

## Features

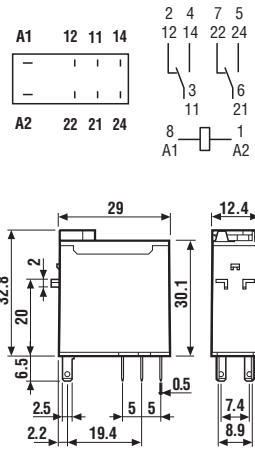
**1 & 2 Pole relay range**  
**46.52 - 2 Pole 8 A**  
**46.61 - 1 Pole 16 A**

- Socket mount or direct connection via Faston connectors
- AC coils & DC coils
- Available with: lockable test button, mechanical indicator & LED indicator
- Reinforced insulation between coil and contacts according to EN 60335-1 (VDE 0700), with safe separation and 8 mm clearance and creepage distance
- Cadmium Free contacts

**46.52**



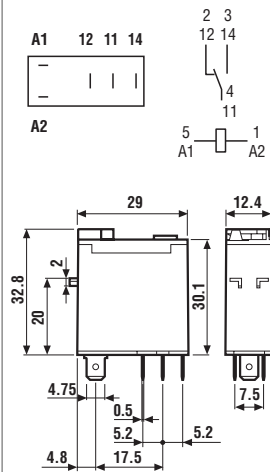
- 2 Pole changeover contacts
- Plug-in/Faston (2.5x0.5 mm)



**46.61**



- 1 Pole changeover contact
- Plug-in/Faston 187



Contact specification		46.52	46.61
Contact configuration		2 CO (DPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A	8/15	16/25
Rated voltage/Maximum switching voltage	V AC	250/440	250/440
Rated load AC1	VA	2,000	4,000
Rated load AC15 (230 V AC)	VA	350	750
Single phase motor rating (230 V AC)	kW	0.37	0.55
Breaking capacity DC1: 30/110/220 V	A	6/0.5/0.15	12/0.5/0.15
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi
Coil specification		46.52	46.61
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	12 - 24 - 48 - 110 - 120 - 230 - 240	
	V DC	12 - 24 - 48 - 110 - 125	
Rated power	VA/W	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>
	DC	(0.73...1.1)U <sub>N</sub>	(0.73...1.1)U <sub>N</sub>
Holding voltage	AC/DC	0.8U <sub>N</sub> / 0.4U <sub>N</sub>	0.8U <sub>N</sub> / 0.4U <sub>N</sub>
Must drop-out voltage	AC/DC	0.2U <sub>N</sub> / 0.1U <sub>N</sub>	0.2U <sub>N</sub> / 0.1U <sub>N</sub>
Technical data		46.52	46.61
Mechanical life AC/DC	cycles	10 · 10 <sup>6</sup>	10 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
Operate/release time	ms	10/3	15/5
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
Environmental protection		RT II	RT II
Approvals (according to type)			

## Ordering information

Example: 46 series Miniature industrial relay, 1 CO (SPDT), 24 V DC coil, lockable test button and mechanical indicator.

**46**.**6****1**.**9**.**024**.**0****0****4****0**

**Series** ————

**Type**  
 5 = Spade/blade terminal  
 Faston (2.5x0.5 mm)  
 6 = Spade/blade terminal  
 Faston 187 (4.8x0.5 mm)

**No. of poles**  
 1 = 1 pole, 16 A  
 2 = 2 poles, 8 A

**Coil version**  
 9 = DC  
 8 = AC (50/60 Hz)

**Coil voltage**  
 see coil specifications

**A: Contact material**  
 0 = AgNi

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

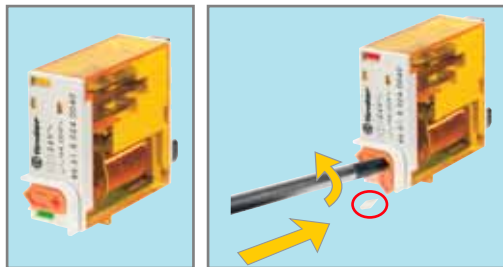
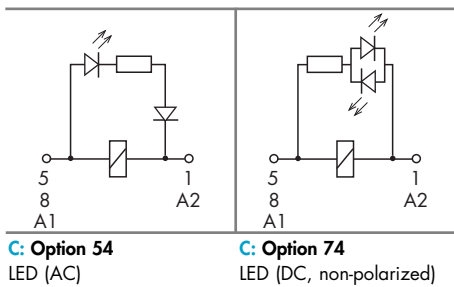
**C: Options**  
 2 = Mechanical indicator  
 4 = Lockable test button +  
 mechanical indicator  
 54 = Lockable test button + LED (AC) +  
 mechanical indicator  
 74 = Lockable test button + double LED  
 (DC non-polarized) + mechanical indicator

**D: Special versions**  
 0 = Standard

**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
46.52/61	AC-DC	<b>0</b>	<b>0</b>	2 - <b>4</b>	<b>0</b>
46.52/61	AC	0	0	54	/
46.52/61	DC	0	0	74	/

## Descriptions: Options



### Lockable test button and mechanical flag indicator (0040, 0054, 0074)

The dual-purpose Finder test button can be used in two ways:

Case 1) The plastic pip (located directly below the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.

Case 2) The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position.

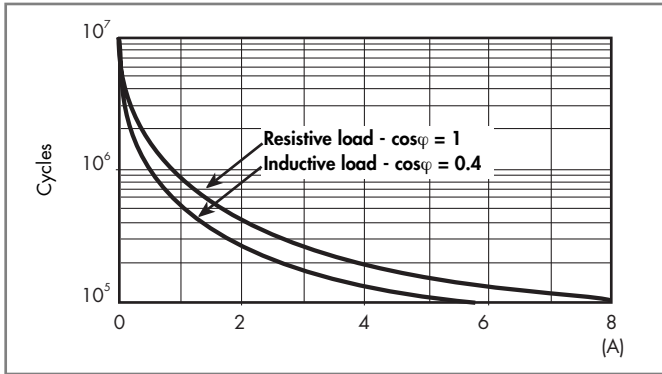
In both cases ensure that the test button actuation is swift and decisive.

## Technical data

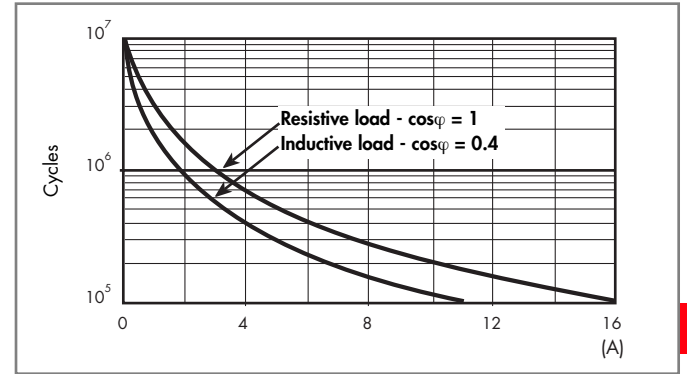
Insulation			
Insulation according to EN 61810-1 ed. 2	insulation rated voltage	V	250
	rated impulse withstand voltage	kV	4
	pollution degree		3
	overvoltage category		III
Insulation between coil and contacts (1.2/50 µs)		kV	6 (8 mm)
Dielectric strength between open contacts		V AC	1,000
Dielectric strength between adjacent contacts		V AC	2,000
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		<b>1 changeover contact</b>	<b>2 changeover contacts</b>
Bounce time: NO/NC		ms	2/6
Power lost to the environment	without contact current	W	0.6
	with rated current	W	1.6

### Contact specification

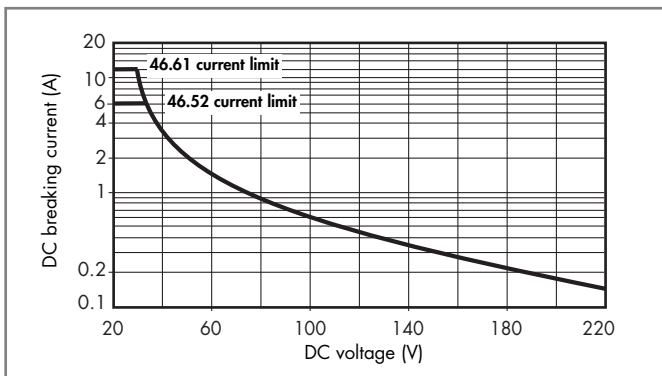
**F 46 - Electrical life (AC) v contact current**  
Type 46.52



**F 46 - Electrical life (AC) v contact current**  
Type 46.61


**46**

**H 46 - Maximum DC1 breaking capacity**



- 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

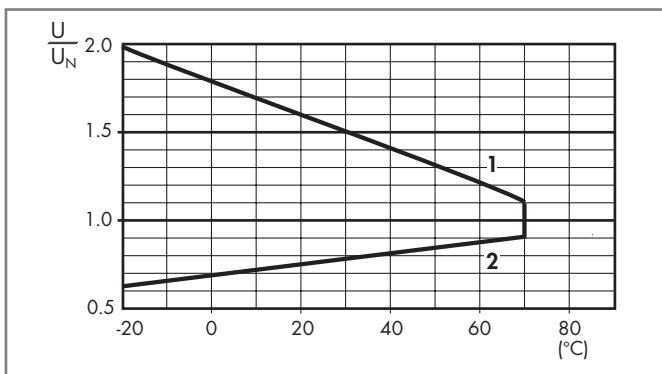
**DC coil data**

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
12	9.012	8.8	13.2	300	40
24	9.024	17.5	26.4	1,200	20
48	9.048	35	52.8	4,800	10
110	9.110	80	121	23,500	4.7
125	9.125	91.2	137.5	32,000	3.9

**AC coil data**

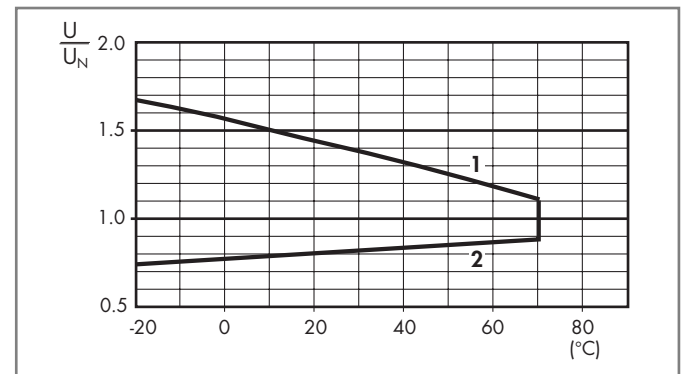
Nominal voltage $U_N$ V	Coil code	Operating range		Resistance R $\Omega$	Rated coil consumption I at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V		
12	8.012	9.6	13.2	80	90
24	8.024	19.2	26.4	320	45
48	8.048	38.4	52.8	1,350	21
110	8.110	88	121	6,900	9.4
120	8.120	96	132	9,000	8.4
230	8.230	184	253	28,000	5
240	8.240	192	264	31,500	4.1

**R 46 - DC coil operating range v ambient temperature**



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

**R 46 - AC coil operating range v ambient temperature**



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

## Accessories



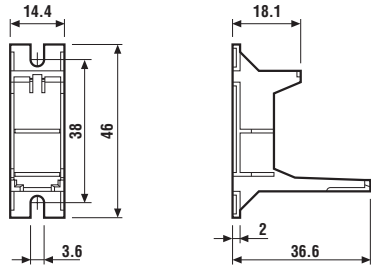
046.05



046.05 with relay

**Flange mount adaptor** for relays types 46.52 and 46.61

046.05



46



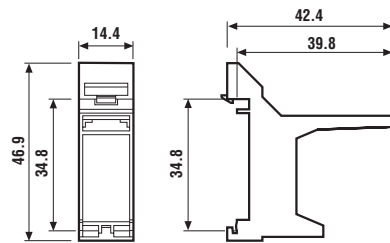
046.07



046.07 with relay

**35 mm rail adaptor** for relays types 46.52 and 46.61

046.07



060.72

**Sheet of marker tags** for relays types 46.52 and 46.61, plastic, 72 tags, 6x12 mm

060.72