

# Low profile PCB relays 3 - 5 - 8 - 12 - 16 A



Medical and  
dentistry



Industrial robots



Building  
automation



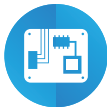
Control  
systems



Timers and  
lighting  
controls



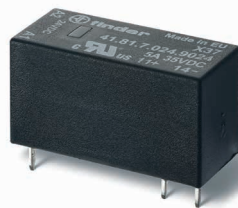
Door and  
gate openers



Electronic circuit  
boards



Vending  
machines



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### 1 & 2 Pole - Low profile (15.7 mm height)

#### Type 41.31

- 1 Pole 12 A (3.5 mm pin pitch)

#### Type 41.52

- 2 Pole 8 A (5.0 mm pin pitch)

#### Type 41.61

- 1 Pole 16 A (5.0 mm pin pitch)

### PCB mount

- direct or via PCB socket

### 35 mm rail mount

- via screw and screwless sockets

- AC and DC coils
- 8 mm, 6 kV (1.2/50  $\mu$ s) isolation, coil-contacts
- Cadmium Free contact materials
- Versions compliant with IECEx, ATEX (Ex ec nC), HazLoc Class I Div. 2, Groups A, B, C, D - T4\*

\* Characteristics page 10

\*\*With the AgSnO<sub>2</sub> material the maximum peak current is 80 A - 5 ms on NO contact.

For UL RATINGS SEE:

"General technical information" page VIII

For outline drawing see page 9

### Contact specification

| Contact configuration                       | 1 CO (SPDT) | 2 CO (DPDT) | 1 CO (SPDT) |             |
|---------------------------------------------|-------------|-------------|-------------|-------------|
| Rated current/<br>Maximum peak current      | A           | 12/25       | 8/15        | 16/30**     |
| Rated voltage/<br>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          | 600         | 400         | 750         |
| Single phase motor rating (230 V AC)        | kW          | 0.5         | 0.3         | 0.5         |
| Breaking capacity DC1: 24/110/220 V         | A           | 12/0.3/0.12 | 8/0.3/0.12  | 16/0.3/0.12 |
| Minimum switching load                      | mW (V/mA)   | 300 (5/5)   | 300 (5/5)   | 300 (5/5)   |
| Standard contact material                   | AgNi        | AgNi        | AgNi        |             |

### Coil specification

|                                   |                 |                                 |                                 |                                 |
|-----------------------------------|-----------------|---------------------------------|---------------------------------|---------------------------------|
| Nominal voltage (U <sub>N</sub> ) | V AC (50/60 Hz) | 24 - 230                        | 24 - 230                        | 24 - 230                        |
|                                   | V DC            | 5 - 6 - 12 - 24 - 48 - 60 - 110 | 5 - 6 - 12 - 24 - 48 - 60 - 110 | 5 - 6 - 12 - 24 - 48 - 60 - 110 |
| Rated power AC/DC                 | VA (50 Hz)/W    | 0.75/0.4                        | 0.75/0.4                        | 0.75/0.4                        |
| 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              | (0.7...1.5)U <sub>N</sub>       | (0.7...1.5)U <sub>N</sub>       | (0.7...1.5)U <sub>N</sub>       |
| Holding voltage                   | AC/DC           | 0.8/0.4 U <sub>N</sub>          | 0.8/0.4 U <sub>N</sub>          | 0.8/0.4 U <sub>N</sub>          |
| Must drop-out voltage             | AC/DC           | 0.15/0.1 U <sub>N</sub>         | 0.15/0.1 U <sub>N</sub>         | 0.15/0.1 U <sub>N</sub>         |

### Technical data

|                                                       |        |                                             |                                             |                                             |
|-------------------------------------------------------|--------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| Mechanical life AC/DC                                 | cycles | 10 · 10 <sup>6</sup> / 10 · 10 <sup>6</sup> | 10 · 10 <sup>6</sup> / 10 · 10 <sup>6</sup> | 10 · 10 <sup>6</sup> / 10 · 10 <sup>6</sup> |
| Electrical life at rated load AC1                     | cycles | 60 · 10 <sup>3</sup>                        | 60 · 10 <sup>3</sup>                        | 50 · 10 <sup>3</sup>                        |
| Operate/release time                                  | ms     | 8/6                                         | 8/6                                         | 8/6                                         |
| Insulation between coil and contacts (1.2/50 $\mu$ s) | kV     | 6 (8 mm)                                    | 6 (8 mm)                                    | 6 (8 mm)                                    |
| Dielectric strength between open contacts             | V AC   | 1000                                        | 1000                                        | 1000                                        |
| Ambient temperature range AC/DC                       | °C     | -40...+70/-40...+85                         | -40...+70/-40...+85                         | -40...+70/-40...+85                         |
| Environmental protection                              |        | RT II                                       | RT II                                       | RT II                                       |

### Approvals (according to type)



**1 & 2 Pole - Polarized bistable, Low profile  
(15.7 mm height)**
**Type 41.52**

- 2 Pole 8 A (5.0 mm pin pitch)

**Type 41.61**

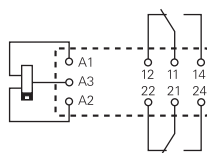
- 1 Pole 16 A (5.0 mm pin pitch)

**Printed Circuit mount**

- Polarized bistable relay with 2 coils
- 10 mm, 6 kV (1.2/50  $\mu$ s) isolation, coil-contacts
- Cadmium Free contact materials
- Flux proof: RT II standard

**41.52.6.xxx**

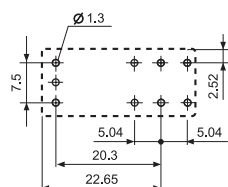

- 2 Pole, 8 A
- PCB direct mount



2 coil version:

A3(+) A2 (-) = Set

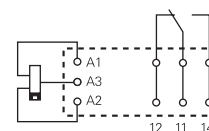
A3(+) A1 (-) = Reset



Copper side view

**41.61.6.xxx**

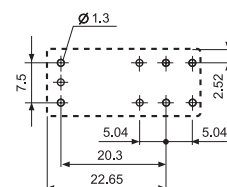

- 1 Pole, 16 A
- PCB direct mount



2 coil version:

A3(+) A2 (-) = Set

A3(+) A1 (-) = Reset



Copper side view

For outline drawing see page 9

**Contact specification**

| Contact configuration                                         |           | 2 CO (DPDT)        | 1 CO (SPDT)        |
|---------------------------------------------------------------|-----------|--------------------|--------------------|
| Rated current/<br>Maximum peak current ( $I_N/I_{max}$ )      | A         | 8/15               | 16/30              |
| Rated voltage/<br>Maximum switching voltage ( $U_N/U_{max}$ ) | V AC      | 250/400            | 250/400            |
| Rated load AC1                                                | VA        | 2000               | 4000               |
| Rated load AC15 (230 V AC)                                    | VA        | 350                | 750                |
| Single phase motor rating (230 V AC)                          | kW        | 0.37               | 0.55               |
| Breaking capacity DC1: 24/110/220 V                           | A         | 8/0.3/0.12         | 16/0.3/0.12        |
| Minimum switching load                                        | mW (V/mA) | 500 (5/100)        | 500 (5/100)        |
| Standard contact material                                     |           | AgSnO <sub>2</sub> | AgSnO <sub>2</sub> |

**Coil specification**

|                           |      |                   |                   |
|---------------------------|------|-------------------|-------------------|
| Nominal voltage ( $U_N$ ) | V DC | 5 - 12 - 24       | 5 - 12 - 24       |
| Rated power ( $P_N$ )     | W    | 0.65              | 0.65              |
| Operating range           | DC   | (0.7...1.1) $U_N$ | (0.7...1.1) $U_N$ |
| Min. impulse duration     | ms   | 20                | 20                |
| Max. impulse duration     | s    | 30                | 30                |

**Technical data**

|                                                          |        |                 |                 |
|----------------------------------------------------------|--------|-----------------|-----------------|
| Mechanical life DC                                       | cycles | $5 \cdot 10^6$  | $5 \cdot 10^6$  |
| Electrical life at rated load AC1                        | cycles | $30 \cdot 10^3$ | $30 \cdot 10^3$ |
| Operate/release time                                     | ms     | 10/5            | 10/10           |
| Insulation between coil<br>and contacts (1.2/50 $\mu$ s) | kV     | 6 (10 mm)       | 6 (10 mm)       |
| Dielectric strength<br>between open contacts             | V AC   | 1000            | 1000            |
| Ambient temperature range                                | °C     | -40...+85       | -40...+85       |
| Environmental protection                                 |        | RT II           | RT II           |

**Approvals** (according to type)


### Solid State Relays

#### Printed circuit mount:

- direct or via PCB socket

#### 35 mm rail mount:

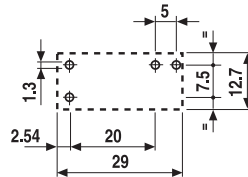
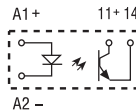
- via screw or screwless sockets

- Single circuit output switching options
  - 5 A 24 V DC
  - 3 A 240 V AC
- Silent, high speed switching with long electrical life
- LED indicator
- Low profile (15.7 mm)
- Wash tight: RT III
- 2500 V AC insulation, input-output

### 41.81 - 9024



- 5 A, 24 V DC output switching
- PCB or 93 Series sockets

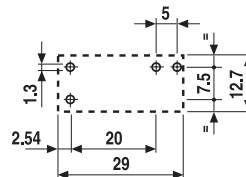
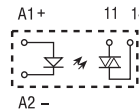


Copper side view

### 41.81 - 8240



- 3 A, 240 V AC output switching
- Zero crossing switching
- PCB or 93 Series sockets



Copper side view

For outline drawing see page 9

### Output circuit

|                                                |                 |                |                |
|------------------------------------------------|-----------------|----------------|----------------|
| Contact configuration                          |                 | 1 NO (SPST-NO) | 1 NO (SPST-NO) |
| Rated current/<br>Maximum peak current (10 ms) | A               | 5/40           | 3/40           |
| Rated voltage/<br>Maximum blocking voltage     | V               | (24/35)DC      | (240/—)AC      |
| Switching voltage range                        | V               | (1.5...24)DC   | (12...275)AC   |
| Repetitive peak off-state voltage              | V <sub>pk</sub> | —              | 600            |
| Minimum switching current                      | mA              | 1              | 50             |
| Max. "OFF-state" leakage current               | mA              | 0.01           | 1              |
| Max. "ON-state" voltage drop                   | V               | 0.3            | 1.1            |

### Input circuit

|                 |      |        |         |        |         |
|-----------------|------|--------|---------|--------|---------|
| Nominal voltage | V DC | 12     | 24      | 12     | 24      |
| Operating range | V DC | 8...17 | 14...32 | 8...17 | 14...32 |
| Control current | mA   | 5.5    | 9       | 8.8    | 9       |
| Release voltage | V DC | 4      | 9       | 4      | 9       |
| Impedance       | Ω    | 1550   | 2600    | 1030   | 2600    |

### Technical data

|                                             |      |           |           |
|---------------------------------------------|------|-----------|-----------|
| Operate/release time                        | ms   | 0.05/0.25 | 10/10     |
| Dielectric strength<br>between input/output | V AC | 2500      | 2500      |
| Ambient temperature range                   | °C   | -20...+60 | -20...+60 |
| Environmental protection                    |      | RT III    | RT III    |

### Approvals (according to type)



## Ordering information

### Electromechanical relay (EMR)

Example: 41 series low-profile PCB relay, 2 CO (DPDT), 24 V DC coil.

**A**

**41.52.9024.0010**

**Series** — 41

**Type** — 5  
3 = PCB - 3.5 mm pinning  
5 = PCB - 5.0 mm pinning  
6 = PCB - 5.0 mm pinning

**No. of poles** — 2  
1 = 1 pole for  
41.31, 12 A  
41.61, 16 A  
2 = 2 pole for  
41.52, 8 A

**Coil version** — 9  
6 = DC bistable, 2 coils  
8 = AC  
9 = DC

**Coil voltage** — 24  
See coil specifications

**A: Contact material**  
0 = Standard AgNi  
4 = AgSnO<sub>2</sub>  
5 = AgNi + Au

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

**D: Special versions**  
0 = Flux proof (RT II)  
1 = Wash tight (RT III)  
3 = IECEx, ATEX (Ex ec nC), HazLoc  
(41.52 and 41.61 only)  
6 = Bistable version (RT II)

**C: Options**  
0 = Production line 0  
1 = Production line 1  
2 = Production line 2

**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                |
|-------------|--------------|------------------|--------------|----------|------------------|
| 41.31       | DC           | <b>0 - 4 - 5</b> | <b>0 - 3</b> | <b>1</b> | <b>0 - 1</b>     |
| 41.52       | DC           | <b>0 - 5</b>     | <b>0 - 3</b> | <b>1</b> | <b>0 - 1 - 3</b> |
| 41.61       | DC           | <b>0 - 4</b>     | <b>0 - 3</b> | <b>1</b> | <b>0 - 1 - 3</b> |
| 41.31/61    | DC (12-24V)  | <b>0</b>         | <b>0</b>     | <b>2</b> | <b>0</b>         |
| 41.31/52/61 | AC           | <b>0</b>         | <b>0</b>     | <b>0</b> | <b>0</b>         |
| 41.52       | DC bistable  | 4                | <b>0</b>     | <b>1</b> | <b>6</b>         |
| 41.61       | DC bistable  | 4                | <b>0 - 3</b> | <b>1</b> | <b>6</b>         |

### Solid state relay (SSR)

Example: 41 series SSR relay, 5 A output, 24 V DC supply.

**41.81.7024.9024**

**Series** — 41

**Type** — 8  
8 = SSR type

**Output** — 1  
1 = 1 NO (SPST-NO)

**Input circuit** — 9024  
See coil specifications

**Output circuit**  
9024 = 5 A - 24 V DC  
8240 = 3 A - 240 V AC

Electromechanical relay

A

**Technical data**

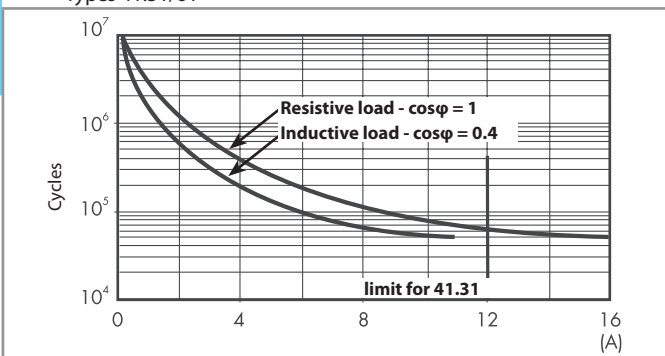
| Insulation according to EN 61810-1                 |                         |                     |                                                           |                 |                    |                     |                 |                    |
|----------------------------------------------------|-------------------------|---------------------|-----------------------------------------------------------|-----------------|--------------------|---------------------|-----------------|--------------------|
|                                                    |                         | 1 pole              |                                                           | 1 pole bistable | 2 pole             |                     | 2 pole bistable |                    |
| Nominal voltage of supply system                   |                         | V AC                | 230/400                                                   |                 | 230/400            |                     | 230/400         |                    |
| Rated insulation voltage                           |                         | V AC                | 250                                                       | 400             | 250                | 250                 | 400             | 250                |
| Pollution degree                                   |                         |                     | 3                                                         | 2               | 2                  | 3                   | 2               | 2                  |
| Insulation between coil and contact set            |                         |                     |                                                           |                 |                    |                     |                 |                    |
| Type of insulation                                 |                         |                     | Reinforced (8 mm)                                         |                 | Reinforced (10 mm) | Reinforced (8 mm)   |                 | Reinforced (10 mm) |
| Overvoltage category                               |                         |                     | III                                                       |                 | III                | III                 |                 | III                |
| Rated impulse voltage                              |                         | kV (1.2/50 µs)      | 6                                                         |                 | 6                  | 6                   |                 | 6                  |
| Dielectric strength                                |                         | V AC                | 4000                                                      |                 | 4000               | 4000                |                 | 4000               |
| Insulation between adjacent contacts               |                         |                     |                                                           |                 |                    |                     |                 |                    |
| Type of insulation                                 |                         |                     | —                                                         |                 | —                  | Basic               |                 | Basic              |
| Overvoltage category                               |                         |                     | —                                                         |                 | —                  | III                 |                 | III                |
| Rated impulse voltage                              |                         | kV (1.2/50 µs)      | —                                                         |                 | —                  | 4                   |                 | 4                  |
| Dielectric strength                                |                         | V AC                | —                                                         |                 | —                  | 2000                |                 | 2000               |
| Insulation between open contacts                   |                         |                     |                                                           |                 |                    |                     |                 |                    |
| Type of disconnection                              |                         |                     | Micro-disconnection                                       |                 |                    | Micro-disconnection |                 |                    |
| Dielectric strength                                |                         | V AC/kV (1.2/50 µs) | 1000/1.5                                                  |                 |                    | 1000/1.5            |                 |                    |
| Insulation between coil terminals                  |                         |                     |                                                           |                 |                    |                     |                 |                    |
| Rated impulse voltage (according to EN 61180)      |                         | kV (1.2/50 µs)      | 2 (only for DC coil), 1.5 (only for AC and bistable coil) |                 |                    |                     |                 |                    |
| Other data                                         |                         |                     |                                                           |                 |                    |                     |                 |                    |
| Bounce time: NO/NC                                 |                         | ms                  | 4/6 (monostable) - 2/10 (bistable)                        |                 |                    |                     |                 |                    |
| Vibration resistance (5...55)Hz: NO/NC             |                         | g                   | 15/2 (monostable) - 5/3 (bistable)                        |                 |                    |                     |                 |                    |
| Shock resistance                                   |                         | g                   | 16 (monostable) - 10 (bistable)                           |                 |                    |                     |                 |                    |
| Power lost to the environment                      | without contact current | W                   | 0.4 (monostable)                                          |                 |                    |                     |                 |                    |
|                                                    | with rated current      | W                   | 1.7 (41.31)                                               |                 | 1.2 (41.52)        |                     | 1.8 (41.61)     |                    |
| Recommended distance between relays mounted on PCB |                         | mm                  | ≥ 5                                                       |                 |                    |                     |                 |                    |

## Contact specification

F 41 - Electrical life (AC) v contact current (monostable)

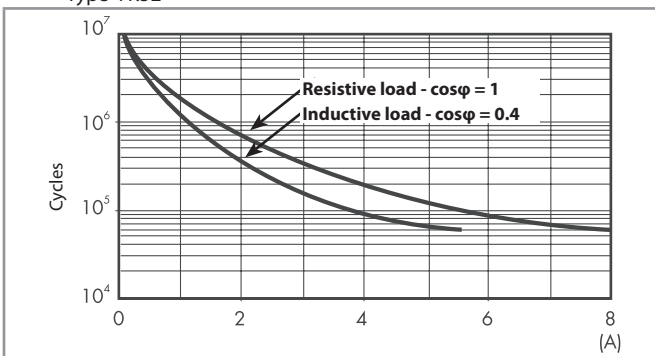
Types 41.31/61

A

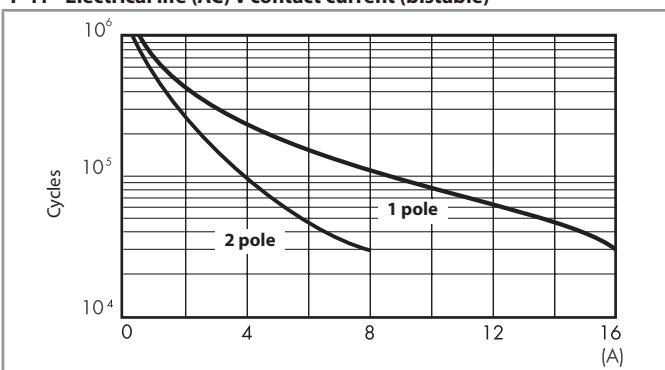


F 41 - Electrical life (AC) v contact current (monostable)

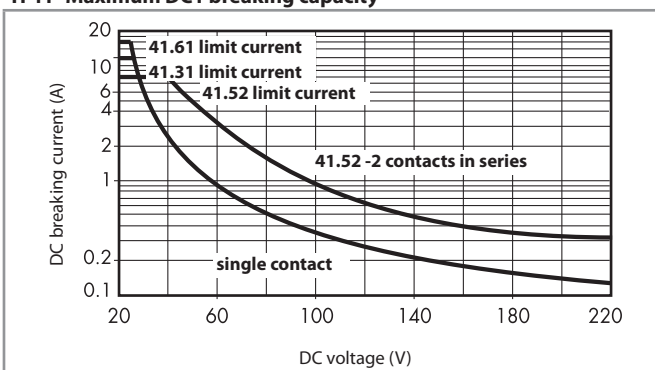
Type 41.52



F 41 - Electrical life (AC) v contact current (bistable)



H 41- 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

## AC coil data

| Nominal voltage | Coil code | Operating range |           | Resistance | Rated coil consumption |
|-----------------|-----------|-----------------|-----------|------------|------------------------|
| $U_N$           |           | $U_{min}$       | $U_{max}$ | R          | I at $U_N$             |
| V               |           | V               | V         | $\Omega$   | mA                     |
| 24              | 8.024     | 19.2            | 26.4      | 350        | 31.6                   |
| 230             | 8.230     | 184             | 253       | 32500      | 3.2                    |

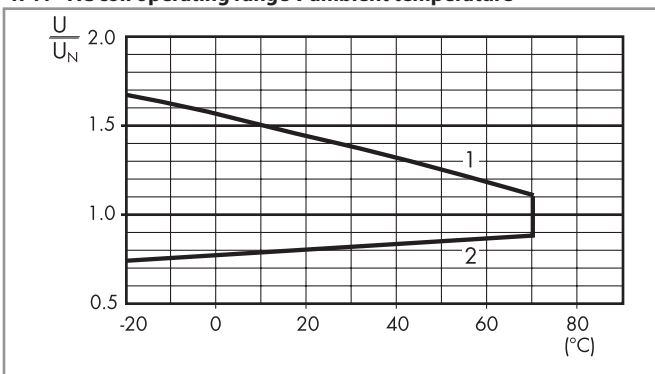
## DC coil data

| Nominal voltage | Coil code | Operating range |           | Resistance | Rated coil consumption |
|-----------------|-----------|-----------------|-----------|------------|------------------------|
| $U_N$           |           | $U_{min}$       | $U_{max}$ | R          | I at $U_N$             |
| V               |           | V               | V         | $\Omega$   | mA                     |
| 5               | 9.005     | 3.5             | 7.5       | 62         | 80                     |
| 6               | 9.006     | 4.2             | 9         | 90         | 66.7                   |
| 12              | 9.012     | 8.4             | 18        | 360        | 33.3                   |
| 24              | 9.024     | 16.8            | 36        | 1440       | 16.7                   |
| 48              | 9.048     | 33.6            | 72        | 5760       | 8.3                    |
| 60              | 9.060     | 42              | 90        | 9000       | 6.6                    |
| 110             | 9.110     | 77              | 165       | 24200      | 4.5                    |

## DC coil data (bistable)

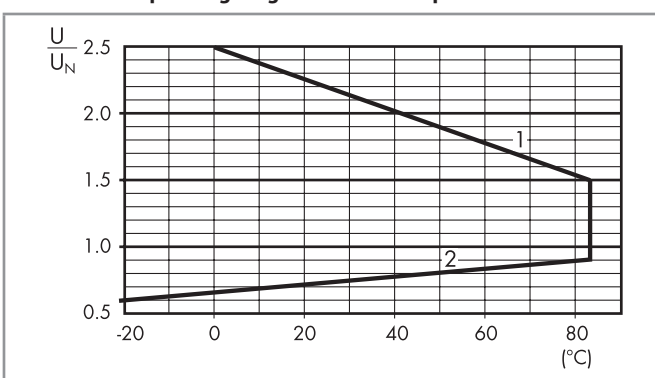
| Nominal voltage | Coil code | Operating range |                 |                     | Resistance | Rated coil power |
|-----------------|-----------|-----------------|-----------------|---------------------|------------|------------------|
| $U_N$           |           | Set $U_{min}$   | Reset $U_{min}$ | Set/Reset $U_{max}$ | R          | I at $U_N$       |
| V               |           | V               | V               | V                   | $\Omega$   | mW               |
| 5               | 6.005     | 3.5             | 3.5             | 5.5                 | 38         | 650              |
| 12              | 6.012     | 8.4             | 8.4             | 13.2                | 220        | 650              |
| 24              | 6.024     | 16.8            | 16.8            | 26.4                | 885        | 650              |

R 41 - AC coil operating range v ambient temperature



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

R 41 - DC coil operating range v ambient temperature



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



Solid state relay

Technical data

| Other data                    |                      |   | 41.81 - 9024 | 41.81 - 8240 |
|-------------------------------|----------------------|---|--------------|--------------|
| Power lost to the environment | without current      | W | 0.25         | 0.25         |
|                               | with maximum current | W | 1.75         | 3.5          |

Input specification

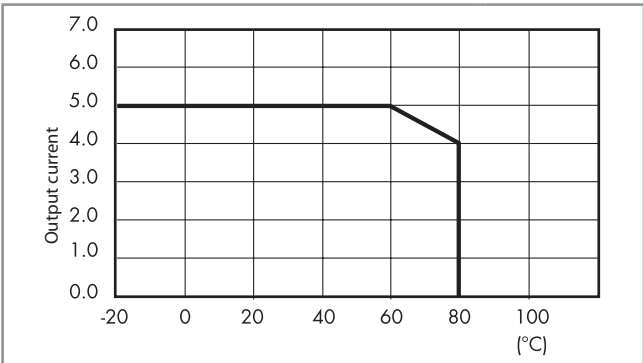
Input data - DC types

| Nominal voltage<br>$U_N$ | Input code | Operating range  |                  | Release voltage<br>$U_{\text{rel}}$ | Impedance<br>$Z$ | Control current<br>$I$ at $U_N$ |
|--------------------------|------------|------------------|------------------|-------------------------------------|------------------|---------------------------------|
|                          |            | $U_{\text{min}}$ | $U_{\text{max}}$ |                                     |                  |                                 |
| V                        |            | V                | V                | V                                   | $\Omega$         | mA                              |
| 12                       | 7.012      | 8                | 17               | 4                                   | 1550             | 5.5                             |
| 24                       | 7.024      | 14               | 32               | 9                                   | 2600             | 9                               |

Output specification

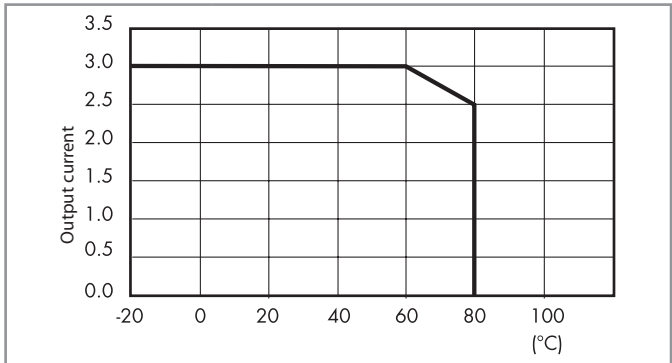
L 41 - Output current v ambient temperature

SSR - 5 A DC output types



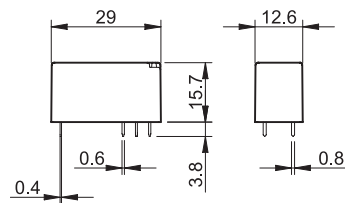
L 41 - Output current v ambient temperature

SSR - 3 A AC output types

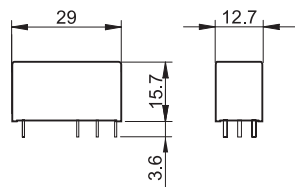


Outline drawings

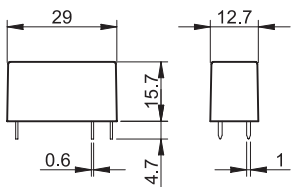
Types 41.31/52/61



Types 41.52.6.xxx/41.61.6.xxx



Types 41.81-9024/41.81-8240

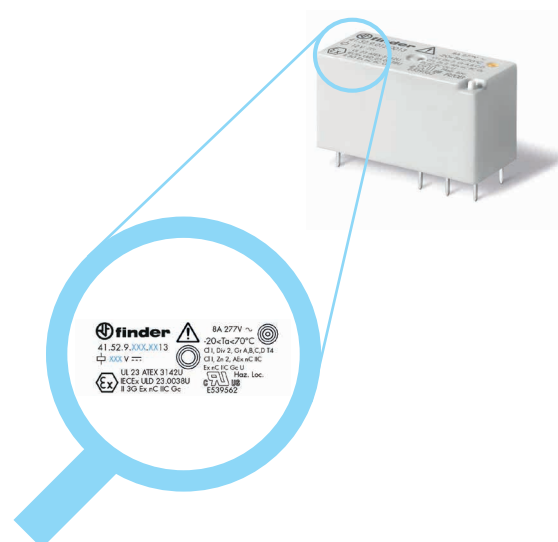


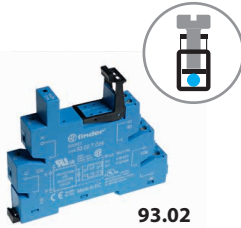
## IECEx - ATEX - HazLoc: Nominal current and ambient temperature

| A          | Type     |                                              |                                | 41.52...13 | 41.61...13 |
|------------|----------|----------------------------------------------|--------------------------------|------------|------------|
|            | Approval | Ambient temperature                          | Contact configuration          | 2 CO/NO    | 1 CO/NO    |
| IECEx - EX |          | -20...+85 °C<br>(105 °C service temperature) | Rated voltage                  | 277 V AC   | 277 V AC   |
|            |          |                                              | Rated current                  | 8 A        | 16 A       |
|            |          |                                              | Breaking capacity DC1: 32 V DC | 5 A        | 5 A        |
| HazLoc     |          | -20...+70 °C<br>(105 °C service temperature) | Rated voltage                  | 277 V AC   | 277 V AC   |
|            |          |                                              | Rated current                  | 8 A        | 16 A       |
|            |          |                                              | Breaking capacity DC1: 32 V DC | 5 A        | 5 A        |
|            |          | -20...+85 °C<br>(105 °C service temperature) | Rated voltage                  | —          | 277 V AC   |
|            |          |                                              | Rated current                  | —          | 10 A       |

## Markings - ATEX, IECEx and HazLoc versions

|                                                                                                                                                                                                                                                                    |                                                                           |                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>ATEX (UL 23 ATEX 3142 U):</b>                                                                                                                                                                                                                                   | II 3 G                                                                    |                                             |
| <b>IECEx (IECEx ULD 23.0038 U):</b>                                                                                                                                                                                                                                | Ex nC IIC Gc                                                              |                                                                                                                              |
| <b>Haz.Loc. (E539562):</b>                                                                                                                                                                                                                                         | CI I, Div2, Gr A, B, C, D, T4<br>CI I, Zn 2, AEx nC IIC<br>Ex nC IIC Gc U | <br>LISTED<br>IND. CONT. EQ.<br>FOR HAZLOC. |
| Specific marking of explosion protection                                                                                                                                                                                                                           |                                                                           |                                                                                                                              |
| <b>II</b> Component for surface plant (different from mines)                                                                                                                                                                                                       |                                                                           |                                                                                                                              |
| <b>3</b> Category 3: normal level of protection                                                                                                                                                                                                                    |                                                                           |                                                                                                                              |
| <b>G - CI I</b> Explosive atmosphere due to presence of combustible gas vapour or mist                                                                                                                                                                             |                                                                           |                                                                                                                              |
| <b>Div 2 - Zn 2</b> Hazardous explosive concentration presence just in case of fault                                                                                                                                                                               |                                                                           |                                                                                                                              |
| <b>Ex nC - AEx nC</b> Sealed device                                                                                                                                                                                                                                |                                                                           |                                                                                                                              |
| <b>IIC - Gr A, B, C, D</b> Gas group                                                                                                                                                                                                                               |                                                                           |                                                                                                                              |
| <b>T4</b> Temperature class                                                                                                                                                                                                                                        |                                                                           |                                                                                                                              |
| <b>Gc</b> Device protection level                                                                                                                                                                                                                                  |                                                                           |                                                                                                                              |
| <b>UL 23 ATEX 3142 U - IECEx ULD 23.0038 U - E539562</b><br>UL - ULD: ID of the notified body which issues the type certificate<br>23: year of issue of the certificate<br>3142 - 0013: number of the type certificate<br>E539562: UL file number<br>U: components |                                                                           |                                                                                                                              |
| <b>Zyy: production batch identification</b><br>Z: year, yy: week                                                                                                                                                                                                   |                                                                           |                                                                                                                              |





93.02

Approvals  
(according to type):



#### Box clamp socket 35 mm (EN 60715) mounting

##### Supply voltage

| Supply voltage     | Relay type                              | Socket type |
|--------------------|-----------------------------------------|-------------|
| 6 V AC/DC          | 41.52.9.005.0010 or 41.61.9.005.0010    | 93.02.0.024 |
| 12 V AC/DC         | 41.52.9.012.0010 or 41.61.9.012.0010    | 93.02.0.024 |
| 24 V AC/DC         | 41.52/61.9.024.0010 or 41.81.7.024.xxxx | 93.02.0.024 |
| 60 V AC/DC         | 41.52.9.060.0010 or 41.61.9.060.0010    | 93.02.0.060 |
| (110...125)V AC/DC | 41.52.9.110.0010 or 41.61.9.110.0010    | 93.02.0.125 |
| (220...240)V AC/DC | 41.52.9.110.0010 or 41.61.9.110.0010    | 93.02.0.240 |
| (230...240)V AC    | 41.52.9.110.0010 or 41.61.9.110.0010    | 93.02.8.230 |
| 6 V DC             | 41.52.9.005.0010 or 41.61.9.005.0010    | 93.02.7.024 |
| 12 V DC            | 41.52/61.9.012.0010 or 41.81.7.012.xxxx | 93.02.7.024 |
| 24 V DC            | 41.52/61.9.024.0010 or 41.81.7.024.xxxx | 93.02.7.024 |
| 48 V DC            | 41.52.9.048.0010 or 41.61.9.048.0010    | 93.02.7.060 |
| 60 V DC            | 41.52.9.060.0010 or 41.61.9.060.0010    | 93.02.7.060 |

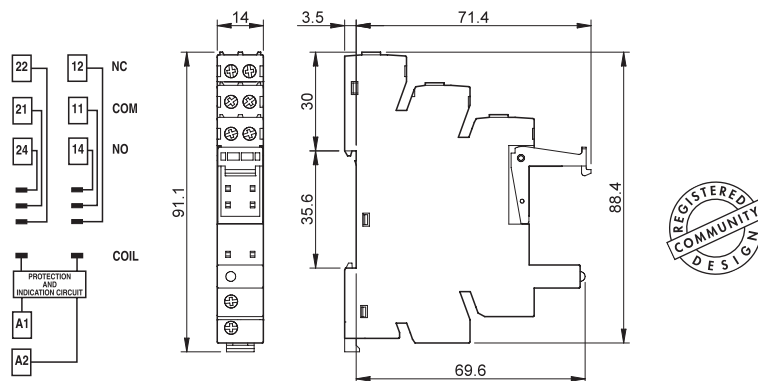
##### Accessories

|                               |                                      |
|-------------------------------|--------------------------------------|
| 8-way jumper link             | 093.08 (see specification next page) |
| Plastic separator             | 093.01 (see specification next page) |
| Sheet of marker tags, 48 tags | 060.48 (see specification next page) |

##### Technical data

|                                                                                                |                                            |                     |
|------------------------------------------------------------------------------------------------|--------------------------------------------|---------------------|
| Rated values                                                                                   | 10 A - 250 V*                              |                     |
| Dielectric strength                                                                            | 6 kV (1.2/50 µs) between coil and contacts |                     |
| Protection category                                                                            | IP 20                                      |                     |
| Ambient temperature (U <sub>N</sub> ≤ 60 V / > 60 V)                                           | °C                                         | -40...+70/-40...+55 |
|  Screw torque | Nm                                         | 0.5                 |
| Wire strip length                                                                              | mm                                         | 8                   |
| Max. wire size for 93.02 socket                                                                | solid wire                                 | stranded wire       |
|                                                                                                | mm <sup>2</sup>                            | 1 x 6 / 2 x 2.5     |
|                                                                                                | AWG                                        | 1 x 10 / 2 x 14     |

\* For currents > 10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).



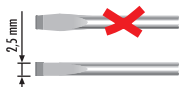
Note: Not for bistable relays

A



93.52

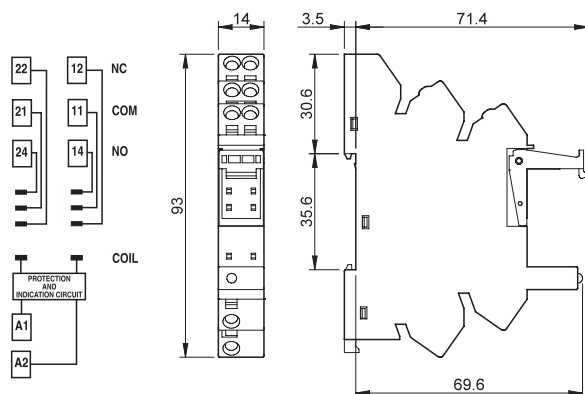
Approvals  
(according to type):



## Screwless terminal socket 35 mm (EN 60715) mounting

| Supply voltage                                       | Relay type                                 | Socket type |               |
|------------------------------------------------------|--------------------------------------------|-------------|---------------|
| 6 V AC/DC                                            | 41.52.9.005.0010 or 41.61.9.005.0010       | 93.52.0.024 |               |
| 12 V AC/DC                                           | 41.52.9.012.0010 or 41.61.9.012.0010       | 93.52.0.024 |               |
| 24 V AC/DC                                           | 41.52/61.9.024.0010 or 41.81.7.024.xxxx    | 93.52.0.024 |               |
| 60 V AC/DC                                           | 41.52.9.060.0010 or 41.61.9.060.0010       | 93.52.0.060 |               |
| (110...125)V AC/DC                                   | 41.52.9.110.0010 or 41.61.9.110.0010       | 93.52.0.125 |               |
| (220...240)V AC/DC                                   | 41.52.9.110.0010 or 41.61.9.110.0010       | 93.52.0.240 |               |
| (230...240)V AC                                      | 41.52.9.110.0010 or 41.61.9.110.0010       | 93.52.8.230 |               |
| 6 V DC                                               | 41.52.9.005.0010 or 41.61.9.005.0010       | 93.52.7.024 |               |
| 12 V DC                                              | 41.52/61.9.012.0010 or 41.81.7.012.xxxx    | 93.52.7.024 |               |
| 24 V DC                                              | 41.52/61.9.024.0010 or 41.81.7.024.xxxx    | 93.52.7.024 |               |
| 48 V DC                                              | 41.52.9.048.0010 or 41.61.9.048.0010       | 93.52.7.060 |               |
| 60 V DC                                              | 41.52.9.060.0010 or 41.61.9.060.0010       | 93.52.7.060 |               |
| Accessories                                          |                                            |             |               |
| 8-way jumper link                                    | 093.08 (see table below)                   |             |               |
| Plastic separator                                    | 093.01 (see table below)                   |             |               |
| Sheet of marker tags, 48 tags                        | 060.48 (see table below)                   |             |               |
| Technical data                                       |                                            |             |               |
| Rated values                                         | 10 A - 250 V*                              |             |               |
| Dielectric strength                                  | 6 kV (1.2/50 μs) between coil and contacts |             |               |
| Protection category                                  | IP 20                                      |             |               |
| Ambient temperature (U <sub>N</sub> ≤ 60 V / > 60 V) | °C −40...+70/−40...+55                     |             |               |
| Wire strip length                                    | mm                                         | 8           |               |
| Max. wire size for 93.52 socket                      |                                            | solid wire  | stranded wire |
|                                                      | mm <sup>2</sup>                            | 1 x 2.5     | 1 x 2.5       |
|                                                      | AWG                                        | 1 x 14      | 1 x 14        |

\* For currents > 10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).



Note: Not for bistable relays

## Accessories

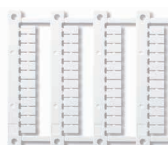


093.08

Approvals  
(according to type):

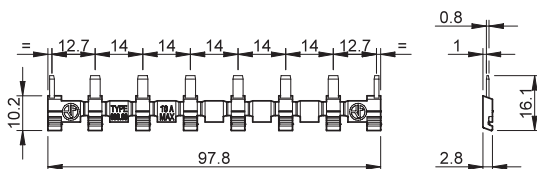


093.01



060.48

| 8-way jumper link for 93.02 and 93.52 sockets | 093.08 (blue) | 093.08.0 (black) | 093.08.1 (red) |
|-----------------------------------------------|---------------|------------------|----------------|
| Rated values                                  | 10 A - 250 V  |                  |                |



## Plastic separator for 93.02 and 93.52 sockets

093.01

Thickness 2 mm, required at the start and the end of a group of interfaces.

Can be used for visual separation group, must be used for:

- protective separation of different voltages of neighbouring PLC interfaces according to VDE 0106-101
- protection of cut jumper links

## Sheet of marker tags (CEMBRE Thermal transfer printers), plastic, 48 tags, 6 x 12 mm

060.48



95.13.2



95.15.2

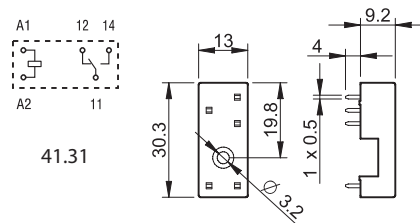
Approvals  
(according to type):



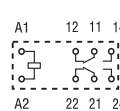
| PCB socket                                                            | 95.13.2<br>Blue                            | 95.13.20<br>Black | 95.15.2<br>Blue                    | 95.15.20<br>Black |
|-----------------------------------------------------------------------|--------------------------------------------|-------------------|------------------------------------|-------------------|
| For relay type                                                        | 41.31                                      |                   | 41.52, 41.61, 41.81 <sup>(1)</sup> |                   |
| Accessories                                                           |                                            |                   |                                    |                   |
| Plastic retaining clip<br>(supplied with socket - packaging code SLA) | 095.42.30                                  |                   |                                    |                   |
| Metal retaining clip                                                  | 095.41.3                                   |                   |                                    |                   |
| Technical data                                                        |                                            |                   |                                    |                   |
| Rated values                                                          | 10 A - 250 V*                              |                   |                                    |                   |
| Dielectric strength                                                   | 6 kV (1.2/50 μs) between coil and contacts |                   |                                    |                   |
| Protection category                                                   | IP 20                                      |                   |                                    |                   |
| Ambient temperature                                                   | °C                                         | −40...+70         |                                    |                   |

\* For currents > 10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).

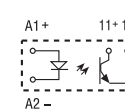
<sup>(1)</sup> With the relay 41.81 the NO change-over contact will be 11-14.



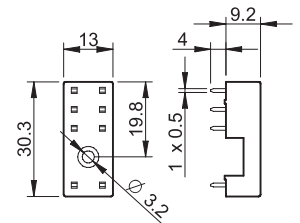
41.31



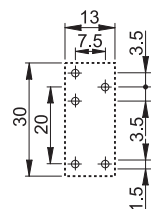
41.52



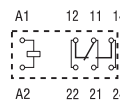
41.81 - 9024



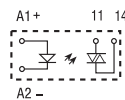
95.15.2  
Copper side view



95.13.2  
Copper side view



41.61



41.81 - 8240

Note: Not for bistable relays

## Packaging codes

How to code and identify retaining clip and packaging options for sockets.

Example:

