

- Plug-in or P.C.B. versions
- AC or DC coils
- Lockable test button and mechanical flag indicator as standard on 2 CO relay type
- Sockets and accessories: see 96, and 99 series

56

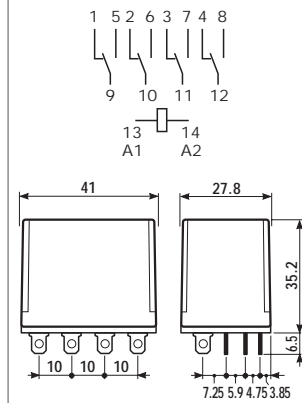
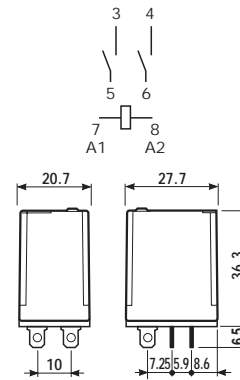
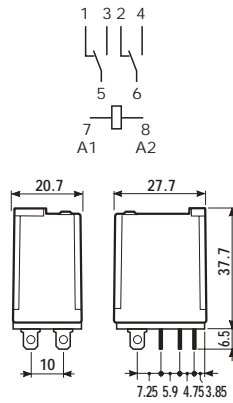
56.32

56.32 - 0300

56.34



| | | |
|---|--|---|
| - 2 pole - Plug-in for use with 96 Series sockets (Faston 187 - 4.8x0.5mm) | - 2 NO (1.5 mm gap) - Plug-in for use with 96 Series sockets (Faston 187 - 4.8x0.5mm) | - 4 pole - Plug-in for use with 96 Series sockets (Faston 187 - 4.8x0.5mm) |
|---|--|---|



* for 400 V applications, requirements for pollution degree 2 are met.

| Contact specifications | | | | |
|---|-----------------|---|---------------------------|--|
| Contact configuration | | 2 CO | 2 NO 1.5 mm | 4 CO |
| Rated current/Maximum peak current | A | 12/20 | 12/20 | 12/20 |
| Rated voltage/Maximum switching voltage | V AC | 250/400* | 250/400* | 250/400* |
| Rated load in AC1 | VA | 3,000 | 3,000 | 3,000 |
| Rated load in AC15 (230 VAC) | VA | 500 | 500 | 500 |
| Single phase motor rating (230 VAC) | kW | 0.55 | 0.55 | 0.55 |
| Breaking capacity in DC1: 30/110/220V | A | 12/0.25/0.12 | 12/0.6/0.3 | 12/0.25/0.12 |
| Minimum switching load | mW (V/mA) | 500 (10/5) | 500 (10/5) | 500 (10/5) |
| Standard contact material | | AgNi | AgNi | AgNi |
| Coil specifications | | | | |
| Nominal voltage (U _N) | V AC (50/60 Hz) | 6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 | | |
| | V DC | 6 - 12 - 24 - 48 - 60 - 110 | — | 6 - 12 - 24 - 48 - 60 - 110 |
| Rated power AC/DC | VA (50 Hz)/W | 1.5/1 | 1.5/— | 2/1.3 |
| Operating range | AC (50 Hz) | (0.8...1.1)U _N | (0.8...1.1)U _N | (0.8...1.1)U _N |
| | DC | (0.85...1.1)U _N | — | (0.85...1.1)U _N |
| Holding voltage | AC/DC | 0.8 U _N /0.6 U _N | 0.8 U _N /— | 0.8 U _N /0.6 U _N |
| Must drop-out voltage | AC/DC | 0.2 U _N /0.1 U _N | 0.2 U _N /— | 0.2 U _N /0.1 U _N |
| Technical data | | | | |
| Mechanical life AC/DC | cycles | 20 · 10 ⁶ /50 · 10 ⁶ | 20 · 10 ⁶ /— | 20 · 10 ⁶ /50 · 10 ⁶ |
| Electrical life at rated load AC1 | cycles | 200 · 10 ³ | 200 · 10 ³ | 150 · 10 ³ |
| Operate/release time (bounce included) | ms | 10/15 | 20/— | 15/15 |
| Insulation according to EN 61810-5 | | 4 kV/3 | 4 kV/3 | 4 kV/3 |
| Insulation between coil and contacts (1.2/50μs) | kV | 4 | 4 | 4 |
| Dielectric strength between open contacts | V AC | 1,000 | 2,000 | 1,000 |
| Ambient temperature range | °C | -40...+70 | -40...+70 | -40...+70 |
| Environmental protection | | RT I | RT I | RT I |

Approvals: (according to type)



- Plug-in or P.C.B. versions
- AC or DC coils
- Lockable test button and mechanical flag indicator as standard on 2 CO relay type
- Sockets and accessories: see 96, and 99 series

56.42

56.42 - 0300

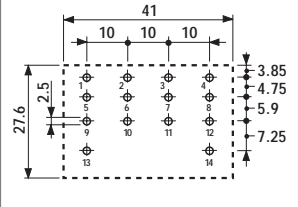
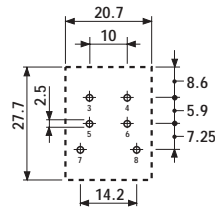
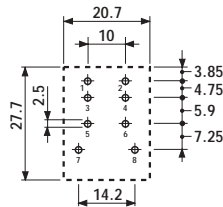
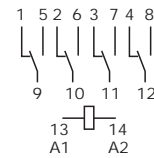
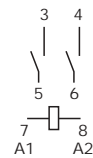
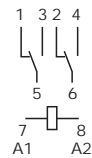
56.44



- 2 pole
- P.C.B. mounting

- 2 NO (1.5 mm gap)
- P.C.B. mounting

- 4 pole
- P.C.B. mounting



Copper side view
h = 37.7 mm

Copper side view
h = 36.3 mm

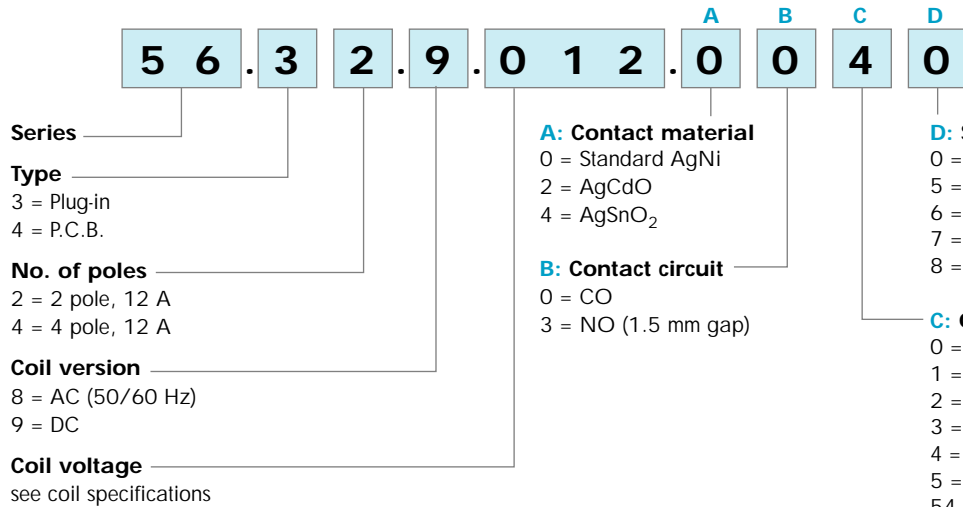
Copper side view
h = 35.2 mm

* for 400 V applications, requirements for pollution degree 2 are met.

| Contact specifications | | | | |
|---|-----------------|---|--|--|
| Contact configuration | | 2 CO | 2 NO 1.5 mm | 4 CO |
| Rated current/Maximum peak current | A | 12/20 | 12/2 | 12/20 |
| Rated voltage/Maximum switching voltage | V AC | 250/400* | 250/400* | 250/400* |
| Rated load in AC1 | VA | 3,000 | 3,000 | 3,000 |
| Rated load in AC15 (230 VAC) | VA | 500 | 500 | 500 |
| Single phase motor rating (230 VAC) | kW | 0.55 | 0.55 | 0.55 |
| Breaking capacity in DC1: 30/110/220V | A | 12/0.25/0.12 | 12/0.6/0.3 | 12/0.25/0.12 |
| Minimum switching load | mW (V/mA) | 500 (10/5) | 500 (10/5) | 500 (10/5) |
| Coil specifications | | | | |
| Nominal voltage (U _N) | V AC (50/60 Hz) | 6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 | | |
| | V DC | 6 - 12 - 24 - 48 - 60 - 110 | — | 6 - 12 - 24 - 48 - 60 - 110 |
| Rated power AC/DC | VA (50 Hz)/W | 1.5/1 | 1.5/— | 2/1.3 |
| Operating range | AC (50 Hz) | (0.8...1.1)U _N | (0.8...1.1)U _N | (0.8...1.1)U _N |
| | DC | (0.85...1.1)U _N | — | (0.85...1.1)U _N |
| Holding voltage | AC/DC | 0.8 U _N /0.6 U _N | 0.8 U _N /— | 0.8 U _N /0.6 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 AC/DC | cycles | 20 · 10 ⁶ /50 · 10 ⁶ | 20 · 10 ⁶ /— | 20 · 10 ⁶ /50 · 10 ⁶ |
| Electrical life at rated load AC1 | cycles | 200 · 10 ³ | 200 · 10 ³ | 150 · 10 ³ |
| Operate/release time (bounce included) | ms | 10/15 | 20/— | 15/15 |
| Insulation according to EN 61810-5 | | 4 kV/3 | 4 kV/3 | 4 kV/3 |
| Insulation between coil and contacts (1.2/50µs) | kV | 4 | 4 | 4 |
| Dielectric strength between open contacts | V AC | 1,000 | 2,000 | 1,000 |
| Ambient temperature range | °C | -40...+70 | -40...+70 | -40...+70 |
| Environmental protection | | RT I | RT I | RT I |
| Approvals: (according to type) | | | | |

ORDERING INFORMATION

Example: a 56 series plug-in relay with 2 CO contacts, coil rated 12 V DC with a lockable test button and mechanical indicator.



56

Only combinations in the same row are possible

Preferred versions

| | coil version | A | B | C | D |
|-------|--------------|---|---|---|---|
| 56.32 | AC/DC | 0 | 0 | 4 | 0 |
| 56.34 | AC/DC | 0 | 0 | 0 | 0 |
| 56.42 | AC/DC | 0 | 0 | 0 | 0 |
| 56.44 | AC/DC | 0 | 0 | 0 | 0 |

All versions

| | coil version | A | B | C | D |
|-------|--------------|-----------|---|---------------------------|-------------------|
| 56.32 | AC | 0 - 2 - 4 | 0 | 0 - 2 - 3 - 4 - 5 | 0 - 6 |
| | AC | 0 - 2 - 4 | 0 | 54 | / |
| | AC | 0 - 2 - 4 | 3 | 0 - 3 - 5 | 0 - 6 |
| | DC | 0 - 2 - 4 | 0 | 0 - 2 - 4 - 6 - 7 - 8 - 9 | 0 - 6 |
| | DC | 0 - 2 - 4 | 0 | 74 - 94 | / |
| 56.34 | AC/DC | 0 - 2 - 4 | 0 | 0 - 1 | 0 - 5 - 6 - 7 - 8 |
| 56.42 | AC/DC | 0 - 2 - 4 | 0 | 0 | 0 |
| | AC | 0 - 2 - 4 | 3 | 0 | 0 |
| 56.44 | AC/DC | 0 - 2 - 4 | 0 | 0 | 0 |

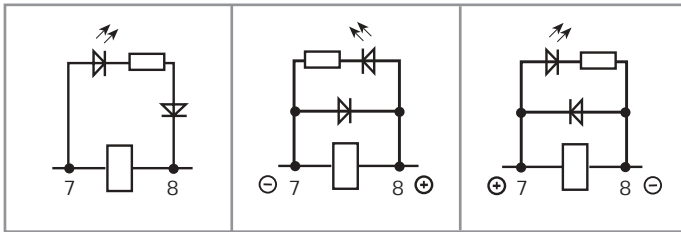
- D: Special versions**
 0 = Standard
 5 = Top flange mount (56.34 only)
 6 = Rear flange mount
 7 = Top 35mm rail mount (56.34 only)
 8 = Rear 35mm rail mount (56.34 only)
- C: Options**
 0 = None
 1 = Test button
 2 = Mechanical indicator
 3 = LED (AC only)
 4 = Lockable test button + mechanical indicator
 5 = Lockable test button + LED (AC only)
 54 = Lockable test button + LED (AC only) + mechanical indicator
 6 = LED (AC only) + diode (polarity positive to pin A2/8, DC non standard)
 7 = Lockable test button + LED + diode (polarity positive to pin A2/8, DC non standard)
 74 = Lockable test button + LED + diode (polarity positive to pin A2/8, DC non standard) + mechanical indicator
 8 = LED + diode (polarity positive to pin 7, DC)
 9 = Lockable test button + LED + diode (polarity positive to pin 7, DC)
 94 = Lockable test button + LED + diode + mechanical indicator (polarity positive to pin 7, DC)

POSSIBLE OPTIONS

AC

DC - Non standard polarity

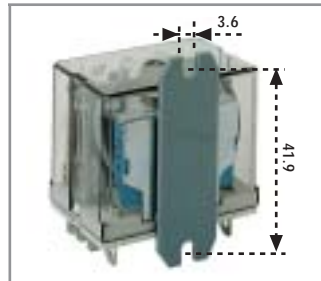
DC - Standard polarity



Option = 0030
0050

Option = 0060
0070
0074

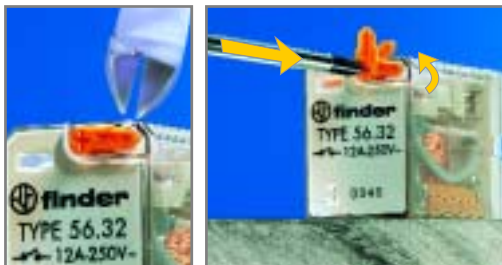
Option = 0080
0090
0094



Option = 0006
REAR FLANGE MOUNT



Type 056.05 - ADAPTOR WITH TOP FLANGE MOUNT (for 56.32...XX00)



LOCKABLE TEST BUTTON AND MECHANICAL FLAG INDICATOR (0040)

The dual-purpose Finder test button can be used in two ways:

Case 1 The plastic pip (located directly above the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.

Case 2 The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position.

In both cases ensure that the test button actuation is swift and decisive.

TECHNICAL DATA

INSULATION

| | | | |
|------------------------------------|---------------------------------|----|-----|
| INSULATION according to EN 61810-5 | insulation rated voltage | V | 250 |
| | rated impulse withstand voltage | kV | 4 |
| | pollution degree | | 3 |
| | overvoltage category | | III |

IMMUNITY

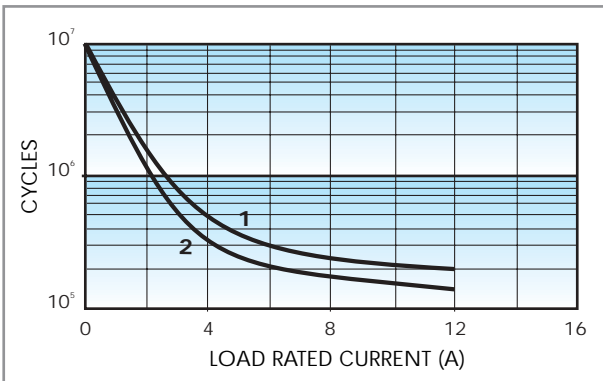
| | |
|--------------------------------|--|
| CONDUCTED DISTURBANCE IMMUNITY | BURST (according to EN 61000-4-4) level 4 (4 kV) |
| | SURGE (according to EN 61000-4-5) level 4 (4 kV) |

OTHER DATA

| | | | |
|--|---------------------------|-------------|-----|
| VIBRATION RESISTANCE (10...55Hz): NO/NC | g/g | 8/8 | |
| POWER LOST TO THE ENVIRONMENT | 2 CO / 2 NO | 4 CO | |
| | without contact current W | 1 | 1.3 |
| | with rated current W | 3.8 | 6.9 |
| RECOMMENDED DISTANCE between RELAYS mounted on P.C.B.s | mm | ≥5 | |

CONTACT SPECIFICATIONS

F 56

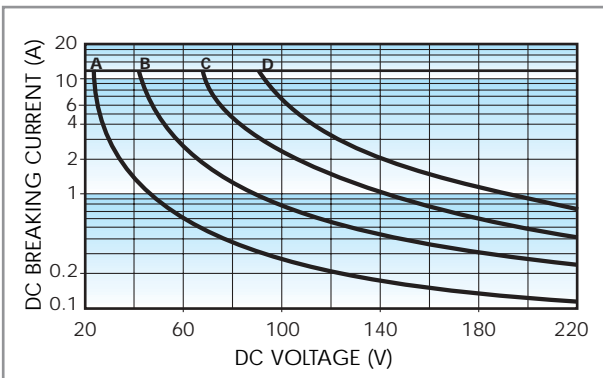


Electrical life vs AC1 load.

1 = Types 56.32/42

2 = Types 56.34/44

H 56 (CO)



Breaking capacity for DC1 load.

A = Load applied to 1 contact.

B = Load applied to 2 contacts in series.

C = Load applied to 3 contacts in series.

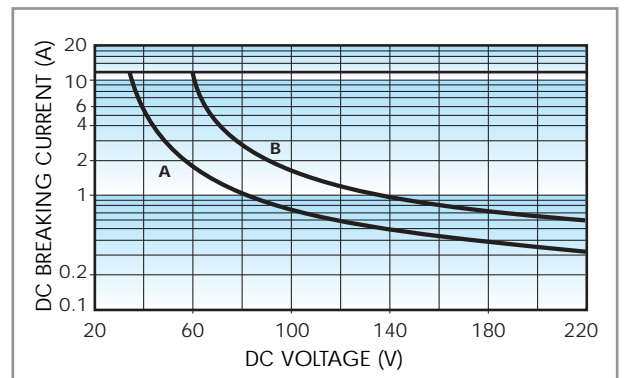
D = Load applied to 4 contacts in series.

- When switching a resistive load (DC1) having voltage and current values under the curve the expected electrical life is $\geq 100 \cdot 10^3$ cycles.

- In case of DC13 loads the connection of a diode in parallel with the load will permit the same electrical life as for a DC1 load.

Note: the release time of load will be increase.

H 56 (NO)



Breaking capacity for DC1 load.

A = Load applied to 1 contact.

B = Load applied to 2 contacts in series.

- When switching a resistive load (DC1) having voltage and current values under the curve the expected electrical life is $\geq 100 \cdot 10^3$ cycles.

- In case of DC13 loads the connection of a diode in parallel with the load will permit the same electrical life as for a DC1 load.

Note: the release time of load will be increase.

COIL SPECIFICATIONS

AC VERSION DATA (2 CO, 2 NO)

| Nominal voltage U_N V | Coil code | Operating range | | Resistance R Ω | Rated coil consumption I at U_N (50Hz) mA |
|-------------------------------|-----------|-----------------|----------------|-----------------------------|---|
| | | U_{min} V | U_{max} V | | |
| 6 | 8.006 | 4.8 | 6.6 | 12 | 200 |
| 12 | 8.012 | 9.6 | 13.2 | 50 | 97 |
| 24 | 8.024 | 19.2 | 26.4 | 190 | 53 |
| 48 | 8.048 | 38.4 | 52.8 | 770 | 25 |
| 60 | 8.060 | 48 | 66 | 1,200 | 21 |
| 110 | 8.110 | 88 | 121 | 3,940 | 12.5 |
| 120 | 8.120 | 96 | 132 | 4,700 | 12 |
| 230 | 8.230 | 184 | 253 | 17,000 | 6 |
| 240 | 8.240 | 192 | 264 | 19,100 | 5.3 |

DC VERSION DATA (2 CO)

| 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 | 9.006 | 5.1 | 6.6 | 40 | 150 |
| 12 | 9.012 | 10.2 | 13.2 | 140 | 86 |
| 24 | 9.024 | 20.4 | 26.4 | 600 | 40 |
| 48 | 9.048 | 40.8 | 52.8 | 2,400 | 20 |
| 60 | 9.060 | 51 | 66 | 4,000 | 15 |
| 110 | 9.110 | 93.5 | 121 | 12,500 | 8.8 |

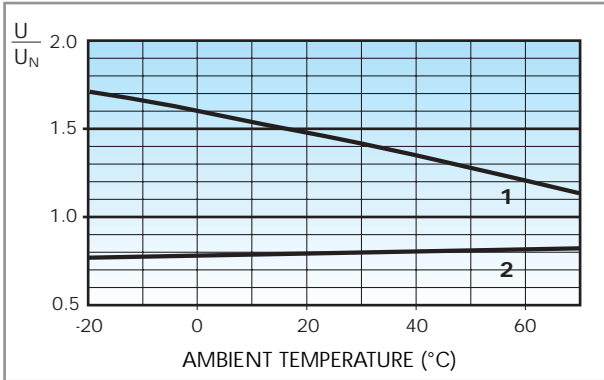
56 AC VERSION DATA (4 CO)

| Nominal voltage U_N V | Coil code | Operating range | | Resistance R Ω | Rated coil consumption I at U_N (50Hz) mA |
|-------------------------------|-----------|-----------------|----------------|-----------------------------|---|
| | | U_{min} V | U_{max} V | | |
| 6 | 8.006 | 4.8 | 6.6 | 5.7 | 300 |
| 12 | 8.012 | 9.6 | 13.2 | 22 | 150 |
| 24 | 8.024 | 19.2 | 26.4 | 81 | 90 |
| 48 | 8.048 | 38.4 | 52.8 | 380 | 37 |
| 60 | 8.060 | 48 | 66 | 600 | 30 |
| 110 | 8.110 | 88 | 121 | 1,900 | 16.5 |
| 120 | 8.120 | 96 | 132 | 2,560 | 13.4 |
| 230 | 8.230 | 184 | 253 | 7,700 | 9 |
| 240 | 8.240 | 192 | 264 | 10,000 | 7.5 |

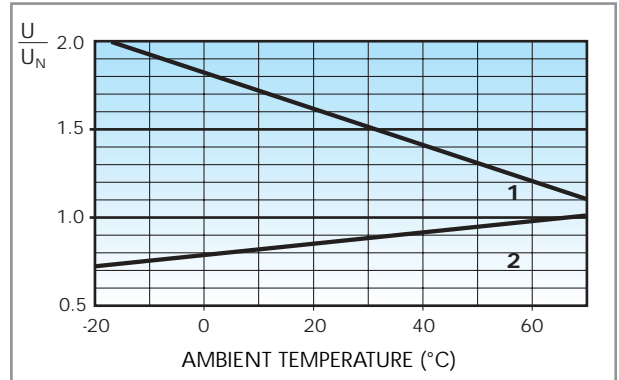
DC VERSION DATA (4 CO)

| 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 | 9.006 | 5.1 | 6.6 | 32.5 | 185 |
| 12 | 9.012 | 10.2 | 13.2 | 123 | 97 |
| 24 | 9.024 | 20.4 | 26.4 | 490 | 49 |
| 48 | 9.048 | 40.8 | 52.8 | 1,800 | 27 |
| 60 | 9.060 | 51 | 66 | 3,000 | 20 |
| 110 | 9.110 | 93.5 | 121 | 10,400 | 10.5 |

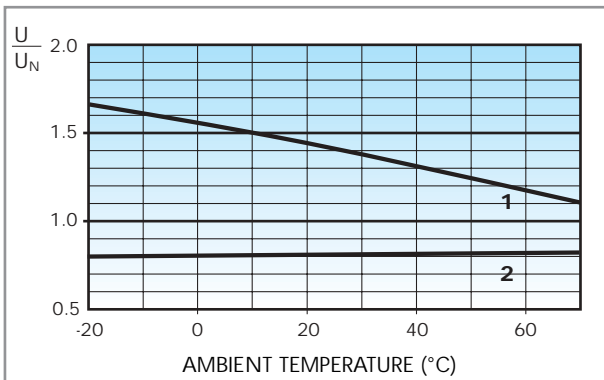
R 56 AC (2 co, 2 no)



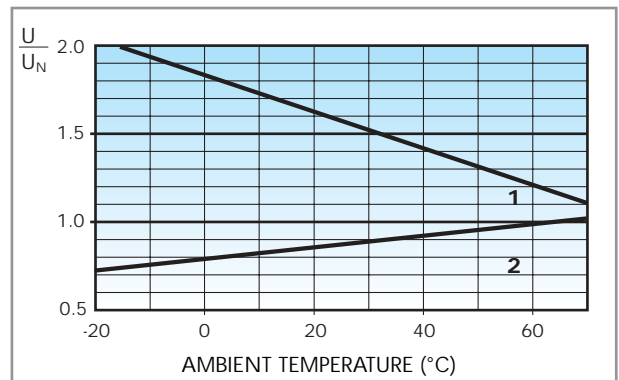
R 56 DC (2 co)



R 56 AC (4 co)



R 56 DC (4 co)



Operating range (AC type) vs ambient temperature.

1 - Max coil voltage permitted.

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

Operating range (DC type) vs ambient temperature.

1 - Max coil voltage permitted.

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



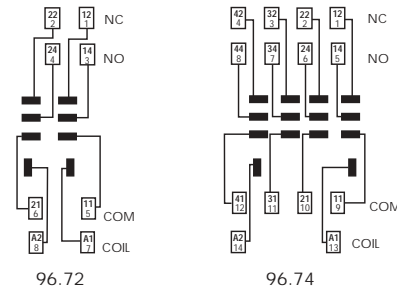
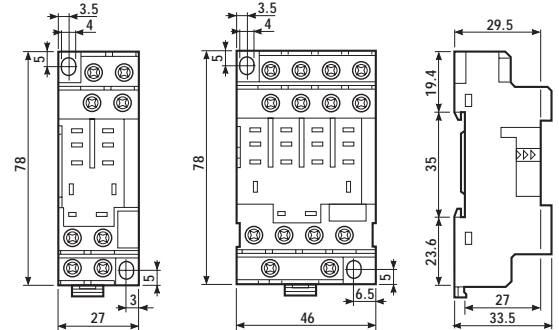
| Relay type | 56.32 | | 56.34 | |
|---|--------|---------|--------|---------|
| | BLUE | BLACK | BLUE | BLACK |
| Colour | BLUE | BLACK | BLUE | BLACK |
| Screw terminal socket: panel or 35 mm rail (EN 50022) mount retaining clip 094.71/096.71 supplied with socket packaging code SMA | 96.72 | 96.72.0 | 96.74 | 96.74.0 |
| Retaining clip | 094.71 | | 096.71 | |
| Modules (see table below) | 99.01 | | | |

Approvals
(according to type):



- RATED VALUES: 12 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: (-40...+70)°C
- \oplus SCREW TORQUE: 0.8 Nm
- WIRE STRIP LENGTH: 10 mm
- MAX WIRE SIZE:

| | solid wire | stranded wire |
|-----------------|-------------|---------------|
| mm ² | 1x4 / 2x4 | 1x4 / 2x2.5 |
| AWG | 1x12 / 2x12 | 1x12 / 2x14 |



| 99.01 modules for 96.72 and 96.74 socket | | BLUE |
|--|---------------------|----------------|
| Diode** (+A1) | (6...220) V DC | 99.01.3.000.00 |
| Diode (inverted polarity) | (6...220) V DC | 99.01.2.000.00 |
| LED | (6...24) V DC/AC | 99.01.0.024.59 |
| LED | (28...60) V DC/AC | 99.01.0.060.59 |
| LED | (110...240) V DC/AC | 99.01.0.230.59 |
| LED + Diode** (+A1) | (6...24) V DC | 99.01.9.024.99 |
| LED + Diode** (+A1) | (28...60) V DC | 99.01.9.060.99 |
| LED + Diode** (+A1) | (110...220) V DC | 99.01.9.220.99 |
| LED + Diode (inverted polarity) | (6...24) V DC | 99.01.9.024.79 |
| LED + Diode (inverted polarity) | (28...60) V DC | 99.01.9.060.79 |
| LED + Diode (inverted polarity) | (110...220) V DC | 99.01.9.220.79 |
| LED + Varistor | (6...24) V DC/AC | 99.01.0.024.98 |
| LED + Varistor | (28...60) V DC/AC | 99.01.0.060.98 |
| LED + Varistor | (110...240) V DC/AC | 99.01.0.230.98 |
| RC circuit | (6...24) V DC/AC | 99.01.0.024.09 |
| RC circuit | (28...60) V DC/AC | 99.01.0.060.09 |
| RC circuit | (110...240) V DC/AC | 99.01.0.230.09 |
| No - remanence (62 k Ω /1W) | (110...240) V AC | 99.01.8.230.07 |

**For DC supply, apply the positive to terminal A1. Modules in Black housing are available on request. Green LED is standard. Red LED available on request.



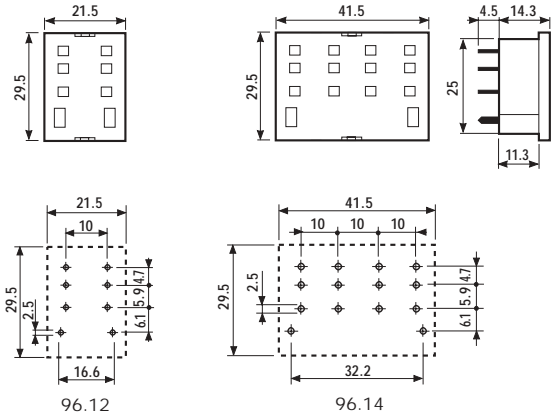
96.12

| Relay type | 56.32 | | 56.34 | |
|---|--------|---------|-------|---------|
| Colour | BLUE | BLACK | BLUE | BLACK |
| P.C.B. socket | 96.12 | 96.12.0 | 96.14 | 96.14.0 |
| retaining clip 094.51 supplied with socket packaging code SMA | | | | |
| Retaining clip | 094.51 | | | |

Approvals
(according to type):



- RATED VALUES: 12 A - 250 V (10 A max for each contact circuit)
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- AMBIENT TEMPERATURE: (-40...+70)°C



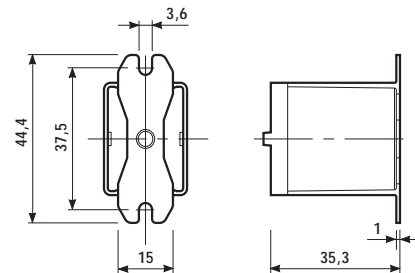
Copper side view

ACCESSORIES



056.05

| | |
|---|--------|
| Adaptor with top mount flange (for 56.32.x.xxx.xx00) | 056.05 |
|---|--------|



PACKAGING CODES

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

Code options according to the last three letters:



- A Standard packaging
- SM Metal retaining clip
SX No retaining clip