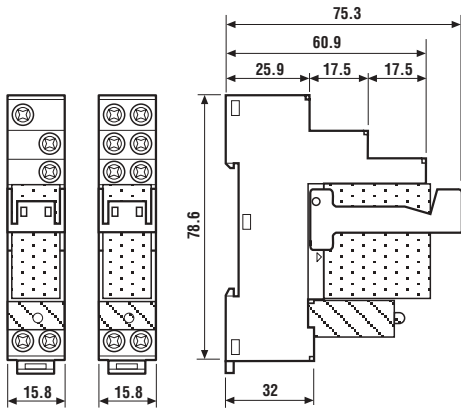


- Relay interface modules for use with PLC systems, 15.8 mm wide
- AC or sensitive DC coil versions available
- Instant removal of relay using plastic retaining clip
- Supply status indication or coil suppression module provided
- Identification label
- 35 mm rail (EN 50022) mounting



48.31 48.52/61

\* For 400 V applications, where requirements for pollution degree 2 are met.

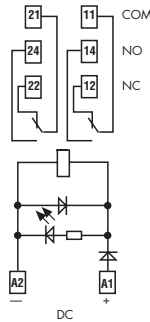
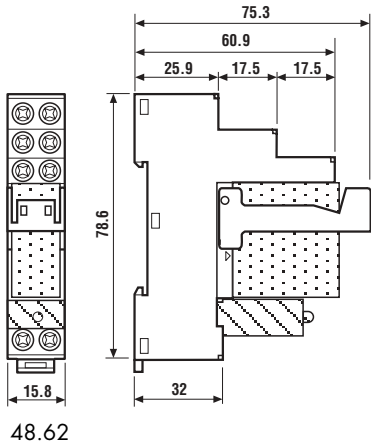
	48.31	48.52	48.61
	- 1 pole, 10 A - 35 mm rail mounting	- 2 pole, 8 A - 35 mm rail mounting	- 1 pole, 16 A - 35 mm rail mounting
<b>Contact specifications</b>			
Contact configuration	1 CO (SPDT)	2 CO (DPDT)	1 CO (SPDT)
Rated current/Maximum peak current      A	10/20	8/15	16/30
Rated voltage/Maximum switching voltage V AC	250/400*	250/250	250/400*
Rated load in AC1                                      VA	2,500	2,000	4,000
Rated load in AC15 (230 V AC)                      VA	500	400	750
Single phase motor rating (230 V AC)          kW	0.37	0.3	0.55
Breaking capacity in DC1: 30/110/220V      A	10/0.3/0.12	8/0.3/0.12	16/0.3/0.12
Minimum switching load                              mW (V/mA)	300 (5/5)	300 (5/5)	500 (10/5)
Standard contact material	AgNi	AgNi	AgCdO
<b>Coil specifications</b>			
Nominal voltage (U <sub>N</sub> )                              V AC (50/60 Hz)	12 - 24 - 110 - 120 - 230	12 - 24 - 110 - 120 - 230	12 - 24 - 110 - 120 - 230
	12 - 24 - 125	12 - 24 - 125	12 - 24 - 125
Rated power AC/sens. DC                              VA (50 Hz)/W	1.2/0.5	1.2/0.5	1.2/0.5
Operating range    AC	(0.8...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>	(0.8...1.1)U <sub>N</sub>
	(0.73...1.75)U <sub>N</sub>	(0.73...1.75)U <sub>N</sub>	(0.8...1.5)U <sub>N</sub>
Holding voltage    AC/DC	0.8 U <sub>N</sub> / 0.4 U <sub>N</sub>	0.8 U <sub>N</sub> / 0.4 U <sub>N</sub>	0.8 U <sub>N</sub> / 0.4 U <sub>N</sub>
Must drop-out voltage                                      AC/DC	0.2 U <sub>N</sub> / 0.1 U <sub>N</sub>	0.2 U <sub>N</sub> / 0.1 U <sub>N</sub>	0.2 U <sub>N</sub> / 0.1 U <sub>N</sub>
<b>Technical data</b>			
Mechanical life AC/DC                                      cycles	10 · 10 <sup>6</sup> / 20 · 10 <sup>6</sup>	10 · 10 <sup>6</sup> / —	10 · 10 <sup>6</sup> / 20 · 10 <sup>6</sup>
Electrical life at rated load AC1                              cycles	200 · 10 <sup>3</sup>	150 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
Operate/release time    ms	7/4 (AC) - 12/12 (DC)	7/4 (AC) - 12/12 (DC)	7/4 (AC) - 12/12 (DC)
Insulation according to EN 61810-1 ed. 2	4 kV/3	4 kV/2	4 kV/3
Insulation between coil and contacts (1.2/50 μs)      kV	6 (8 mm)	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts              V AC	1,000	1,000	1,000
Ambient temperature range                                      °C	-40...+70	-40...+70	-40...+70
Protection category	IP 20	IP 20	IP 20
<b>Approvals relay</b> (according to type):			

## 48.62

- Relay interface modules for use with PLC systems, 15.8 mm wide
- AC or sensitive DC coil versions available
- Instant removal of relay using plastic retaining clip
- Supply status indication or coil suppression module provided
- Identification label
- 35 mm rail (EN 50022) mounting



- 2 pole, 10 A
- 35 mm rail mounting



\* For 400 V applications, where requirements for pollution degree 2 are met.

48

### Contact specifications

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

### Coil specifications

Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	—
	V DC	12 - 24 - 125
Rated power AC/sens. DC	VA (50 Hz)/W	—/0.5
Operating range	AC	—
	sens. DC	(0.8...1.5)U <sub>N</sub>
Holding voltage	AC/DC	—/0.4 U <sub>N</sub>
Must drop-out voltage	AC/DC	—/0.1 U <sub>N</sub>

### Technical data

Mechanical life AC/DC	cycles	—/20 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>
Operate/release time	ms	12/12 (DC)
Insulation according to EN 61810-1 ed. 2		4 kV/3
Insulation between coil and contacts (1.2/50 μs)	kV	6 (8 mm)
Dielectric strength between open contacts	V AC	1,000
Ambient temperature range	°C	-40...+70
Protection category		IP 20

**Approvals relay** (according to type):



## ORDERING INFORMATION

Example: a 48 series, 35 mm rail (EN 50022) mount relay interface module, with 2 CO (DPDT) - 8 A, coil rated 24 V sensitive DC, green LED + diode.

4

8

.

5

2

.

7

.

0

2

4

.

0

A

0

B

0

C

5

D

0

**Series** ———

**Type** ———  
 3 = 35 mm rail mount  
 5 = 35 mm rail mount  
 6 = 35 mm rail mount

**No. of poles** ———  
 1 = 1 pole for 48.31, 10 A  
                   48.61, 16 A  
 2 = 2 pole for 48.52, 8 A  
                   48.62, 10 A, DC only

**Coil version** ———  
 7 = Sensitive DC  
 8 = AC (50/60 Hz)

**Coil voltage** ———  
 see coil specifications

**A: Contact material**  
 0 = Standard

**B: Contact circuit**  
 0 = CO (nPDT)

**C: Options**  
 5 = Standard for DC:  
     green LED + diode (polarity +A1)  
 6 = Standard for AC:  
     green LED + Varistor

**D: Special versions**  
 0 = Standard

## TECHNICAL DATA

### INSULATION

Insulation according to EN 61810-1 ed. 2	insulation rated voltage	V	250	
	rated impulse withstand voltage	kV	4	
	pollution degree		3 (48.31/61/62)	2 (48.52)
	overvoltage category		III	
Dielectric strength between adjacent contacts	V AC	2,000 (48.52)	2,500 (48.62)	

48

### CONDUCTED DISTURBANCE IMMUNITY

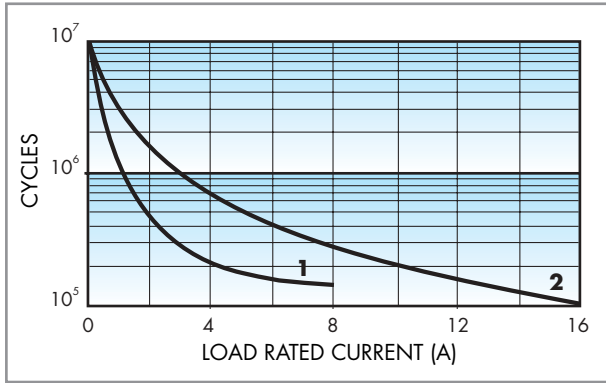
Burst (5...50)ns, 5 kHz, on A1 - A2	EN 61000-4-4	level 4 (4 kV)
Surge (1.2/50 µs) on A1 - A2 (differential mode)	EN 61000-4-5	level 3 (2 kV)

### OTHER DATA

Bounce time: NO/NC	ms	2/5			
Vibration resistance (10...55)Hz, max. ± 1 mm: NO/NC	g/g	10/4 (for 1 CO or SPDT)		3/3 (for 2 CO or DPDT)	
Power lost to the environment	without contact current	W	0.7		
	with rated current	W	1.2 (48.31)	1.3 (48.52)	1.2 (48.61)    1.2 (48.62)
Wire strip length	mm	8			
Screw torque	Nm	0.5			
Max wire size	solid cable	mm <sup>2</sup>		stranded cable	
		1x6 / 2x2.5		1x4 / 2x2.5	
	AWG	1x10 / 2x14		1x12 / 2x14	

## CONTACT SPECIFICATIONS

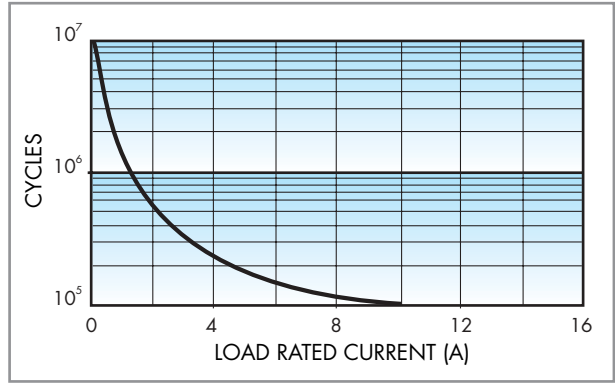
### F 48/1



Electrical life vs AC1 load.

- 1 - Type 48.52 (8 A)
- 2 - Type 48.31 (10 A)  
Type 48.61 (16 A)

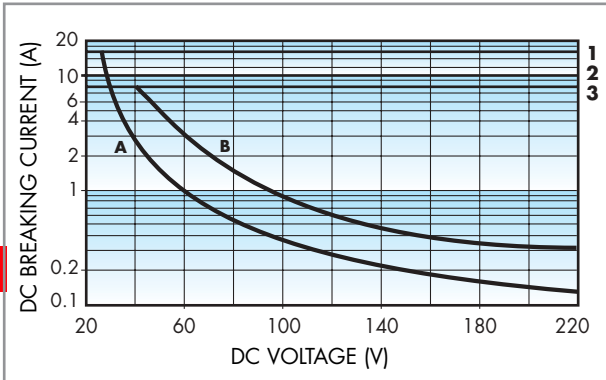
### F 48/2



Electrical life vs AC1 load.

Type 48.62 (10 A)

### H 48/1



Breaking capacity for DC1 load.

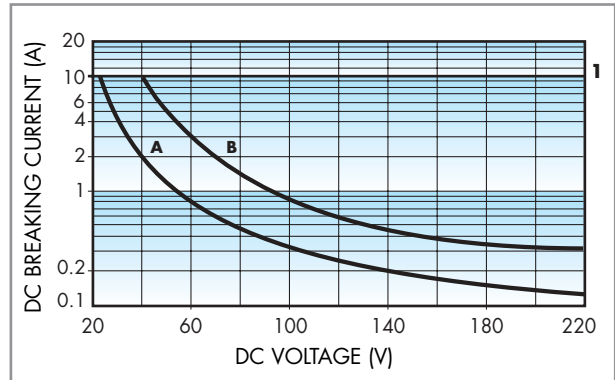
- 1 - Type 48.61
- 2 - Type 48.31
- 3 - Type 48.52
- A - Load applied to 1 contact
- B - Load applied to 2 contacts in series

- When switching a resistive load (DC1) having voltage and current values under the curve the expected electrical life is  $\geq 100 \cdot 10^3$  cycles.

- In case of DC13 loads the connection of a diode in parallel with the load will permit the same electrical life as for a DC1 load.

**Note:** the release time of load will be increase.

### H 48/2



Breaking capacity for DC1 load.

- 1 - Type 48.62
- A - Load applied to 1 contact
- B - Load applied to 2 contacts in series

- When switching a resistive load (DC1) having voltage and current values under the curve the expected electrical life is  $\geq 100 \cdot 10^3$  cycles.

- In case of DC13 loads the connection of a diode in parallel with the load will permit the same electrical life as for a DC1 load.

**Note:** the release time of load will be increase.

## COIL SPECIFICATIONS

### DC VERSION DATA (0.5 W sensitive)

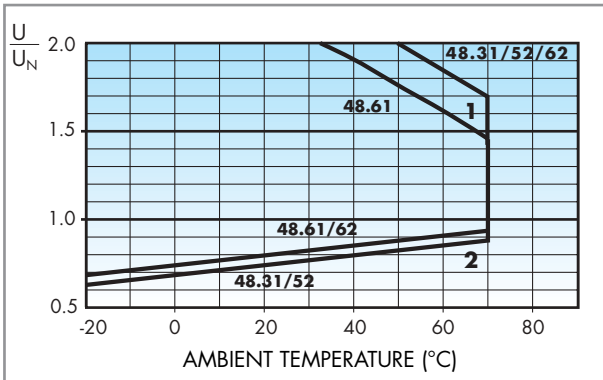
Nominal voltage $U_N$ V	Coil code	Operating range		Rated coil consumption I at $U_N$ mA
		$U_{min}^*$ V	$U_{max}$ V	
12	7.012	8.8	21	41
24	7.024	17.5	42	22.2
125	7.125	92	218	4

\* $U_{min} = 0.8 U_N$  for 48.61 and 48.62

### AC VERSION DATA

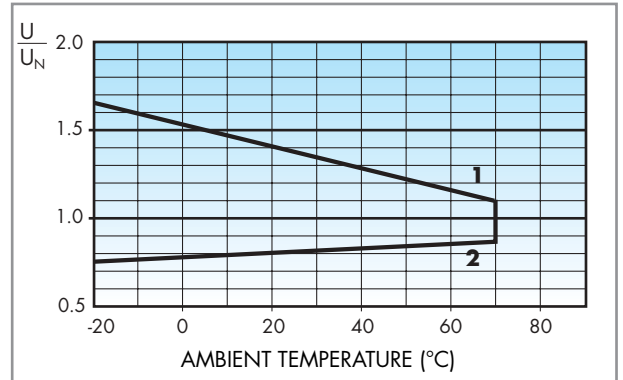
Nominal voltage $U_N$ V	Coil code	Operating range		Rated coil consumption I at $U_N$ (50Hz) mA
		$U_{min}$ V	$U_{max}$ V	
12	8.012	9.6	13.2	90.5
24	8.024	19.2	26.4	46
110	8.110	88	121	10.1
120	8.120	96	132	11.8
230	8.230	184	253	7.0

### R 48 sens. DC



Operating range (sensitive DC version) vs ambient temperature.  
**1** - Max coil voltage permitted.  
**2** - Min pick-up voltage with coil at ambient temperature.

### R 48 AC

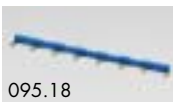


Operating range (AC version) vs ambient temperature.  
**1** - Max coil voltage permitted.  
**2** - Min pick-up voltage with coil at ambient temperature.

## COMBINATIONS

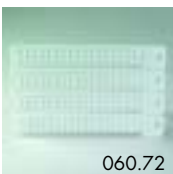
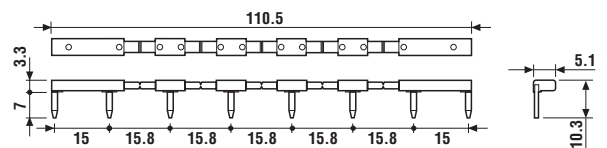
Code	Type of Socket	Type of Relay	Module	Retaining Clip
48.31	95.03	40.31	99.02	095.01
48.52	95.05	40.52	99.02	095.01
48.61	95.05	40.61	99.02	095.01
48.62	95.05	44.62	99.02	095.01

## ACCESSORIES



<b>8-way jumper link</b>	095.18
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- Rated values: 10 A - 250 V



<b>Sheet of marker tags (72 tags), 6x12 mm</b>	060.72
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## PACKAGING CODES

How to code and identify retaining clip and packaging options for relay interface module.

Code options according to the last three letters:

