leakage relay) offer a series of products, in either plastic or metal, specifically designed to offer protection against electrical shocks, overloads and short circuits.

Proteks 63A to 250A enclosed CBRs with integrated earth leakage and 400A to 800A enclosed MCCBs with ELR functionality comply with IEC 60947.2, Annex B, incorporating residual current protection. The CBR device frame is the same as a standard MCCB meaning that smaller enclosures can be used, reducing cost and saving space within the installation. In addition, the removed need for additional electrical and mechanical connections potentially lead to a higher reliability, lifespan and internal cabling space. Proteks enclosed MCCBs with ELR (Earth leakage relay) offer a cost effective solution when working with 400A and above, supplied in larger enclosure sizes to aid with cabling space.

The enclosed CBRs feature adjustable residual current tripping thresholds, adjustable time delay, adjustable overload protection, a built-in trip indicator, and a separate test button eliminating the need for an external relay with current transformers and add-on block.

The enclosed MCCBs with ELR feature adjustable residual current tripping thresholds, adjustable time delay for residual current protection, adjustable overload protection and adjustable magnetic characteristic. They also feature test and reset buttons all accesable behind a locked door.

These features make Proteks enclosed CBRs and MCCBs with ELR protection ideal for controlling overloads, short circuits and preventing shocks in various industries such as **mining, temporary site supplies, heavy industry, farming, commerical building use** and **EV applications**.

## Features and Benefits



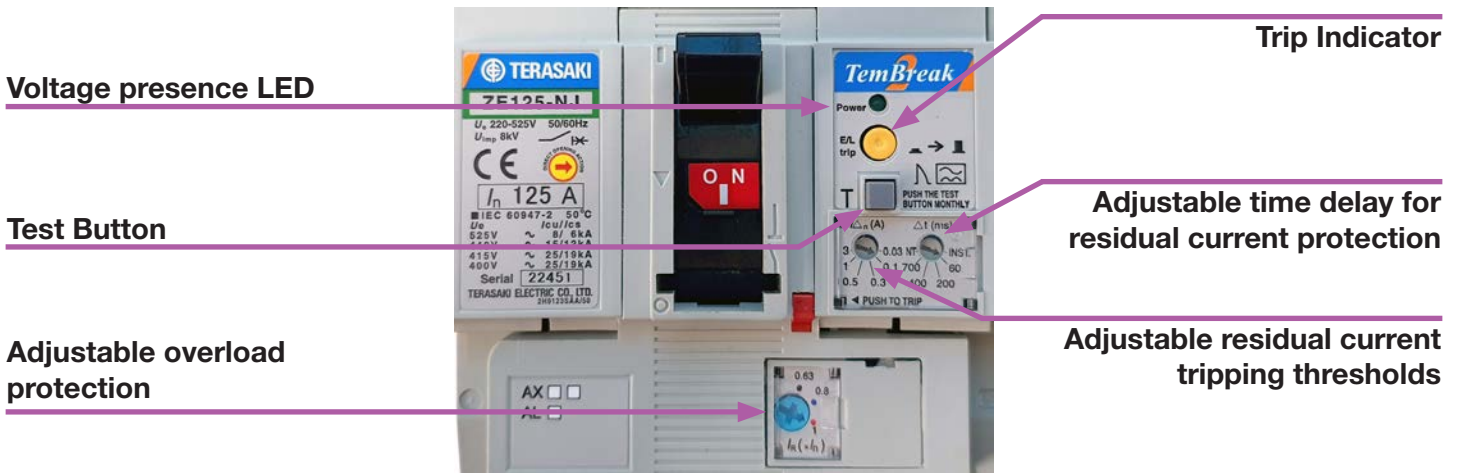
### Features

- Designed and built in the UK to BS EN 61439-2
- IP4x mild steel or IP65 GRP enclosure
- RAL 7035 Powder coating
- Removable hinged door
- Removable front plate
- Metal - Removable top and bottom gland plates  
Plastic - Solid: gland as required
- Ample cabling space
- Lockable door
- Wall mountable
- Easy install

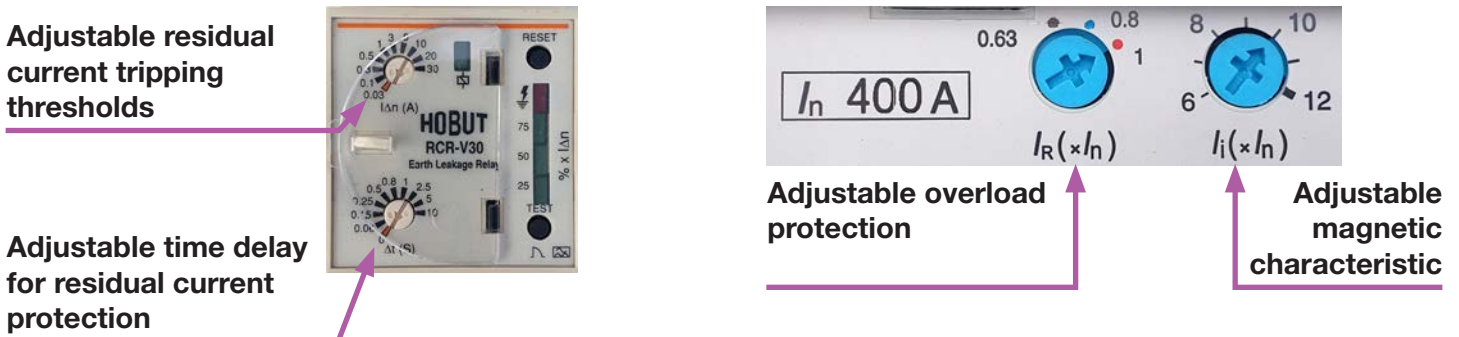
### Benefits

- 4 Pole
- 400/415V AC 50/60Hz
- Adjustable thermal
- Adjustable fixed magnetic protection
- Residual current & time delay
- Direct opening action
- Toggle operation
- Voltage presence LED
- Trip indicator
- Test button
- Adjustable over and under-voltage thresholds
- Enclosed CBR covers 63A - 250A
- Enclosed MCCB with earth leakage protection covers 400A - 800A

## 63A - 250A Enclosed CBR Front Panel Operation & Adjustment



## 400A - 800A Enclosed MCCBs with ELR Front Panel Operation & Adjustment



Test and reset buttons are fitted to 400A - 800A Enclosed MCCBs with ELR.

## Product Part Numbers

Part Number	Amp	Pole	kA	Adj. Trip Current Setting	Adj. Trip Current Setting	Enclosure	Dimensions
RCBO3-063TSM	63A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Metal	H500xW460xD145
RCBO3-100TSM	100A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Metal	H500xW460xD145
RCBO3-125TSM	125A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Metal	H500xW460xD145
RCBO3-160TSM	160A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Metal	H500xW460xD145
RCBO3-250TSM	250A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Metal	H500xW460xD145
RCBO3-400TSM	400A	4 Pole	36kA	30mA - 30A	Inst. - 10s	Metal	H705xW655xD200
RCBO3-630TSM	630A	4 Pole	36kA	30mA - 30A	Inst. - 10s	Metal	H1000xW600xD300
RCBO3-800TSM	800A	4 Pole	36kA	30mA - 30A	Inst. - 10s	Metal	H1000xW600xD300

Part Number	Amp	Pole	kA	Adj. Trip Current Setting	Adj. Trip Current Setting	Enclosure	Dimensions
RCBO3-063TSP	63A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Plastic	H500xW400xD210
RCBO3-100TSP	100A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Plastic	H500xW400xD210
RCBO3-125TSP	125A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Plastic	H500xW400xD210
RCBO3-160TSP	160A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Plastic	H500xW400xD210
RCBO3-250TSP	250A	4 Pole	25kA	30mA - 3A	Inst. - 700ms	Plastic	H500xW400xD210
RCBO3-400TSP	400A	4 Pole	36kA	30mA - 30A	Inst. - 10s	Plastic	H700xW500xD300
RCBO3-630TSP	630A	4 Pole	36kA	30mA - 30A	Inst. - 10s	Plastic	H1000xW800xD300
RCBO3-800TSP	800A	4 Pole	36kA	30mA - 30A	Inst. - 10s	Plastic	H1000xW800xD300

## Introduction

Proteks TP&N and 4 Pole enclosed rotary MCCBs are a cost-effective alternative to a standard enclosed rotary fuse switch. MCCBs offers the advantage of providing protection against overloads and short circuit faults. They can be used for higher current ratings and fault levels which makes them ideal for use in domestic and industrial applications. Proteks enclosed rotary MCCBs also offers adequate protection whenever an application requires discrimination or an adjustable overload setting. Should an overload or short circuit occur then rather than having fuses blow, the MCCB will simply trip and then require resetting.

Enclosed rotary MCCBs can often be found protecting **motors, welding machinery, generators, capacitor banks** and **electric feeders** due to their adjustable inrush current settings.

## Features and Benefits



### Features

- Designed and built in the UK to BS EN 61439-2
- IP65 Sheet steel enclosure
- RAL 7035W Powder coating
- Galvanized steel mounting plate
- Fully welded construction
- Foamed-in door PU stealing gasket
- Top and bottom gland plates with PE gasket
- 5mm Double-bit insert polyamide lock
- Wall mountable
- Easy install

### Benefits

- TP&N or 4 Pole
- 415V
- Adjustable overload protection
- Rotary operation
- Direct opening action
- Trip indicator
- Reset button should tripping occur
- Aux contacts, shunts or under voltage trips available on request
- Supplied with shields
- Plastic versions available on request

## Enclosed Rotary MCCB Operation & Adjustment



← **ON / OFF toggle (Covered by rotary handle)**

← **Reset on trip**

← **Adjustable overload protection**



## Product Part Numbers

Part Number	Amp	Pole	kA	Adj. Overload Protection	Enclosure	Dimensions
MCFS0633T	63A	TP&N	16kA	1 / 0.8 / 0.63	Metal	H400xW300xD200
MCFS1003T	100A	TP&N	16kA	1 / 0.8 / 0.63	Metal	H400xW300xD200
MCFS1253T	125A	TP&N	16kA	1 / 0.8 / 0.63	Metal	H400xW300xD200
MCFS1603T	160A	TP&N	16kA	1 / 0.8 / 0.63	Metal	H500xW300xD200
MCFS2003T	200A	TP&N	16kA	1 / 0.8 / 0.63	Metal	H500xW300xD200
MCFS2503T	250A	TP&N	16kA	1 / 0.8 / 0.63	Metal	H500xW300xD200
MCFS4003T	400A	TP&N	25kA	1 / 0.8 / 0.63	Metal	H700xW500xD300
MCFS6303T	630A	TP&N	36kA	1 / 0.8 / 0.63	Metal	H800xW600xD300
MCFS8003T	800A	TP&N	36kA	1 / 0.8 / 0.63	Metal	H1000xW600xD300

Part Number	Amp	Pole	kA	Adj. Overload Protection	Enclosure	Dimensions
MCFS0634T	63A	4 Pole	16kA	1 / 0.8 / 0.63	Metal	H400xW300xD200
MCFS1004T	100A	4 Pole	16kA	1 / 0.8 / 0.63	Metal	H400xW300xD200
MCFS1254T	125A	4 Pole	16kA	1 / 0.8 / 0.63	Metal	H400xW300xD200
MCFS1604T	160A	4 Pole	16kA	1 / 0.8 / 0.63	Metal	H500xW300xD200
MCFS2004T	200A	4 Pole	16kA	1 / 0.8 / 0.63	Metal	H500xW300xD200
MCFS2504T	250A	4 Pole	16kA	1 / 0.8 / 0.63	Metal	H500xW300xD200
MCFS4004T	400A	4 Pole	36kA	1 / 0.8 / 0.63	Metal	H700xW500xD300
MCFS6304T	630A	4 Pole	36kA	1 / 0.8 / 0.63	Metal	H800xW600xD300
MCFS8004T	800A	4 Pole	36kA	1 / 0.8 / 0.63	Metal	H1000xW600xD300



# Did You Know We Also Supply Switchboards?

## Features:

- 50kA for 1 second
- Form 4b Type 6 IP54
- Three incomer unit ratings 800A, 1250A or 1600A
- Single or double sided arrangements
- SP&N, TP&N or Four Pole devices
- Cable entry bottom or top
- Outgoing device rating 16A up to 630A
- Up to 14 x E160 TP MCCBs & Neutral link per stack
- Accommodates metering and surge protection
- Manufactured to IEC/BS EN 61439-2

## Benefits:

- Fully verified (type tested) system IEC\BS EN61439-2
- Compact design
- IP54 rated with doors closed to IEC\BS EN 61439
- Form b separation with incoming and outgoing cables shrouded
- High stacking density, up to 14 x 160A TP MCCBs
- Single or double stack options
- 800A, 1200A OR 1600A busbars but can accept 400A/630A incomers
- MCCBs, \*ACBs or Isolator incomers, TP&N or Four Pole
- Bottom or top entry or exit, please specify when ordering
- Outgoing devices 16A to 125A SP - 16A up to 630A TP&N or Four Pole
- Plug and play metering on outgoing circuits up to 250A, block CTs above
- Type 1 or 2 surge arresters can be fitted to the incomer
- MID or check meters can be fitted to both incoming or outgoing MCCBs

\* ACB's can be accommodated, please specify when ordering. Standard incomers are MCCBs.



## Specification

Standard	IEC/BS EN 61439-2	Power switchgear & control assemblies
Form of separation		4b Type 6
Degree of protection	Door closed	IP54 (doors closed) IP2X (doors open) & IPXXB
Busbar short-time withstand rating	lcw	50kA for 1 second
Busbar current rating	Inc	800A, 1250A & 1600A
Incomer	Types	Terasaki Tembreak 2 Switch-disconnector or MCCB
	Ratings/Poles	Up to 1600A three or four pole
Feeders	Types	Terasaki Tembreak 2 MCCBs
	Ratings/Poles	16A up to 125A SP, 16A up to 630A TP&N or four pole
	Protection	Thermal magnetic or electronic
Accessories		Metering and surge protection facility
Cable entry		Top or bottom

**To discuss your requirements please call a member of our technical sales team.**

# Notes

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# DID YOU KNOW WE ALSO SUPPLY...

**ENCLOSED PRODUCTS**



AUTOMATIC CHANGEOVER SWITCHES  
LIFE SAFETY AUTO TRANSFER SWITCHES (ATS)  
RCBOS / CBR UNITS WITH ELR PROTECTION  
ROTARY MCCBS



**MCCB PANELBOARDS**



125A RATED MINI MCCB PANELBOARDS  
400A RATED MCCB PANELBOARDS  
800A RATED MCCB PANELBOARDS  
INCOMER KITS  
METER KITS  
SURGE PROTECTION KITS



**SWITCHGEAR**



SWITCH DISCONNECTORS  
FUSED SWITCHES  
SWITCH FUSES  
MANUAL CHANGEOVER SWITCHES  
BUSBAR CHAMBERS



**SWITCHBOARDS**





**THREE PHASE 'B' TYPE BOARDS**




125A RATED THREE PHASE 'B' TYPE BOARDS  
250A RATED THREE PHASE 'B' TYPE BOARDS  
INCOMER KITS  
METER KITS  
SURGE PROTECTION KITS



**PRODUCT GUIDE  
JULY 2023**



ENCLOSURES & CONSUMER UNITS  
DINRAIL MOUNTED DEVICES  
SWITCH GEAR  
THREE PHASE 'B' TYPE BOARDS  
MCCB PANELBOARDS  
SURGE PROTECTION  
ENCLOSED PRODUCTS



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Protek Electronics Limited

Phoenix House, Phoenix Road, Hawkes Green, Cannock, Staffordshire, WS11 7LR  
Tel: 01543 467575 Fax: 01543 462370 Email: sales@protekuk.co.uk Web: www.protekuk.co.uk