

# Remote Racking Device for Merlin Gerin Masterpact M ACB's



## Safety Device

This RRD is specifically designed with operator safety in mind and in consultation with Engineers from mining and other related industries. It provides a reliable and economical solution to ensuring that personnel do not have to enter the switchboard room for switching and total isolation racking operations. Racking the breaker in and out, and switching when required can be done remotely, external to the switch room.

### Arc-Faults *Mines Safety Bulletin No. 138*

“An arc flash is a dangerous condition associated with the uncontrolled release of energy caused by an electric arc. The temperature of the arc can be as much as four times that of the sun’s surface, and it can vaporise a copper conductor to several thousand times its solid volume in a fraction of a second. The resulting explosion, or arc blast, can seriously harm people and damage equipment.”

One of the actions required, according to Resources Safety, Department of Mines and Petroleum, Government of Western Australia is:

“Where practicable, *consider installing or retrofitting equipment such as remote switching and racking of circuit breakers...*”

## Unique Features

- The RRD is permanently installed within the ACB Chassis Cradle. It is only accessible with the breaker removed. (Unlike other ACB racking devices which are fitted to the front of the ACB chassis and are intended to be transferred on to the next ACB to be operated by personnel within the switch room).
- In the case of an unforeseen emergency, the manual crank handle can still be used.
- Remote control is available by a variety of means as itemised below.

## Tests and Standards

All of the tests required by IEC 60947-2 have been carried out on the RRD.

These include:

- Operating temp. range up to +70°C
- Rack in-out (endurance) continuous operations
- All lock out/safety features of Masterpact M remain in place
- Glow-wire tests on plastic parts 650°C

## Installation

The RRD requires only minor modifications to be made to the 'M' ACB. The mechanical drive unit is mounted to a precise laser cut plate at the bottom of the sub-chassis. The installation of the RRD takes approximately one hour.

## Power Supply

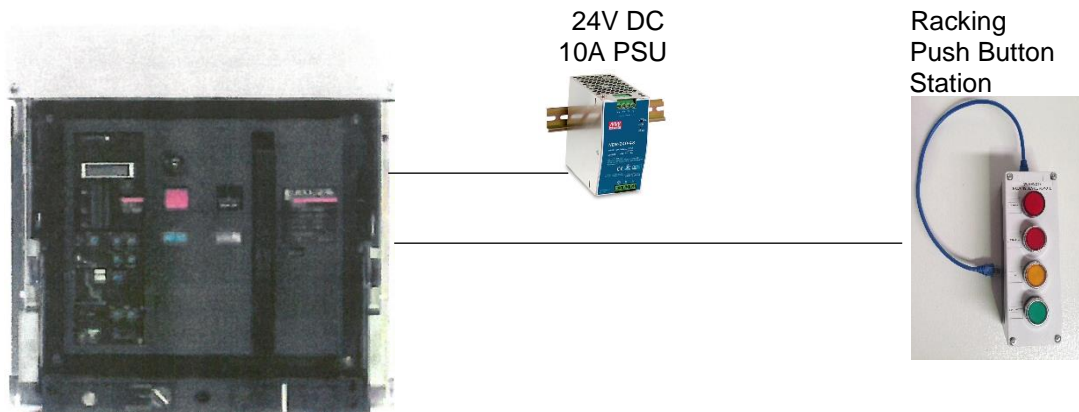
The RRD is operated by a 24V DC 10A supply. (Supplied)

## Methods of Remote Control

The RRD can be controlled by 3 methods:

- Push-button station  
(Remote switching of ACB is optional)
- I/O module with SCADA or HMI interface
- Android/IOS app. via Bluetooth connection (Up to 10M)

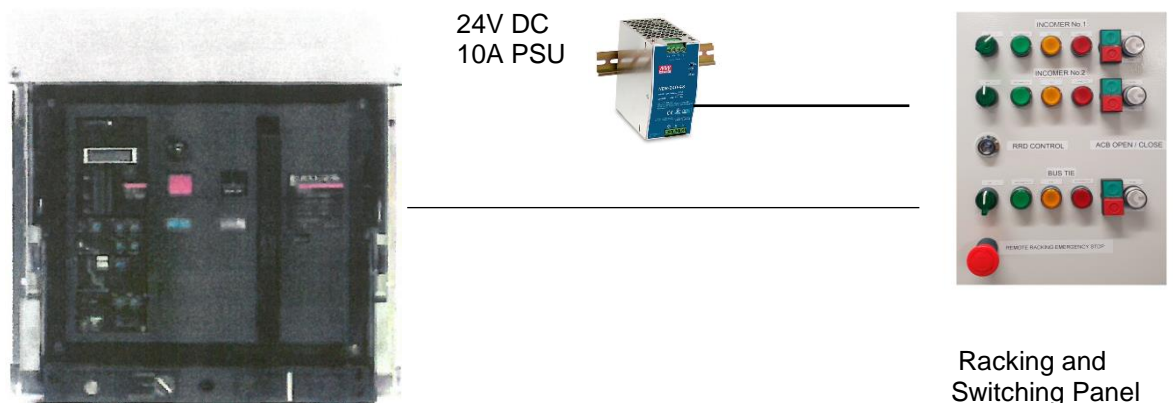
## Push Button Station (Racking Only)



The mechanical drive unit with the control module are connected to the 'M' auxiliary terminals by means of pre-made leads (supplied).

The push button station (supplied) is connected to the Control Unit by a Cat 5 patch cord. (Max. length 20 metres supplied).

## Push Button Station (Racking and Switching)

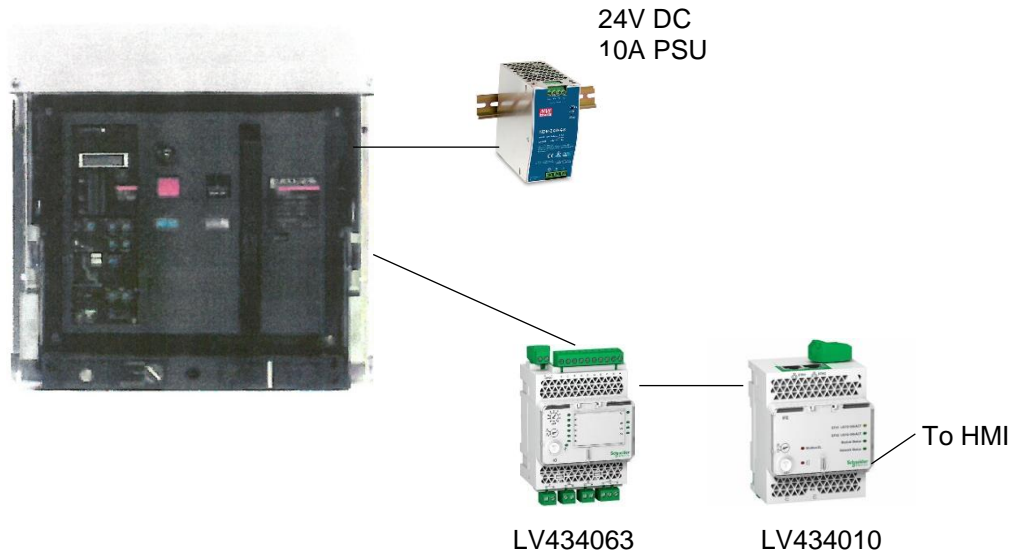


In order for the 'M' ACB to be remotely switched, the following Schneider parts are fitted.

- Closing voltage release
- Opening voltage release
- Charging Motor

24V DC Non-communicating type  
 24V DC Non-communicating type  
 24V DC

## I/O Module with SCADA or HMI



The following Schneider parts are fitted to the ACB:

- Closing voltage release 24V DC
- Opening voltage release 24V DC
- Charging motor 24V DC

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This RRD is patented in Australia and a number of other countries.

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