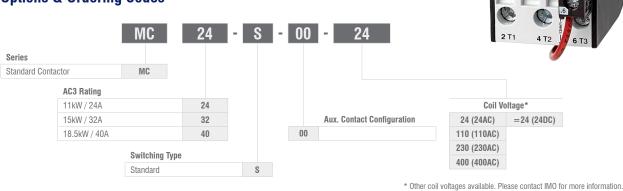
# **MC Contactors 3 Pole**

### **Key Features**

- Up to 40A AC3
- Up to 80A AC1
- DIN Rail Mounting
- International Approvals
- Data according to IEC 947 / EN 60947

## **Options & Ordering Codes**



3 L2

1 L1

C

IMO

MC24-S.

1

312

IMO

MC24-S-00

#### Technical Data acc. to IEC / EN 60947-4-1

| Part Number   |   | MC24-S-00                   | MC32-S-00              | MC40-S-10  |              |
|---|---|-----------------------------|------------------------|------------|--------------|
|   | AC1 690V I <sub>e</sub> (=I <sub>th</sub> ) open at 40°C  |                             | 50A                    | 65A        | 80A          |
| Main Contact Ratings  | AC2, AC3, 380-440V  |                             | 11kW / 24A             | 15kW / 32A | 18.5kW / 40A |
|   | AC2, AC3, 500-690V  |                             | 15kW                   | 18.5kW     | 18.5kW       |
|   | DC1 / 3 / 5, 24VDC (1 pole/3 poles in series)             |                             | 50A                    | 65A        | 80A          |
|   | Fuse "Typ1" gl. (gG)                                      |                             | 100A max.              | 100A max.  | 100A max.    |
|   | Rated Insulation Voltage Ui*4                             |                             | 690V~                  | 690V~      | 690V~        |
|   | Making Capacity I <sub>eff</sub> at U <sub>e</sub> =690V~ |                             | 400A                   | 500A       | 500A         |
|   | Breaking Capacity I <sub>eff</sub> 400V~                  |                             | 380A                   | 400A       | 400A         |
|   | cosθ= 0.35 500V~  |                             | 300A                   | 370A       | 370A         |
| Max. Ambient<br>Temp  | Operation Open  |                             | -40 to +60°C (+90°C)*1 |            |              |
|   | Operation Enclosed  |                             | -40 to +40°C           |            |              |
|   | with Thermal Overload Relay Open                          |                             | -25 to +60°C           |            |              |
| Мах.  | with Thermal Overload Relay Enclosed                      |                             | -25 to +40°C           |            |              |
| -   | Storage   |                             | -50 to +90°C           |            |              |
| 0f<br>Z   | Switching Without Load                                    |                             | 7,000                  |            |              |
| Freqency of<br>Operations z<br>Ops/hr                             | AC3, I <sub>e</sub>                                       |                             | 600                    |            |              |
| eqei<br>oerat<br>Ops  | AC4, I <sub>e</sub>                                       |                             | 120                    |            |              |
| 0 F   | DC3, I <sub>e</sub>                                       |                             | 600                    |            |              |
|   |   | Make Time                   | 10 - 25ms              |            |              |
| ne at<br>Je Us  | AC Operated   | Release Time                | 8 - 15ms               |            |              |
| g Tin<br>oltaç<br>6*2.3   |   | Arc Duration                | 10 - 15ms              |            |              |
| Switching Time at<br>Control Voltage Us<br>±10%* <sup>2, *3</sup> | DC Operated   | Make Time                   | 10 - 20ms              |            |              |
| Switt<br>Contr  |   | Release Time                | 10 - 15ms              |            |              |
|   |   | Arc Duration                | 10 - 15ms              |            |              |
| Mech.<br>Life   | AC Operated   |                             | 10 x 10 <sup>6</sup>   |            |              |
| Me  | DC Operated with Dual-Wound COils                         |                             | 10 x 10 <sup>6</sup>   |            |              |
| Curr.<br>Heat<br>Loss   | Power Loss Per Pole (I <sub>e</sub> /AC3 400V)            |                             | 0.7W                   | 1.3W       | 2.0W         |
| ĽŤC   | Contact Resistance Per Pole                               |                             | 1.2mΩ                  | 1.2mΩ      | 1.2mΩ        |
| Shock Resistance acc. to IEC60068-2-27 - 20ms Sine Wave NO        |   | 8g                          |                        |            |              |
| Shock Resis   | tance acc. to IEC600                                      | 68-2-27 - 20ms Sine Wave NC |                        | -          |              |

\*1 With reduced control voltage range 0.9 up to 1.0 x Us and with reduced rated current le / AC1 according to le / AC3

\*<sup>2</sup> Total breaking time = release time + arc duration \*<sup>3</sup> Values for delay of the release time of the make contact and the make time of the break contact will be increased if magnet coils are protected against voltage peaks with integrated suppressor \*<sup>4</sup> Suitable at 690V for earthed-neutral systems, overvoltage category I to IV, pollution degree 3 (standard industry): U<sub>mp</sub>=8kV. Data for other conditions upon request

**Technical Datasheet** 

# **MC Contactors 3 Pole**



### Technical Data continued acc. to IEC / EN 60947-4-1

| Part Number  |   | MC24-S-00+MCA | MC32-S-00+MCA | MC40-S-00+MCA |
|--|---|---------------|---------------|---------------|
| Aux Contact<br>Ratings<br>MCA10 (NO)<br>MCA01 (NC) | AC1 690V $I_e$ (= $I_{th}$ ) open at 40°C | 10A           | 10A           | 10A           |
|  | AC15, 220-240V                            | ЗA            | ЗA            | 3A            |
|  | AC15, 380-440V                            | 2A            | 2A            | 2A            |
|  | Fuse "Typ1" gl. (gG)                      | 20A max.      | 20A max.      | 20A max.      |

NOTE: Maximum number of auxiliaries that can be added to AC operated contactors is 4. Maximum that can be added to DC operated contactors is 3.

#### **Cable Cross Sections**

|                                    | Contacts      | Coils         |
|------------------------------------|---------------|---------------|
| Solid Strand (mm <sup>2</sup> )    | 1.5 - 25.0    | 0.75 - 2.5    |
| Flexible Strand (mm <sup>2</sup> ) | 2.5 - 16.0    | 0.5 - 2.5     |
| Solid Strand (AWG)                 | 16 - 10       | 14 - 12       |
| Flexible Strand (AWG)              | 14 - 4        | 18 - 12       |
| Cables per Clamp                   | 1             | 2             |
| Terminal Screws                    | M5            | M3.5          |
| Screwdriver                        | Pozidrive Pz2 | Pozidrive Pz2 |
| Tightening Torque (Nm)             | 2.5 - 3.0     | 0.8 - 1.4     |
| Tightening Torque (lb.inch)        | 22 - 26       | 7 - 12        |

|                 | AC Operated | DC Operated |
|-----------------|-------------|-------------|
| Operation Range | 0.85 - 1.1  | 0.8 - 1.1   |
| Inrush          | 90 - 115VA  | 140W        |
| Sealed          | 9 - 13VA    | 2W          |

#### Weights & Dimensions

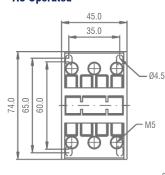
|                              | AC Operated    | DC Operated     |
|------------------------------|----------------|-----------------|
| Single Unit (inc. packaging) | 0.48kg         | 0.55kg          |
| Dimensions                   | 75 x 46 x 88mm | 83 x 46 x 105mm |

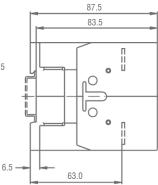
## **Resistance to Climatic Conditions acc. to IEC60068**

Open- type devices are climate-resistant in the constant climate according to IEC60068-2-78 (this is a climate with an ambient temperature of 40°C and an atmospheric humidity of 90 to 95%). Enclosed devices are climate-resistant in an alternating climate according to IEC 68-2-30 (this is a moist alternating climate with a 24-hour cycle between climates with an ambient temperature of 25°C, and an atmospheric humidity of 95 to 100% and an ambient temperature of 40°C, and an atmospheric humidity of 90 to 96% in the presence of condensation during rises in temperature). Note: Maximum operating altitude of 2000m above sea level.

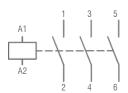
Coil

#### Dimensions (mm) AC Operated

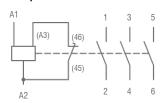




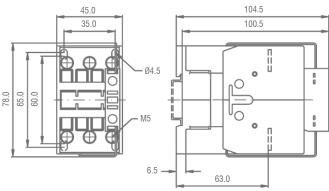
#### Wiring Diagrams AC Operated



#### **DC Operated**



#### DC Operated



#### **Mounting Position**

