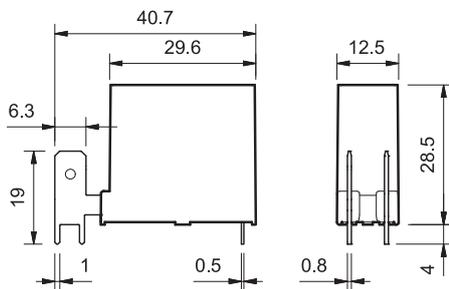


Features

- 1 Pole 16 A relays for 125 °C ambient use**
 - 45.71, 1 Pole normally open or normally closed
 - 45.91, 1 Pole normally open (≥ 3 mm contact gap)

PCB mount - coil connections
 Faston 250 - contact connections

- Contact gap ≥ 3 mm according to EN 60730-1 (45.91 type)
- Sensitive DC coil - 360 mW
- Cadmium Free option available
- Reinforced insulation between coil and contacts according to EN 60335-1 (VDE 0700), with safe separation and 8 mm clearance and creepage distance
- 6 kV (1.2/50 μ s) isolation, coil-contacts
- Flux proof: RT II standard, (RT III option)

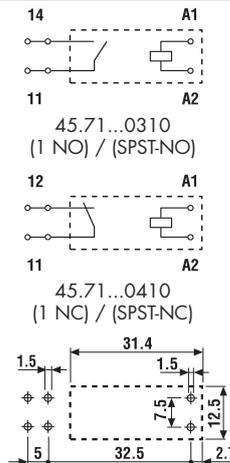


FOR UL HORSEPOWER AND PILOT DUTY RATINGS
 SEE "General technical information" page V

45.71



- 1 NO or 1 NC (SPST-NO or SPST-NC)
- Max ambient temperature +125°C
- PCB mounting + Faston 250

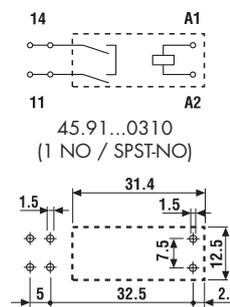


Copper side view

45.91



- 1 NO (SPST-NO), ≥ 3 mm gap
- Max ambient temperature +125°C
- PCB mounting + Faston 250

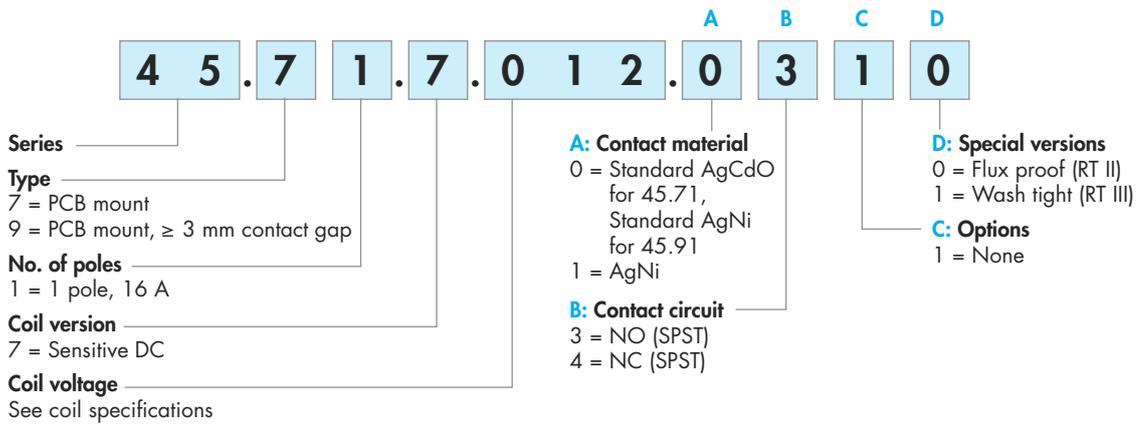


Copper side view

| Contact specification | | | |
|---|-----------------|---------------------------------|-------------------------------|
| Contact configuration | | 1NO or 1NC (SPST-NO or SPST-NC) | 1NO (SPST-NO) ≥ 3 mm gap |
| Rated current/Maximum peak current | A | 16/30 | 16/30 |
| Rated voltage/Maximum switching voltage V AC | | 250/400 | 250/400 |
| Rated load AC1 | VA | 4,000 | 4,000 |
| Rated load AC15 (230 V AC) | VA | 750 | 750 |
| Single phase motor rating (230 V AC) | kW | 0.55 | 0.55 |
| Breaking capacity DC1: 30/110/220 V | A | 16/0.3/0.13 | 16/4/1 |
| Minimum switching load | mW (V/mA) | 500 (10/5) | 500 (10/5) |
| Standard contact material | | AgCdO | AgNi |
| Coil specification | | | |
| Nominal voltage (U_N) | V AC (50/60 Hz) | — | — |
| | V DC | 6 - 12 - 24 - 48 - 60 | 6 - 12 - 24 - 48 - 60 |
| Rated power AC/DC | VA (50 Hz)/W | —/0.36 | —/0.36 |
| Operating range | AC | — | — |
| | DC | $(0.7 \dots 1.2)U_N$ | $(0.7 \dots 1.2)U_N$ |
| Holding voltage | AC/DC | —/0.4 U_N | —/0.4 U_N |
| Must drop-out voltage | AC/DC | —/0.1 U_N | —/0.1 U_N |
| Technical data | | | |
| Mechanical life AC/DC | cycles | —/10 · 10 ⁶ | —/10 · 10 ⁶ |
| Electrical life at rated load AC1 | cycles | 100 · 10 ³ | 30 · 10 ³ |
| Operate/release time | ms | 10/2 | 12/2 |
| Insulation between coil and contacts (1.2/50 μ s) | kV | 6 (8 mm) | 6 (8 mm) |
| Dielectric strength between open contacts | V AC | 1,000 | 2,500 |
| Ambient temperature range | °C | −40...+125 | −40...+125 |
| Environmental protection | | RT II | RT II |
| Approvals (according to type) | | | |

Ordering information

Example: 45 series for PCB relay + Faston 250, 1 NO (SPST-NO), 12 V DC coil.



Selecting features and options: only combinations in the same row are possible.

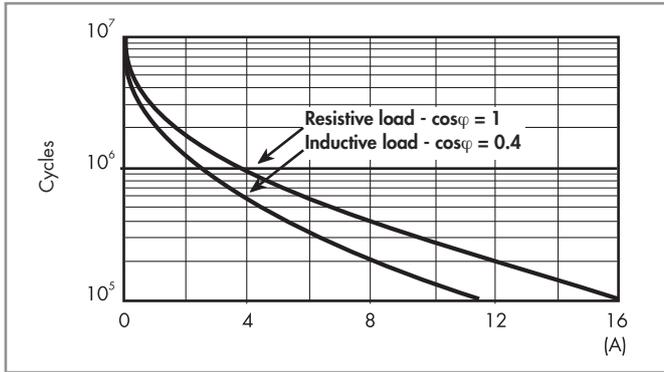
| Type | Coil version | A | B | C | D |
|-------|--------------|-------|-------|---|-------|
| 45.71 | sensitive DC | 0 - 1 | 3 - 4 | 1 | 0 - 1 |
| 45.91 | sensitive DC | 0 | 3 | 1 | 0 - 1 |

Technical data

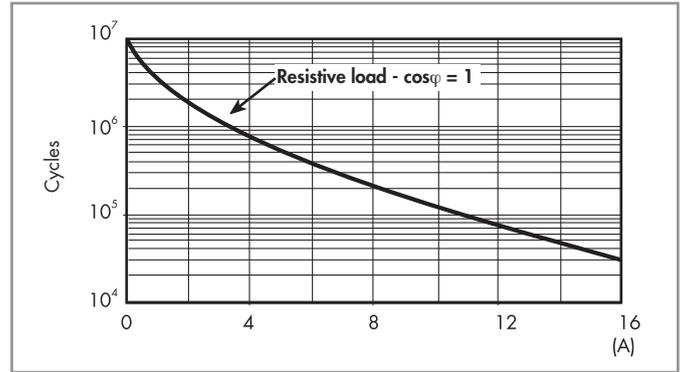
| Insulation according to EN 61810-1 | | 45.71 | | 45.91 | |
|--|-------------------------|---------------------|-----|--------------------|-----|
| Nominal voltage of supply system | V AC | 230/400 | | 230/400 | |
| Rated insulation voltage | V AC | 250 | 400 | 250 | 400 |
| Pollution degree | | 3 | 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 open contacts | | | | | |
| Type of disconnection | | Micro-disconnection | | Full-disconnection | |
| Overvoltage category | | — | | III | |
| Rated impulse voltage | kV (1.2/50 µs) | — | | 4 | |
| Dielectric strength | V AC/kV (1.2/50 µs) | 1,000/1.5 | | 2,500/4 | |
| 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 | | 45.71 | | 45.91 | |
| Bounce time: NO/NC | ms | 3/3 | | 2/— | |
| Vibration resistance (10...150)Hz: NO/NC | g | 20/10 | | 20/— | |
| Shock resistance | g | 20 | | | |
| Power lost to the environment | without contact current | W | 0.4 | | |
| | with rated current | W | 1.8 | | |
| Recommended distance between relays mounted on PCB | mm | ≥ 5 | | | |

Contact specification

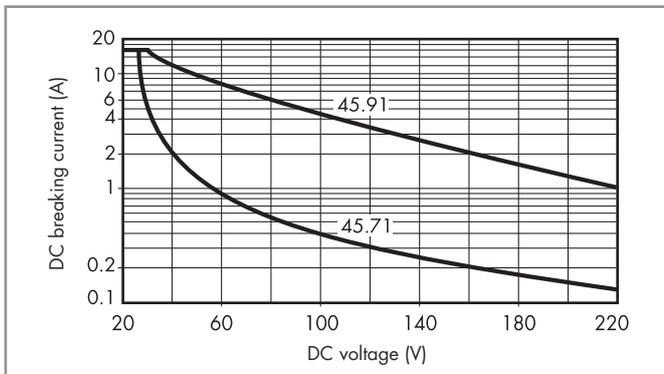
F 45 - Electrical life (AC) v contact current
Type 45.71



F 45 - Electrical life (AC) v contact current
Type 45.91



H 45 - Maximum DC1 breaking capacity



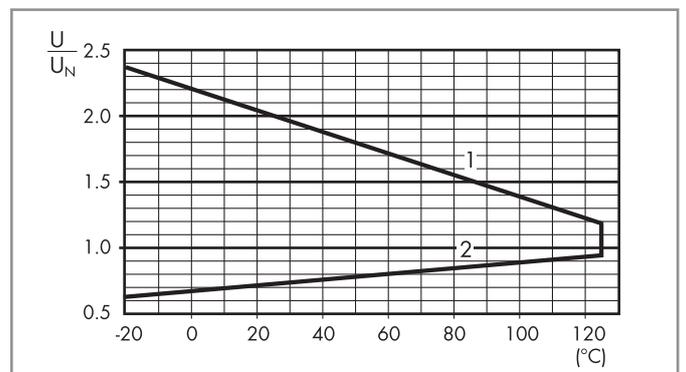
- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of $\geq 100 \cdot 10^3$ cycles (45.71) and $\geq 30 \cdot 10^3$ cycles (45.91) can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.
Note: the release time for the load will be increased.

Coil specifications

DC coil data - 0.36 W sensitive

| Nominal voltage U_N V | Coil code | Operating range | | Resistance R Ω | Rated coil consumption I at U_N mA |
|-------------------------------|-----------|-----------------|----------------|-----------------------------|--|
| | | U_{min} V | U_{max} V | | |
| 6 | 7.006 | 4.2 | 7.2 | 100 | 60 |
| 12 | 7.012 | 8.4 | 14.4 | 400 | 30 |
| 24 | 7.024 | 16.8 | 28.8 | 1,600 | 15 |
| 48 | 7.048 | 33.6 | 57.6 | 6,400 | 7.5 |
| 60 | 7.060 | 42 | 72 | 10,000 | 6 |

R 45 - DC coil operating range v ambient temperature



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

