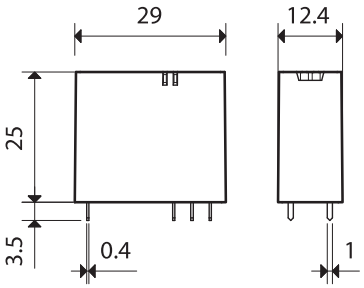
Features

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)

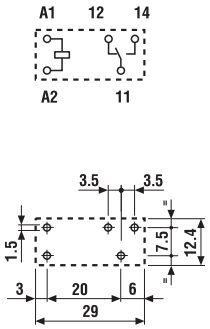
PCB mount

- DC sensitive coils as standard
- Cadmium Free contact material available
- 6 kV (1.2/50 µs) 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, (RT III option)
- 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)



NEW 40.31-1x2x

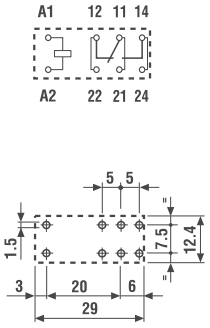
- 3.5 mm contact pin pitch
- 1 Pole 12 A



Copper side view

NEW 40.61-xx2x

- 5 mm contact pin pitch
- 1 Pole 16 A



Copper side view

Contact specification			
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			
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			
Mechanical life	cycles	$10 \cdot 10^6$	$10 \cdot 10^6$
Electrical life at rated load AC1	cycles	$200 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	10/3	10/3
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...+85	–40...+85
Environmental protection		RT II	RT II
Approvals (according to type)			

Ordering information

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

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

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
1 = AgNi
2 = AgCdO
(for 40.61 only)

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

C: Options
2 = None

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

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

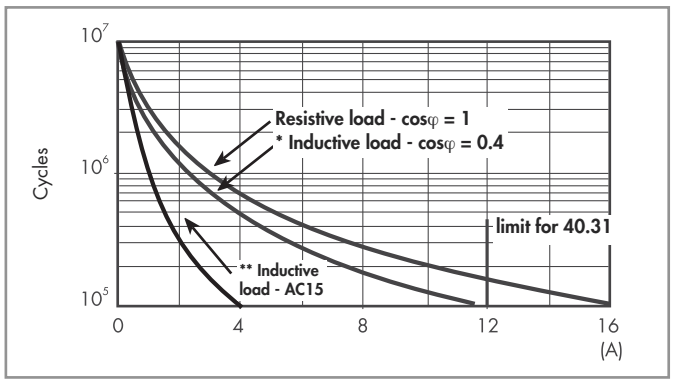
Type	Coil version	A	B	C	D
40.31	DC	**1**	**0** - 3	**2**	**0** - 1
40.61	DC	1 - **2**	**0** - 3	**2**	**0** - 1

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	

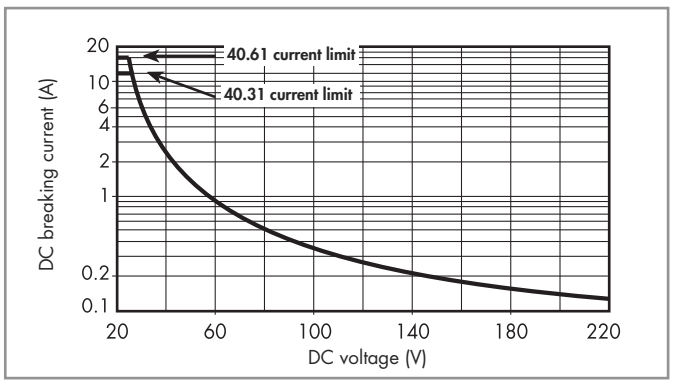
Contact specification

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



* Inductive load - cosφ = 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 ≥ $100 \cdot 10^3$ 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

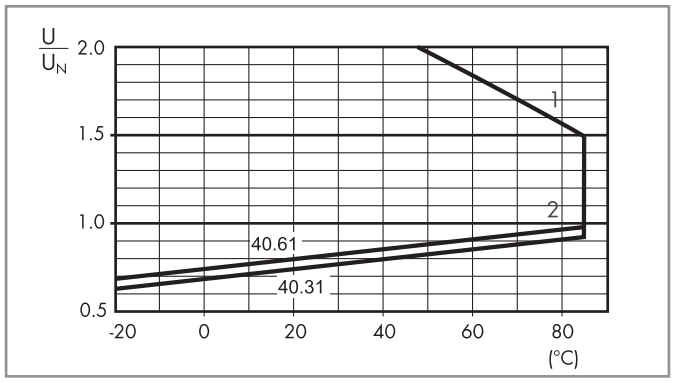
DC coil data - 0.5 W sensitive (type 40.31)

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
12	**7**.012	8.8	18	300	40
24	**7**.024	17.5	36	1,200	20

DC coil data - 0.5 W sensitive (type 40.61)

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
12	**7**.012	9.6	18	300	40
24	**7**.024	19.2	36	1,200	20

R 40 - DC coil operating range v ambient temperature



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