

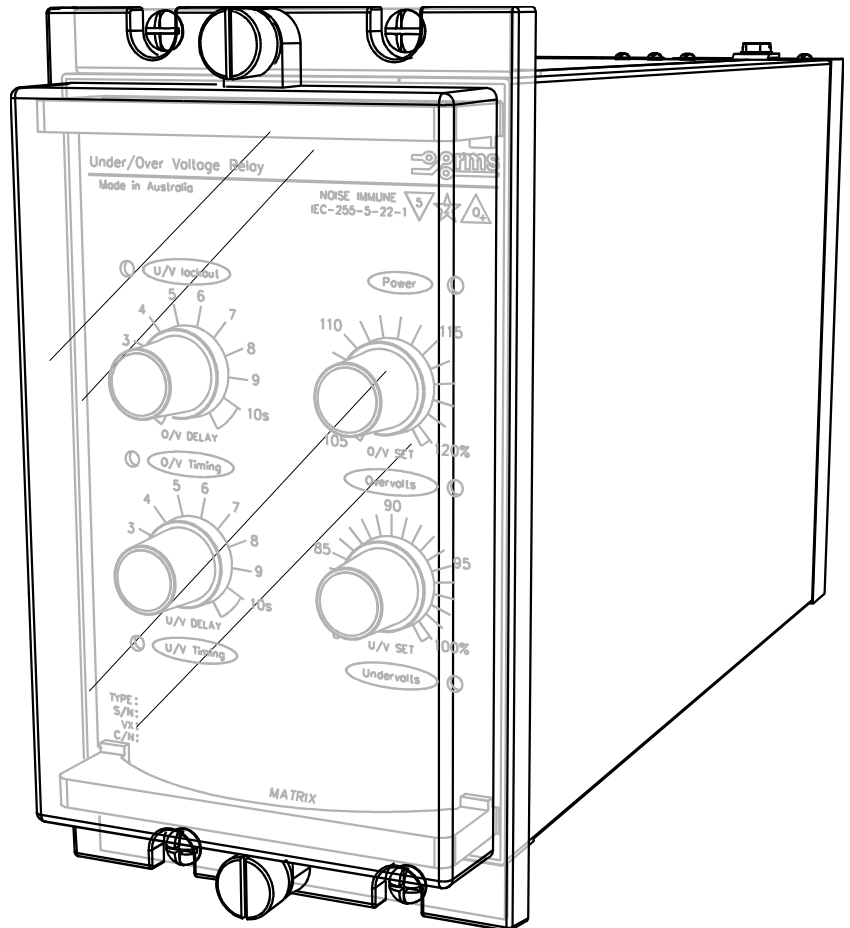
Features

- Separate over voltage (O/V) & under voltage (U/V) setting ranges easily selected by separate U/V & O/V dials
- 115.5V to 132V O/V range
- 88V to 110V U/V range
- Other ranges available
- Very high voltage detection hysteresis (>99.5%)
- Reset delay to avoid spurious voltage dips & spikes resetting timer circuitry
- 0 to 10s time delayed O/V & U/V with $\pm 5\%$ accuracy
- Time settings easily selected by separate U/V & O/V dials
- O/V & U/V timing LED's
- O/V & U/V timed out LED's
- Wide auxiliary supply range with fail alarm contact
- Relay healthy LED & fail alarm output relay
- 60% under voltage blocking function & LED indicator
- 63.5/110V AC nominal VT taps
- Size 4M28 draw out case
- Made in Australia

Application

TRANSFORMER PROTECTION

The 2V69 relay may be used to supplement the tap changer control system & to prevent equipment damage as a result of failure of the tap change undervoltage blocking mechanism or overvoltage run away. Refer to the 2V162 data sheet for details of the automatic voltage regulator control system available from RMS.



2V69 depicted in a 4M28 draw out case

Operation

Made in Australia

The 2V69 Series relay is a single phase voltage sensing (RMS) relay with separate set points for over & under voltage detection. This allows a window to be established such that the output contacts are picked up once the monitored voltage strays above or below the defined band. A very high hysteresis (>99.5%) for the voltage detection circuitry allows for accurate window setting while a relatively slow reset time (1s approx.) is provided to ensure that the timer is not inadvertently reset by voltage spikes or dips on the VT input.

Two independent timers, each with their own set point control & initiated by the O/V & U/V set points are provided. Time delayed output contacts are operated after the pre-set delay.

An under voltage blocking function is also provided to block all relay functions once the monitored voltage falls below 60% of nominal.

The input voltage transformer, power supply & output relays form the essential barriers against high voltage line transients. The switchmode power supply provides a wide operating range for AC or DC auxiliaries. The low burden allows the relay to be powered directly from the voltage sensing input transformer.



VOLTAGE SET POINTS

Over voltage: 115.5 to 132V AC
 Under voltage: 88 to 110V AC
 Repeatability: ± 0.25% of setting
 Setting: ± 0.5% of maximum setting

AC SENSING VOLTAGE HYSTERESIS

>99.5% standard

UNDERVOLTAGE BLOCKING

All relay functions blocked when voltage falls below 60% of nominal

TIME DELAYED OUTPUT FUNCTION SET POINTS

Over voltage: 0-10s ± 5% of maximum setting
 Under voltage: 0-10s ± 5% of maximum setting

BURDENS

Auxiliary supply: (at 110V DC nominal supply)
 Less than 8 watts during timing.
 Less than 10 watts with max. combination of outputs energised.
 Sensing circuits: Less than 1VA all settings.

INPUT RESISTANCE

63.5V tap: 227 Ohm
 110V tap: 626 Ohm

AUXILIARY SUPPLY

20-70V DC switchmode supply or
 40-275V AC / 40-300V DC switchmode supply
 1 C/O contact for fail alarm

OPERATION INDICATORS

Red LED's indicate when the relay is timing for O/V & U/V
 Red LED's indicate when the O/V & U/V contacts are picked up
 Red LED indicates operation of the under voltage blocking function
 A green LED indicates that the relay is healthy

Technical Data

OUTPUT CONTACTS

(Idec RH PCB mounting type)

Delayed: 2 C/O for O/V & 2 C/O for U/V
 0 to 10s range for O/V & U/V settings

Under voltage: 1 C/O Blocking function alarm contact

Maximum Contact Capacity (Amps)

Voltage	DC			AC		
	30	125	250	110	220	250
Resistive	10	2.4	1.2	10	7	6.6
Inductive L/R 7ms	7.5	1.8	0.9	7.5	5	4.4

Make & Carry for 200ms

30A at 250V DC resistive

Maximum Break Capacity

0.34A at 250V DC inductive (40ms)

AMBIENT OPERATING TEMPERATURE RANGE

-5 to 55 degrees Celsius

OPERATING FREQUENCY RANGE

45 to 53Hz (60Hz version also available)

INSULATION WITHSTAND in accordance with IEC 255-5:

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

NOISE IMMUNITY

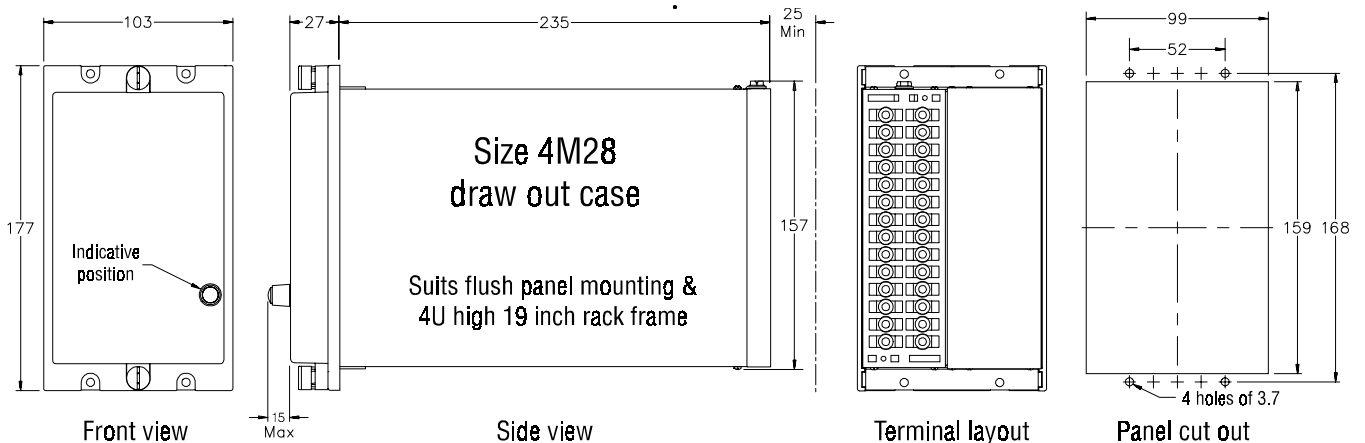
Withstands the high frequency interference test detailed in IEC 255-22-1.

CASE

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

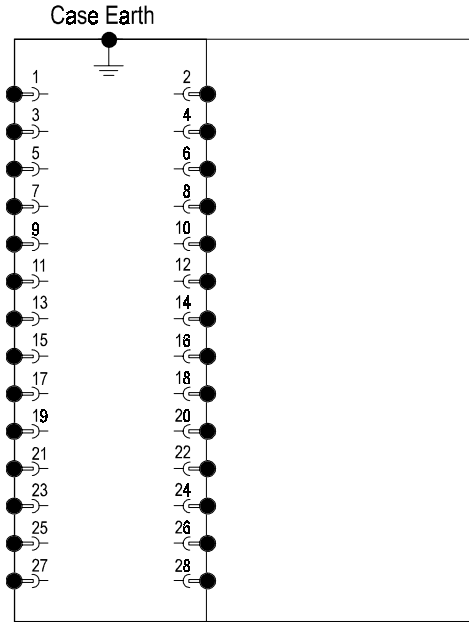
ACCESSORIES SUPPLIED WITH EACH RELAY

- 290-406-151** Relay mounting screw kit (4 screws)
- 290-407-153** M4 terminal screw kit with captive lock washers (14 pieces per kit)
- 205-103-003** Earth screw (1 piece)
Product Test Manual



Visit www.rmspl.com.au for the latest product information.

Due to RMS continuous product improvement policy this information is subject to change without notice. 2V69/Issue C/19/07/2000/2/3



4M28 Case terminations (REAR VIEW)

Ordering Information

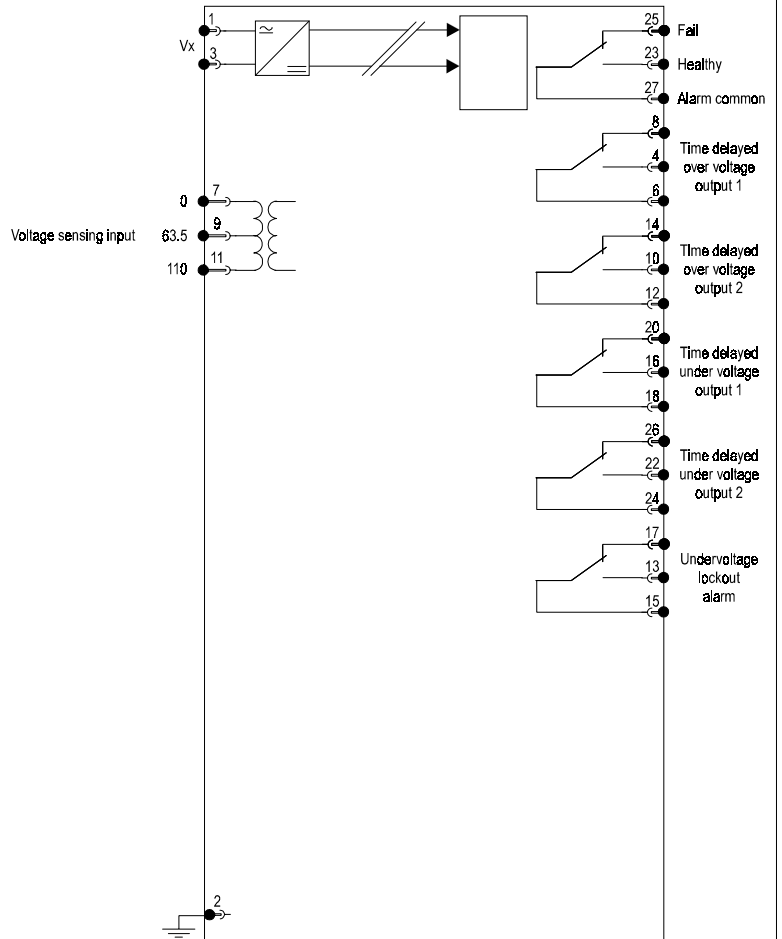
Generate the required ordering code as follows: e.g. 2V69 B

2V69



1 AUXILIARY SUPPLY RANGE

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



2V69 wiring diagram - Relay shown in de-energised condition



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