



# MVAW02

## Low Burden Intertrip Relay

The MVAW 02 is an attracted armature unit with the multi-contact 'receive' trip and electrical reset movements mounted above the intertrip 'follower' relay in a standard MIDOS size 8 case.

The MVAW 02 is energised from double pole contacts which are components of a reed relay conversion module incorporated in the telephone signalling equipment. Eighteen output contacts are available on the 'receive' trip relay RL1/9 RL2/9 which includes one used to disconnect the operating coil circuit immediately after initial operation.

A standard VAA movement with four output circuits is employed as the intertrip 'follower' relay RL3/4. This is included in the circuit to prevent repetitive operation of the 'receive' trip relay when a persistent intertrip signal is transmitted.

The intertrip 'follower' relay also provides a test facility (via a control selector switch CSS) which allows the signalling channel to be tested without initiating the 'receive' trip relay.

### Application

Designed to meet the class EBI requirements of the Electricity Council Engineering recommendations M16/2, the relay is intended for use as an interposing unit in distance protection schemes using rented pilots.

The MVAW 02 is a low burden multi-contact, electrically reset, 'receive' trip and intertrip 'follower' relay which is initiated directly from telephone signalling equipment.

## Customer Benefits

- High AC rejection
- High pick up current
- Robust attracted armature design
- Low burden



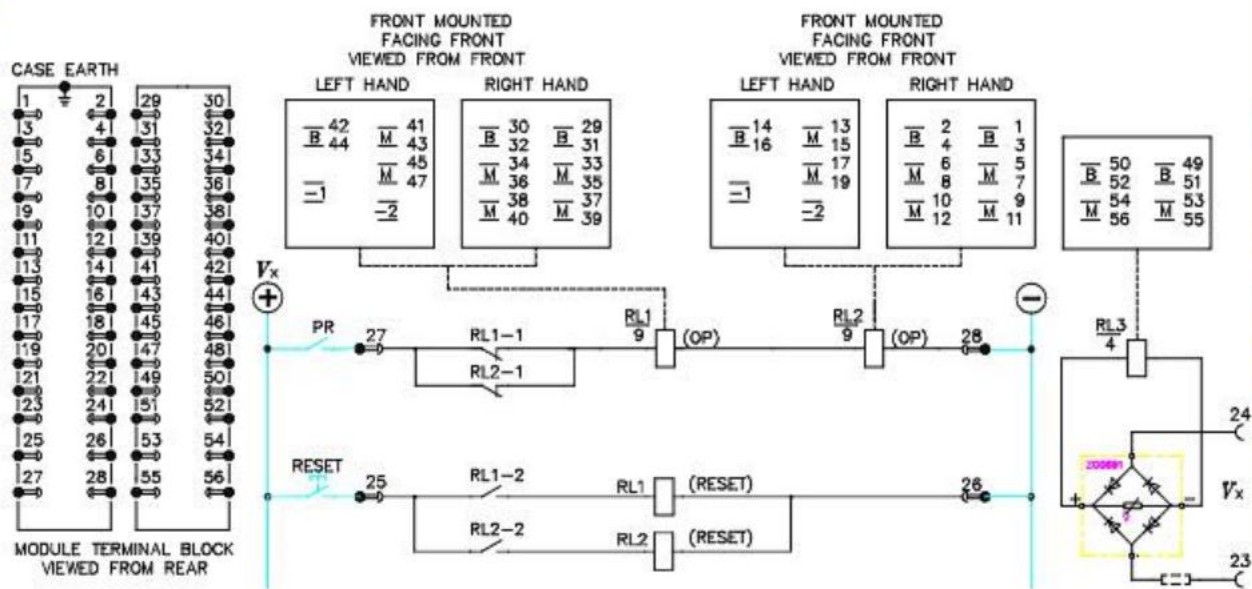
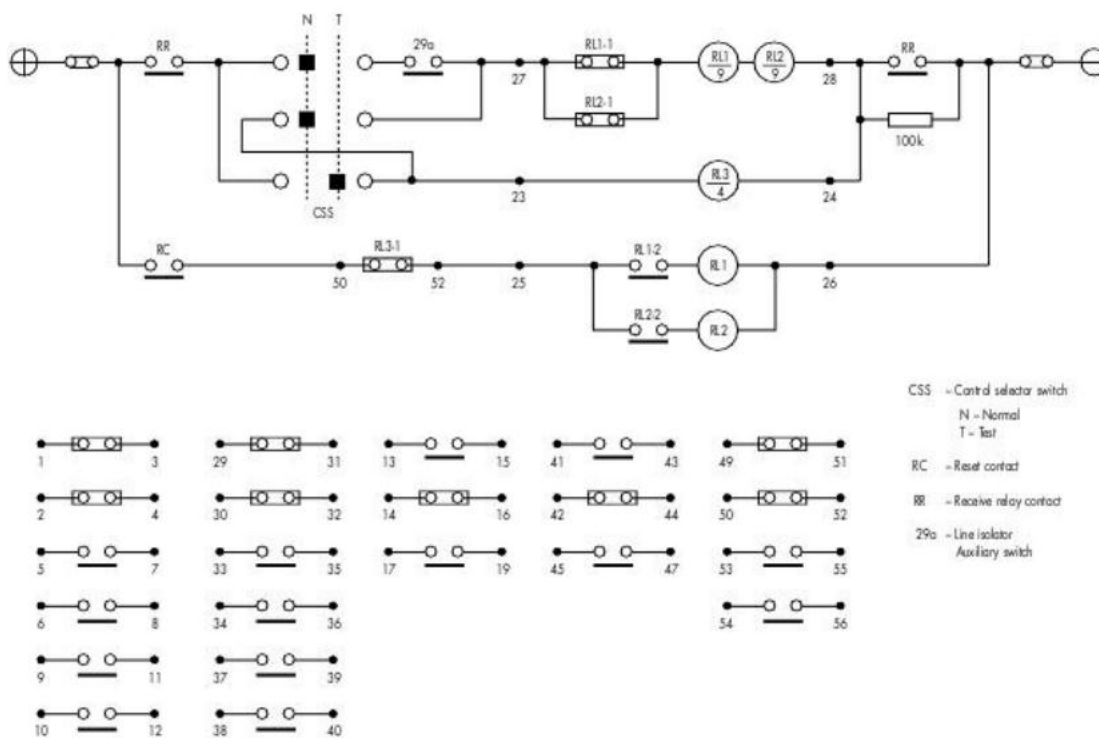


Figure 2 Circuit diagram: MVAW 02 low burden intertrip receive relay. 12 Make - 6 Break contacts



- CSS - Control selector switch
- N - Normal
- T - Test
- RC - Reset contact
- RR - Receive relay contact
- 29a - Line Isolator Auxiliary switch

Figure 3 Typical schematic diagram: Low burden intertrip relay Type MVAW 02

Intertrip receive relay - immunised to AC noise

## Technical Data

|                             |  |   |
|-----------------------------|--|---|
| <b>Voltage Rating</b>       | 24/27 V, 30/34 V, 48/54 V, 110/125 V, 220/250 V dc                             |   |
| Burdens                     | Initially the relay burden is 55 W (this includes the VAA Burden).             |   |
|                             | Continuous 'follower' relay burden (VAA) 3 W.                                  |   |
|                             | Reset coil burden 45 W (this is cut off when the relay resets).                |   |
| Operating Times             | 'Receive' trip relay - Less than 10 ms   |   |
|                             | 'Follower' relay - Less than 15 ms   |   |
| Operation Indicators        | The 'receive' trip relay is fitted with a hand reset 'leave behind' indicator. |   |
|                             | This cannot be reset until the contacts have been electrically reset.          |   |
|                             | The 'follower' relay is fitted with a hand reset indicator.                    |   |
| <b>Contacts</b>             |  |   |
| 'Receive' trip relay        | 18 contacts wired to case rear terminals.                                      |   |
| 'Follower' relay            | 4 contacts with a maximum of three normally closed.                            |   |
| Contact Ratings             |  |   |
| Make and carry continuously | ac   | 1250 VA with maxima of 5 A and 660 V  |
|                             | dc   | 1250 W with maxima of 5 A and 660 V   |
| Make and carry for 3s       | ac   | 7500 VA with maxima of 30 A and 660 V   |
|                             | dc   | 7500 W with maxima of 30 A and 660 V  |
| Break                       | ac   | 1250 VA with maxima of 5 A and 660 V  |
|                             | dc   | 100 W resistive, 50 W inductive with a maxima of 5 A and 660 V  |
| <b>Voltage withstand</b>    |  |   |
| Dielectric                  | IEC 60255-27   | 2 kV rms for 1 minute between all case terminals connected together and the case earth terminal                 |
|                             |  | 2 kV rms for 1 minute between independent circuits including contact circuits                                   |
|                             |  | 1 kV rms for 1 minute across normally open outgoing contact pairs   |
|                             |  | Pilot wire relays only:<br>2 kV for 1 minute between all pilot circuits and all other circuits and the case     |
| High voltage impulse        | IEC 60255-27   | 5 kV peak, 1.2/50 ms, 0.5 J between all terminals and case earth and between adjacent terminals                 |
| High frequency disturbance  | IEC 60255-26   | Static relays only:<br>2.5 kV peak between independent circuits,<br>2.5 kV peak between circuits and case earth |
|                             |  | 1 MHz bursts decaying to 50% of peak value after 3 to 6 cycles.   |
|                             |  | Repetition rate: 400 per second   |

## Information Required with Order

- Relay type: self or hand reset
- Contact combination

**Intertrip receive relay - immunised to AC noise**

## Technical Data (continued)

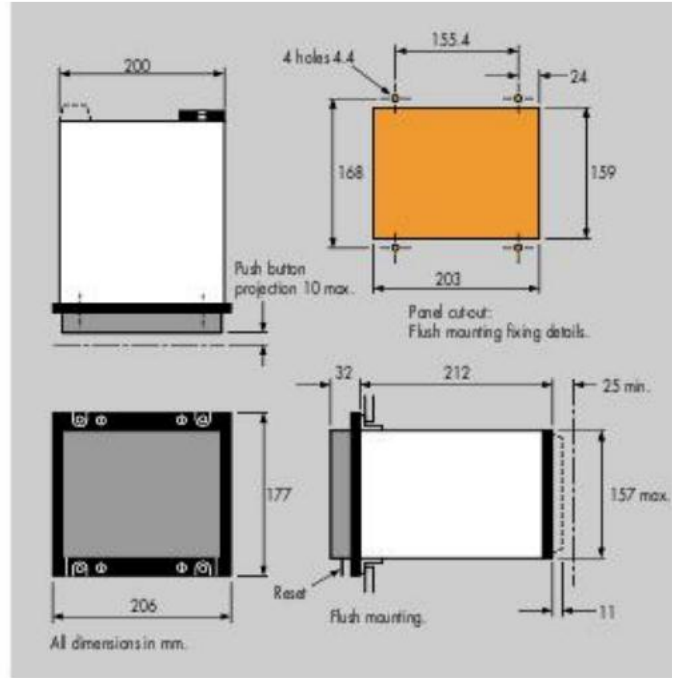
### Environmental withstand

|                      |                                |  |
|----------------------|--------------------------------|--|
| Temperature          | IEC 60068-2-1<br>IEC 60068-2-2 | Storage and transit: -25 °C to +70 °C<br>Operating: -25 °C to +55 °C         |
| Humidity             | IEC 60068-2-3                  | 56 days (at 93% RH and +40 °C)   |
| Enclosure protection | IEC 60529                      | IP50 (dust protected) (individual relays)                                    |
| Vibration            | IEC 60255-21-1 Class 1         | 0.5 g between 60 Hz and 300 Hz,<br>0.07 mm peak-peak between 10 Hz and 60 Hz |

### Mechanical durability

|                   |                            |
|-------------------|----------------------------|
| Loaded contacts   | 10,000 operations minimum  |
| Unloaded contacts | 100,000 operations minimum |

## Dimensions



## GE Track Record - Intertrip and Interposing Relays

Over 1800 type MVAW 02 delivered, since launch in 1989

Over 11500 type MVAW 11 delivered, since launch in 1985

Over 1000 type MVAW 13 delivered, since launch in 1985

Over 24000 type MVAW 21 delivered, since launch in 1985

For more information please contact  
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