

Power relays 1 and 2 pole for direct PCB or socket mount

Type 40.31/51

- 1 CO 12 A (3.5 mm pin pitch)
- 1 CO 12 A (5.0 mm pin pitch)

Type 40.52

- 2 CO 8 A (5.0 mm pin pitch)

Type 40.61

- 1 CO 16 A (5.0 mm pin pitch)

- Pin length 3.5 mm for PCB mount
- Pin length 5.2 mm for Plug-in mount
- DC coils (650 mW or 500 mW) and AC coils
- 8 mm Creepage and Clearance, 6 kV (1.2/50µs) between coil and contact
- Meets EN 60335-1 glow wire requirements
- 95 series sockets for PCB or 35 mm rail mounting (EN 60715) with Screw, Screwless or Push-in terminals
- Coil Indication and EMC suppression modules 99 series and Timer module 86.30 options
- Environmental protection:
RT II - flux proof (Standard)
RT III - wash tight (Option)

* Mounted on sockets ≤ 10 A

** With the AgSnO₂ material the maximum peak current on normally open contact, is 120 A - 5 ms (for 40.61) and 60 A - 5 ms (for 40.52)

For UL RATINGS SEE:

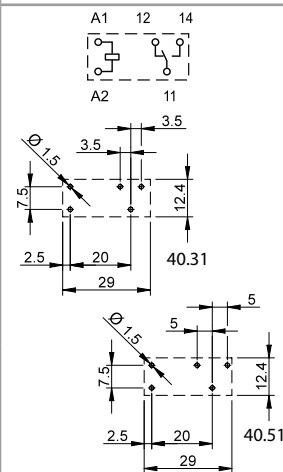
"General technical information" page VIII

For outline drawing see page 10

40.31/51



- 1 CO 12 A on PCB, 10 A with socket
- 3.5 mm pin pitch (40.31), 5.0 mm pin pitch (40.51)
- PCB or 95 Series socket mount



Copper side view

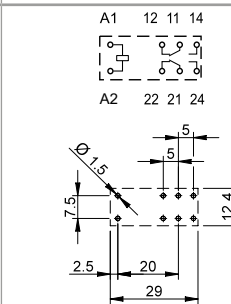
Pin length 3.5 mm for PCB only
Pin length 5.2 mm for PCB or sockets

See ordering information

40.52



- 2 CO 8 A
- 5.0 mm pin pitch
- PCB or 95 Series socket mount



Copper side view

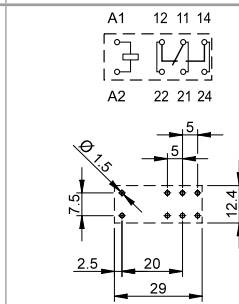
Pin length 5.2 mm for PCB or sockets

See ordering information

40.61



- 1 CO 16 A
- 5.0 mm pin pitch
- PCB or 95 Series socket mount



Copper side view

Pin length 3.5 mm for PCB only
Pin length 5.2 mm for PCB or sockets

See ordering information

Contact specification

Contact configuration		1 CO (SPDT)	2 CO (DPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A	12*/20	8/15**	16/30**
Rated voltage/Maximum switching voltage	V AC	250/400	250/400	250/400
Rated load AC1	VA	3000	2000	4000
Rated load AC15 (230 V AC)	VA	1000	750	1000
Single phase motor rating (230 V AC)	kW	0.55	0.37	0.55
Breaking capacity DC1: 24/110/220 V	A	12/0.6/0.25	8/0.6/0.25	16/0.6/0.25
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)	500 (10/5)
Standard contact material		AgNi	AgNi	AgNi

Coil specification

Nominal voltage (U _N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240		
	V DC	5 - 6 - 7 - 9 - 12 - 14 - 18 - 21 - 24 - 28 - 36 - 48 - 60 - 90 - 110 - 125		
Rated power AC/DC/sensitive DC	VA (50 Hz)/W/W	1.2/0.65/0.5	1.2/0.65/0.5	1.2/0.65/0.5
Operating range	AC	(0.8...1.1)U _N	(0.8...1.1)U _N	(0.8...1.1)U _N
	DC/sensitive DC	(0.73...1.5)U _N /(0.73...1.5)U _N	(0.73...1.5)U _N /(0.73...1.5)U _N	(0.73...1.5)U _N /(0.8...1.5)U _N
Holding voltage	AC/DC	0.8 U _N /0.4 U _N	0.8 U _N /0.4 U _N	0.8 U _N /0.4 U _N
Must drop-out voltage	AC/DC	0.2 U _N /0.1 U _N	0.2 U _N /0.1 U _N	0.2 U _N /0.1 U _N

Technical data

Mechanical life	cycles	10 · 10 ⁶	10 · 10 ⁶	10 · 10 ⁶
Electrical life at rated load AC1	cycles	200 · 10 ³	100 · 10 ³	100 · 10 ³
Operate/release time	ms	7/3 (10/3 sensitive)	7/3 (12/4 sensitive)	7/3 (10/3 sensitive)
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1000	1000	1000
Ambient temperature range	°C	-40...+85	-40...+85	-40...+85
Environmental protection		RT II***	RT II***	RT II***

Approvals (according to type)



*** See general technical information "Guidelines for automatic flow solder processes" page II.

Ordering information

Example: 40 series PCB relay, 2 CO, 230 V AC coil.

4

0

.

5

2

.

8

.

2

3

0

.

0

0

0

0

Series —————

Type —————

3 = PCB/Plug-in - 3.5 mm pinning
5 = PCB/Plug-in - 5 mm pinning
6 = PCB/Plug-in - 5 mm pinning

No. of poles —————

1 = 1 pole
2 = 2 pole

Coil version —————

6 = AC/DC bistable
7 = Sensitive DC, 0.5 W
8 = AC (50/60 Hz)
9 = Standard DC, 0.65 W

Coil voltage —————

See coil specifications

A: Contact material
See table below

B: Contact circuit
0 = CO (nPDT)
3 = NO (nPST)

D: Special versions
0 = Standard
1 = Wash tight (RT III)
3 = High temperature (+125 °C) wash tight

C: Options
0 = Pin length 5.2 mm (Plug-in relays)
2 = Pin 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	40.31/51	Standard DC/sensitive DC	1 (AgNi)	0 - 3	2	0 - 1
	40.61	Standard DC/sensitive DC	1 (AgNi) - 4 (AgSnO ₂)	0 - 3	2	0 - 1
PCB/Plug-in relay pin length 5.2 mm	40.31/51	AC/sensitive DC	0 (AgNi) - 4 (AgSnO ₂) - 5 (AgNi+Au)	0 - 3	0	0 - 1
	40.31/51	Standard DC	0 (AgNi) - 4 (AgSnO ₂) - 5 (AgNi+Au)	0 - 3	0	0 - 1 - 3
	40.52	AC/sensitive DC	0 (AgNi) - 4 (AgSnO ₂) - 5 (AgNi+Au)	0 - 3	0	0 - 1
	40.52	Standard DC	0 (AgNi) - 4 (AgSnO ₂) - 5 (AgNi+Au)	0 - 3	0	0 - 1 - 3
	40.61	AC/sensitive DC	1 (AgNi) - 4 (AgSnO ₂)	0 - 3	0	0 - 1
	40.61	Standard DC	1 (AgNi) - 4 (AgSnO ₂)	0 - 3	0	0 - 1 - 3
	40.62	AC/DC/sensitive DC	0 (AgNi) - 4 (AgSnO ₂)	0	0	0 - 1
	40.31/51/52	Bistable	0 (AgNi)	0	0	0
	40.61	Bistable	1 (AgNi) - 4 (AgSnO ₂)	0	0	0