

# MVAA

## Auxiliary Relay

The MVAA is a low burden auxiliary relay for schemes demanding several contacts for event recording, alarm initiation, contact logic arrangements, etc.

The relay can be supplied fitted with normal duty contacts and/or with heavy duty blow-out contacts.

MVAA relays are voltage-operated attracted armature units of compact design, featuring positive action and a high degree of mechanical stability. Voltage is applied to the relay coils via an internal diode bridge which enables relays to be energised from AC or DC power supplies.

Typical applications are for general contact multiplication, interlocking and customisation to suit the substation.

### Models

There are five versions of the MVAA relay, each with a different type of contact reset mechanism:

- MVAA 11 Single element relay with self reset contacts (Double element version is type MVAA 21)
- MVAA 13 Single element relay with hand reset contacts (Double element version is type MVAA 23)
- MVAA 14 Single element relay with electrical reset contacts



## Key Benefits

- Compact design
- Mechanically stable
- Hand, self and electrical reset versions available
- Wide voltage range
- Optional operation

## Contacts

Contacts are made from a silver/ copper alloy, shaped and positioned to ensure very reliable, low resistance operations.

Normal duty make, break and changeover contacts and heavy duty magnetic blow-out contacts are available in various combinations (see tables 1, 2 and 3).

Heavy duty magnetic blow-out contacts are recommended for breaking heavy or highly inductive DC loads. When these are fitted, the number of contacts available may be reduced (see table 3).

Breaking capacity curves for these contacts are shown in figure 1 on next page.

## Operation Indicators

Each relay element is supplied with an optional hand reset operation indicator.

The indicator consists of a mask, which on operation drops to expose a broad red strip positioned diagonally on a rectangular white background.

## Technical Data

Voltage rating (V)	Operating voltage range (V)
24/27	19.2 - 32.4
30/34	24.0 - 40.8
48/54	38.4 - 64.8
110/125	88.0 - 150.0
220/250	176.0 - 300.0

- Frequency: 50/60 Hz
- Withstand rating: The standard relay will withstand 120% of its maximum voltage rating continuously. High speed variants with time (where the 10<sup>th</sup> character of the model number is C or Q) are short time rated. These must be energised for a maximum of 2 minutes or employ a break contact, wired externally, to cut off the auxiliary supply after operation
- Burdens: 3 W per element at all rated voltages
- Operating times: The operating times are typically 12-25 ms depending on the number of contacts and relay type

## Contact Combinations

Relay type	Contact combination code letter (cross reference with detailed contact combinations in table 3)	Case sizes
MVAA11	Q	2
	R	4
MVAA13*	Q	4
	R	2
MVAA14*	Q	4
	R	2

Table 1 Available contact combinations and case sizes for single element relays

Relay type	Contact combination code letter (cross reference with detailed contact combinations in Table 3)		Case sizes
	Element 1	Element 2	
MVAA21	P	P	2
	Q	Q	4
MVAA23*	Q	Q	4

Table 2 Available contact combinations and case sizes for dual element relays

\* Note:

When the relays are required to cut off their own supply voltage following an operation, a special late-acting contact must be used. This contact can be fitted on request and must be wired internally. The number of available output contacts shown in table 3 is reduced by one when a cut-off contact is supplied.

Design pedigree resulting from a million auxiliary relays already manufactured by GE

Contact combination code letter	Normal duty in any combination of make (M) or break (B)	Normal duty changeover	Heavy duty in any combination of make (Z) or break (Y)
P	4	-	-
Q	6	-	-
	3	-	2
	1	-	3
	-	4	-
R	8	-	-
	4	-	4
	2	-	6
	-	6	-
	-	-	-

Table 3 Contact combinations cross reference table

Contact Type	Current	Make and carry continuously	Make and carry for 3 seconds	Break
Standard make DC or break or changeover	AC	1,250 VA with maxima of 5 A and 300 V	7,500 VA with maxima of 30 A and 300 V	1250 VA with maxima of 5 A and 300 V
Standard make DC or break or changeover	DC	1,250 W with maxima of 5 A and 300 V	7,500 W with maxima of 30 A and 300 V	100 W (resistive) 50 W (inductive) with maxima of 5 A and 300 V
Heavy duty	DC	1,250 W with maxima of 5 A and 300 V	7,500 W with maxima of 30 A and 300 V	See curves, Figure 1

- Maximun rate of operation: 600 per hour
- Durability
  - Loaded contact - 10,000 operations minimum
  - Unloaded contact - 100,000 operations minimum

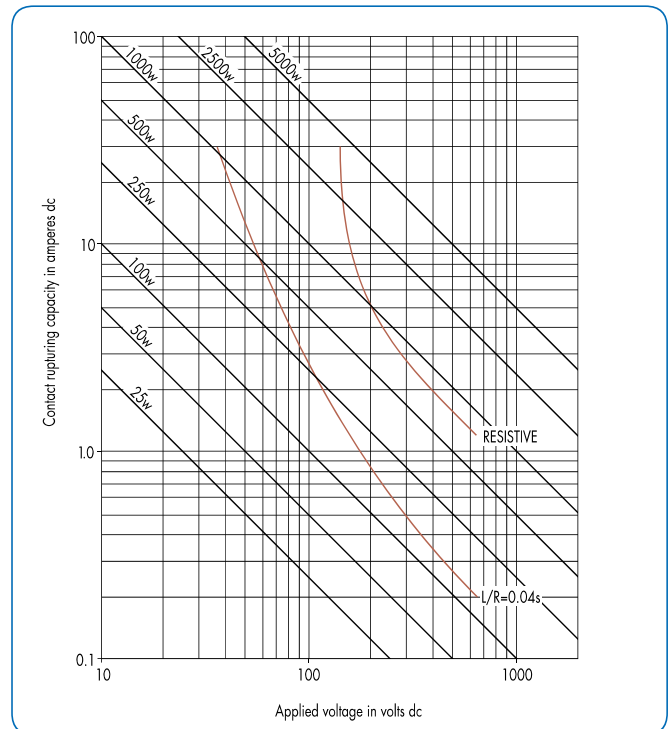


Figure 1 Breaking capacity curves of heavy duty blow-out contacts

## Device track record - auxiliary relays

Over 180,000 MVAJ tripping relays delivered since launch in 1983

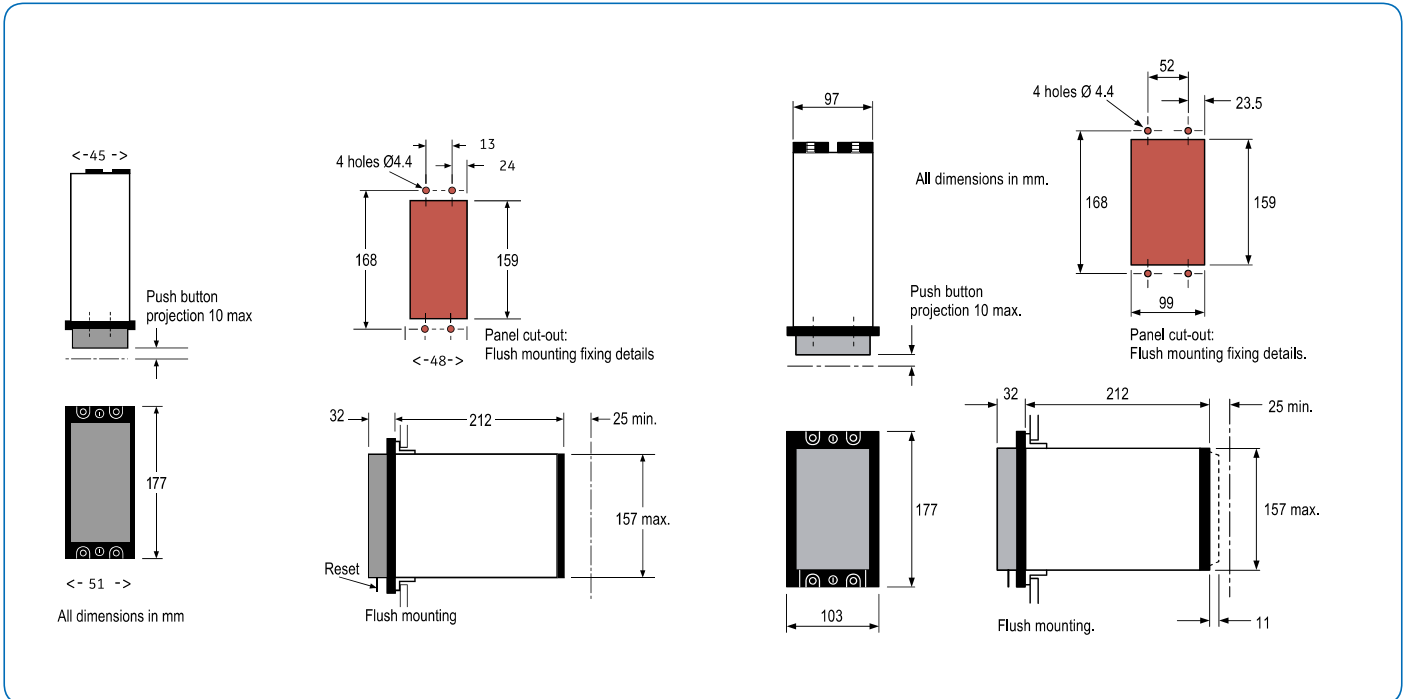
Over 150,000 MVAA auxiliary relays delivered since launch in 1982

Over 330,000 PRiMA auxiliaries delivered since launch in 1994

Underlines Grid Solutions' commitment to the supply of quality electromechanical devices

## Case Dimensions

Relays are supplied in size 2 or size 4 cases as indicated in the Technical Data section. See Figures 2 and 3 for outline dimensions.



## Information required with Order

- Type
- Coil rating
- Type, number and combination of contacts
- Operating time (if applicable)
- Operation indicator

For more information please contact  
GE  
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### Worldwide Contact Center

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Imagination at work