GE
Grid Solutions

MVAP 22

Voltage selection relay

The MVAP 22 is a voltage failure relay with changeover output contacts enabling its use for either voltage selection or fuse failure protection.

A typical application as a voltage selection relay is the automatic connection of metering equipment to an alternative supply if the normal or preferred supply fails. As a fuse failure relay, it will monitor the output of a voltage transformer and give an alarm or disconnect protection circuits for VT fuse failure.

The relay monitors the 3-phase voltage supply and operates if the supply is interrupted or becomes unbalanced due to failure of the voltage transformer's primary or secondary fuses.

ORDERING OPTIONS

MVAP 22T1	■	■
Frequency		
50 Hz	A	
60 Hz	B	
Voltage monitored (Vn)		
110/125 V		A

Features

- Detects VT fuse blows and other voltage circuit failures
- Can be used to switch to an alternative supply if the main supply fails
- Fast and reliable

VOLTAGE FAILURE DETECTION ON GENERATOR VTS

The MVAP 22 relay can be applied to provide an equivalent function to the voltage balance relay by using one MVAP 22 per voltage transformer and connecting the output contacts of the two MVAP 22 relays as shown in Figure 3. The relay combination can be used to block relays or other devices that will operate incorrectly when a voltage transformer primary and/or secondary fuse(s) blow or to give an alarm for the faulty voltage transformer.

Each relay is supplied from its own voltage transformer and will detect blown fuses in either the primary or secondary windings of the voltage transformer or if the voltage supply becomes interrupted.

In the event of a generator short circuit causing the voltage supplied to the relays to become appreciably unbalanced, the relays will operate, but the trip circuit via the generator protective relays (ie., devices 21, 32 and 40) will be maintained through the normally closed contacts on the two changeover contacts A–1 and B–1 and an alarm will be prevented via the normally closed contacts A–3 and B–2.

Failure of any voltage transformer supply will cause operation of the appropriate MVAP 22 relay and block tripping of the associated generator relays which may be adversely affected by the loss of voltage supply via contacts A–1 or B–1 and give an alarm via A–2 or B–3.

DESCRIPTION

Two attracted armature units are employed as shown in Figure 3. An operating voltage appears across the coils of unit A when the secondary voltages become unbalanced due to loss of any primary or secondary phase. Unit B has six changeover contacts for voltage selection and is normally energised via the normally closed contact on unit A from two phases of the supply. Unit B drops off on operation of unit A, on complete loss of supply, or on loss of two primary or secondary phases. If three limb core type star connected voltage transformers are used, the relay will not operate correctly if the star points of the primary windings are connected to neutral or earth.

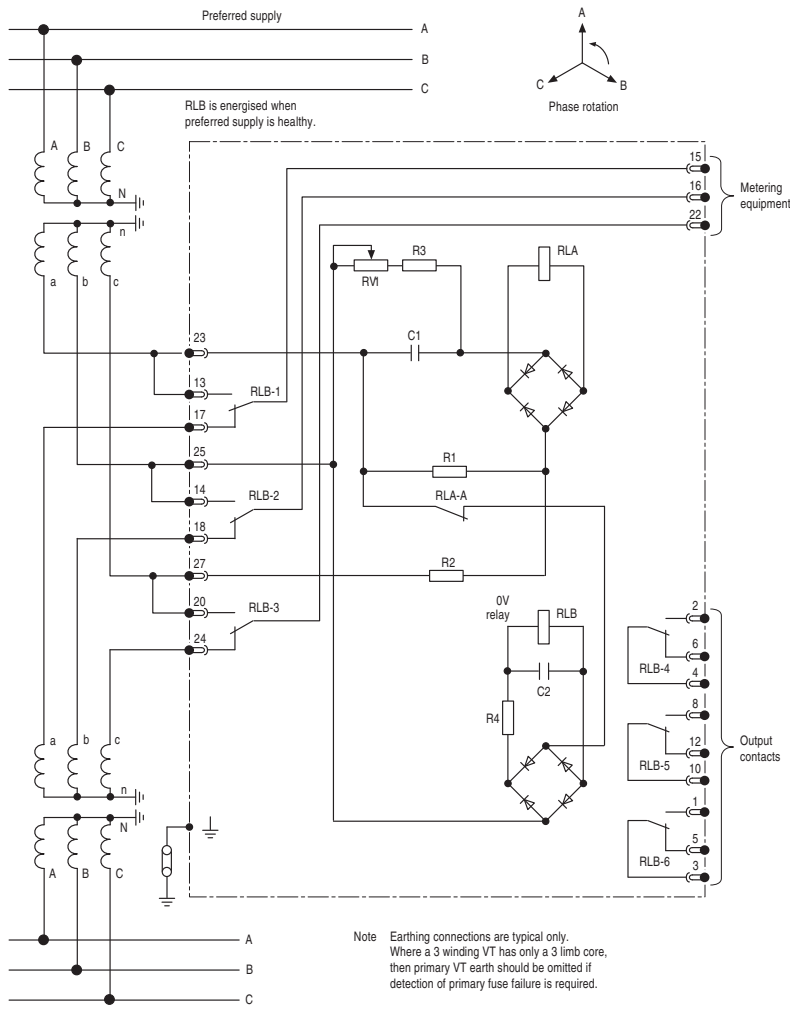


Figure 2
MVAP 22 application diagram

TECHNICAL DATA

Ratings

- Voltage ratings: 110/125 V ac

Operating boundaries

- 80% – 125% of lower rating

Contacts

- Six pairs of isolated self reset changeover contacts are provided for voltage selection switching
- Make and carry continuously ac 1250 VA with maxima of 5 A and 660 V
- Make and carry for 3 seconds ac 7500 VA with maxima of 30 A and 660 V
- Break ac 1250 VA with maxima of 5 A and 660 V

Case information

Type MVAP 22 relays are housed in size 4 cases (see Figure 4).

Information required with order

- Rated voltage
- Rated frequency

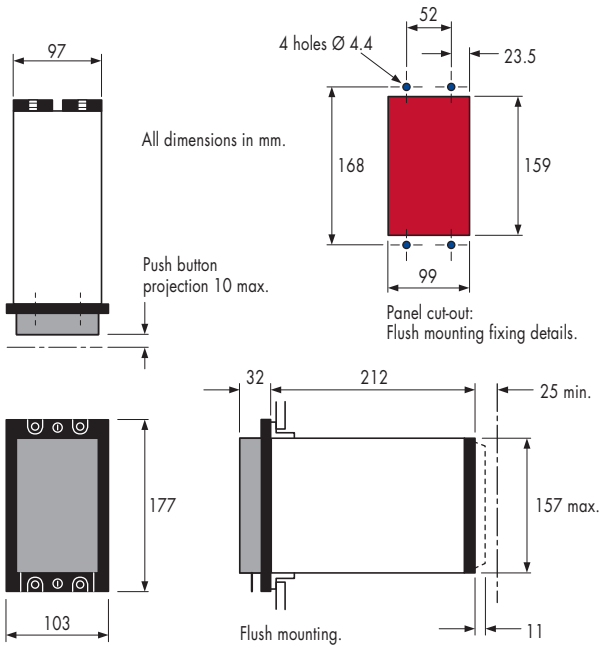
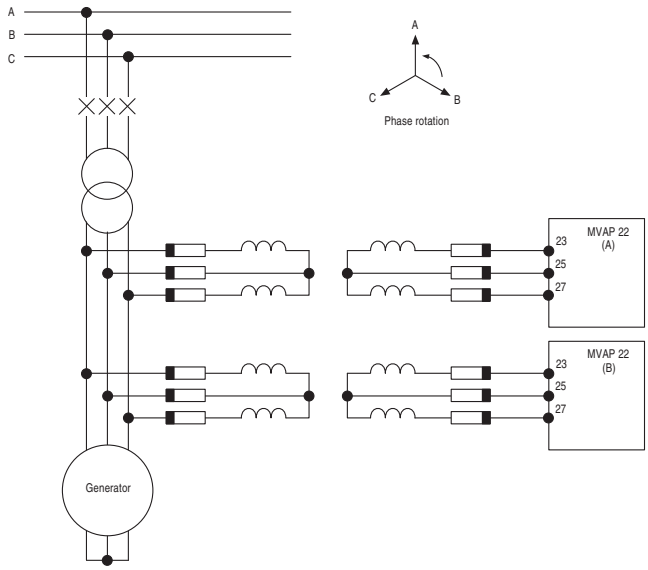


Figure 4
Case outline size 4



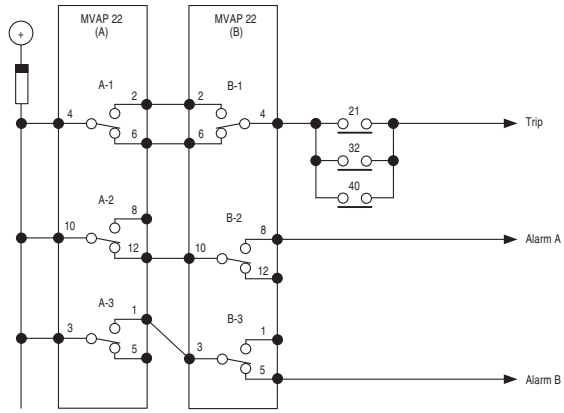


Figure 3 Application diagram: Connection of MVAP 22 relays to provide an equivalent function to a voltage balance relay on generator VTs

Fast alarming or switching to a healthy VT supply

DEVICE TRACK RECORD - VOLTAGE SUPERVISION DEVICES

Over 7,500 MVAP 22 relays supplied since launch in 1985
Fast VT supervision fitted in all MiCOM distance relays

For more information please contact
GE
Grid Solutions

Worldwide Contact Center

Web: www.GEGridSolutions.com/contact
Phone: +44 (0) 1785 250 070

GEGridSolutions.com