

Features

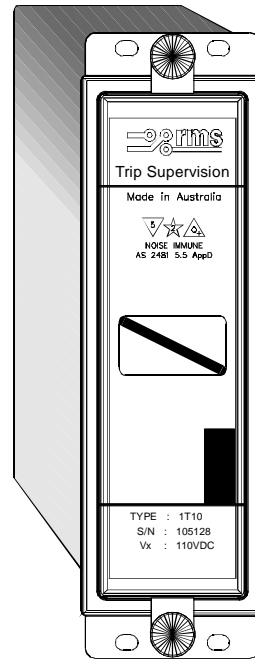
- Fail safe operation
- 300 ms alarm delay to prevent false alarms
- Supervision functions:
 - Failure of trip supply
 - Open circuit trip coil
 - Open circuit trip wiring
 - Failure of circuit breaker tripping mechanism
- Supervision with circuit breaker open or closed
- C/O CB aux. contact required
- Operating coils are available for 32,48,110,125 or 250 V DC
- Contacts are of fine silver, designed & manufactured to ensure low resistance & high reliability
- Optional multiple units per case
- Magnetic blowouts to improve contact switching capability may be fitted if required.
- Mechanical hand reset.
- Made in Australia

Application

The 1T10 Series Relays provide fail safe supervision of CB trip circuits. A local flag indication & contact output is initiated under the following conditions:

- CB tripping mechanism fails
- Trip supply fails
- Trip coil goes open circuit
- Trip wiring goes open circuit

Supervision is active with the circuit breaker in the open or closed position provided a C/O CB auxiliary contact is available. The output alarm contacts can be used to signal via pilot wires if required.



Operation

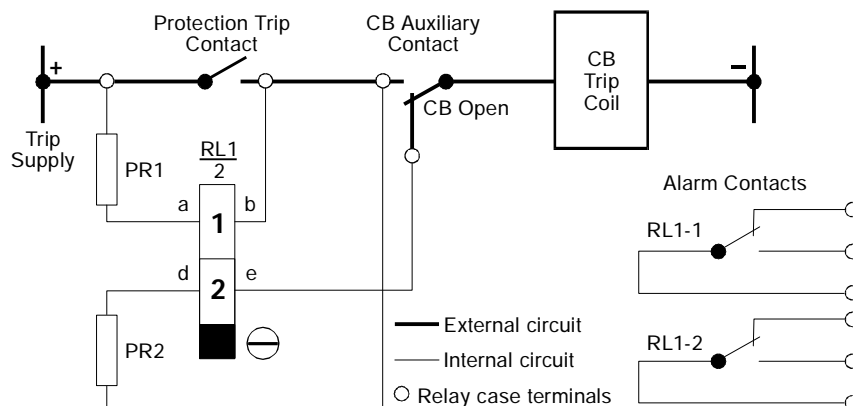
Made in Australia

The operating element of the 1T10 Series is based on the well proven type 6R heavy duty attracted armature control relay with two operating coils. Note that a C/O circuit breaker (CB) auxiliary contact is required to provide supervision with the CB in both the open & closed position as shown below. If a N/O CB auxiliary contact only is available then the 1T12 type relay should be considered.

Under healthy conditions, with the CB in the closed position, coil 1 is energised & if the trip coil becomes open circuited or the supply fails, the relay will drop out initiating the local visual indicator & output contacts. Similarly, when the CB is in the open position, both coil 1 & 2 are energised enabling the relay to detect failure of the trip circuit coil or supply in the same manner as if closed. Once set the electro-mechanical alarm flag & contacts must be hand reset.

The relay element is fitted with a slug to provide a delay of 300 milli-seconds (approx.) on de-energisation preventing a false alarm due to voltage dips in the supply rail, or the normal delays in the tripping operation, when the first coil is momentarily short circuited by the protection trip contact. If the protection trip contact should fail to reset, due to a failure of the circuit breaker tripping mechanism for example, the relay drops out initiating the local visual alarm indicator & output contacts.

A significant safety feature is the fitting of external resistors to limit the trip coil current to well below the circuit breaker trip coil operate current, should the relay be accidentally short circuited. Additionally magnetic blowouts can be fitted to enhance contact switching performance of DC loads. Relays can also be supplied with custom alarm contacts.





Technical Data

TRIP SUPPLY BURDEN

<2.5 Watts per coil & resistor circuit (5 Watts maximum)

FLAG INDICATION

High visibility electromechanical flag indicator drops when a fault is detected (Coil de-energisation). A front panel mounted hand reset pushbutton is provided.

INSULATION WITHSTAND

In accordance with AS2481-1981 (clause 5-4), IEC 255-5: 2KV RMS between inputs & frame, outputs & frame, outputs & inputs. 1.2/50 5KV impulse between each terminal & earth, between circuits not normally connected together & between terminals of the same circuit.

NOISE IMMUNITY

Withstands the high frequency interference test detailed in AS2481-1981 (clause 5-5 App. D), IEC 255-22-1.

OUTPUT CONTACTS

Standard: Two changeover self reset fine silver
Optional: As above but with magnetic blowouts + other arrangements on request.

6R RELAY CONTACT RATINGS

Make & Carry Continuously

3,000 VA AC resistive with maximums of 660V & 12A
3,000 VA DC resistive with maximums of 660V & 12A

Make & Carry for 0.5 Seconds

7,500 VA AC resistive with maximums of 660V & 30A
7,500 VA 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		a	12	1.5	0.5	0.25
		b	12	12	10	5
L/R=40ms	Maximum break *	a	12	1	0.4	0.2
		b	30	15	5.5	3.5
1K operations (N3 Rating)		b	12	12	5	2.5

a = Without magnetic blowouts b = With magnetic blowouts
* As tested by Powernet Yarraville laboratories in Victoria.

1T10 Options

Check the appropriate box under each section to accurately specify the relay configuration required & return with request for quotation:

1T10 Type Number if known: K_____

TRIP SUPPLY VOLTAGE (75 to 120% of nominal)

- 12V DC 24V DC
 32V DC 48V DC
 110V DC 125V DC
 250V DC Other _____

CB AUXILIARY CONTACT

- Changeover - Type 1T10 may be used
 Normally open - Use type 1T12 for supervision with CB open

MAGNETIC BLOWOUTS

- Required
 Not required

CONTACT CONFIGURATION

- Standard 2 C/O
 Other _____

CASE STYLE

(Refer Part B Section 6 for details)

- Size 2 Case for rack mounting (4u high, 1/4 width)
 Size H Case for flush mounting in vertical format
 Size S Case for flush mounting in horizontal format

CASE FUNCTION

- Draw out
 Non draw out

CONNECTION TERMINALS

- Phoenix compression screw terminals
 2BA studs
 2BA screws

SPECIAL CUSTOMER LABELLING (* SPECIFY ANY 2)

- Not Required (Standard labelling)
 * Type No. _____
 * Order No. _____
 * Name: _____
 * Other: _____

OTHER REQUIREMENTS



AS/NZS ISO9001-94
REGISTRATION
6869