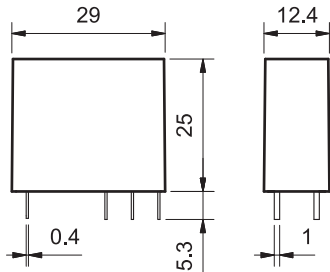


Features

- 1 & 2 Pole relay range**
 40.31 - 1 Pole 10 A (3.5 mm pin pitch)
 40.51 - 1 Pole 10 A (5 mm pin pitch)
 40.52 - 2 Pole 8 A (5 mm pin pitch)

- PCB mount**
 - direct or via PCB socket
35 mm rail mount
 - via screw and screwless sockets

- DC coils (standard or sensitive) & AC coils
- Cadmium Free contact material
- 8 mm, 6 kV (1.2/50 μs) isolation, coil-contacts
- UL Listing (certain relay/socket combinations)
- Flux proof: RT II standard, (RT III option)
- 95 series sockets
- Coil EMC suppression
- Timer accessories 86 series

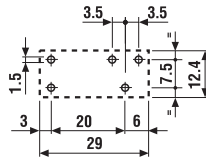
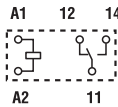


FOR UL HORSEPOWER AND PILOT DUTY RATINGS
 SEE "General technical information" page V

40.31



- 3.5 mm contact pin pitch
- 1 Pole 10 A
- PCB or 95 series sockets

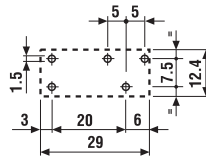
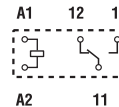


Copper side view

40.51



- 5 mm contact pin pitch
- 1 Pole 10 A
- PCB or 95 series sockets

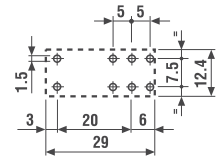
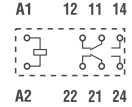


Copper side view

40.52



- 5 mm contact pin pitch
- 2 Pole 8 A
- PCB or 95 series sockets



Copper side view

Contact specification		40.31	40.51	40.52								
Contact configuration		1 CO (SPDT)	1 CO (SPDT)	2 CO (DPDT)								
Rated current/Maximum peak current	A	10/20	10/20	8/15								
Rated voltage/Maximum switching voltage V AC		250/400	250/400	250/400								
Rated load AC1	VA	2,500	2,500	2,000								
Rated load AC15 (230 V AC)	VA	500	500	400								
Single phase motor rating (230 V AC)	kW	0.37	0.37	0.3								
Breaking capacity DC1: 30/110/220 V	A	10/0.3/0.12	10/0.3/0.12	8/0.3/0.12								
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)								
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/sens. 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										
	DC/sens. DC	(0.73...1.5)U _N /(0.73...1.75)U _N										
Holding voltage	AC/DC	0.8 U _N /0.4 U _N										
Must drop-out voltage	AC/DC	0.2 U _N /0.1 U _N										
Technical data												
Mechanical life AC/DC	cycles	10 · 10 ⁶ /20 · 10 ⁶										
Electrical life at rated load AC1	cycles	200 · 10 ³										
Operate/release time	ms	7/3 - (12/4 sensitive)										
Insulation between coil and contacts (1.2/50 μs)	kV	6 (8 mm)										
Dielectric strength between open contacts V AC		1,000										
Ambient temperature range	°C	-40...+85										
Environmental protection		RT II**										
Approvals (according to type)								RINA				

Features

40.61 - 1 Pole 16 A (5 mm pin pitch)
40.xx.6 - Bistable versions of the 40.31, 40.51, 40.52 & 40.61 relays

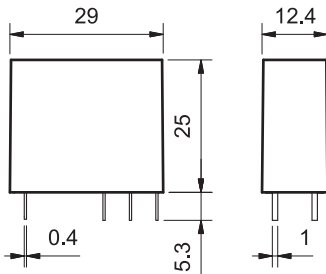
PCB mount

- direct or via PCB socket

35 mm rail mount

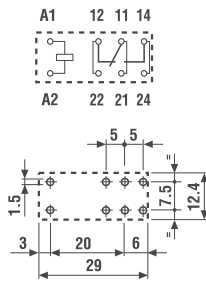
- via screw and screwless sockets

- DC coils & AC coils
- Cadmium Free option available
- 8 mm, 6 kV (1.2/50 µs) isolation, coil-contacts
- UL Listing (certain 40.61 relay/socket combinations)
- Flux proof: RT II standard, (RT III option)
- 95 series sockets
- Coil EMC suppression
- Timer accessories 86 series



- 5 mm contact pin pitch
- 1 Pole 16 A
- PCB or 95 series sockets

- Bistable (single coil) versions of 40.31/51/52/61
- PCB or 95 series sockets



Copper side view

Bistable version (1 coil) types:

- 40.31.6...
- 40.51.6...
- 40.52.6...
- 40.61.6...

For wiring diagrams see page 8

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

Contact specification		
Contact configuration		1 CO (SPDT)
Rated current/Maximum peak current	A	16/30*
Rated voltage/Maximum switching voltage V AC		250/400
Rated load AC1	VA	4,000
Rated load AC15 (230 V AC)	VA	750
Single phase motor rating (230 V AC)	kW	0.55
Breaking capacity DC1: 30/110/220 V	A	16/0.3/0.12
Minimum switching load	mW (V/mA)	500 (10/5)
Standard contact material		AgCdO
Coil specification		
Nominal voltage (U _N)	V AC (50/60 Hz)	6-12-24-48-60-110-120-230-240
	V DC	***See table
Rated power AC/DC/sens. DC	VA (50 Hz)/W/W	1.2/0.65/0.5
Operating range	AC	(0.8...1.1)U _N
	DC/sens. DC	(0.73...1.5)U _N /(0.8...1.5)U _N
Holding voltage	AC/DC	0.8 U _N / 0.4 U _N
Must drop-out voltage	AC/DC	0.2 U _N / 0.1 U _N
Technical data		
Mechanical life AC/DC	cycles	10 · 10 ⁶ / 20 · 10 ⁶
Electrical life at rated load AC1	cycles	100 · 10 ³
Operate/release time	ms	7/3 - (12/4 sensitive)
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)
Dielectric strength between open contacts V AC		1,000
Ambient temperature range	°C	-40...+85
Environmental protection		RT II**

See relays
 40.31
 40.51
 40.52
 40.61

* With the AgSnO₂ material the maximum peak current is 120 A - 5 ms on normally open contact.

*** Nominal voltage (U_N):
 5 - 6 - 7 - 9 - 12 - 14 - 18 - 21 - 24 - 28 - 36 - 48 - 60 - 90 - 110 - 125 V DC

Min. impulse duration
 ≥ 20 ms

Approvals (according to type)



Ordering information

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

4

0

.

5

.

2

.

8

.

2

3

0

.

0

.

0

.

0

.

0

Series —————

Type —————

1 = PCB - 3.5 mm pinning, flat
 3 = PCB - 3.5 mm pinning
 4 = PCB - 3.5 mm pinning
 5 = PCB - 5 mm pinning
 6 = PCB - 5 mm pinning

No. of poles —————

1 = 1 pole
 for: 40.11, 10 A/16 A
 40.31, 10 A
 40.41, 10 A
 40.51, 10 A
 40.61, 16 A

2 = 2 pole
 for: 40.52, 8 A

Coil version —————

6 = AC/DC bistable
 7 = Sensitive DC
 8 = AC (50/60 Hz)
 9 = DC

Coil voltage —————

See coil specifications

A: Contact material

0 = Standard AgNi
 for 40.31/51/52,
 AgCdO for 40.61

2 = AgCdO (standard
 for 40.11/41)

4 = AgSnO₂
 5 = AgNi + Au (5 µm)

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 = None
 16 = With rated current 16 A (for 40.11)

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
40.11	sensitive DC	2 - 4	0	0	0
40.11	sensitive DC	2 - 4	0	16	/
40.41	sensitive DC	0 - 2	0 - 3	0	0
40.31/51	AC-sens. DC	0 - 2 - 5	0 - 3	0	0 - 1
40.31/51	DC	0 - 2 - 5	0 - 3	0	0 - 1 - 3
40.52	AC-sens. DC	0 - 2 - 5	0 - 3	0	0 - 1
40.52	DC	0 - 2 - 5	0 - 3	0	0 - 1 - 3
40.61	AC-sens. DC	0 - 4	0 - 3	0	0 - 1
40.61	DC	0 - 4	0 - 3	0	0 - 1 - 3
40.31/51/ 52/61	bistable	0	0	0	0

Technical data

Insulation according to EN 61810-1				
		1 pole		2 pole
Nominal voltage of supply system	V AC	230/400		230/400
Rated insulation voltage	V AC	250	400	250 400
Pollution degree		3	2	3 2
Insulation between coil and contact set				
Type of insulation		Reinforced (8 mm)		Reinforced (8 mm)
Overvoltage category		III		III
Rated impulse voltage	kV (1.2/50 µs)	6		6
Dielectric strength	V AC	4,000		4,000
Insulation between adjacent contacts				
Type of insulation		—		Basic
Overvoltage category		—		II
Rated impulse voltage	kV (1.2/50 µs)	—		2.5
Dielectric strength	V AC	—		2,000
Insulation between open contacts				
Type of disconnection		Micro-disconnection		Micro-disconnection
Dielectric strength	V AC/kV (1.2/50 µs)	1,000/1.5		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 (5...55)Hz: NO/NC	g	10/4 (1 changeover)	15/3 (2 changeover)	
Shock resistance	g	13		
Power lost to the environment	without contact current	W	0.6	
	with rated current	W	1.2 (40.11/31/41/51)	2 (40.61/52/40.11-2016)
Recommended distance between relays mounted on PCB	mm	≥ 5		