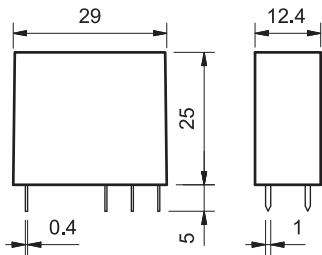


## Features

**PCB Relay with forcibly guided contacts according to EN 50205 type B 2 CO contacts \***

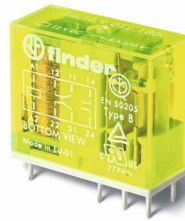
- High physical separation between adjacent contacts
- Cadmium Free contact materials
- 8 mm, 6 kV (1.2/50  $\mu$ s) isolation, coil-contacts
- Flux proof: RT II



\*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 UL RATINGS SEE: "General technical information" page V

### 50.12...1000

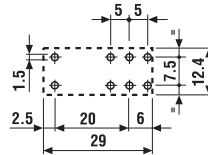
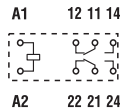


- For medium duty switching, suggested for DC loads
- 2 Pole 8 A
- 5 mm pinning
- PCB mounting

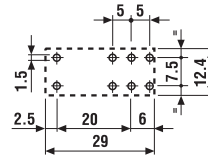
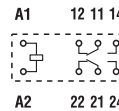
### 50.12...5000



- For safety applications
- Gold plate contacts for low level switching capability
- 5 mm pinning
- PCB mounting



Copper side view



Copper side view

### Contact specification

Contact configuration	2 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak current A	8/15	8/15
Rated voltage/Maximum switching voltage V AC	250/400	250/400
Rated load AC1 VA	2,000	2,000
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	8/0.65/0.2	8/0.65/0.2
Minimum switching load mW (V/mA)	500 (10/10)	50 (5/5)
Standard contact material	AgNi	AgNi + Au

### Coil specification

Nominal voltage (U <sub>N</sub> ) V AC (50/60 Hz)	—	—
V DC	5 - 6 - 12 - 24 - 48 - 60 - 110 - 125	5 - 6 - 12 - 24 - 48 - 60 - 110 - 125
Rated power AC/DC VA (50 Hz)/W	—/0.7	—/0.7
Operating range AC (50 Hz)	—	—
DC	(0.75...1.2)U <sub>N</sub>	(0.75...1.2)U <sub>N</sub>
Holding voltage AC/DC	—/0.4 U <sub>N</sub>	—/0.4 U <sub>N</sub>
Must drop-out voltage AC/DC	—/0.1 U <sub>N</sub>	—/0.1 U <sub>N</sub>

### Technical data

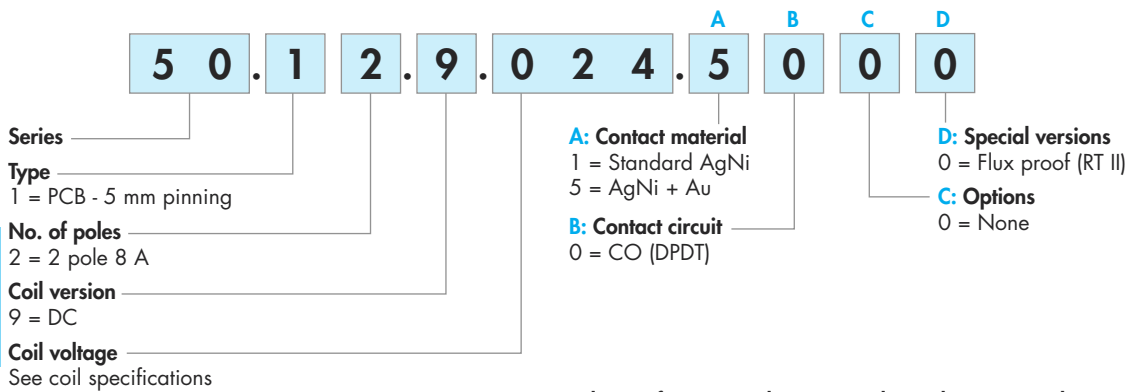
Mechanical life AC/DC cycles	—/10 · 10 <sup>6</sup>	—/10 · 10 <sup>6</sup>
Electrical life at rated load AC1 cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
Operate/release time ms	10/4	10/4
Insulation between coil and contacts (1.2/50 $\mu$ s) kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts V AC	1,500	1,500
Ambient temperature range °C	−40...+70	−40...+70
Environmental protection	RT II	RT II

### Approvals (according to type)



### Ordering information

Example: 50 series forcibly guided contacts, 2 CO (DPDT) 8 A contacts, 24 V DC coil.



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

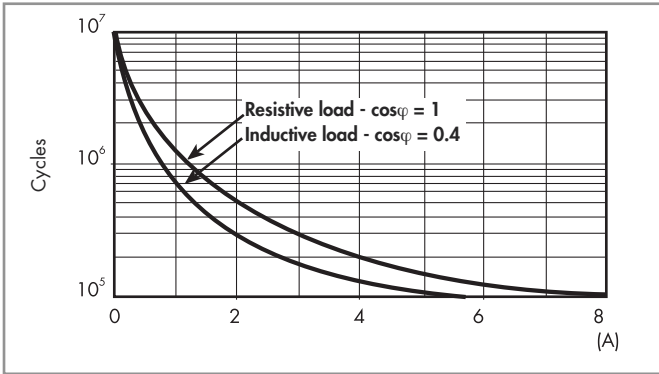
Type	Coil version	A	B	C	D
50.12	DC	<b>1 - 5</b>	<b>0</b>	<b>0</b>	<b>0</b>

### Technical data

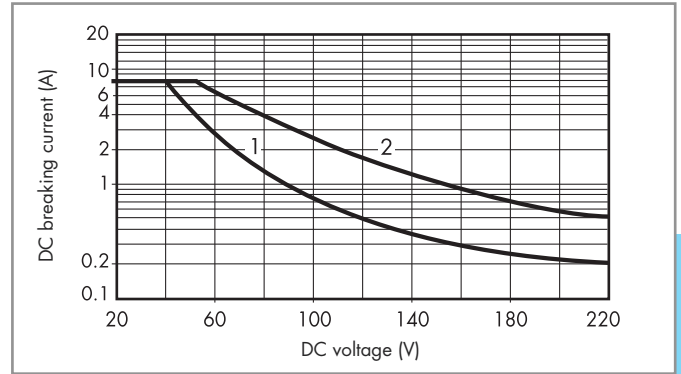
Insulation according to EN 61810-1					
Nominal voltage of supply system	V AC	230/400			
Rated insulation voltage	V AC	250	400		
Pollution degree		3	2		
Insulation between coil and contact set					
Type of insulation	Reinforced (8 mm)				
Overvoltage category	III				
Rated impulse voltage	kV (1.2/50 µs)	6			
Dielectric strength	V AC	4,000			
Insulation between adjacent contacts					
Type of insulation	Basic				
Overvoltage category	III				
Rated impulse voltage	kV (1.2/50 µs)	4			
Dielectric strength	V AC	3,000			
Insulation between open contacts					
Type of disconnection	Micro-disconnection				
Dielectric strength	V AC/kV (1.2/50 µs)	1,500/2.5			
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	2/10			
Vibration resistance (10...200)Hz: NO/NC	g	20/6			
Shock resistance NO/NC	g	20/5			
Power lost to the environment	without contact current	W	0.7		
	with rated current	W	1.2		
Recommended distance between relays mounted on PCB	mm	≥ 5			

**Contact specification**

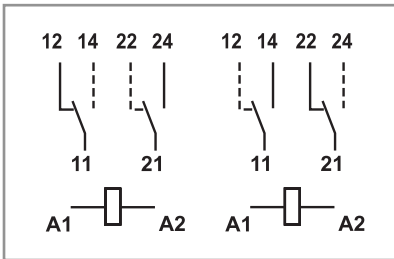
**F 50 - Electrical life (AC) v contact current**



**H 50 - 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.



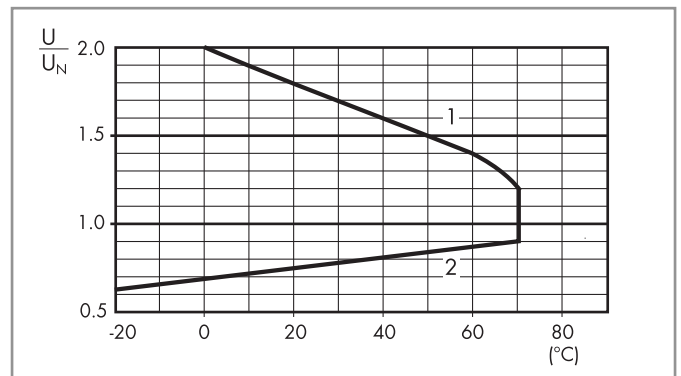
Alternative selection of NO and NC contacts to provide Forcibly guided (mechanically linked) contacts, in accordance with EN 50205 (type B).

**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		
5	9.005	3.8	6	35	143
6	9.006	4.5	7.2	50	120
12	9.012	9	14.4	205	58.5
24	9.024	18	28.8	820	29.3
48	9.048	36	57.6	3,280	14.4
60	9.060	45	72	5,140	11.7
110	9.110	82.5	131	17,250	6.4
125	9.125	93.7	150	22,300	5.6

**R 50 - DC coil operating range v ambient temperature**  
Standard coil



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

