## Features

- High speed operation
- Low burden
- Hand reset contacts & flag
- 5 or 10 contacts
- Equivalent function to MVAJ13
- 2HSM504 specification

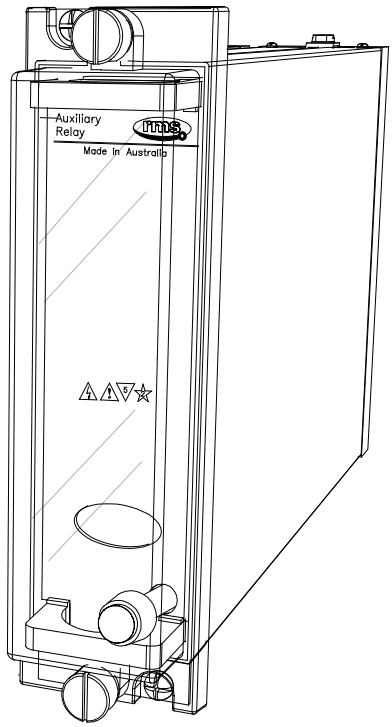
## Application

The effect of a fault on a power system is dependent on the speed with which the fault can be detected & isolated. The 6RJ Series multi-contact high-speed trip relays are used for this isolating function providing simultaneous tripping outputs.

A high speed coil provides fast operation (<10ms at nominal voltage), with specially constructed anti bounce buffers ensuring effective damping of the contacts to avoid excessive bounce.

# 6RJ13

## Low Burden Hand Reset Trip & Lock Out Relay




2M28 draw out case

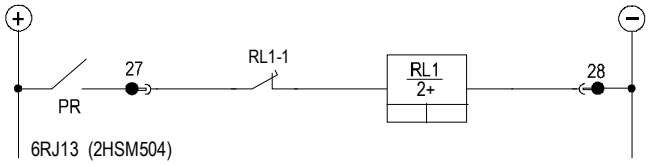
## Low Burden 5 & 10 Contact Tripping Relay

The 6RJ13 is a low burden hand reset high speed tripping relay suitable for applications where immunity to capacitance discharge & high minimum operation currents is not required.

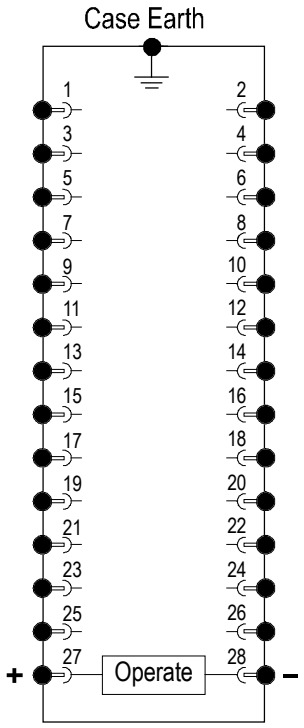
The high speed relay coil is automatically protected from thermal damage by a series cut throat contact once the relay contacts have picked up & latched.

The contacts & trip flag indication operate on application of a control voltage. The contacts & flag are reset using the front panel push button.

# Terminal Wiring




Relay circuit diagram




Case terminations
(REAR VIEW)

| | 6RJ13-5 Terminal Numbers | | | | |
|---|---|---|---|---|---|
| **Contacts** | 1-3 | 2-4 | 5-7 | 6-8 | 9-11 |
| 5M | M | M | M | M | M |
| 4M+1B | M | M | M | M | B |
| 3M+2B | M | M | M | B | B |
| 2M+3B | M | M | B | B | B |
| 1M+4B | M | B | B | B | B |
| 5B | B | B | B | B | B |

| | 6RJ13-10 Terminal Numbers | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Contacts** | 1-3 | 2-4 | 5-7 | 6-8 | 9-11 | 10-12 | 13-15 | 14-16 | 17-19 | 18-20 |
| 10M | M | M | M | M | M | M | M | M | M | M |
| 9M+1B | M | M | M | M | M | M | M | M | M | B |
| 8M+2B | M | M | M | M | M | M | M | M | B | B |
| 7M+3B | M | M | M | M | M | M | M | B | B | B |
| 6M+4B | M | M | M | M | M | M | B | B | B | B |
| 5M+5B | M | M | M | M | M | B | B | B | B | B |
| 4M+6B | M | M | M | M | B | B | B | B | B | B |
| 3M+7B | M | M | M | B | B | B | B | B | B | B |
| 2M+8B | M | M | B | B | B | B | B | B | B | B |
| 1M+9B | M | B | B | B | B | B | B | B | B | B |
| 10B | B | B | B | B | B | B | B | B | B | B |

**OPERATING BURDEN** (Burden during pick up at nominal)
Low burden relays: 50W Maximum

**OPERATED BURDEN**
Hand reset contacts: Zero

**COIL THERMAL RATING**
The operate circuit is designed to withstand continuous application of 120% of nominal voltage. The high speed operate coil element (50 watt max.) has a thermal rating of 30 seconds, however this is protected by use of an instantaneous series cut-off contact arrangement.

**OPERATING TIME**
Less than 10ms at nominal rated operating voltage.

**CONTACT OPERATION**
Latching contacts with the front panel hand reset button.
Holding the reset button in the depressed position with a trip signal is applied may result in thermal damage to the high speed operate coil.

**FLAG OPERATION**
Drops on coil energisation.
Hand reset with the contacts.

**OPERATING VOLTAGE RANGE**
Guaranteed operation between 65% & 120% of nominal rated operating voltage.

Note: The 65% of nominal value allows for correct operation of the tripping systems even when there is a loss of battery charger supply for considerable periods.

To ensure guaranteed operation at 65% of nominal voltage the relay is manufactured to operate at a lower level to guarantee operation if the voltage falls to 65% of nominal voltage. Consequently, it will be found that these relays will operate below 65% of nominal voltage, this is normal and correct.

The 65% of nominal voltage figure does not indicate the relay pickup voltage.

**AC VOLTAGES**
Standard 6RJ relays are not intended for operation with AC voltages. Application of continuous AC voltage below the pick up level will cause excessive power dissipation in the capacitor discharge resistor & likely result in thermal damage to the device.

**NOMINAL OPERATING VOLTAGES**
24, 32, 48, 60, 110, 125, 220, 240 & 250V DC available.

**MINIMUM OPERATING CURRENT**
Low burden relays: 50mA

**CONTACTS**
5 or 10 contacts
User to specify combination of make & break contacts

# Ordering Codes

Generate the required ordering code as follows:
e.g. 6RJ13-10-D-8M2B

| 6RJ13 | 1 | 2 | 3 |
|---|---|---|---|
| | | | |

**1 NUMBER OF CONTACTS**

| | |
|---|---|
| 5 | 5 contacts |
| 10 | 10 contacts |

**2 NOMINAL OPERATE VOLTAGE**

| | | | |
|---|---|---|---|
| A | 24V DC | D | 110V DC |
| B | 32V DC | E | 125V D |
| C | 48V DC | G | 220V DC |
| I | 60V DC | H | 240V DC |
| | | F | 250V DC |

**3 CONTACT ARRANGEMENT** (Not to exceed maximum)
Specify the number of "MAKES" followed by M; i.e. 8M
Specify the number of "BREAKS" followed by B; i.e. 2B

**6R RELAY CONTACT RATINGS**

**Make & Carry Continuously**
3,000 VA AC resistive with maximums of 660V & 12A
3,000 W DC resistive with maximums of 660V & 12A

**Make & Carry for 3 Seconds**
7,500 VA AC resistive with maximums of 660V & 30A
7,500 W DC resistive with maximums of 660V & 30A

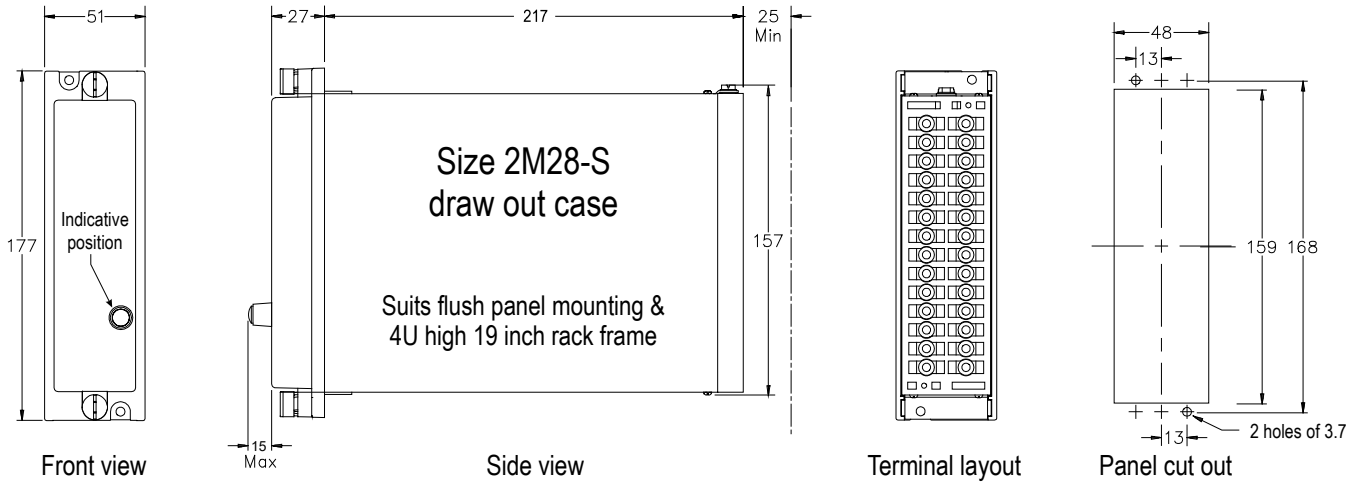
**AC Break Capacity**
3,000 VA AC resistive with maximums of 660V & 12A

**DC Break Capacity (Amps)**

| Voltage | | 24V | 48V | 125V | 250V |
|---|---|---|---|---|---|
| Resistive rating | | 12 | 2 | 0.5 | 0.25 |
| L/R=40ms | Maximum break | 12 | 1 | 0.25 | 0.15 |

**INSULATION WITHSTAND** in accordance with IEC 255-5:
2KV RMS & 1.2/50 5KV impulse between:
- all terminals & frame
- each contact group
- all contacts & coil

**CASE SIZE**
2M28-S draw out case




Front view | Side view | Terminal layout | Panel cut out

**RMS Mors Smitt**
**19 Southern Court**
**Keysborough, VIC 3173, Australia**
**Tel:  +61 (0)3 8544 1200**
**sales.rms@wabtec.com**

**Wabtec Netherlands B.V.**
**Darwinstraat 10**
**6718 XR Ede, Netherlands**
**Tel: +31 (0)88 600 4500**
**wnl_salessupport@wabtec.com**

Visit www.morssmitt.com/rms for the latest product information.
Due to RMS continuous product improvement policy this information is subject to change without notice