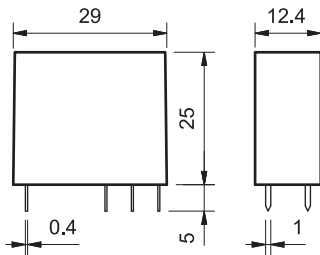


## Features

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



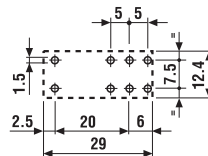
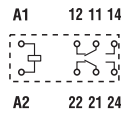
\*According to EN 50205 only 1 NO and 1 NC (11-14 and 21-22 or 11-12 and 21-24) shall be used as forcibly guided contacts.

FOR UL HORSEPOWER AND PILOT DUTY RATINGS SEE "General technical information" page V

## 50.12



- 2 Pole 8 A
- 5 mm pinning
- PCB mounting

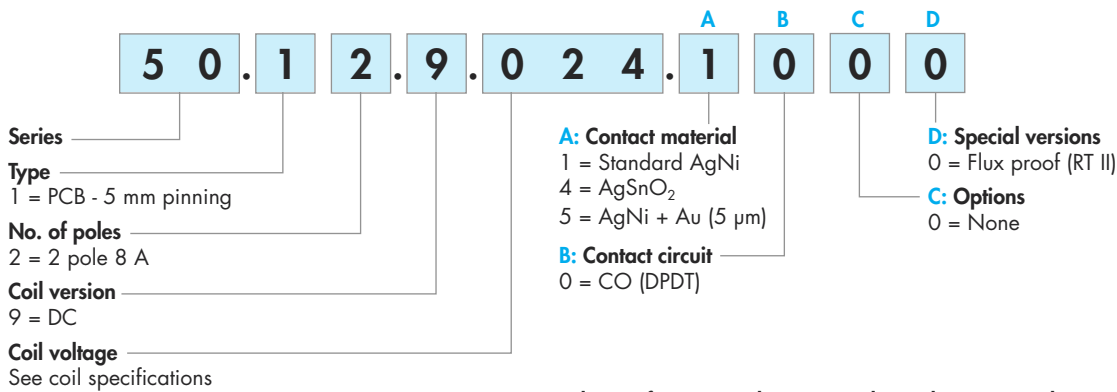


Copper side view

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	2,000
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)	300 (5/5)
Standard contact material		AgNi
Coil specification		
Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	—
	V DC	5 - 6 - 12 - 24 - 48 - 60 - 110 - 125
Rated power AC/DC	VA (50 Hz)/W	—/0.7
Operating range	AC (50 Hz)	—
	DC	(0.75...1.2)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	—/10 · 10 <sup>6</sup>
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>
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	1,500
Ambient temperature range	°C	−40...+70
Environmental protection		RT II
Approvals (according to type)		

## Ordering information

Example: 50 series safety relay, 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**.

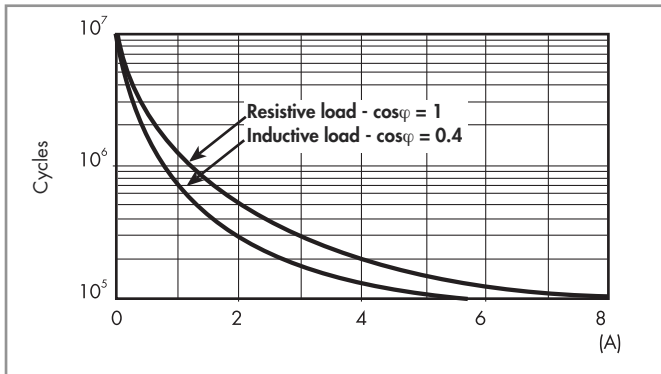
Type	Coil version	A	B	C	D
50.12	DC	<b>1 - 4 - 5</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Technical data

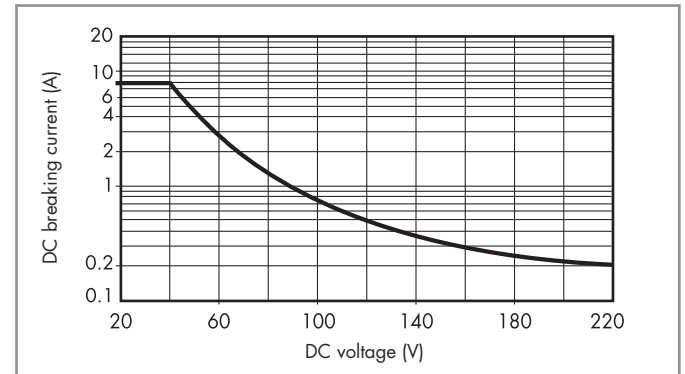
Insulation according to EN 61810-1					
Nominal voltage of supply system	V AC	230/400			
Rated insulation voltage	V AC	250	400		
Pollution degree		3	2		
Insulation between coil and contact set					
Type of insulation	Reinforced (8 mm)				
Overvoltage category	III				
Rated impulse voltage	kV (1.2/50 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	2,500			
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

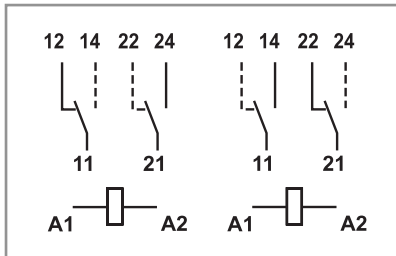
F 50 - Electrical life (AC) v contact current



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.



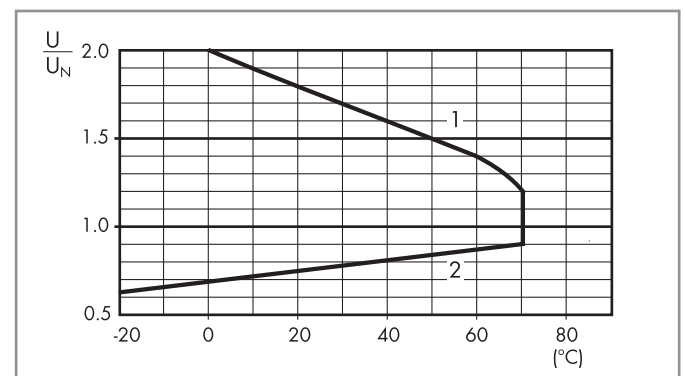
Alternative selection of NO and NC contacts to provide Forcibly guided (mechanically linked) contacts, in accordance with EN 50205 (type B).

## 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.