

### 2 CO forcibly guided contacts relay interface modules, 15.8 mm wide

#### Type 48.12

- 2 CO 8 A
- Screw terminals
- Relay with forcibly guided contacts according to EN 50205 Type B
- 35 mm rail (EN 60715) mounting
- Cadmium-free contact material

48.12

Screw terminal



According to EN 50205 only 1 NO and 1 NC (11-14 and 21-22 or 11-12 and 21-24) shall be used as forcibly guided contacts.

For outline drawing see page 9

#### Contact specification

|                                         |           |             |
|-----------------------------------------|-----------|-------------|
| Contact configuration                   |           | 2 CO (DPDT) |
| Rated current/Maximum peak current      | A         | 8/15        |
| Rated voltage/Maximum switching voltage | V AC      | 250/400     |
| Rated load AC1                          | VA        | 2000        |
| Rated load AC15 (230 V AC)              | VA        | 500         |
| Single phase motor rating (230 V AC)    | kW        | 0.37        |
| Breaking capacity DC1: 30/110/220 V     | A         | 8/0.65/0.2  |
| Minimum switching load                  | mW (V/mA) | 500 (10/10) |
| Standard contact material               |           | AgNi        |

#### Coil specification

|                           |                 |                        |
|---------------------------|-----------------|------------------------|
| Nominal voltage ( $U_N$ ) | V AC (50/60 Hz) | —                      |
|                           | V DC            | 12 - 24                |
| Rated power AC/DC         | VA (50 Hz)/W    | —/0.7                  |
| Operating range           | AC              | —                      |
|                           | DC              | $(0.75 \dots 1.2) U_N$ |
| Holding voltage           | AC/DC           | $—/0.4 U_N$            |
| Must drop-out voltage     | AC/DC           | $—/0.1 U_N$            |

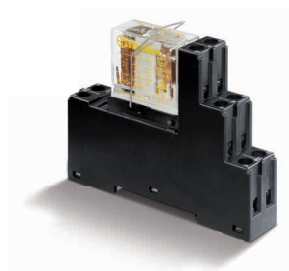
#### Technical data

|                                                       |        |                   |
|-------------------------------------------------------|--------|-------------------|
| Mechanical life AC/DC                                 | cycles | $—/10 \cdot 10^6$ |
| Electrical life at rated load AC1                     | cycles | $100 \cdot 10^3$  |
| Operate/release time                                  | ms     | 10/4              |
| Insulation between coil and contacts (1.2/50 $\mu$ s) | kV     | 6 (8 mm)          |
| Dielectric strength between open contacts             | V AC   | 1500              |
| Ambient temperature range                             | °C     | $-40 \dots +70$   |
| Protection category                                   |        | IP 20             |

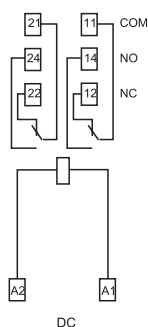
Approvals relay (according to type)



48.12



- 2 CO 8 A
- Forcibly guided contacts relay
- Screw terminals



**1 CO relay interface modules,  
15.8 mm wide**
**Ideal interface for PLC and electronic systems**
**Type 48.P3**

- 1 CO 10 A
- Push-in terminals

**Type 48.31**

- 1 CO 10 A
- Screw terminals

- AC coils or DC sensitive coils
- Supply status indication and EMC coil suppression module as standard
- Identification label
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting
- Cadmium-free contact material

48.P3  
Push-in terminal

48.31  
Screw terminal


For outline drawing see page 9

**Contact specification**

| Contact configuration                       |           | 1 CO (SPDT) | 1 CO (SPDT) |
|---------------------------------------------|-----------|-------------|-------------|
| Rated current/Maximum peak current          | A         | 10/20       | 10/20       |
| Rated voltage/<br>Maximum switching voltage | V AC      | 250/400     | 250/400     |
| Rated load AC1                              | VA        | 2500        | 2500        |
| Rated load AC15 (230 V AC)                  | VA        | 500         | 500         |
| Single phase motor rating (230 V AC)        | kW        | 0.37        | 0.37        |
| Breaking capacity DC1: 30/110/220 V         | A         | 10/0.3/0.12 | 10/0.3/0.12 |
| Minimum switching load                      | mW (V/mA) | 300 (5/5)   | 300 (5/5)   |
| Standard contact material                   |           | AgNi        | AgNi        |

**Coil specification**

|                           |                 |                           |                           |
|---------------------------|-----------------|---------------------------|---------------------------|
| Nominal voltage ( $U_N$ ) | V AC (50/60 Hz) | 12 - 24 - 110 - 120 - 230 | 12 - 24 - 110 - 120 - 230 |
|                           | V DC            | 12 - 24 - 125             | 12 - 24 - 125             |
| Rated power AC/sens. DC   | VA (50 Hz)/W    | 1.2/0.5                   | 1.2/0.5                   |
| Operating range           | AC              | $(0.8 \dots 1.1) U_N$     | $(0.8 \dots 1.1) U_N$     |
|                           | sens. DC        | $(0.73 \dots 1.5) U_N$    | $(0.73 \dots 1.5) U_N$    |
| Holding voltage           | AC/DC           | $0.8 U_N / 0.4 U_N$       | $0.8 U_N / 0.4 U_N$       |
| Must drop-out voltage     | AC/DC           | $0.2 U_N / 0.1 U_N$       | $0.2 U_N / 0.1 U_N$       |

**Technical data**

|                                                       |        |                       |                       |
|-------------------------------------------------------|--------|-----------------------|-----------------------|
| Mechanical life                                       | cycles | $10 \cdot 10^6$       | $10 \cdot 10^6$       |
| Electrical life at rated load AC1                     | cycles | $200 \cdot 10^3$      | $200 \cdot 10^3$      |
| Operate/release time                                  | ms     | 7/4 (AC) - 12/12 (DC) | 7/4 (AC) - 12/12 (DC) |
| Insulation between coil and contacts (1.2/50 $\mu$ s) | kV     | 6 (8 mm)              | 6 (8 mm)              |
| Dielectric strength between open contacts             | V AC   | 1000                  | 1000                  |
| Ambient temperature range                             | °C     | -40...+70             | -40...+70             |
| Protection category                                   |        | IP 20                 | IP 20                 |

**Approvals relay** (according to type)


**2 CO relay interface modules,  
15.8 mm wide**

**Ideal interface for PLC and electronic systems**

### Type 48.P5

- 2 CO 8 A
- Push-in terminals

### Type 48.52

- 2 CO 8 A
- Screw terminals

- AC coils or DC sensitive coils
- Supply status indication and EMC coil suppression module as standard
- Identification label
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting
- Cadmium-free contact material

48.P5

Push-in terminal



48.52

Screw terminal



For outline drawing see page 9

### Contact specification

| Contact configuration                       |           | 2 CO (DPDT) | 2 CO (DPDT) |
|---------------------------------------------|-----------|-------------|-------------|
| Rated current/Maximum peak current          | A         | 8/15        | 8/15        |
| Rated voltage/<br>Maximum switching voltage | V AC      | 250/250     | 250/250     |
| Rated load AC1                              | VA        | 2000        | 2000        |
| Rated load AC15 (230 V AC)                  | VA        | 400         | 400         |
| Single phase motor rating (230 V AC)        | kW        | 0.3         | 0.3         |
| Breaking capacity DC1: 30/110/220 V         | A         | 8/0.3/0.12  | 8/0.3/0.12  |
| Minimum switching load                      | mW (V/mA) | 300 (5/5)   | 300 (5/5)   |
| Standard contact material                   |           | AgNi        | AgNi        |

### Coil specification

|                           |                 |                           |                           |
|---------------------------|-----------------|---------------------------|---------------------------|
| Nominal voltage ( $U_N$ ) | V AC (50/60 Hz) | 12 - 24 - 110 - 120 - 230 | 12 - 24 - 110 - 120 - 230 |
|                           | V DC            | 12 - 24 - 125             | 12 - 24 - 125             |
| Rated power AC/sens. DC   | VA (50 Hz)/W    | 1.2/0.5                   | 1.2/0.5                   |
| Operating range           | AC              | $(0.8 \dots 1.1) U_N$     | $(0.8 \dots 1.1) U_N$     |
|                           | sens. DC        | $(0.73 \dots 1.5) U_N$    | $(0.73 \dots 1.5) U_N$    |
| Holding voltage           | AC/DC           | $0.8 U_N / 0.4 U_N$       | $0.8 U_N / 0.4 U_N$       |
| Must drop-out voltage     | AC/DC           | $0.2 U_N / 0.1 U_N$       | $0.2 U_N / 0.1 U_N$       |

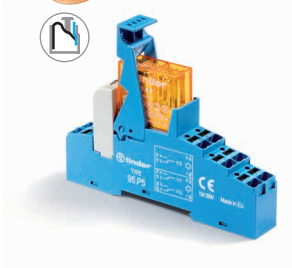
### Technical data

|                                                          |              |                       |                       |
|----------------------------------------------------------|--------------|-----------------------|-----------------------|
| Mechanical life                                          | cycles       | $10 \cdot 10^6$       | $10 \cdot 10^6$       |
| Electrical life at rated load AC1                        | cycles       | $100 \cdot 10^3$      | $100 \cdot 10^3$      |
| Operate/release time                                     | ms           | 7/4 (AC) - 12/12 (DC) | 7/4 (AC) - 12/12 (DC) |
| Insulation between coil<br>and contacts (1.2/50 $\mu$ s) | kV           | 6 (8 mm)              | 6 (8 mm)              |
| Dielectric strength<br>between open contacts             | V AC         | 1000                  | 1000                  |
| Ambient temperature range                                | $^{\circ}$ C | -40...+70             | -40...+70             |
| Protection category                                      |              | IP 20                 | IP 20                 |

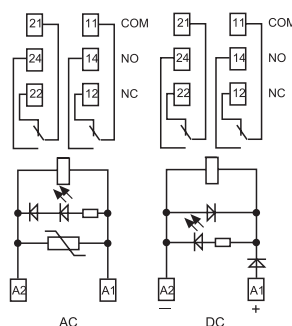
**Approvals relay** (according to type)



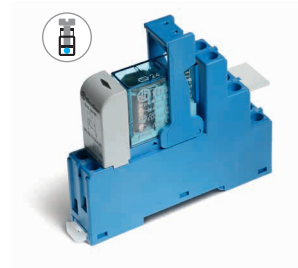
**NEW 48.P5**



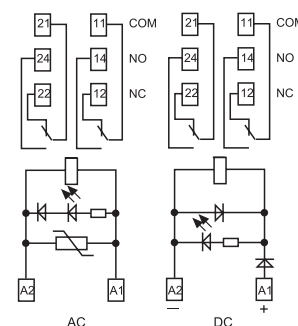
- 2 CO 8 A
- Push-in terminals



**48.52**



- 2 CO 8 A
- Screw terminals



**1 CO relay interface modules,  
15.8 mm wide**
**Ideal interface for PLC and electronic systems**
**Type 48.P6**

- 1 CO 16 A
- Push-in terminals

**Type 48.61**

- 1 CO 16 A
- Screw terminals

- AC coils or DC sensitive coils
- Supply status indication and EMC coil suppression module as standard
- Identification label
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting
- Cadmium-free contact material available

48.P6  
Push-in terminal

48.61  
Screw terminal


For outline drawing see page 9

**Contact specification**

|                                             |           | 1 CO (SPDT) | 1 CO (SPDT) |
|---------------------------------------------|-----------|-------------|-------------|
| Contact configuration                       |           | 1 CO (SPDT) | 1 CO (SPDT) |
| Rated current/Maximum peak current          | A         | 16*/30      | 16*/30      |
| Rated voltage/<br>Maximum switching voltage | V AC      | 250/400     | 250/400     |
| Rated load AC1                              | VA        | 4000        | 4000        |
| Rated load AC15 (230 V AC)                  | VA        | 750         | 750         |
| Single phase motor rating (230 V AC)        | kW        | 0.55        | 0.55        |
| Breaking capacity DC1: 30/110/220 V         | A         | 16/0.3/0.12 | 16/0.3/0.12 |
| Minimum switching load                      | mW (V/mA) | 500 (10/5)  | 500 (10/5)  |
| Standard contact material                   |           | AgCdO       | AgCdO       |

**Coil specification**

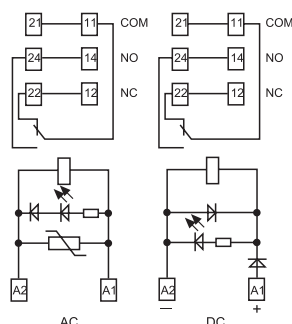
|                           |                 |                           |                           |
|---------------------------|-----------------|---------------------------|---------------------------|
| Nominal voltage ( $U_N$ ) | V AC (50/60 Hz) | 12 - 24 - 110 - 120 - 230 | 12 - 24 - 110 - 120 - 230 |
|                           | V DC            | 12 - 24 - 125             | 12 - 24 - 125             |
| Rated power AC/sens. DC   | VA (50 Hz)/W    | 1.2/0.5                   | 1.2/0.5                   |
| Operating range           | AC              | $(0.8 \dots 1.1) U_N$     | $(0.8 \dots 1.1) U_N$     |
|                           | sens. DC        | $(0.8 \dots 1.5) U_N$     | $(0.8 \dots 1.5) U_N$     |
| Holding voltage           | AC/DC           | $0.8 U_N / 0.4 U_N$       | $0.8 U_N / 0.4 U_N$       |
| Must drop-out voltage     | AC/DC           | $0.2 U_N / 0.1 U_N$       | $0.2 U_N / 0.1 U_N$       |

**Technical data**

|                                                       |        |                       |                       |
|-------------------------------------------------------|--------|-----------------------|-----------------------|
| Mechanical life                                       | cycles | $10 \cdot 10^6$       | $10 \cdot 10^6$       |
| Electrical life at rated load AC1                     | cycles | $100 \cdot 10^3$      | $100 \cdot 10^3$      |
| Operate/release time                                  | ms     | 7/4 (AC) - 12/12 (DC) | 7/4 (AC) - 12/12 (DC) |
| Insulation between coil and contacts (1.2/50 $\mu$ s) | kV     | 6 (8 mm)              | 6 (8 mm)              |
| Dielectric strength between open contacts             | V AC   | 1000                  | 1000                  |
| Ambient temperature range                             | °C     | -40...+70             | -40...+70             |
| Protection category                                   |        | IP 20                 | IP 20                 |

**Approvals relay** (according to type)

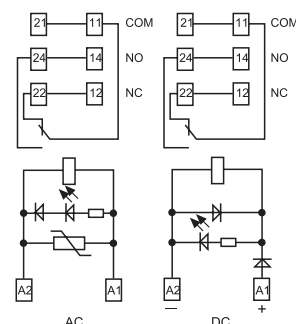

- 1 CO 16 A
- Push-in terminals



\* For currents > 10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).



- 1 CO 16 A
- Screw terminals



\* For currents > 10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).

### 2 CO relay interface modules, 15.8 mm wide

Ideal interface for PLC and electronic systems

#### Type 48.P8

- 2 CO 10 A
- Push-in terminals

#### Type 48.62

- 2 CO 10 A
- Screw terminals
- DC sensitive coils
- Supply status indication and EMC coil suppression module as standard
- Identification label
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting
- Cadmium-free contact material

48.P8

Push-in terminal



48.62

Screw terminal



For outline drawing see page 9

#### Contact specification

| Contact configuration                       |           | 2 CO (DPDT) | 2 CO (DPDT) |
|---------------------------------------------|-----------|-------------|-------------|
| Rated current/Maximum peak current          | A         | 10/20       | 10/20       |
| Rated voltage/<br>Maximum switching voltage | V AC      | 250/400     | 250/400     |
| Rated load AC1                              | VA        | 2500        | 2500        |
| Rated load AC15 (230 V AC)                  | VA        | 500         | 500         |
| Single phase motor rating (230 V AC)        | kW        | 0.37        | 0.37        |
| Breaking capacity DC1: 30/110/220 V         | A         | 10/0.3/0.12 | 10/0.3/0.12 |
| Minimum switching load                      | mW (V/mA) | 300 (5/5)   | 300 (5/5)   |
| Standard contact material                   |           | AgNi        | AgNi        |

#### Coil specification

|                           |                 |                       |                       |
|---------------------------|-----------------|-----------------------|-----------------------|
| Nominal voltage ( $U_N$ ) | V AC (50/60 Hz) | —                     | —                     |
|                           | V DC            | 12 - 24 - 125         | 12 - 24 - 125         |
| Rated power AC/sens. DC   | VA (50 Hz)/W    | —/0.5                 | —/0.5                 |
| Operating range           | AC              | —                     | —                     |
|                           | sens. DC        | $(0.8 \dots 1.5) U_N$ | $(0.8 \dots 1.5) U_N$ |
| Holding voltage           | AC/DC           | —/0.4 $U_N$           | —/0.4 $U_N$           |
| Must drop-out voltage     | AC/DC           | —/0.1 $U_N$           | —/0.1 $U_N$           |

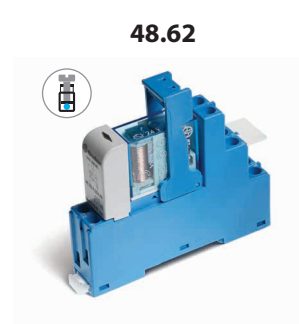
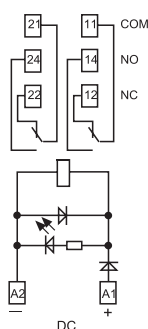
#### Technical data

|                                                          |        |                  |                  |
|----------------------------------------------------------|--------|------------------|------------------|
| Mechanical life                                          | cycles | $20 \cdot 10^6$  | $20 \cdot 10^6$  |
| Electrical life at rated load AC1                        | cycles | $100 \cdot 10^3$ | $100 \cdot 10^3$ |
| Operate/release time                                     | ms     | 12/12 (DC)       | 12/12 (DC)       |
| Insulation between coil<br>and contacts (1.2/50 $\mu$ s) | kV     | 6 (8 mm)         | 6 (8 mm)         |
| Dielectric strength<br>between open contacts             | V AC   | 1000             | 1000             |
| Ambient temperature range                                | °C     | -40...+70        | -40...+70        |
| Protection category                                      |        | IP 20            | IP 20            |

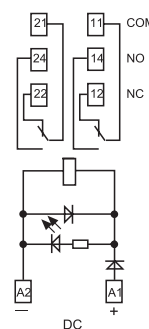
Approvals relay (according to type)



- 2 CO 10 A
- Push-in terminals



- 2 CO 10 A
- Screw terminals



## Ordering information

Example: 48 series, 35 mm rail (EN 60715) mount, Push-in terminal relay interface module, 2 CO 8 A contacts, 24 V sensitive DC coil, green LED + diode, 99.02 coil indication.

B

4

8

.

P

5

.

7

.

0

2

4

.

0

0

5

0

**Series**

**Type**

Screw terminal

1 = 35 mm rail (EN 60715) mount, forcibly guided contacts relay

3 = 35 mm rail (EN 60715) mount

5 = 35 mm rail (EN 60715) mount

6 = 35 mm rail (EN 60715) mount

Push-in terminal

P = 35 mm rail (EN 60715) mount

**Type**

Screw terminal

1 = for 48.31, 10 A

48.61, 16 A

2 = for 48.12 (DC only), 48.52, 8 A

48.62 (DC only), 10 A

Push-in terminal

3 = for 48.P3, 10 A

5 = for 48.P5, 8 A

6 = for 48.P6, 16 A

8 = for 48.P8 (DC only), 10 A

**Coil version**

7 = Sensitive DC

8 = AC (50/60 Hz)

9 = DC (for 48.12 only)

**Coil voltage**

See coil specifications

**A: Contact material**

0 = Standard AgNi for 48.P3/P5/P8/31/52/62

AgCdO, Standard for 48.P6/61

1 = AgNi, for 48.12

4 = AgSnO<sub>2</sub>, for 48.P6/P8/61/62 only

5 = AgNi + Au, for 48.P3/P5/31/52 only

**B: Contact circuit**

0 = CO (nPDT)

**D: Special versions**

0 = Standard

2 = Standard (for 48.12 only)

**C: Options**

0 = Standard (for 48.12 only)

5 = Standard for DC: green LED + diode (polarity +A1)

6 = Standard for AC: green LED + Varistor

**Selecting features and options: only combinations in the same row are possible.**  
Preferred selections for best availability are shown in **bold**.

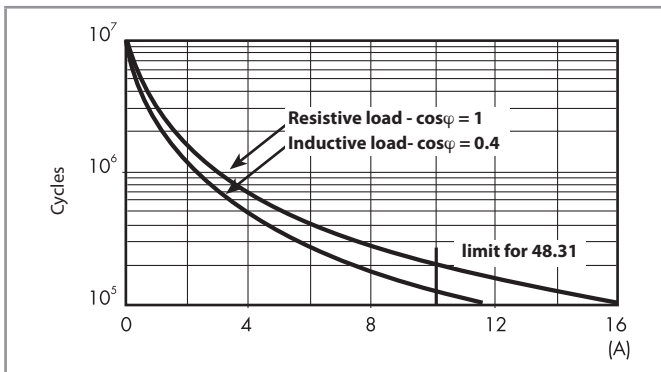
| Type           | Coil version | A            | B        | C        | D        |
|----------------|--------------|--------------|----------|----------|----------|
| 48.12          | DC           | <b>1</b>     | <b>0</b> | <b>0</b> | <b>2</b> |
| 48.P3/P5/31/52 | AC           | <b>0 - 5</b> | 0        | <b>6</b> | 0        |
| 48.P3/P5/31/52 | Sensitive DC | <b>0 - 5</b> | 0        | <b>5</b> | 0        |
| 48.P6/61       | AC           | <b>0 - 4</b> | 0        | <b>6</b> | 0        |
| 48.P6/61       | Sensitive DC | <b>0 - 4</b> | 0        | <b>5</b> | 0        |
| 48.P8/62       | Sensitive DC | <b>0 - 4</b> | 0        | <b>5</b> | 0        |

## Technical data

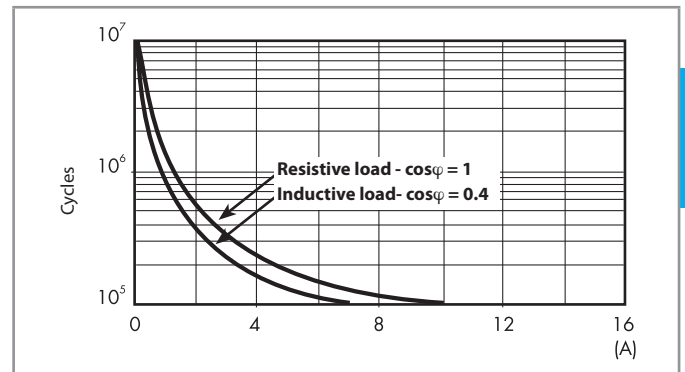
| Insulation                                                                                                                   |                                 | 48.12/31/61/P3/P6                     | 48.52/P5                      | 48.12/31/61/62/P3/P6/P8 |                 |                 |
|------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------|-----------------|-----------------|
| Insulation according to EN 61810-1                                                                                           | insulation rated voltage        | V 250                                 | 250                           | 400                     |                 |                 |
|                                                                                                                              | rated impulse withstand voltage | kV 4                                  | 4                             | 4                       |                 |                 |
|                                                                                                                              | pollution degree                | 3                                     | 2                             | 2                       |                 |                 |
|                                                                                                                              | overvoltage category            | III                                   | III                           | III                     |                 |                 |
| Insulation between coil and contacts (1.2/50 μs)                                                                             |                                 | kV 6 (8 mm)                           |                               |                         |                 |                 |
| Dielectric strength between open contacts                                                                                    |                                 | V AC 1000; 1500 (48.12)               |                               |                         |                 |                 |
| Dielectric strength between adjacent contacts                                                                                |                                 | V AC 2000 (48.P5/52); 2500 (48.12/P6) |                               |                         |                 |                 |
| Conducted disturbance immunity                                                                                               |                                 |                                       |                               |                         |                 |                 |
| Burst (5...50)ns, 5 kHz, on A1 - A2                                                                                          |                                 | EN 61000-4-4                          |                               | level 4 (4 kV)          |                 |                 |
| Surge (1.2/50 μs) on A1 - A2 (differential mode)                                                                             |                                 | EN 61000-4-5                          |                               | level 3 (2 kV)          |                 |                 |
| Other data                                                                                                                   |                                 |                                       |                               |                         |                 |                 |
| Bounce time: NO/NC                                                                                                           |                                 | ms 2/5; 2/10 (48.12)                  |                               |                         |                 |                 |
| Vibration resistance (10...200)Hz: NO/NC                                                                                     |                                 | g 20/5 (for 1 pole)                   | 15/3; 20/6 (48.12) for 2 pole |                         |                 |                 |
| Power lost to the environment                                                                                                | without contact current         | W 0.7                                 |                               |                         |                 |                 |
|                                                                                                                              | with rated current              | W 1.2 (48.12/31/P3)                   | 1.3 (48.52/P5)                | 1.2 (48.61/62/P6/P8)    |                 |                 |
| Wire strip length                                                                                                            |                                 | mm 8                                  |                               |                         |                 |                 |
|  Screw torque (only for 48.12/31/52/61/81) |                                 | Nm 0.5                                |                               |                         |                 |                 |
| Max. wire size                                                                                                               |                                 | Screw terminal                        |                               | Push-in terminal        |                 |                 |
|                                                                                                                              |                                 | solid cable                           | stranded cable                | solid cable             | stranded cable  |                 |
|                                                                                                                              |                                 | mm²                                   | 1 x 6 / 2 x 2.5               | 1 x 4 / 2 x 2.5         | 2 x (0.5...1.5) | 2 x (0.5...1.5) |
|                                                                                                                              |                                 | AWG                                   | 1 x 10 / 2 x 14               | 1 x 12 / 2 x 14         | 2 x (21...18)   | 2 x (21...18)   |

## Contact specification

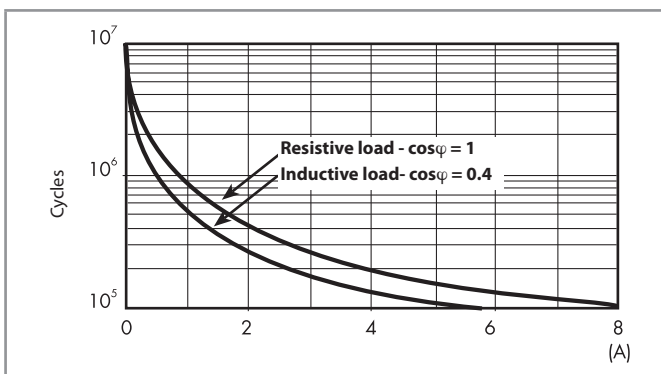
**F 48 - Electrical life (AC) v contact current**  
Types 48.P3/P6/31/61



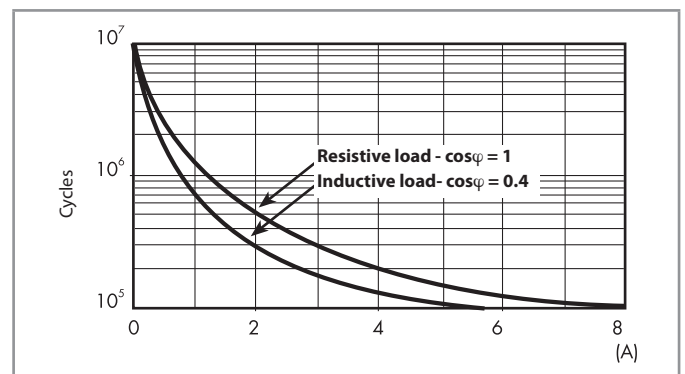
**F 48 - Electrical life (AC) v contact current**  
Types 48.P8/62



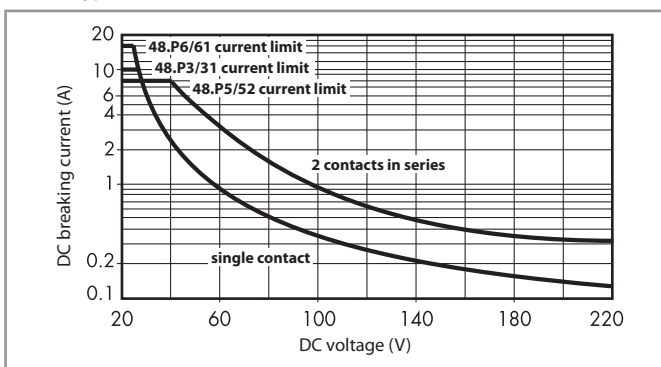
**F 48 - Electrical life (AC) v contact current**  
Types 48.P5/52



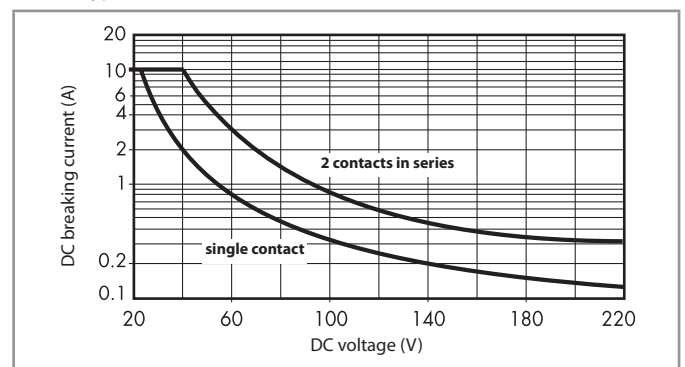
**F 48 - Electrical life (AC) v contact current**  
Type 48.12



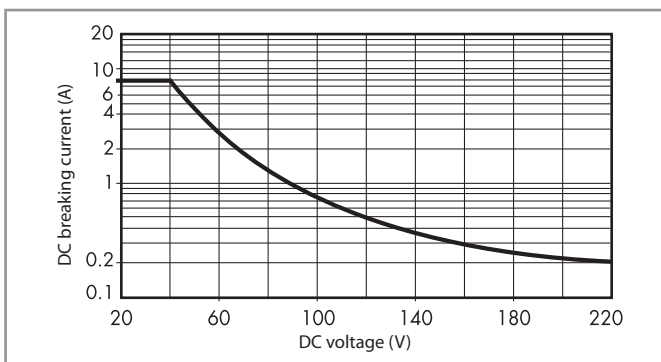
**H 48 - Maximum DC1 breaking capacity**  
Types 48.P3/P5/P6/31/52/61



**H 48 - Maximum DC1 breaking capacity**  
Types 48.P8/62



**H 48 - Maximum DC1 breaking capacity**  
Type 48.12



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of  $\geq 100 \cdot 10^3$  can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.  
Note: the release time for the load will be increased.

## Coil specifications

## DC coil data (0.5 W sensitive)

| Nominal voltage<br>$U_N$ | Coil code | Operating range |           | Rated coil consumption<br>I at $U_N$ |
|--------------------------|-----------|-----------------|-----------|--------------------------------------|
| V                        |           | $U_{min}^*$     | $U_{max}$ |                                      |
| V                        |           | V               | V         | mA                                   |
| 12                       | 7.012     | 8.8             | 18        | 41                                   |
| 24                       | 7.024     | 17.5            | 36        | 22.2                                 |
| 125                      | 7.125     | 91              | 188       | 4                                    |

\*  $U_{min} = 0.8 U_N$  for 48.61, 48.62, 48.P6, 48.P8

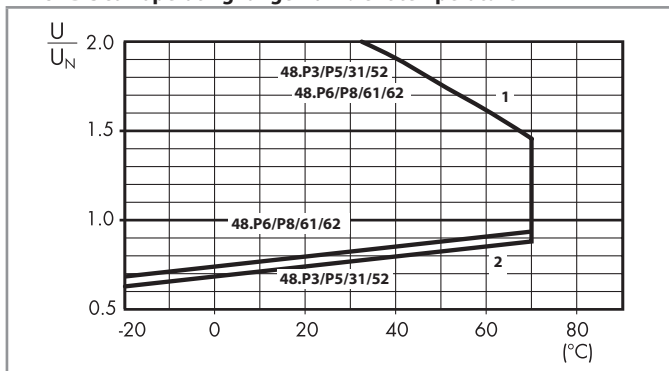
## AC coil data

| Nominal voltage<br>$U_N$ | Coil code | Operating range |           | Rated coil consumption<br>I at $U_N$ (50 Hz) |
|--------------------------|-----------|-----------------|-----------|----------------------------------------------|
| V                        |           | $U_{min}$       | $U_{max}$ |                                              |
| V                        |           | V               | V         | mA                                           |
| 12                       | 8.012     | 9.6             | 13.2      | 90.5                                         |
| 24                       | 8.024     | 19.2            | 26.4      | 46                                           |
| 110                      | 8.110     | 88              | 121       | 10.1                                         |
| 120                      | 8.120     | 96              | 132       | 11.8                                         |
| 230                      | 8.230     | 184             | 253       | 7.0                                          |

## DC coil data, 2 pole relay - Type 48.12

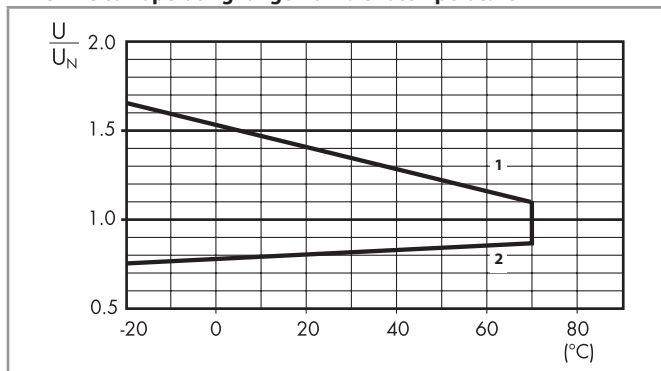
| Nominal voltage<br>$U_N$ | Coil code | Operating range |           | Resistance<br>R | Rated coil consumption<br>I at $U_N$ |
|--------------------------|-----------|-----------------|-----------|-----------------|--------------------------------------|
| V                        |           | $U_{min}$       | $U_{max}$ | $\Omega$        | mA                                   |
| V                        |           | V               | V         | $\Omega$        | mA                                   |
| 12                       | 9.012     | 9               | 14.4      | 205             | 58.5                                 |
| 24                       | 9.024     | 18              | 28.8      | 820             | 29.3                                 |

## R 48 - DC coil operating range v ambient temperature



- 1 - Max. permitted coil voltage.  
2 - Min. pick-up voltage with coil at ambient temperature.

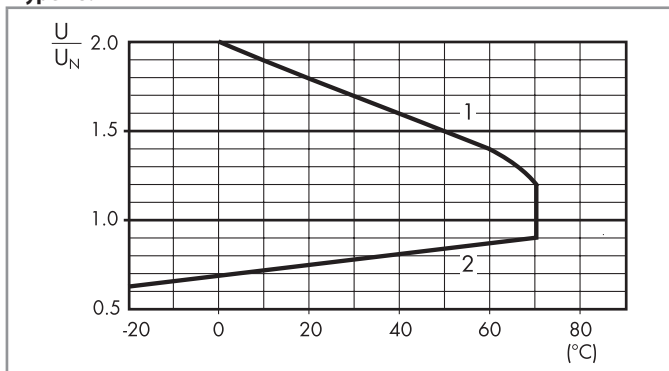
## R 48 - AC coil operating range v ambient temperature



- 1 - Max. permitted coil voltage.  
2 - Min. pick-up voltage with coil at ambient temperature.

## R 48 - DC coil operating range v ambient temperature

## Type 48.12



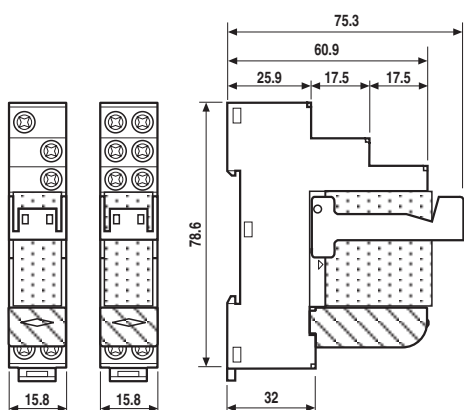
- 1 - Max. permitted coil voltage.  
2 - Min. pick-up voltage with coil at ambient temperature.



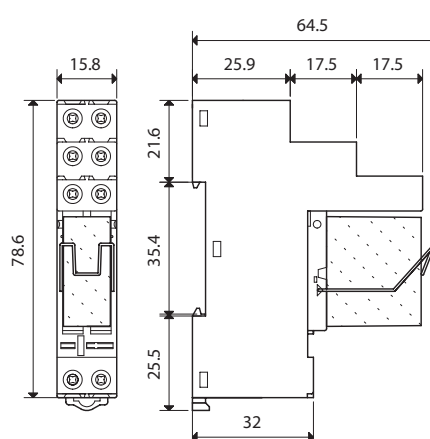
## Combinations

| Code  | Type of socket | Type of relay | Module | Retaining clip |
|-------|----------------|---------------|--------|----------------|
| 48.12 | 95.05.0        | 50.12         | —      | 095.71         |
| 48.31 | 95.03          | 40.31         | 99.02  | 095.01         |
| 48.52 | 95.05          | 40.52         | 99.02  | 095.01         |
| 48.61 | 95.05          | 40.61         | 99.02  | 095.01         |
| 48.62 | 95.05          | 44.62         | 99.02  | 095.01         |
| 48.P3 | 95.P3          | 40.31         | 99.02  | 095.91.3       |
| 48.P5 | 95.P5          | 40.52         | 99.02  | 095.91.3       |
| 48.P6 | 95.P5          | 40.61         | 99.02  | 095.91.3       |
| 48.P8 | 95.P5          | 44.62         | 99.02  | 095.91.3       |

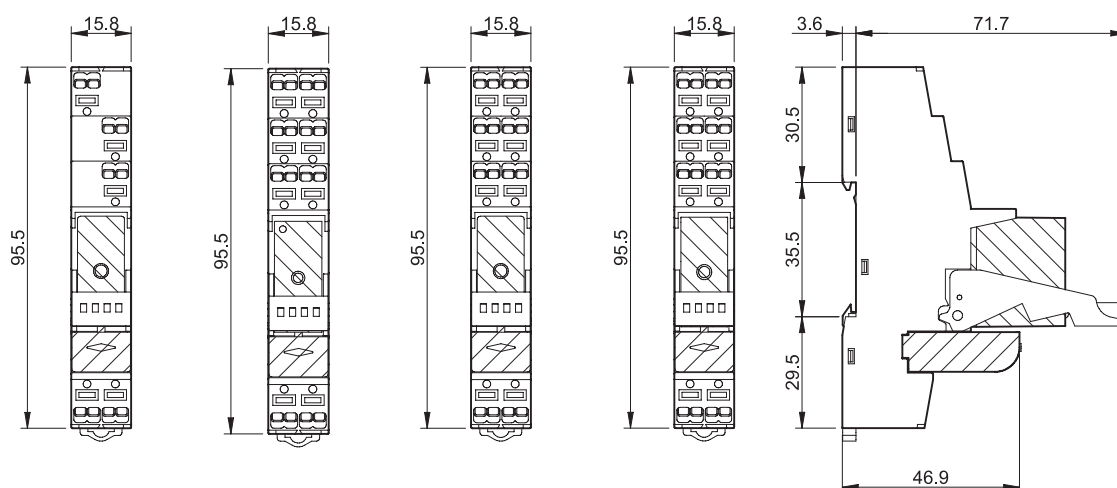
## Outline drawing



48.31 48.52 / 48.61 / 48.62  
Screw terminal



48.12  
Screw terminal



48.P3 48.P5 48.P6 48.P8  
Push-in terminal



## Accessories



097.58



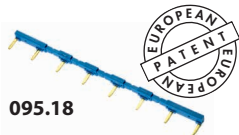
097.52



097.42



097.00



095.18



060.48



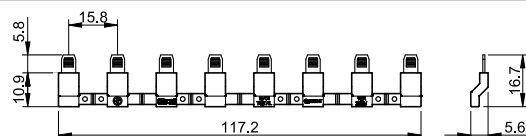
060.72

**8-way jumper link for type 48.P3/P5/P6/P8**

097.58

Rated values

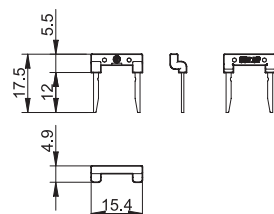
10 A - 250 V

**2-way jumper link for type 48.P3/P5/P6/P8**

097.52

Rated values

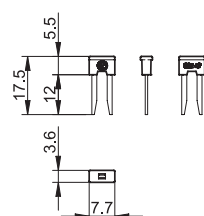
10 A - 250 V

**2-way jumper link for type 48.P3/P5/P6/P8**

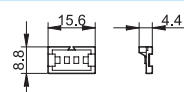
097.42

Rated values

10 A - 250 V

**Marker tag holder for type 48.P3/P5/P6/P8 and 48.12/31/52/61/62**

097.00

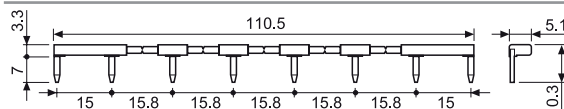
**8-way jumper link for screw terminal version**

095.18 (blue)

095.18.0 (black)

Rated values

10 A - 250 V

**Sheet of marker tags (CEMBRE'S Thermal transfer printers), plastic, 48 tags, 6 x 12 mm**

060.48

**Sheet of marker tags (plotter printing), plastic, 72 tags, 6 x 12 mm**

060.72

## Packaging codes

How to code and identify retaining clip and packaging options for sockets.

Example:

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 8 | . | P | 5 | . | 7 | . | 0 | 2 | 4 | . | 0 | 0 | 5 | 0 | S | P | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**A** Standard packaging  
**B** Blister packaging

**SP** Plastic retaining clip