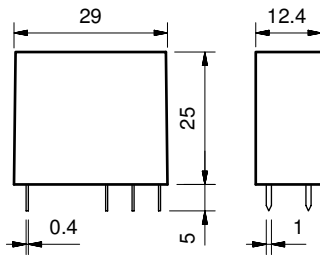


## Features

**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 µs) isolation, coil-contacts
- Flux proof: RT II



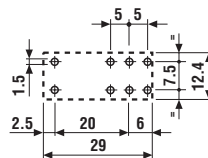
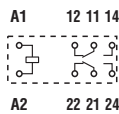
\*According to EN 50205 only 1 NO and 1 NC (11-14 and 21-22 or 11-12 and 21-24) shall be used as forcibly guided contacts.

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

**NEW 50.12**



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

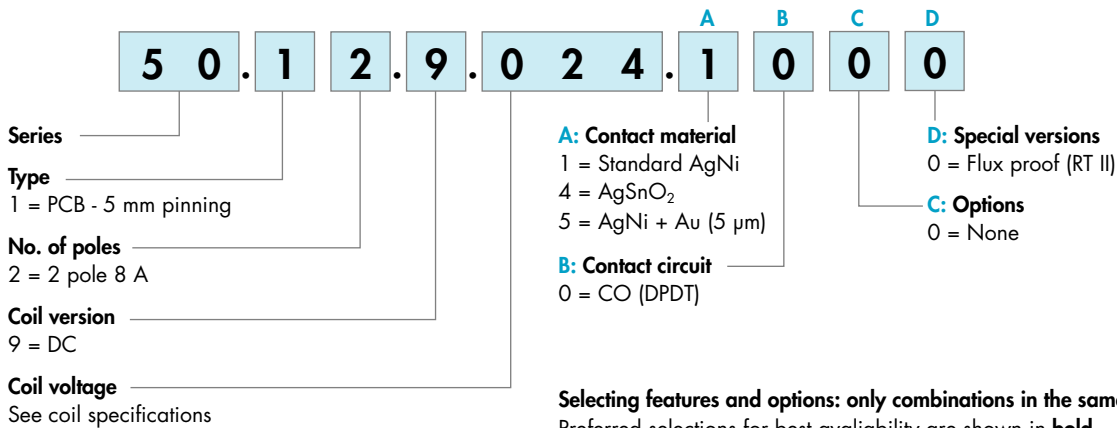


Copper side view

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 µs)	kV	6 (8 mm)
Dielectric strength between open contacts	V AC	1,500
Ambient temperature range	°C	−40...+70
Environmental protection		RT II
<b>Approvals</b> (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**.

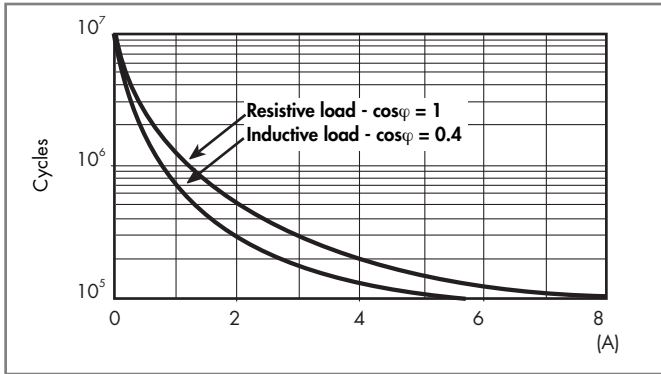
Type	Coil version	A	B	C	D
50.12	DC	<b>1 - 4 - 5</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Technical data

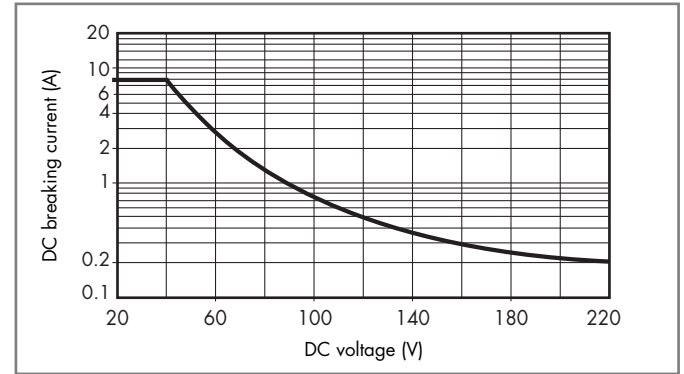
Insulation according to EN 61810-1:2004					
Nominal voltage of supply system	V AC	230/400			
Rated insulation voltage	V AC	250	400		
Pollution degree		3	2		
Insulation between coil and contact set					
Type of insulation	Reinforced (8 mm)				
Overvoltage category	III				
Rated impulse voltage	kV (1.2/50 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

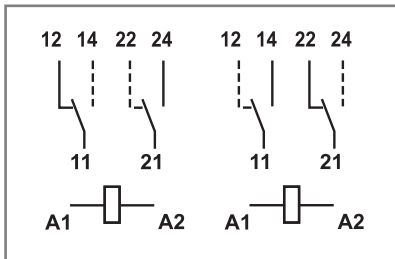
F 50 - Electrical life (AC) v contact current



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.



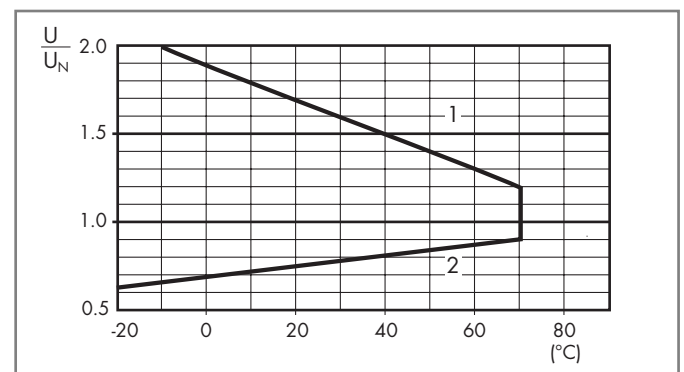
Alternative selection of NO and NC contacts to provide Forcibly guided (mechanically linked) contacts, in accordance with EN 50205 (type B).

## 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	33	151
6	9.006	4.5	7.2	50	120
12	9.012	9	14.4	184	65
24	9.024	18	28.8	750	32
48	9.048	36	57.6	3,070	16
60	9.060	45	72	4,800	12.5
110	9.110	82.5	131	15,300	7
125	9.125	93.7	150	20,800	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.

