

# Installation contactor with manual operation Ex9CHM



- Meet requirements of IEC/EN 61095
- Rated current up to 16, 20, 25, 32, 40, 63 A
- Rated voltage 24, 110, 220-240 V AC
- Rated frequency 50/60 Hz
- 2 or 4-contact versions
- Various contact combinations
- 4 selectable position (O , AUTO , I , I+P)

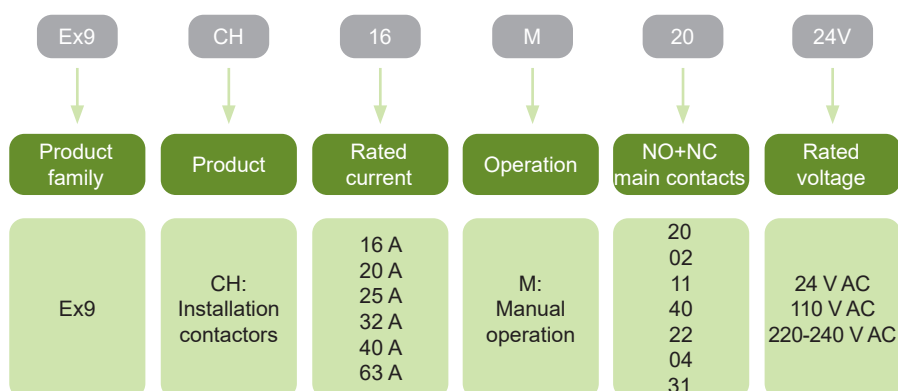
Installation contactors with manual operation Ex9CHM are suitable for household and building modular distribution boards. It is used as remote or manual switch for circuit control under AC-7b and AC-7a application category (e.g. mixers, blenders, fans, central vacuum).

The contactor shall not be used for breaking short-circuit current, therefore it should be used with a proper short-circuit protection device.

The contactor has 4 selectable positions:

- O - permanently OFF
- AUTO - switched while the supply voltage is provided to the coil
- I - manually switched , automatically returns to "AUTO" position after the supply voltage ends
- I+P - permanently ON

## Type Key



## Certification marks



# Installation contactor with manual operation Ex9CHM

## Installation contactors with manual operation 16 A, 2 contacts



| Control voltage | Contacts NO+NC | Article No. | Type                 | Packing  |
|-----------------|----------------|-------------|----------------------|----------|
| 24V AC          | 20             | 111595      | Ex9CH16M 20 24V      | 1/12/120 |
| 24V AC          | 02             | 111596      | Ex9CH16M 02 24V      | 1/12/120 |
| 24V AC          | 11             | 111597      | Ex9CH16M 11 24V      | 1/12/120 |
| 110V AC         | 20             | 111602      | Ex9CH16M 20 110V     | 1/12/120 |
| 110V AC         | 02             | 111603      | Ex9CH16M 02 110V     | 1/12/120 |
| 110V AC         | 11             | 111604      | Ex9CH16M 11 110V     | 1/12/120 |
| 220~240V AC     | 20             | 111609      | Ex9CH16M 20 220-240V | 1/12/120 |
| 220~240V AC     | 02             | 111610      | Ex9CH16M 02 220-240V | 1/12/120 |
| 220~240V AC     | 11             | 111611      | Ex9CH16M 11 220-240V | 1/12/120 |

## Installation contactors with manual operation 16 A, 4 contacts



| Control voltage | Contacts NO+NC | Article No. | Type                 | Packing |
|-----------------|----------------|-------------|----------------------|---------|
| 24V AC          | 40             | 111598      | Ex9CH16M 40 24V      | 1/6/60  |
| 24V AC          | 22             | 111599      | Ex9CH16M 22 24V      | 1/6/60  |
| 24V AC          | 04             | 111600      | Ex9CH16M 04 24V      | 1/6/60  |
| 24V AC          | 31             | 111601      | Ex9CH16M 31 24V      | 1/6/60  |
| 110V AC         | 40             | 111605      | Ex9CH16M 40 110V     | 1/6/60  |
| 110V AC         | 22             | 111606      | Ex9CH16M 22 110V     | 1/6/60  |
| 110V AC         | 04             | 111607      | Ex9CH16M 04 110V     | 1/6/60  |
| 110V AC         | 31             | 111608      | Ex9CH16M 31 110V     | 1/6/60  |
| 220~240V AC     | 40             | 111612      | Ex9CH16M 40 220-240V | 1/6/60  |
| 220~240V AC     | 22             | 111613      | Ex9CH16M 22 220-240V | 1/6/60  |
| 220~240V AC     | 04             | 111614      | Ex9CH16M 04 220-240V | 1/6/60  |
| 220~240V AC     | 31             | 111615      | Ex9CH16M 31 220-240V | 1/6/60  |

# Installation contactor with manual operation Ex9CHM

## Installation contactors with manual operation 20 A, 2 contacts



| Control voltage | Contacts<br>NO+NC | Article No. | Type                 | Packing  |
|-----------------|-------------------|-------------|----------------------|----------|
| 24V AC          | 20                | 111616      | Ex9CH20M 20 24V      | 1/12/120 |
| 24V AC          | 02                | 111617      | Ex9CH20M 02 24V      | 1/12/120 |
| 24V AC          | 11                | 111618      | Ex9CH20M 11 24V      | 1/12/120 |
| 110V AC         | 20                | 111623      | Ex9CH20M 20 110V     | 1/12/120 |
| 110V AC         | 02                | 111624      | Ex9CH20M 02 110V     | 1/12/120 |
| 110V AC         | 11                | 111625      | Ex9CH20M 11 110V     | 1/12/120 |
| 220~240V AC     | 20                | 111630      | Ex9CH20M 20 220-240V | 1/12/120 |
| 220~240V AC     | 02                | 111631      | Ex9CH20M 02 220-240V | 1/12/120 |
| 220~240V AC     | 11                | 111632      | Ex9CH20M 11 220-240V | 1/12/120 |

## Installation contactors with manual operation 20 A, 4 contacts



| Control voltage | Contacts<br>NO+NC | Article No. | Type                 | Packing |
|-----------------|-------------------|-------------|----------------------|---------|
| 24V AC          | 40                | 111619      | Ex9CH20M 40 24V      | 1/6/60  |
| 24V AC          | 22                | 111620      | Ex9CH20M 22 24V      | 1/6/60  |
| 24V AC          | 04                | 111621      | Ex9CH20M 04 24V      | 1/6/60  |
| 24V AC          | 31                | 111622      | Ex9CH20M 31 24V      | 1/6/60  |
| 110V AC         | 40                | 111626      | Ex9CH20M 40 110V     | 1/6/60  |
| 110V AC         | 22                | 111627      | Ex9CH20M 22 110V     | 1/6/60  |
| 110V AC         | 04                | 111628      | Ex9CH20M 04 110V     | 1/6/60  |
| 110V AC         | 31                | 111629      | Ex9CH20M 31 110V     | 1/6/60  |
| 220~240V AC     | 40                | 111633      | Ex9CH20M 40 220-240V | 1/6/60  |
| 220~240V AC     | 22                | 111634      | Ex9CH20M 22 220-240V | 1/6/60  |
| 220~240V AC     | 04                | 111635      | Ex9CH20M 04 220-240V | 1/6/60  |
| 220~240V AC     | 31                | 111636      | Ex9CH20M 31 220-240V | 1/6/60  |

# Installation contactor with manual operation Ex9CHM

## Installation contactors with manual operation 25 A, 2 contacts



| Control voltage | Contacts<br>NO+NC | Article No. | Type                 | Packing  |
|-----------------|-------------------|-------------|----------------------|----------|
| 24V AC          | 20                | 111637      | Ex9CH25M 20 24V      | 1/12/120 |
| 24V AC          | 02                | 111638      | Ex9CH25M 02 24V      | 1/12/120 |
| 24V AC          | 11                | 111639      | Ex9CH25M 11 24V      | 1/12/120 |
| 110V AC         | 20                | 111644      | Ex9CH25M 20 110V     | 1/12/120 |
| 110V AC         | 02                | 111645      | Ex9CH25M 02 110V     | 1/12/120 |
| 110V AC         | 11                | 111646      | Ex9CH25M 11 110V     | 1/12/120 |
| 220~240V AC     | 20                | 111651      | Ex9CH25M 20 220-240V | 1/12/120 |
| 220~240V AC     | 02                | 111652      | Ex9CH25M 02 220-240V | 1/12/120 |
| 220~240V AC     | 11                | 111653      | Ex9CH25M 11 220-240V | 1/12/120 |

## Installation contactors with manual operation 25 A, 4 contacts



| Control voltage | Contacts<br>NO+NC | Article No. | Type                 | Packing |
|-----------------|-------------------|-------------|----------------------|---------|
| 24V AC          | 40                | 111640      | Ex9CH25M 40 24V      | 1/6/60  |
| 24V AC          | 22                | 111641      | Ex9CH25M 22 24V      | 1/6/60  |
| 24V AC          | 04                | 111642      | Ex9CH25M 04 24V      | 1/6/60  |
| 24V AC          | 31                | 111643      | Ex9CH25M 31 24V      | 1/6/60  |
| 110V AC         | 40                | 111647      | Ex9CH25M 40 110V     | 1/6/60  |
| 110V AC         | 22                | 111648      | Ex9CH25M 22 110V     | 1/6/60  |
| 110V AC         | 04                | 111649      | Ex9CH25M 04 110V     | 1/6/60  |
| 110V AC         | 31                | 111650      | Ex9CH25M 31 110V     | 1/6/60  |
| 220~240V AC     | 40                | 111654      | Ex9CH25M 40 220-240V | 1/6/60  |
| 220~240V AC     | 22                | 111655      | Ex9CH25M 22 220-240V | 1/6/60  |
| 220~240V AC     | 04                | 111656      | Ex9CH25M 04 220-240V | 1/6/60  |
| 220~240V AC     | 31                | 111657      | Ex9CH25M 31 220-240V | 1/6/60  |

# Installation contactor with manual operation Ex9CHM

## Installation contactors with manual operation 32 A, 2 contacts



| Control voltage | Contacts NO+NC | Article No. | Type                 | Packing |
|-----------------|----------------|-------------|----------------------|---------|
| 24V AC          | 20             | 111700      | Ex9CH32M 20 24V      | 1/6/60  |
| 24V AC          | 02             | 111701      | Ex9CH32M 02 24V      | 1/6/60  |
| 24V AC          | 11             | 111702      | Ex9CH32M 11 24V      | 1/6/60  |
| 110V AC         | 20             | 111707      | Ex9CH32M 20 110V     | 1/6/60  |
| 110V AC         | 02             | 111708      | Ex9CH32M 02 110V     | 1/6/60  |
| 110V AC         | 11             | 111709      | Ex9CH32M 11 110V     | 1/6/60  |
| 220~240V AC     | 20             | 111714      | Ex9CH32M 20 220-240V | 1/6/60  |
| 220~240V AC     | 02             | 111715      | Ex9CH32M 02 220-240V | 1/6/60  |
| 220~240V AC     | 11             | 111716      | Ex9CH32M 11 220-240V | 1/6/60  |

## Installation contactors with manual operation 32 A, 4 contacts



| Control voltage | Contacts NO+NC | Article No. | Type                 | Packing |
|-----------------|----------------|-------------|----------------------|---------|
| 24V AC          | 40             | 111703      | Ex9CH32M 40 24V      | 1/4/40  |
| 24V AC          | 22             | 111704      | Ex9CH32M 22 24V      | 1/4/40  |
| 24V AC          | 04             | 111705      | Ex9CH32M 04 24V      | 1/4/40  |
| 24V AC          | 31             | 111706      | Ex9CH32M 31 24V      | 1/4/40  |
| 110V AC         | 40             | 111710      | Ex9CH32M 40 110V     | 1/4/40  |
| 110V AC         | 22             | 111711      | Ex9CH32M 22 110V     | 1/4/40  |
| 110V AC         | 04             | 111712      | Ex9CH32M 04 110V     | 1/4/40  |
| 110V AC         | 31             | 111713      | Ex9CH32M 31 110V     | 1/4/40  |
| 220~240V AC     | 40             | 111717      | Ex9CH32M 40 220-240V | 1/4/40  |
| 220~240V AC     | 22             | 111718      | Ex9CH32M 22 220-240V | 1/4/40  |
| 220~240V AC     | 04             | 111719      | Ex9CH32M 04 220-240V | 1/4/40  |
| 220~240V AC     | 31             | 111720      | Ex9CH32M 31 220-240V | 1/4/40  |

# Installation contactor with manual operation Ex9CHM

## Installation contactors with manual operation 40 A, 2 contacts



| Control voltage | Contacts<br>NO+NC | Article No. | Type                 | Packing |
|-----------------|-------------------|-------------|----------------------|---------|
| 24V AC          | 20                | 111658      | Ex9CH40M 20 24V      | 1/6/60  |
| 24V AC          | 02                | 111659      | Ex9CH40M 02 24V      | 1/6/60  |
| 24V AC          | 11                | 111660      | Ex9CH40M 11 24V      | 1/6/60  |
| 110V AC         | 20                | 111665      | Ex9CH40M 20 110V     | 1/6/60  |
| 110V AC         | 02                | 111666      | Ex9CH40M 02 110V     | 1/6/60  |
| 110V AC         | 11                | 111667      | Ex9CH40M 11 110V     | 1/6/60  |
| 220~240V AC     | 20                | 111672      | Ex9CH40M 20 220-240V | 1/6/60  |
| 220~240V AC     | 02                | 111673      | Ex9CH40M 02 220-240V | 1/6/60  |
| 220~240V AC     | 11                | 111674      | Ex9CH40M 11 220-240V | 1/6/60  |

## Installation contactors with manual operation 40 A, 4 contacts



| Control voltage | Contacts<br>NO+NC | Article No. | Type                 | Packing |
|-----------------|-------------------|-------------|----------------------|---------|
| 24V AC          | 40                | 111661      | Ex9CH40M 40 24V      | 1/4/40  |
| 24V AC          | 22                | 111662      | Ex9CH40M 22 24V      | 1/4/40  |
| 24V AC          | 04                | 111663      | Ex9CH40M 04 24V      | 1/4/40  |
| 24V AC          | 31                | 111664      | Ex9CH40M 31 24V      | 1/4/40  |
| 110V AC         | 40                | 111668      | Ex9CH40M 22 110V     | 1/4/40  |
| 110V AC         | 22                | 111669      | Ex9CH40M 22 110V     | 1/4/40  |
| 110V AC         | 04                | 111670      | Ex9CH40M 04 110V     | 1/4/40  |
| 110V AC         | 31                | 111671      | Ex9CH40M 31 110V     | 1/4/40  |
| 220~240V AC     | 40                | 111675      | Ex9CH40M 40 220-240V | 1/4/40  |
| 220~240V AC     | 22                | 111676      | Ex9CH40M 22 220-240V | 1/4/40  |
| 220~240V AC     | 04                | 111677      | Ex9CH40M 04 220-240V | 1/4/40  |
| 220~240V AC     | 31                | 111678      | Ex9CH40M 31 220-240V | 1/4/40  |

# Installation contactor with manual operation Ex9CHM

## Installation contactors with manual operation 63 A, 2 contacts



| Control voltage | Contacts NO+NC | Article No. | Type                 | Packing |
|-----------------|----------------|-------------|----------------------|---------|
| 24V AC          | 20             | 111679      | Ex9CH63M 20 24V      | 1/6/60  |
| 24V AC          | 02             | 111680      | Ex9CH63M 02 24V      | 1/6/60  |
| 24V AC          | 11             | 111681      | Ex9CH63M 11 24V      | 1/6/60  |
| 110V AC         | 20             | 111686      | Ex9CH63M 20 110V     | 1/6/60  |
| 110V AC         | 02             | 111687      | Ex9CH63M 02 110V     | 1/6/60  |
| 110V AC         | 11             | 111688      | Ex9CH63M 11 110V     | 1/6/60  |
| 220~240V AC     | 20             | 111693      | Ex9CH63M 20 220-240V | 1/6/60  |
| 220~240V AC     | 02             | 111694      | Ex9CH63M 02 220-240V | 1/6/60  |
| 220~240V AC     | 11             | 111695      | Ex9CH63M 11 220-240V | 1/6/60  |

## Installation contactors with manual operation 63 A, 4 contacts



| Control voltage | Contacts NO+NC | Article No. | Type                 | Packing |
|-----------------|----------------|-------------|----------------------|---------|
| 24V AC          | 40             | 111682      | Ex9CH63M 40 24V      | 1/4/40  |
| 24V AC          | 22             | 111683      | Ex9CH63M 22 24V      | 1/4/40  |
| 24V AC          | 04             | 111684      | Ex9CH63M 04 24V      | 1/4/40  |
| 24V AC          | 31             | 111685      | Ex9CH63M 31 24V      | 1/4/40  |
| 110V AC         | 40             | 111689      | Ex9CH63M 40 110V     | 1/4/40  |
| 110V AC         | 22             | 111690      | Ex9CH63M 22 110V     | 1/4/40  |
| 110V AC         | 04             | 111691      | Ex9CH63M 04 110V     | 1/4/40  |
| 110V AC         | 31             | 111692      | Ex9CH63M 31 110V     | 1/4/40  |
| 220~240V AC     | 40             | 111696      | Ex9CH63M 40 220-240V | 1/4/40  |
| 220~240V AC     | 22             | 111697      | Ex9CH63M 22 220-240V | 1/4/40  |
| 220~240V AC     | 04             | 111698      | Ex9CH63M 04 220-240V | 1/4/40  |
| 220~240V AC     | 31             | 111699      | Ex9CH63M 31 220-240V | 1/4/40  |

# Technical Data Ex9CHM

## Installation contactors with manual operation

### General parameters

Shall not be used for breaking short-circuit current, therefore it should be used with a proper short-circuit protection device.

Indication window help users to know the status of device

4 adjustable positions ( I , AUTO , O , I+P)

### Electrical parameters

|                                             |              | 16A                              | 20A    | 25A    | 32A    | 40A   | 63A    |
|---------------------------------------------|--------------|----------------------------------|--------|--------|--------|-------|--------|
| Tested according to                         |              | IEC/EN 61095                     |        |        |        |       |        |
| Rated operational voltage $U_e$             |              | 250 (2P), 400 (4P) V             |        |        |        |       |        |
| Rated control power voltage $U_s$           |              | 24 V AC / 110 V AC / 220~240V AC |        |        |        |       |        |
| Rated insulation voltage $U_i$              |              | 500 V                            |        |        |        |       |        |
| Rated impulse withstand voltage $U_{imp}$   |              | 4 kV                             |        |        |        |       |        |
| Rated conventional thermal current $I_{th}$ |              | 25 A                             | 25 A   | 25 A   | 63 A   | 63 A  | 63 A   |
| Rated current $I_n$                         |              |                                  |        |        |        |       |        |
|                                             | AC-7a        | 16 A                             | 20 A   | 25 A   | 32 A   | 40 A  | 63 A   |
|                                             | AC-7b        | 6 A                              | 7 A    | 9 A    | 12 A   | 18 A  | 25 A   |
| Controlled power                            |              |                                  |        |        |        |       |        |
| AC-7a                                       | 250 V        | 3.5 kW                           | 4.5 kW | 5.5 kW | 8 kW   | 9 kW  | 14 kW  |
|                                             | 400 V        | 6 kW                             | 7.5 kW | 9.5 kW | 12 kW  | 15 kW | 24 kW  |
| AC-7b                                       | 250 V        | 1.4 kW                           | 1.6 kW | 2 kW   | 3 kW   | 4 kW  | 5.5 kW |
|                                             | 400 V        | 2.2 kW                           | 2.5 kW | 3.2 kW | 4.5 kW | 6 kW  | 8 kW   |
| Electrical service life                     |              | 80 000 operating cycles          |        |        |        |       |        |
| Number of main contacts                     |              |                                  |        |        |        |       |        |
|                                             | 2P           | 1NO 1NC, 2NO, 2NC                |        |        |        |       |        |
|                                             | 4P           | 2NO 2NC, 3NO 1NC, 4NO, 4NC       |        |        |        |       |        |
| Rated duty system                           |              |                                  |        |        |        |       |        |
|                                             | Intermittent | 30 times/h load factor 40%       |        |        |        |       |        |
|                                             | Eight hours  | basic duty system                |        |        |        |       |        |
| Ambient temperature                         |              | -25 — +70 °C                     |        |        |        |       |        |

### Mechanical parameters

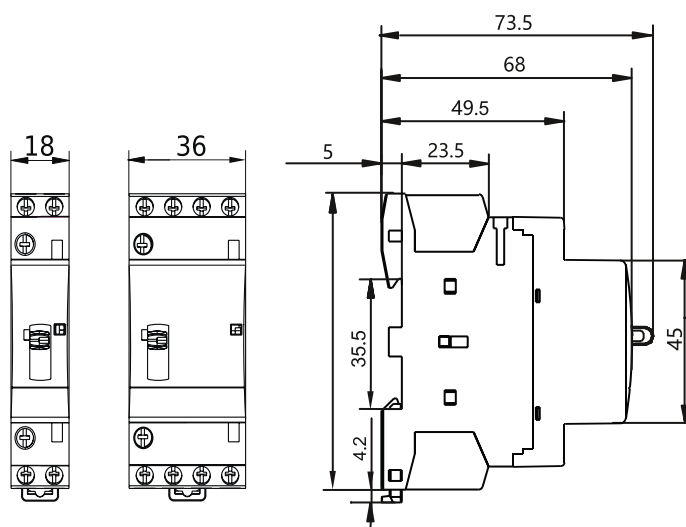
|                                       |               | 16A                                         | 20A | 25A | 32A                                  | 40A | 63A |
|---------------------------------------|---------------|---------------------------------------------|-----|-----|--------------------------------------|-----|-----|
| Frame size                            |               | 45 mm                                       |     |     |                                      |     |     |
| Width (2P / 4P)                       |               | 18 / 36 mm                                  |     |     | 36 / 54 mm                           |     |     |
| Mounting                              |               | easy fastening onto 35 mm device rail (DIN) |     |     |                                      |     |     |
| Degree of protection                  |               | IP20                                        |     |     |                                      |     |     |
| Terminals                             |               | M3.5 screws                                 |     |     | M5 screws                            |     |     |
| Terminal capacity                     |               | 1 — 4 mm <sup>2</sup>                       |     |     | 2.5 — 16 mm <sup>2</sup>             |     |     |
| Fastening torque of terminals         |               | 0.8 Nm                                      |     |     | 3.5 Nm                               |     |     |
| Control coil terminal                 |               | M3.5 screws                                 |     |     |                                      |     |     |
| Fastening torque of control terminals |               | 2 Nm                                        |     |     |                                      |     |     |
| Wiring                                |               |                                             |     |     |                                      |     |     |
| Control circuit                       | Hard wire     | 1.5~2.5 mm <sup>2</sup>                     |     |     | 2×1.5 mm <sup>2</sup>                |     |     |
|                                       | Flexible wire | 1.5~2.5 mm <sup>2</sup>                     |     |     | 2×2.5 mm <sup>2</sup>                |     |     |
| Power circuit                         | Hard wire     | 1.5~6 mm <sup>2</sup>                       |     |     | 6~25 mm <sup>2</sup>                 |     |     |
|                                       | Flexible wire | 1.5~4 mm <sup>2</sup>                       |     |     | 6~16 mm <sup>2</sup>                 |     |     |
| Mechanical service life               |               | 1 000 000 operating cycles                  |     |     |                                      |     |     |
| Pollution degree                      |               | 2                                           |     |     |                                      |     |     |
| Installation class                    |               | II                                          |     |     |                                      |     |     |
| Weight                                |               | 0.119 kg (2 pole), 0.207 kg (4 pole)        |     |     | 0.233 kg (2 pole), 0.336 kg (4 pole) |     |     |

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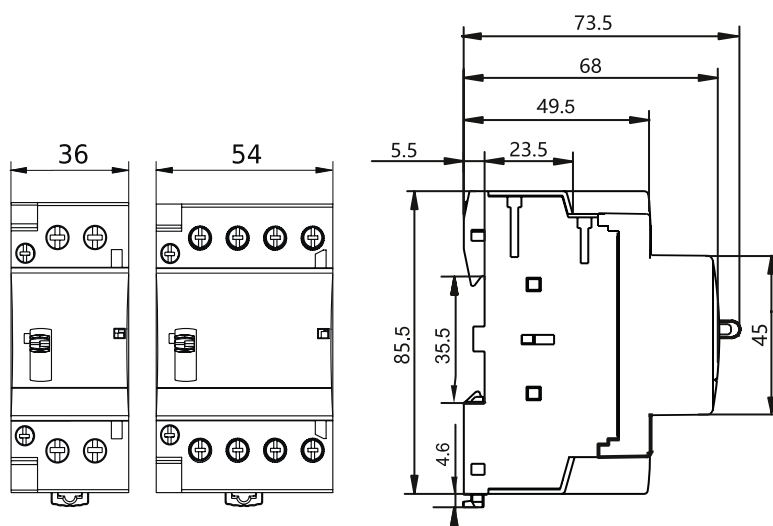
## Installation contactors with manual operation

### Dimensions

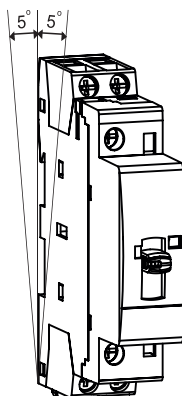
Ex9CH16/20/25M



Ex9CH32/40/63M



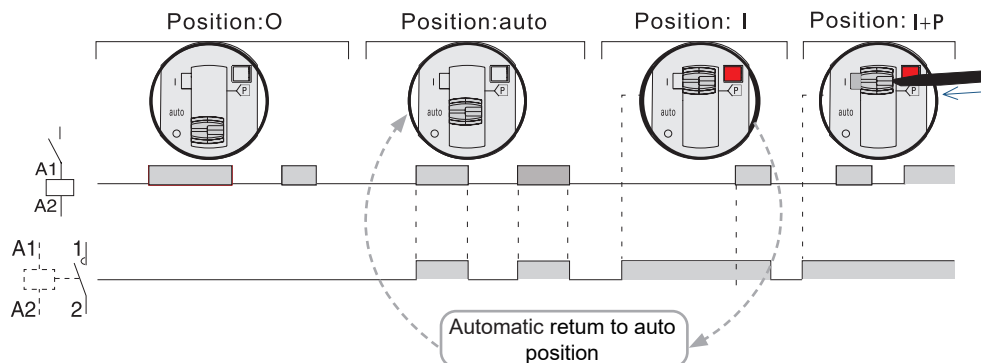
### Mounting position



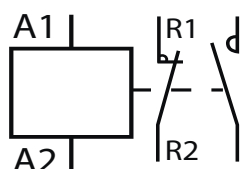
# Technical Data Ex9CHM

## Installation contactors with manual operation

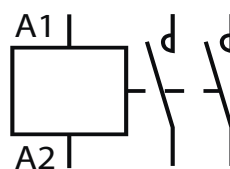
### Operation principles



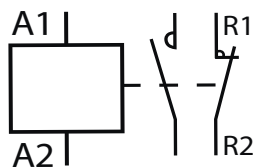
### Wiring diagrams



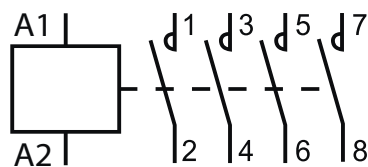
Ex9CH16~25 M  
1NO+1NC



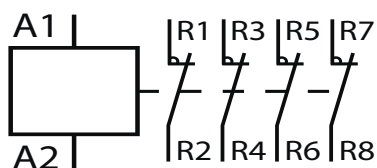
Ex9CH16~63 M  
2NO



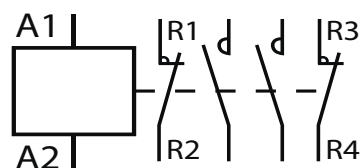
Ex9CH32~63 M  
1NO+1NC



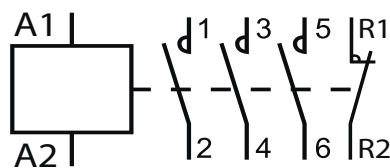
Ex9CH16~63 M  
4NO



Ex9CH16~63 M  
4NC



Ex9CH16~63 M  
2NO+2NC



Ex9CH16~63 M  
3NO+1NC