Actuators for distribution manifolds and zone valves

**APPLICATION AND USE**

MCA® actuators are designed for mounting on manifolds for floor, ceiling and wall radiant panels on heating or air conditioning plants.

MCA® can be used for On/Off (2-wire) control system in heating, air-conditioning and ventilation systems and for distribution manifolds for individual room temperature control of radiant heating & cooling systems.

Where required, auxiliary microswitches are normally open type. In case you need to operate with a normally closed microswitch, please contact our Technical Dept.

Thanks to the innovative adaptive feature, this actuator is almost universal and suitable to the majority of zone valves and manifolds in the market.

The integrated auxiliary switch allows direct or indirect (with relay) operation of a pump or a fan control unit.

**OPERATION**

MCA® actuators are based on electro-thermal technology to be controlled by on-off signals or by pulse width modulation PWM signals (24Vac models only).

These actuators use a PTC resistor heated wax element and a compression spring to provide the close-off force.

When powered MCA® opens a normally open valve retracting the internal piston in contact with the spindle.

MCA...M models are equipped with an auxiliary micro-switch. The micro-switch contact is closed when the actuator is powered.

**INSTALLATION**

MCA® can be adapted to many valves and manifolds by pushing and rotating the cover into 3 different positions thus adapting the actuator unpowered position to the valve/manifold closed position.

A manual override position is also available to open the valve/manifold without powering the actuator.

Selection of different positions according to specific valve/manifold type is easily achieved by installing the actuator in the Manual Override Position and by pushing & rotating into Position 1 or 2.. 5 until the Function Indicator Pin on the top of the cover pops out. MCA® actuator can be mounted in any position.

---

**Models**

<table>
<thead>
<tr>
<th>Models</th>
<th>Control signal</th>
<th>Auxiliary microswitch</th>
<th>Force</th>
<th>Stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCA230</td>
<td>110÷230Vac</td>
<td>--</td>
<td>90N</td>
<td>3mm</td>
</tr>
<tr>
<td>MCA230M</td>
<td>110÷230Vac</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCA24</td>
<td>24Vac/dc</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCA24M</td>
<td>24Vac/dc</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCA230L</td>
<td>110÷230Vac</td>
<td>--</td>
<td>140N</td>
<td>4mm</td>
</tr>
<tr>
<td>MCA230LM</td>
<td>110÷230Vac</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCA24L</td>
<td>24Vac/dc</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCA24LM</td>
<td>24Vac/dc</td>
<td>●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Patented**
**TECHNICAL CHARACTERISTICS**

Power supply:
- MCA230... 110...230 Vac ± 10%
- MCA24... 24 Vac/dc ± 10%

**Consumption:**

<table>
<thead>
<tr>
<th></th>
<th>MCA230... 230Vac</th>
<th>MCA230... 110Vac</th>
<th>MCA24... 24Vac</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting</td>
<td>50VA</td>
<td>12VA</td>
<td>4VA</td>
</tr>
<tr>
<td>Working</td>
<td>1.8VA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Aux microswitch 0,7 A 250 V ~ (only for arranged models - see model table)

**Frequency**
50/60 Hz

**Cold start time (20°C)**
1' (power-up to 1st stem mov.)

**Stroke**
see table

**Force**
see table

**Temperature**
- operation 2T50
- storage -10T60

**Protection class**
II (CEI 107-10)

**Cable**
Length 70 cm
section 0,35 mm²

**Protection degree**
IP54 (in any mounting position)
For environments with normal pollution according to IEC 730-1 (93)/6.5.3

Product conforms for CE marking to the following directives:
EMC 2004/108/CE according to the EN61326-1 standard.
LVD 2006/95/CE according to the EN 61010-1 standard for the 110-230 V powered products.

**SAFETY PRESCRIPTIONS**

**230 V products**

1. Install on the power supply line a protecting device to avoid short circuits (fuse or magneto-thermic) according to the specifications in force.

2. In case of accidental removal of the cover to make sure that power is disconnected before working on the actuator or near it.

3. The products are maintenance free.

**ELECTRIC CONNECTIONS**

![Electric Connections Diagram]

(*) If required

**MCA® are made with self extinguishing V0 thermoplastic materials. Electrical Cable (0,70m) is supplied with all models and it is not removable. Actuators are equipped with a threaded M30x1.5 ring nut (Nickel Plated Brass) for an easy valve assembling. All models are equipped with a function indicator pin popping out from the cover when the actuator is powered.

The actuators complete the stroke when the pin exceeds the cover collar by 4mm.

O-Ring guarantees IP54 protection with 360° installation position.

The products are maintenance free.

All components and material are ROHS compliant.

The performances stated in this sheet can be modified without any prior notice due to design improvements.