

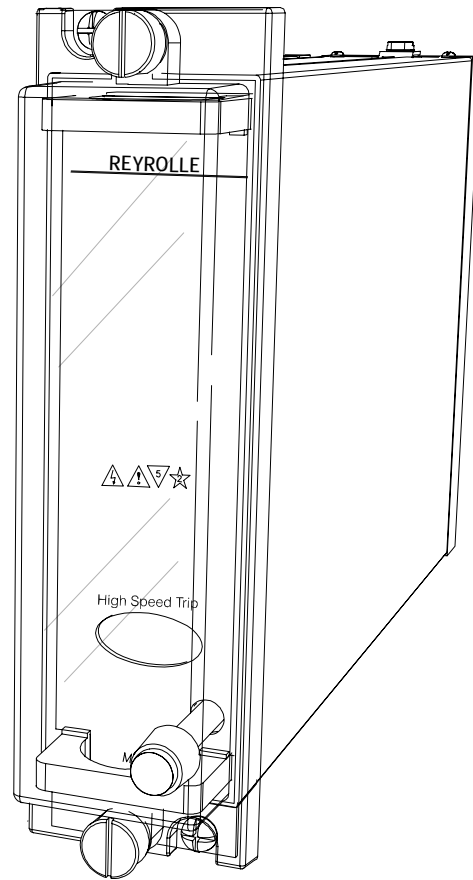
## Features

- High speed operation
- High burden
- Self reset contacts
- Hand reset flag indicator
- 5 contacts

## Application

The effect of a fault on a power system is dependent on the speed with which the fault can be detected & isolated. The 2HSA 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 including bounce), with specially constructed anti bounce buffers ensuring effective damping of the contacts to avoid excessive bounce.



E2 draw out case

## High Burden 5 Contact Tripping Relay

The 2HSA520 is a high burden self reset tripping relay suitable for application in high security circuit breaker tripping circuits & in particular where the initiating contact may be remote from the relay. The high burden may also allow the satisfactory operation of external series elements.

The 2HSA520 has a high burden to provide immunity to capacitance discharge currents & power to the coil is cut off at operation or is economized to a low figure to provide thermal protection.

High burden tripping relays are designed to withstand the 10uF capacitor discharge test such that the relay will not operate when a 10uF capacitor charged to 120% of nominal operating voltage is applied across the coil of the relay.

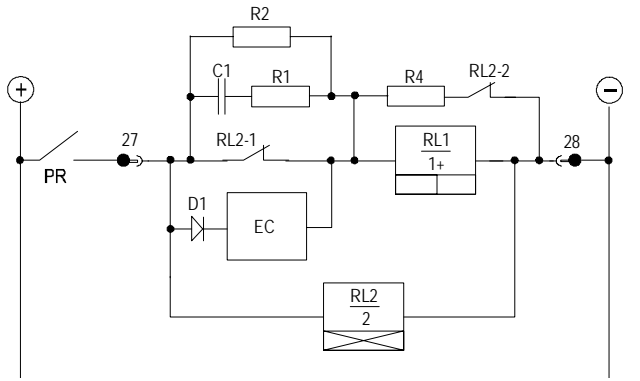
The contacts & trip flag indication operate on application of a control voltage. Contacts are reset upon removal of the control voltage. The flag is reset using the front panel push button provided the contacts are in the reset position.

## Series Elements

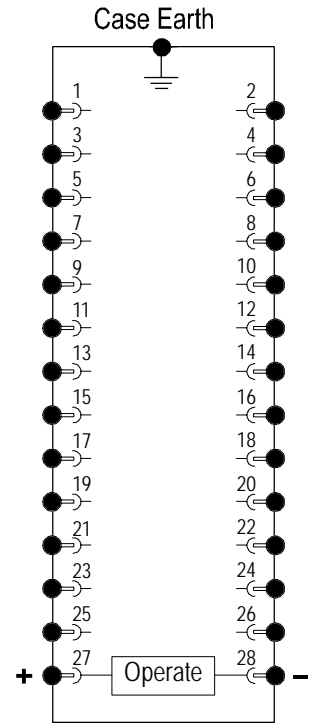
External relay elements are often employed for additional flagging & alarm functions. These elements are typically much slower than the primary high speed tripping relay so care must be taken to ensure reliable operation of the series element before the series trip signal is cut off or economized. The 2HSA520 relay incorporates a time delayed (TD) cut off circuits such that the burden is reduced to <5W >30ms after energisation by the use of a second attracted armature "slug" delay element. This delay allows ample time for any flagging or auxiliary elements in series with the tripping relay to operate before cut off.

# REYROLLE

## Terminal Wiring



2HSA520 circuit diagram



Case terminations  
(REAR VIEW)

2HSA520-5 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

# REYROLLE

**OPERATING BURDEN** (Burden during pick up at nominal)  
High burden relays: 150W Maximum

**OPERATED BURDEN** (Burden after pick up at nominal)  
Self reset contacts: 5W Maximum

**COIL THERMAL RATING**  
All operate circuits are designed to withstand continuous application of 120% of nominal voltage. The high speed operate coil element (150 watt max.) has a thermal rating of 30 seconds, however this is protected by use of the series economy coil.

**CONTACT OPERATION**  
Self reset contacts. N/O contacts pick up when the relay is energised & drop out when the operate voltage is removed.

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

**FLAG OPERATION**  
Drops on coil energisation.  
Hand reset when the contacts are in the reset position.

**OPERATING VOLTAGE RANGE**  
Guaranteed operation between 50% & 120% of nominal rated operating voltage.

**AC VOLTAGES**  
Standard 2HSA 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, 110, 125, 220, 240 & 250V DC available.

**MINIMUM OPERATING CURRENT**  
High burden relays: 100mA

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

## Ordering Codes

Generate the required ordering code as follows:  
e.g. 2HSA520-5-D-3M2B

2HSA520 

1
---

2
---

3
---

**1 NUMBER OF CONTACTS**  
5 5 contacts

**2 NOMINAL OPERATE VOLTAGE**

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

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

**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**  
E2 draw out case

