

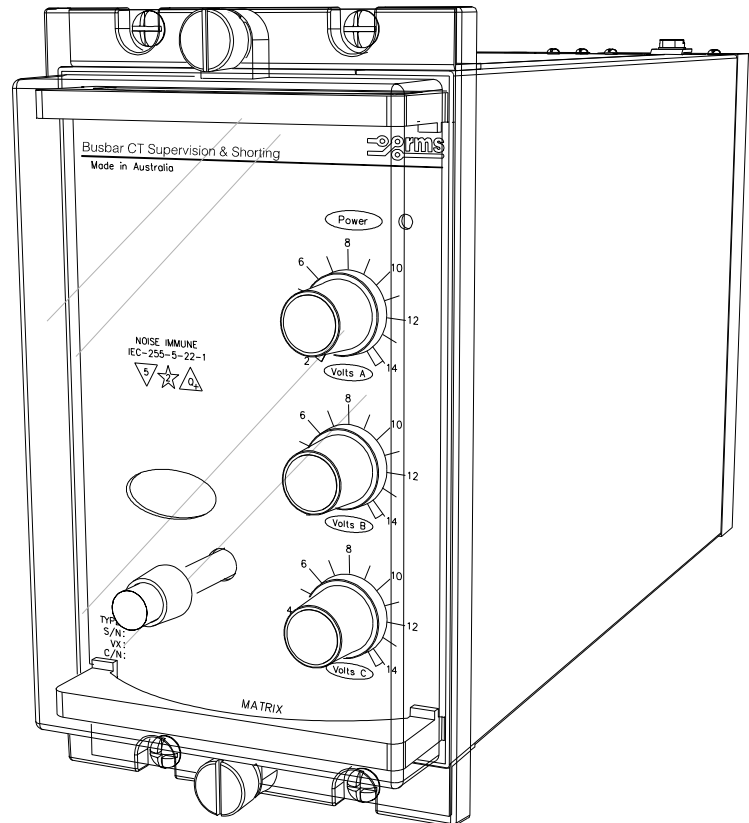
Features

- Low AC burden
- No external resistors required
- 3 latching N/O (Hand reset), alarm contacts
- 3 latching N/O (Hand reset), buswire shorting contacts
- Hand reset flag
- 40-300V DC auxiliary supply
40-275V AC auxiliary supply
- Optional 20-70V DC supply
- Auxiliary supply fail alarm
- 3 second fixed time delay
- 4M28 draw out case

Application

The 2V68 is a three phase monitoring device designed to provide continuous supervision of the buswires in high impedance type buswire protection schemes. The relay will detect open circuited buswires as well as open circuited main current transformers.

The relay provides three (3) latching N/O alarm output contacts to signal faults. Three (3) additional N/O latching output contacts are provided for an integral buswire CT shorting facility.



2V68 depicted in a 4M28 case

Operation

Made in Australia

The 2V68 type relays have a setting range of 2-14V adjusted on a per phase basis from calibrated potentiometers at the front panel. The relay is continuously rated at 300V RMS & no external components are required.

Isolation from the main CT's is achieved by using a transformer whose primary winding is connected in series with a high value and power rated resistor. The secondary output signal from this isolating transformer is fed into a current to voltage converter, then rectified for comparison with the front panel pre-set value.

The AC input is continuously monitored & when it exceeds the pre-set level. Latching contacts are actuated after a three (3) second time delay. Three (3) latching contacts are intended to be connected across the buswires of the busbar protection thus short-circuiting the busbar protection relay & rendering the protection of the zone concerned inoperative. The remaining three (3) latching contacts are available for alarm & signaling functions.

Operation of the relay is indicated by a hand reset flag.

A switchmode power supply provides a very wide auxiliary operating range. A relay fail alarm is provided in the form of a C/O contact which is picked up when the auxiliary supply is healthy.

AC VOLTAGE SENSING

| | | | |
|-----------------------|---------------------|------------------|-------------|
| Sensing Range: | 2 to 14V | | |
| Dropout/Pickup Ratio: | 85% minimum | | |
| Accuracy: | +/-5% of full scale | | |
| Frequency range: | 47-61Hz | | |
| Burdens (VA) approx: | 0.2 | $\times 10^{-3}$ | @2V 50 Hz |
| | 3 | $\times 10^{-3}$ | @8V 50 Hz |
| | 7 | $\times 10^{-3}$ | @14V 50 Hz |
| | <4 | | @300V 50 Hz |

OPERATE TIME

| | |
|-------------------|-------|
| Fixed time delay: | 3s |
| Accuracy: | +/-5% |

THERMAL RATING

| | |
|-----------------|--|
| Continuous: | 300V RMS per phase |
| Peak withstand: | 2KV for 3s on all 3 phases 3KV for 0.5s on all 3 phases |

OUTPUT RELAY OPERATION INDICATOR

Hand reset flag

ALARM CONTACTS

3 N/O latching hand reset contacts

BUSWIRE SHORTING CONTACTS

3 N/O latching hand reset contacts

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

Carry for 0.5s

150A rms peak withstand for 0.5s

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 | 0.25 |

Isolation Across Open Contacts

3KV rms

AMBIENT OPERATING TEMPERATURE RANGE

-5 to 55 degrees C.

AUXILIARY SUPPLY

20-70V DC switchmode supply or
40-275V AC / 40-300V DC switchmode supply
Burden: Less than 5 watts at 110V DC

Inputs:

A high efficiency switchmode power supply is incorporated which provides a low burden to the auxiliary supply.

Input Transients:

Withstands multiple high-energy transients & ring waves in accordance with IEEE28 - ANSI C26.1 Cat. II, accordingly:

- 0.5uS 100KHz 6KV O/C, 500A S/C, 4J
- 1.2/50uS 6KV O/C
- 8/20uS 3KA S/C, 80J clamped at 1,000V

Mains conducted EMI within limits specified by AS 3548 Class B.

Isolation:

The inputs are isolated from the outputs in accordance with AS3260 Class II Limited Current Circuitry, accordingly:

- Withstand voltage of 2.5Kv RMS 50Hz for one minute
- Creepage & clearance distance greater than 4mm
- Output leakage current less than 0.25A to earth

Output Protection:

Outputs will withstand continuous short circuit. Output regulators & switching control regulator are thermally protected.

INSULATION WITHSTAND

IEC60255-5 2KV RMS & 1.2/50 5KV impulse between:

- ◆ all input terminals & frame
- ◆ all output terminals & frame
- ◆ all input & output terminals
- ◆ each input group
- ◆ each output group

HIGH FREQUENCY DISTURBANCE

IEC60255-22-1 2.5KV 1MHz common mode
1.0KV 1MHz differential mode

ELECTROSTATIC DISCHARGE

EN61000-4-2:1995 8KV Level 3

FAST TRANSIENT DISTURBANCE

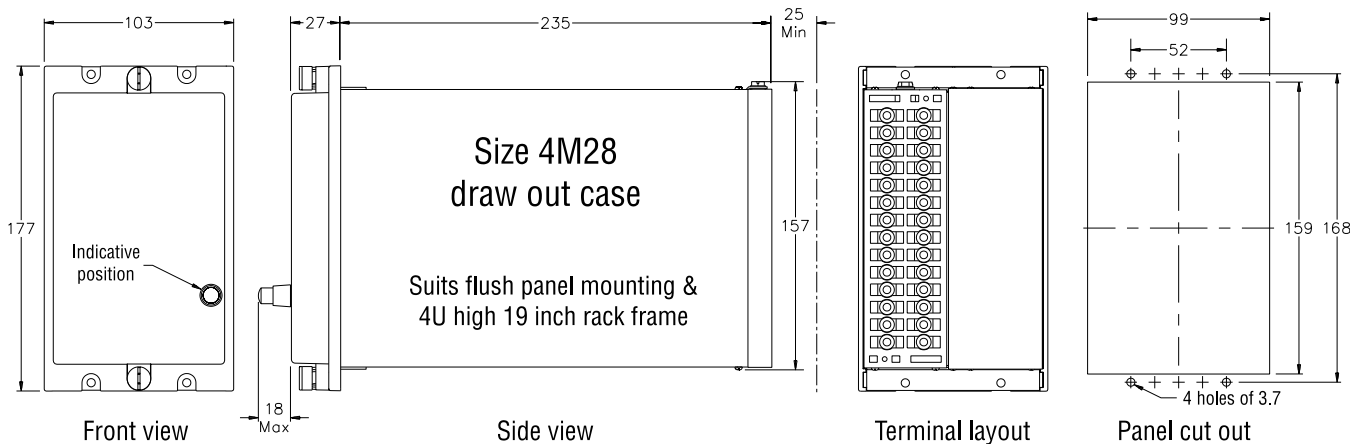
EN61000-4-4:1995 4KV Level 4

CASE

Size 4 draw out
28 M4 screw terminals
Flush panel mount or 4U high 1/4 width 19 inch rack mount
IP51 rating

ACCESSORIES SUPPLIED WITH EACH RELAY

1 x M4 self threading mounting screw kit P/N 290-406-151
1 x M4 terminal screw kit (28 per kit) P/N 290-407-153
1 x Product Test Manual



Ordering Information

Generate the required ordering code as follows: e.g. 2V68-B

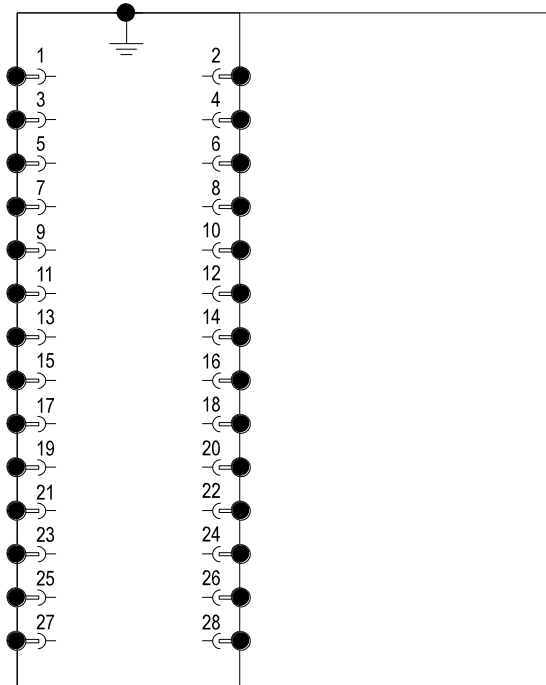
2V68



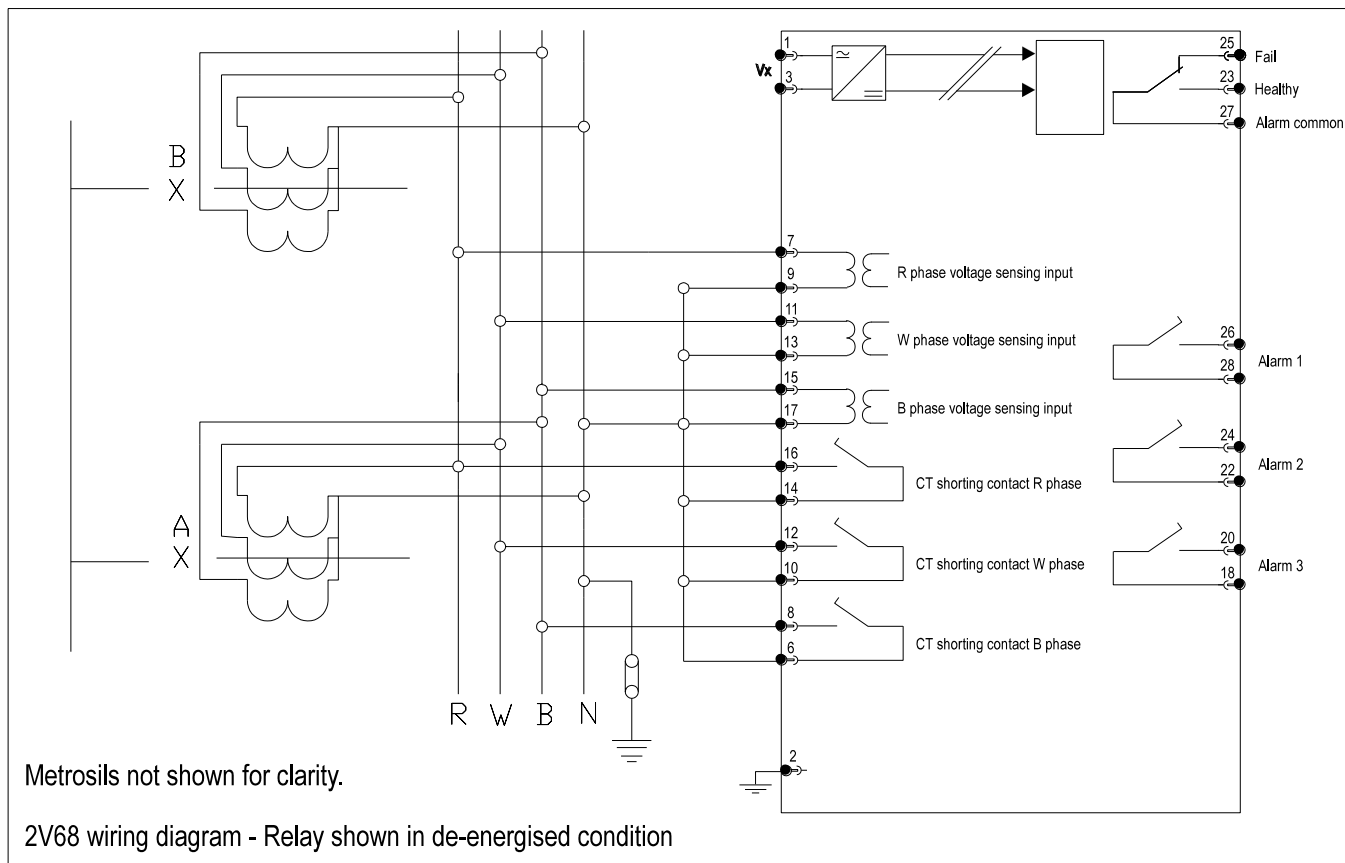
1 AUXILIARY SUPPLY RANGE

- A 20-70V DC
- B 40-300V DC / 40-275V AC

Case Earth



4M28 Case terminations (REAR VIEW)

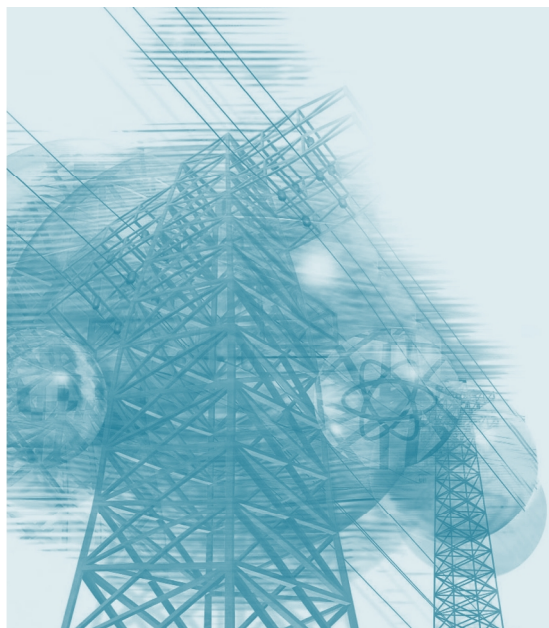


Metrosils not shown for clarity.

2V68 wiring diagram - Relay shown in de-energised condition



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Relay Monitoring Systems Pty Ltd

6 Anzed Court
Mulgrave, Victoria 3170
AUSTRALIA
Ph: +61 3 8544 1200
Fax +61 3 8544 1201
Email: rms@rmspl.com.au
www.rmspl.com.au
www.relays.com.au

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