Features

1 & 2 Pole relay interface modules, 15.8 mm wide.

Ideal interface for PLC and electronic systems

48.31 - 1 Pole 10 A (screw terminal)
48.52 - 2 Pole 8 A (screw terminal)
48.72 - 2 Pole 8 A (screwless terminal)

- AC coils or DC sensitive coils
- Instant ejection of relay using plastic retaining clip
- Supply status indication and EMC coil suppression module as standard
- Identification label
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting

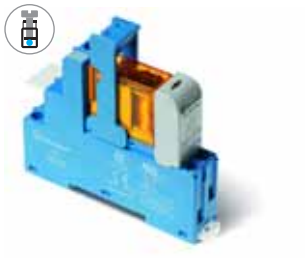
48.31 / 48.52
Screw terminal



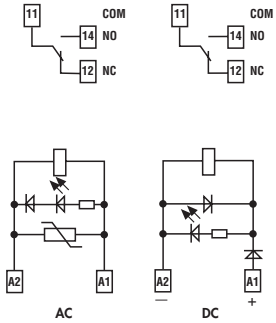
48.72
Screwless terminal



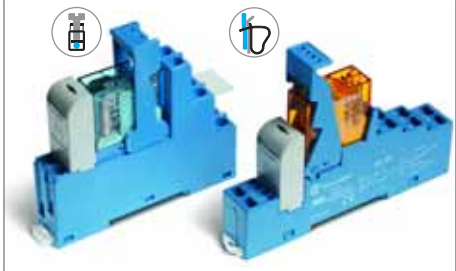
48.31



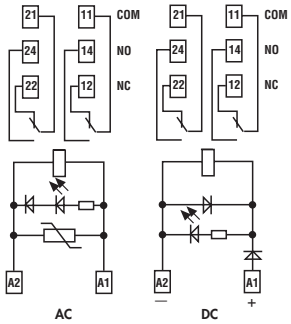
- 1 pole, 10 A
- Screw terminal
- 35 mm rail (EN 60715) mounting



48.52/72



- 2 pole, 8 A
- Screw terminal and screwless terminal
- 35 mm rail (EN 60715) mounting



For outline drawing see page 5

Contact specification			
Contact configuration		1 CO (SPDT)	2 CO (DPDT)
Rated current/Maximum peak current	A	10/20	8/15
Rated voltage/Maximum switching voltage	V AC	250/400	250/250
Rated load AC1	VA	2,500	2,000
Rated load AC15 (230 V AC)	VA	500	400
Single phase motor rating (230 V AC)	kW	0.37	0.3
Breaking capacity DC1: 30/110/220V	A	10/0.3/0.12	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	$(0.8...1.1)U_N$	$(0.8...1.1)U_N$
	sens. DC	$(0.73...1.75)U_N$	$(0.73...1.75)U_N$
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 AC/DC	cycles	$10 \cdot 10^6/20 \cdot 10^6$	$10 \cdot 10^6/20 \cdot 10^6$
Electrical life at rated load AC1	cycles	$200 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	7/4 (AC) - 12/12 (DC)	7/4 (AC) - 12/12 (DC)
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,000	1,000
Ambient temperature range	°C	–40...+70	–40...+70
Protection category		IP 20	IP 20
Approvals relay (according to type)		CE ABS SP D FI PG Lloyd's Register N RINA S cULus NF VDE	

Features

1 & 2 Pole relay interface modules, 15.8 mm wide.

Ideal interface for PLC and electronic systems

48.61 - 1 Pole 16 A (screw terminal)
48.81 - 1 Pole 16 A (screwless terminal)
48.62 - 2 Pole 10 A (screw terminal)
48.82 - 2 Pole 10 A (screwless terminal)

- AC coils or DC sensitive coils
- Instant ejection of relay using plastic retaining clip
- Supply status indication and EMC coil suppression module as standard
- Identification label
- UL Listing (certain relay/socket combinations)
- 35 mm rail (EN 60715) mounting

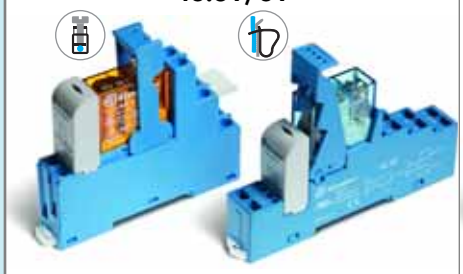
48.61 / 48.62
Screw terminal



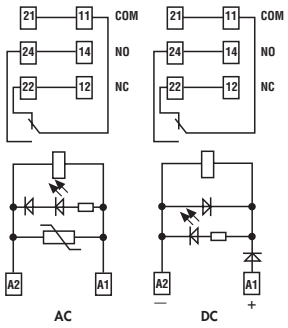
48.81 / 48.82
Screwless terminal



48.61/81

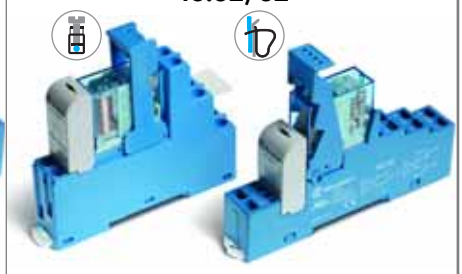


- 1 pole, 16 A
- Screw terminal and screwless terminal
- 35 mm rail (EN 60715) mounting

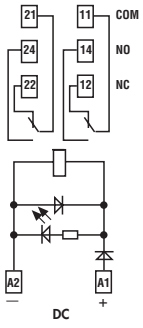


* For currents >10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).

48.62/82



- 2 pole, 10 A
- Screw terminal and screwless terminal
- 35 mm rail (EN 60715) mounting



For outline drawing see page 5

Contact specification			
Contact configuration		1 CO (SPDT)	2 CO (DPDT)
Rated current/Maximum peak current	A	16*/30	10/20
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	4,000	2,500
Rated load AC15 (230 V AC)	VA	750	500
Single phase motor rating (230 V AC)	kW	0.55	0.37
Breaking capacity DC1: 30/110/220V	A	16/0.3/0.12	10/0.3/0.12
Minimum switching load	mW (V/mA)	500 (10/5)	300 (5/5)
Standard contact material		AgCdO	AgNi
Coil specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	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	—/0.5
Operating range	AC	$(0.8...1.1)U_N$	—
	sens. DC	$(0.8...1.5)U_N$	$(0.8...1.5)U_N$
Holding voltage	AC/DC	0.8 U_N /0.4 U_N	—/0.4 U_N
Must drop-out voltage	AC/DC	0.2 U_N /0.1 U_N	—/0.1 U_N
Technical data			
Mechanical life AC/DC	cycles	$10 \cdot 10^6/20 \cdot 10^6$	$—/20 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	7/4 (AC) - 12/12 (DC)	12/12 (DC)
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,000	1,000
Ambient temperature range	°C	–40...+70	–40...+70
Protection category		IP 20	IP 20
Approvals relay (according to type)			

Ordering information

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

									A	B	C	D		
4	8	.	5	2	.	7	.	0	2	4	.	0	0	5	0

Series

Type
Screw terminal
3 = 35 mm rail mount (EN 60715)
5 = 35 mm rail mount (EN 60715)
6 = 35 mm rail mount (EN 60715)
Screwless terminal
7 = 35 mm rail mount (EN 60715)
8 = 35 mm rail mount (EN 60715)

No. of poles
1 = 1 pole for 48.31, 10 A
48.61,48.81, 16 A
2 = 2 pole for 48.52, 48.72, 8 A
48.62, 48.82, 10 A
(48.62, 48.82 DC only)

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

Coil voltage
See coil specifications

A: Contact material
0 = Standard AgNi for 48.31/52/62/72/82 AgCdO, Standard for 48.61/81
4 = $AgSnO_2$, for 48.61/62/81/82 only
5 = AgNi + Au (5 µm), for 48.31/52/72 only

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

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

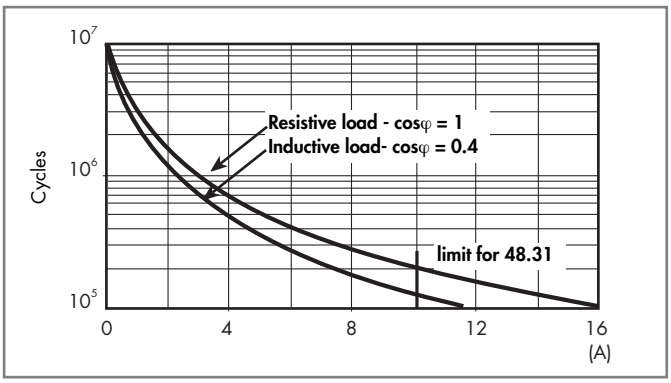
Type	Coil version	A	B	C	D
48.31/52/72	AC	**0** - 2 - 5	0	**6**	0
48.31/52/72	DC	**0** - 2 - 5	0	**5**	0
48.61/81	AC	**0** - 4	0	**6**	0
48.61/81	DC	**0** - 4	0	**5**	0
48.62/82	DC	**0** - 4	0	**5**	0

Technical data

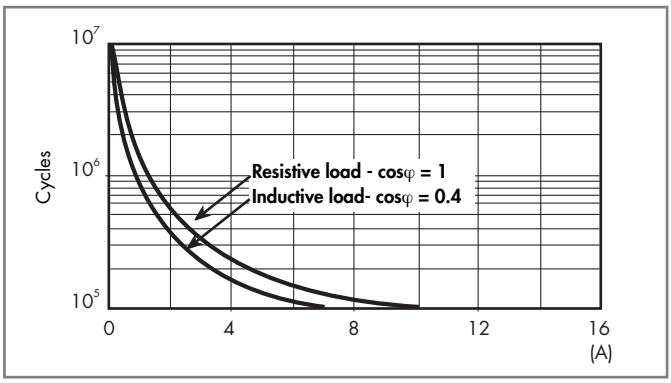
Insulation			**48.31/61/62**	**48.52**	**48.31/61/62**	
Insulation according to EN 61810-1	insulation rated voltage	V	250	250	400	
	rated impulse withstand voltage	kV	4	4	4	
	pollution degree		3	2	2	
	overvoltage category		III	III	III	
Insulation between coil and contacts (1.2/50 µs)		kV	6 (8 mm)			
Dielectric strength between open contacts		V AC	1,000			
Dielectric strength between adjacent contacts		V AC	2,000 (48.52); 2,500 (48.62)			
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 (5...55)Hz: NO/NC		g	10/4 (for 1 pole)		15/3 (for 2 pole)	
Power lost to the environment	without contact current	W	0.7			
	with rated current	W	1.2 (48.31)	1.3 (48.52/72)	1.2 (48.61/62/81/82)	
Wire strip length		mm	8			
Screw torque		Nm	0.5			
Max. wire size			**Screw terminal**		**Screwless terminal**	
			solid cable	stranded cable	solid cable	stranded cable
		mm^2	1x6 / 2x2.5	1x4 / 2x2.5	2x(0.2...1.5)	2x(0.2...1.5)
		AWG	1x10 / 2x14	1x12 / 2x14	2x(24...18)	2x(24...18)

Contact specification

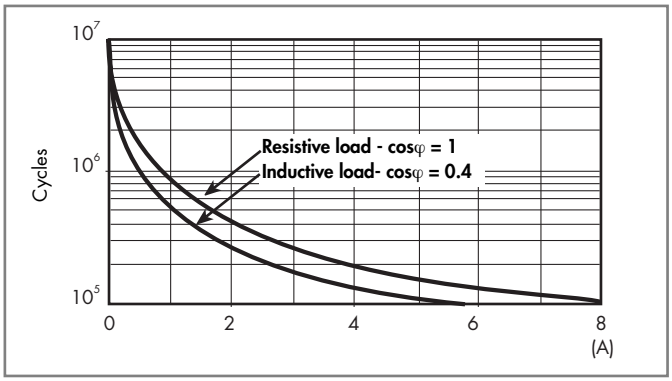
F 48 - Electrical life (AC) v contact current
Types 48.31/61/81



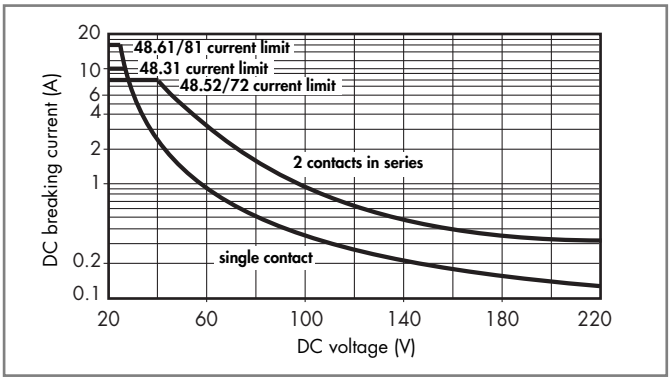
F 48 - Electrical life (AC) v contact current
Types 48.62/82



F 48 - Electrical life (AC) v contact current
Types 48.52/72

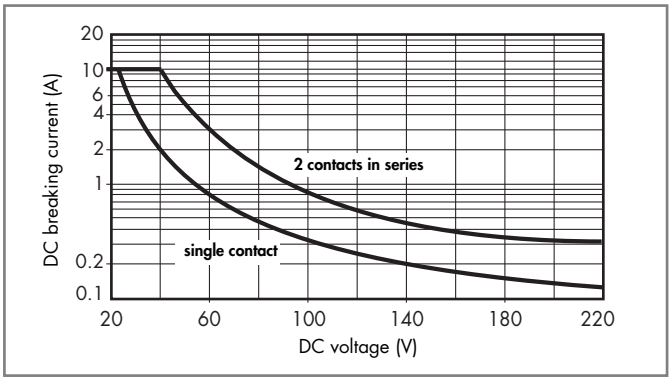


H 48 - Maximum DC1 breaking capacity
Types 48.31/52/61/72/81



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of ≥ $100 \cdot 10^3$ 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.

H 48 - Maximum DC1 breaking capacity
Types 48.62/82



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of ≥ $100 \cdot 10^3$ 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)

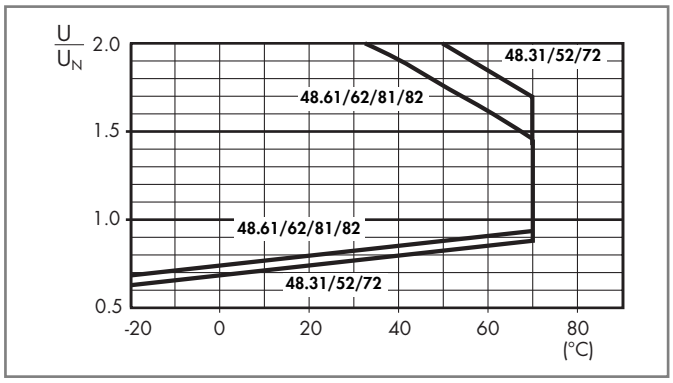
Nominal voltage U_N	Coil code	Operating range U_{min}*	Operating range U_{max}**	Rated coil consumption I at U_N
V		V	V	mA
12	**7**.012	8.8	21	41
24	**7**.024	17.5	42	22.2
125	**7**.125	91	219	4

*U_{min} = 0.8 U_N for 48.61, 48.62, 48.81 and 48.82
**U_{max} = 1.5 U_N for 48.61, 48.62, 48.81 and 48.82

AC coil data

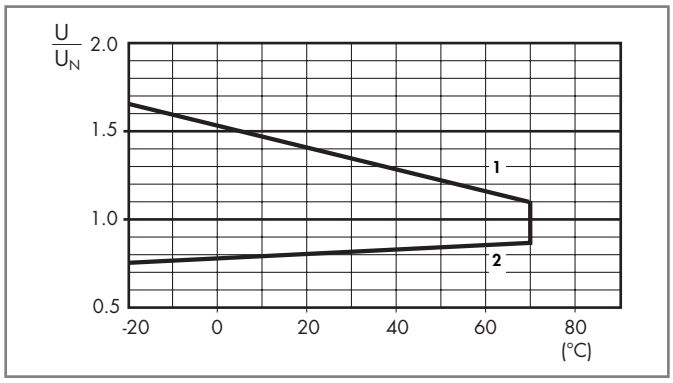
Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Rated coil consumption I at U_N (50Hz)
V		V	V	mA
12	**8**.012	9.6	13.2	90.5
24	**8**.024	19.2	26.4	46
110	**8**.110	88	121	10.1
120	**8**.120	96	132	11.8
230	**8**.230	184	253	7.0

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 - DC coil operating range v ambient temperature

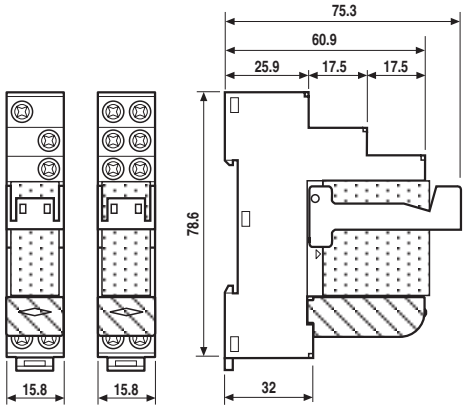


1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Combinations

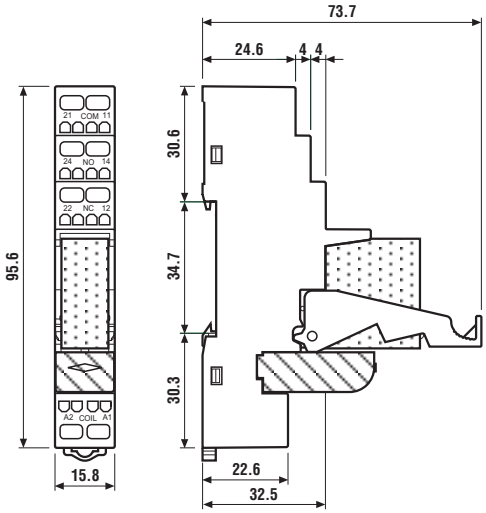
Code	Type of socket	Type of relay	Module	Retaining clip
48.31	95.03	40.31	99.02	095.01
48.52	95.05	40.52	99.02	095.01
48.61	95.05	40.61	99.02	095.01
48.62	95.05	44.62	99.02	095.01
48.72	95.55	40.52	99.02	095.91.3
48.81	95.55	40.61	99.02	095.91.3
48.82	95.55	44.62	99.02	095.91.3

Outline drawing



48.31 48.52 / 48.61 / 48.62
Screw terminal





48.72 / 48.81 / 48.82
Screwless terminal

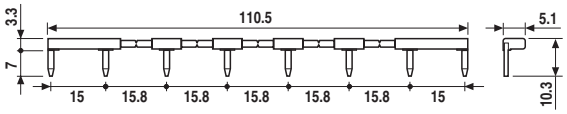


Accessories



095.18

8-way jumper link for screw terminal version	095.18 (blue)	095.18.0 (black)
Rated values	10 A - 250 V	





060.72

Sheet of marker tags, plastic, 72 tags, 6x12 mm	060.72

Packaging codes

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

Example:

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

A	Standard packaging
B	Blister packaging

SP	Plastic retaining clip