

**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 5.3 mm for Plug-in mount
- DC coils (650 mW or 500 mW)
- Cadmium-free contact material available
- 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 AgSnO<sub>2</sub> material the maximum peak current is 120 A - 5 ms on normally open contact.

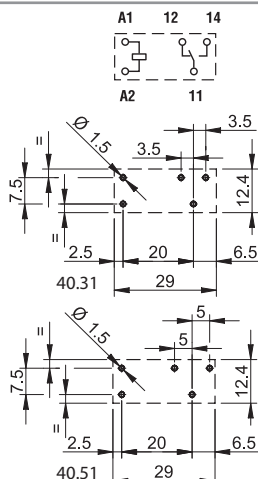
For UL RATINGS SEE:

"General technical information" page V

For outline drawing see page 12

**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



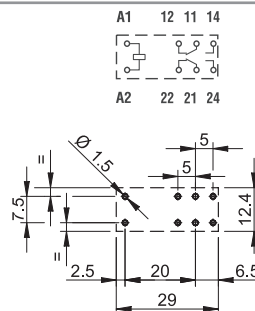
Copper side view

Pin length 3.5 mm for PCB only  
Pin length 5.3 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



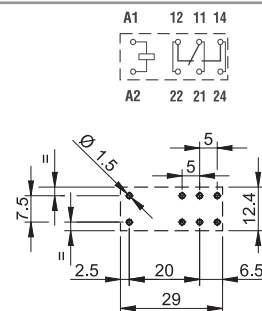
Copper side view

Pin length 5.3 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 5.3 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: 30/110/220 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        | AgCdO       |

**Coil specification**

|                                   |                 |                                                                             |                                                        |                                                       |
|-----------------------------------|-----------------|-----------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|
| Nominal voltage (U <sub>N</sub> ) | V AC (50/60 Hz) | —                                                                           | —                                                      | —                                                     |
|                                   | V DC            | 5 - 6 - 7 - 9 - 12 - 14 - 18 - 21 - 24 - 28 - 36 - 48 - 60 - 90 - 110 - 125 |                                                        |                                                       |
| Rated power DC/sensitive DC       | W               | 0.65/0.5                                                                    | 0.65/0.5                                               | 0.65/0.5                                              |
| Operating range                   | AC              | —                                                                           | —                                                      | —                                                     |
|                                   | DC/sensitive DC | (0.73...1.5)U <sub>N</sub> /(0.73...1.5)U <sub>N</sub>                      | (0.73...1.5)U <sub>N</sub> /(0.73...1.5)U <sub>N</sub> | (0.73...1.5)U <sub>N</sub> /(0.8...1.5)U <sub>N</sub> |
| Holding voltage                   | DC              | 0.4 U <sub>N</sub>                                                          | 0.4 U <sub>N</sub>                                     | 0.4 U <sub>N</sub>                                    |
| Must drop-out voltage             | DC              | 0.1 U <sub>N</sub>                                                          | 0.1 U <sub>N</sub>                                     | 0.1 U <sub>N</sub>                                    |

**Technical data**

|                                                  |        |                       |                       |                       |
|--------------------------------------------------|--------|-----------------------|-----------------------|-----------------------|
| Mechanical life                                  | cycles | 10 · 10 <sup>6</sup>  | 10 · 10 <sup>6</sup>  | 10 · 10 <sup>6</sup>  |
| Electrical life at rated load AC1                | cycles | 200 · 10 <sup>3</sup> | 100 · 10 <sup>3</sup> | 100 · 10 <sup>3</sup> |
| 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.

**Power relays 1 and 2 pole for direct PCB or socket mount****Type 40.31/51**

- 1 CO 10 A (3.5 mm pin pitch)
- 1 CO 10 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)

- AC or DC coils according to type
- Cadmium-free contact material
- 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)

\* With the AgSnO<sub>2</sub> material the maximum peak current is 120 A - 5 ms on normally open contact.

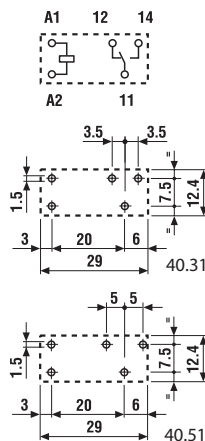
FOR UL RATINGS SEE:

"General technical information" page V

For outline drawing see page 12

**40.31/51**

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

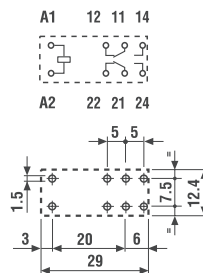


Copper side view

Pin length 5.3 mm for PCB or sockets

**40.52**

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

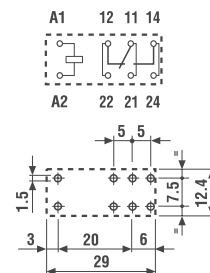


Copper side view

Pin length 5.3 mm for PCB or sockets

**40.61**

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



Copper side view

Pin length 5.3 mm for PCB or sockets

**Contact specification**

|                                         |           |             |             |             |
|-----------------------------------------|-----------|-------------|-------------|-------------|
| Contact configuration                   |           | 1 CO (SPDT) | 2 CO (DPDT) | 1 CO (SPDT) |
| Rated current/Maximum peak current      | A         | 10/20       | 8/15        | 16/30*      |
| Rated voltage/Maximum switching voltage | V AC      | 250/400     | 250/400     | 250/400     |
| Rated load AC1                          | VA        | 2500        | 2000        | 4000        |
| Rated load AC15 (230 V AC)              | VA        | 500         | 400         | 750         |
| Single phase motor rating (230 V AC)    | kW        | 0.37        | 0.3         | 0.55        |
| Breaking capacity DC1: 30/110/220 V     | A         | 10/0.3/0.12 | 8/0.3/0.12  | 16/0.3/0.12 |
| Minimum switching load                  | mW (V/mA) | 300 (5/5)   | 300 (5/5)   | 500 (10/5)  |
| Standard contact material               |           | AgNi        | AgNi        | AgCdO       |

**Coil specification**

|                                   |                 |                                               |                                                                             |                           |
|-----------------------------------|-----------------|-----------------------------------------------|-----------------------------------------------------------------------------|---------------------------|
| Nominal voltage (U <sub>N</sub> ) | 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/—/—                                       | 1.2/0.65/0.5                                                                | 1.2/—/—                   |
| Operating range                   | AC              | (0.8...1.1)U <sub>N</sub>                     | (0.8...1.1)U <sub>N</sub>                                                   | (0.8...1.1)U <sub>N</sub> |
|                                   | DC/sens. DC     | —                                             | (0.73...1.5)U <sub>N</sub> /(0.73...1.5)U <sub>N</sub>                      | —                         |
| Holding voltage                   | AC/DC           | 0.8 U <sub>N</sub> /—                         | 0.8 U <sub>N</sub> /0.4 U <sub>N</sub>                                      | 0.8 U <sub>N</sub> /—     |
| Must drop-out voltage             | AC/DC           | 0.2 U <sub>N</sub> /—                         | 0.2 U <sub>N</sub> /0.1 U <sub>N</sub>                                      | 0.2 U <sub>N</sub> /—     |

**Technical data**

|                                                  |        |                       |                        |                       |
|--------------------------------------------------|--------|-----------------------|------------------------|-----------------------|
| Mechanical life                                  | cycles | 10 · 10 <sup>6</sup>  | 10 · 10 <sup>6</sup>   | 10 · 10 <sup>6</sup>  |
| Electrical life at rated load AC1                | cycles | 200 · 10 <sup>3</sup> | 100 · 10 <sup>3</sup>  | 100 · 10 <sup>3</sup> |
| Operate/release time                             | ms     | 7/3                   | 7/3 - (12/4 sensitive) | 7/3                   |
| 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.