Auxiliary Relays - MVAA

Application
Used in Control, Alarm, Indication and other auxiliary Circuits of D.C. Systems.

Salient Features
Robust in construction and designed for trouble free operation.

General
MVAA type relays are voltage operated. The relays consist of attracted armature units and are compact in design. They ensure positive action and a high degree of mechanical stability.

Technical Data
a. Coil Rating:
24, 30, 50, 110 or 220 volts D.C. continuously rated as standard. Other voltage rating on request.
b. Voltage band for satisfactory operation:
70% to 120% of rated voltage.
c. Operating times:
Voltage operated units have a minimum operating time of approximately 0.010 second at nominal voltage. The actual operating time depend on the coil rating and the number of contacts. Normally, relays employing a resistor in series with the coil and having only two pairs of contacts have the shortest operating times. Operating times increase for voltages below nominal but the reset times are independent of applied voltage.

D.C. operated relays can be fitted with copper slug to give a time delay in operation and reset. Either one or two slugs may be fitted depending on the time delay required. Relays are continuously rated when fitted with one slug or tubular slug and short time rated when fitted with two slugs. If the operating time is important, this should be specified in the enquiry.

Burdens
MVAA-D.C. 3.0 Watts upto 150 Volts. For voltages above 150 volts, a resistor is connected in series with the coil which increases the total burden progressively upto 8 watts at 660 volts.

Contacts / Operating Indicators
Standard contacts are made of silver / copper alloy, normally open or normally closed. The relays can be supplied with self and / or hand reset contacts. They are designed for high reliability and low resistance. To break heavy or highly inductive DC Loads, heavy duty magnetic blow-out type contacts are recommended. These contacts use the magnetic field of a small permanent magnet to force the arc on to the arcing horns away from the contact tips. Standard contacts are break before make.

The ratings of standard and heavy duty blow-out magnet contacts are given in Table 2

<table>
<thead>
<tr>
<th>Relay Type</th>
<th>Standard Contacts</th>
<th>Contact Reset</th>
<th>Operation Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVAA 11</td>
<td>2 NO + 2 C/O</td>
<td>Self reset</td>
<td>Mechanically operated hand reset</td>
</tr>
<tr>
<td>MVAA 12</td>
<td>2 NO + 2 C/O</td>
<td>Self and hand reset</td>
<td>Mechanically operated hand reset</td>
</tr>
<tr>
<td>MVAA 13</td>
<td>2 NO + 2 C/O</td>
<td>Hand reset</td>
<td>Mechanically operated hand reset</td>
</tr>
<tr>
<td>MVAA 21</td>
<td>2 NO + 1 C/O</td>
<td>Self Reset</td>
<td>Mechanically Operated hand reset</td>
</tr>
<tr>
<td>MVAA 23</td>
<td>2 NO + 1 C/O</td>
<td>Hand Reset</td>
<td>Mechanically operated hand reset</td>
</tr>
<tr>
<td>MVAA 31</td>
<td>2 NO or 1 NO +</td>
<td>Self Reset</td>
<td>Mechanically operated hand reset</td>
</tr>
<tr>
<td></td>
<td>1 NC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVAA 33</td>
<td>2 NO or 1 NO +</td>
<td>Hand Reset</td>
<td>Mechanically operated hand reset</td>
</tr>
<tr>
<td></td>
<td>1 NC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rely on Megawin Relays

Table 1
**Insulation**  
As per IS 3231: 1986/IEC 255-5 Series C - 2 kV for 1 minute.

**Contact Ratings - Table 2**

<table>
<thead>
<tr>
<th>Type of Contact</th>
<th>Current</th>
<th>Make &amp; Carry Continuous</th>
<th>Make &amp; Carry 3 Sec.</th>
<th>Break</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>DC</td>
<td>1250 Watts with max. of 5A &amp; 660V</td>
<td>7500W with max. of 30A &amp; 660V</td>
<td>100W (resistive) or 50W (inductive) with max. of 5A &amp; 660V.</td>
</tr>
<tr>
<td>Heavy duty (relays with four pairs of contacts)</td>
<td>DC</td>
<td>1875 Watts with max. of 7.5A 660V</td>
<td>7500 with max. of 30A and 660V</td>
<td>100W (inductive) or 200W (resistive) with max. of 7A &amp; 660V.</td>
</tr>
</tbody>
</table>

**Case And Finish**

Relays are available in non-drawout cases size 1/4 M and 1/2 M. The cases are suitable for flush mounting and are finished bright black. Details of the number of units that can be accommodated in the various sizes of non-drawout cases are given in Table - 3.

**Information Required With Order**

1. Type of Relay - MVAA11 / MVAA12 / MVAA13 / MVAA21 / MVAA22 / MVAA23 / MVAA31 / MVAA32 / MVAA33
2. DC Auxiliary voltage
3. Whether operation indicator required.
4. Number of make and break contacts (Table - 1)

**Dimensions And Weights - Table 3**

<table>
<thead>
<tr>
<th>Relay Type</th>
<th>Case Size</th>
<th>Maximum no. of units per case</th>
<th>Maximum overall dimensions</th>
<th>Apprx. Gross weight * Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVAA11/12/13</td>
<td>1/4 M</td>
<td>1 each with 2 NO+2NC Contact</td>
<td>10 Height: 118 Width: 105 Depth: 115</td>
<td>1.5</td>
</tr>
<tr>
<td>MVAA21/23</td>
<td>1/2 M</td>
<td>-- each with 2 NO+1CO Contact</td>
<td>20 Max. No. of Terminals Height: 124 Width: 153 Depth: 130</td>
<td>2.5</td>
</tr>
<tr>
<td>MVAA31/33</td>
<td>1/2 M</td>
<td>-- each with 2 Pair of Contact</td>
<td>20 Max. No. of Terminals Height: 124 Width: 153 Depth: 130</td>
<td>2.5</td>
</tr>
</tbody>
</table>

* inclusive of cartons, mounting accessories and terminal details.

**Case Size 1/4 M**

The relays comply with IS 3231: 1986 and suitable for use in normal tropical environments.  
Due to continuous improvement, some information in this catalogue might have become obsolete. For latest information, please contact:

**Megawin Switchgear - P - Limited**

**Salem (H O)**  
P.B No. 434, Perumal Malai Adivaram, Alagappuram, Salem 636 004, Tamilnadu. India.  
Ph. 91- 427-2330498, 2447099, 2330288, 2338211, Fax: 91- 427- 2330502.  
e-mail: slm_megawin@sancharanet.in, e-mail: sales@megawinswitchgear.com,  
www.megawinswitchgear.com

**Chennai (R O)**  
Saikiran, 3rd Floor, 4, 1st Main Road, Kasturibai Nagar, Adyar, Chennai-600020.  
Telefax: 91-44-24403569.  
e-mail: megach@md5.vsnl.net.in

**Bangalore (R O)**  
No.22, 1st Floor, SNS Plaza, Kumara Krupa Road, Bangalore – 560 001.  
Telefax: 91-80-22383869.  
e-mail: megabl@vsnl.net.in

**Also branches at**:  
Mumbai, Delhi, Cochin, Hyderabad, Kolkata, Nagpur, Pune.