

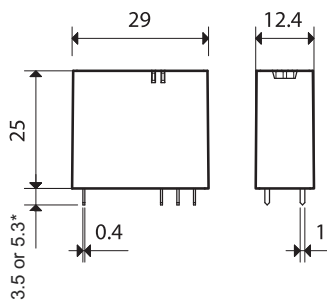
Features

1 Pole relay range

40.31 - 1 Pole 12 A (3.5 mm pin pitch)

40.61 - 1 Pole 16 A (5 mm pin pitch)

- Pin length 3.5 mm for pcb mount
- Pin length 5.3 mm as Plug-in relay
- DC sensitive coils as standard
- Cadmium Free contact material available
- 6 kV (1.2/50 μ s) isolation coil-contacts
- 8 mm creepage and clearance distances between coil and contacts
- Meets EN 60335-1 glow wire requirements
- Flux proof: RT II standard or wash tight RT III
- AC inductive load rating (related to AC15 utilisation category) 4 A 250 V approved according to EN 61810-1:2008 (Annex B tables B1, B2, B3)

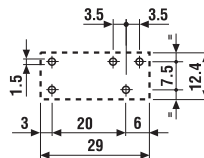
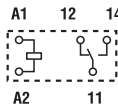


* (3.5 or 5.3) mm see ordering code

40.31



- 3.5 mm contact pin pitch
- 1 Pole 12 A

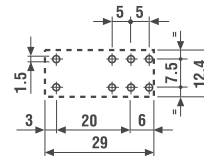
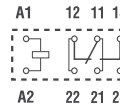


Copper side view

40.61



- 5 mm contact pin pitch
- 1 Pole 16 A



Copper side view

Contact specification		40.31	40.61
Contact configuration		1 CO (SPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A	12/20	16/30
Rated voltage/Maximum switching voltage V AC		250/400	250/400
Rated load AC1	VA	3,000	4,000
Rated load AC15 (230 V AC)	VA	1,000	1,000
Single phase motor rating (230 V AC)	kW	0.55	0.55
Breaking capacity DC1: 30/110/220 V	A	12/0.3/0.12	16/0.3/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	500 (10/5)
Standard contact material		AgNi	AgCdO
Coil specification		40.31	40.61
Nominal voltage (U _N)	V AC (50/60 Hz)	—	—
	V DC	12 - 24	12 - 24
Rated power	W	0.5	0.5
Operating range	AC	—	—
	DC	(0.73...1.5)U _N	(0.8...1.5)U _N
Holding voltage	DC	0.4 U _N	0.4 U _N
Must drop-out voltage	DC	0.1 U _N	0.1 U _N
Technical data		40.31	40.61
Mechanical life AC/DC	cycles	10 · 10 ⁶	10 · 10 ⁶
Electrical life at rated load AC1	cycles	200 · 10 ³	100 · 10 ³
Operate/release time	ms	10/3	10/3
Insulation between coil and contacts (1.2/50 μ s)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts V AC		1,000	1,000
Ambient temperature range	°C	-40...+85	-40...+85
Environmental protection		RT II	RT II
Approvals (according to type)			RINA

Ordering information

Example: 40 series PCB relay, 1 CO (SPDT) - 12 A, 24 V DC coil.

4 0	. 3	1	. 7	. 0 2 4	A 1	B 0	C 2	D 0
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Series ————

Type
 3 = PCB - 3.5 mm pinning
 6 = PCB - 5 mm pinning

No. of poles
 1 = 1 pole
 for: 40.31, 12 A
 40.61, 16 A

Coil version
 7 = Sensitive DC

Coil voltage
 012 = 12 V DC
 024 = 24 V DC

A: Contact material
 0 = AgNi (40.31 Plug-in relays)
 0 = AgCdO (40.61 Plug-in relays)
 1 = AgNi (PCB relays)
 2 = AgCdO (40.61 PCB relays)

B: Contact circuit
 0 = CO (SPDT)
 3 = NO (SPST)

D: Special versions
 0 = Standard flux proof (RT II)
 1 = Wash tight (RT III)

C: Options
 0 = Pins length 5.3 mm (Plug-in relays)
 2 = Pins length 3.5 mm (PCB relays)

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

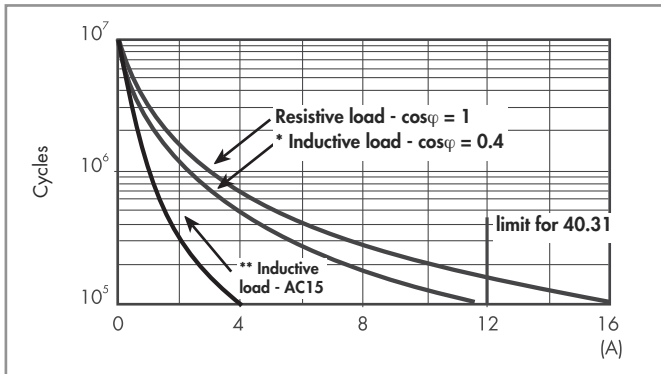
Terminal pin	Type	Coil version	A	B	C	D
PCB-relay, pin length 3.5 mm	40.31	DC sensitive	1	0 - 3	2	0 - 1
PCB-relay, pin length 3.5 mm	40.61	DC sensitive	1 - 2	0 - 3	2	0 - 1
Plug in relay, pin length 5.3 mm	40.31	DC sensitive	0	0 - 3	0	0 - 1
Plug in relay, pin length 5.3 mm	40.61	DC sensitive	0	0 - 3	0	0 - 1

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 open contacts			
Type of disconnection		Micro-disconnection	
Dielectric strength	V AC/kV (1.2/50 µs)	1,000/1.5	
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	2/5	
Vibration resistance (10...200)Hz: NO/NC	g	20/5	
Shock resistance NO/NC	g	20/5	
Power lost to the environment	without contact current	W	0.5
	with rated current	W	1.2 (40.31) 1.8 (40.61)
Recommended distance between relays mounted on PCB	mm	≥ 5	

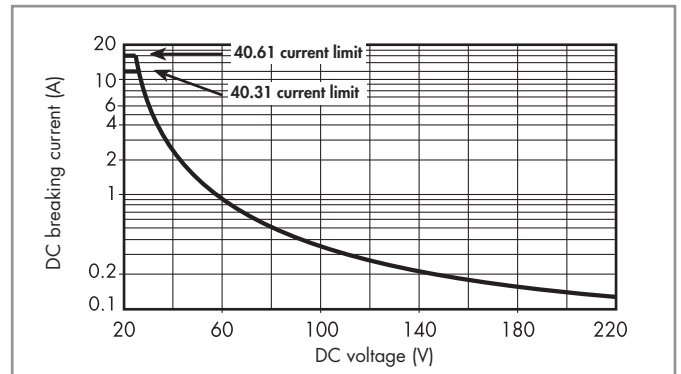
Contact specification

F 40 - Electrical life (AC) v contact current
Types 40.31/61



* Inductive load - $\cos\phi = 0.4$: inrush current = rated current
 ** Inductive load - AC15: inrush current = 10 x rated current

H 40 - 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

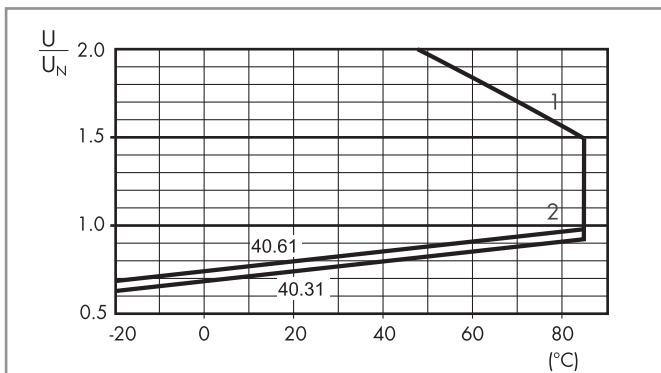
DC coil data - 0.5 W sensitive (type 40.31)

Nominal voltage U_N V	Coil code	Operating range		Resistance R Ω	Rated coil consumption I at U_N mA
		U_{min} V	U_{max} V		
12	7.012	8.8	18	288	42
24	7.024	17.5	36	1,150	21

DC coil data - 0.5 W sensitive (type 40.61)

Nominal voltage U_N V	Coil code	Operating range		Resistance R Ω	Rated coil consumption I at U_N mA
		U_{min} V	U_{max} V		
12	7.012	9.6	18	288	42
24	7.024	19.2	36	1,150	21

R 40 - DC coil operating range v ambient temperature



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