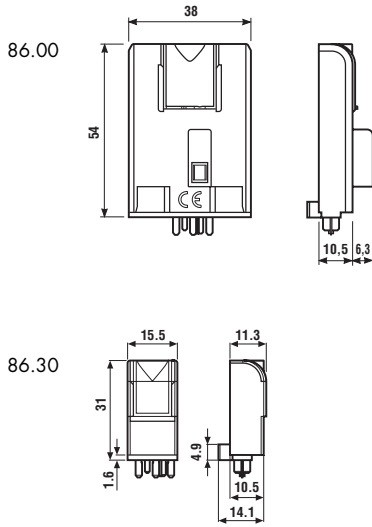


Features

Timer modules for use in conjunction with relay & socket.

- 86.00** - Multi-function & multi-voltage timer module
- 86.30** - Bi-function & multi-voltage timer module

- Timer module for 90, 92 series sockets for type 86.00 and 90, 92, 94, 95, 97 series sockets for type 86.30
- Wide supply voltage range: 12...240 V AC/DC (86.00) 12...24 V AC/DC or 230...240 V AC (86.30)
- LED indicator

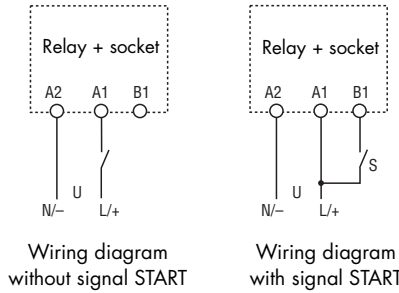


86.00



- Time scale: from 0.05s to 100h
- Multi-function
- Plug-in for use with 90.02, 90.03 and 92.03 sockets

- AI:** ON delay
- DI:** ON pulse
- SW:** Symmetrical recycling: ON start
- BE:** Signal OFF delay
- CE:** Signal ON & OFF delay
- DE:** Signal ON pulse
- EE:** Signal OFF pulse
- FE:** Signal ON delay + OFF pulse

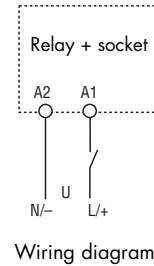


86.30



- Time scale: from 0.05s to 100h
- Bi-function
- Plug-in for use with 90.02, 90.03, 92.03, 94.02, 94.03, 94.04, 95.03, 95.05, 95.55, 97.01, 97.02, 97.51 and 97.52 sockets

- AI:** ON delay
- DI:** ON pulse



Contact specification

Contact configuration

| | |
|--|-----------|
| Rated current/Maximum peak current | A |
| Rated voltage/Maximum switching voltage V AC | |
| Rated load AC1 | VA |
| Rated load AC15 (230 V AC) | VA |
| Single phase motor rating (230 V AC) | kW |
| Breaking capacity DC1: 30/110/220 V | A |
| Minimum switching load | mW (V/mA) |
| Standard contact material | |

Supply specification

| | | | | |
|-----------------------------------|-----------------|------------|------------|-----------|
| Nominal voltage (U _N) | V AC (50/60 Hz) | 12...240 | 12...24 | 230...240 |
| | V DC | 12...240 | 12...24 | — |
| Rated power AC/DC | W | 1.2 | 0.15 | |
| Operating range | V AC (50/60 Hz) | 10.2...265 | 9.6...33.6 | 184...265 |
| | DC | 10.2...265 | 9.6...33.6 | — |

Technical data

| | | | | |
|--------------------------------------|--------|--|--|---|
| Specified time range | | (0.05...1)s, (0.5...10)s, (5...100)s, (0.5...10)min, (5...100)min, (0.5...10)h, (5...100)h | | |
| Repeatability | % | ± 1 | | |
| Recovery time | ms | ≤ 50 | | |
| Minimum control impulse | ms | 50 | | |
| Setting accuracy full range | % | ± 5 | | |
| Electrical life at rated load in AC1 | cycles | See 60 and 62 series relays | | See 40, 44, 46, 55, 60 and 62 series relays |
| Ambient temperature range | °C | -20...+50 | | -20...+50 |
| Protection category | | IP 20 | | IP 20 |

Approvals (according to type)



Ordering information

Example: 86 series multi-function timer module, (12...240)V AC/DC supply voltage.



Series

Type
 0 = Multi-function (AI, DI, SW, BE, CE, DE, EE, FE)
 3 = Bi-function (AI, DI)

No. of poles
 See 40, 44, 46, 55, 60 and 62 series relays
 Poles for chosen relay/socket combination -
 according to chart below

Supply voltage
 024 = (12...24)V AC/DC (86.30 only)
 240 = (12...240)V AC/DC (86.00 only)
 240 = (230...240)V AC (86.30 only)

Supply version
 0 = AC (50/60 Hz)/DC
 8 = AC (50/60 Hz)

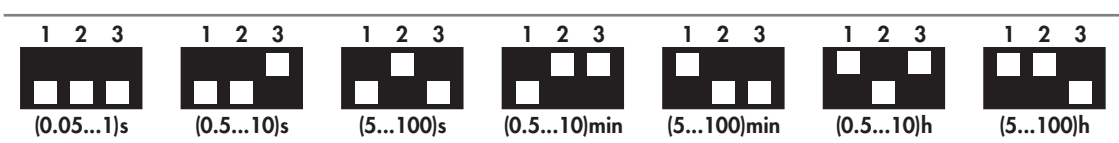
Combinations

| Number of poles | Relay type | Socket type | Timer module |
|-----------------|-------------------|-------------|--------------|
| 1 | 40.31 | 95.03 | 86.30 |
| 1 | 40.61 | 95.05 | 86.30 |
| 1 | 46.61 | 97.01/97.51 | 86.30 |
| 2 | 40.52/44.52/44.62 | 95.05/95.55 | 86.30 |
| 2 | 46.52 | 97.02/97.52 | 86.30 |
| 2 | 55.32 | 94.02 | 86.30 |
| 2 | 60.12 | 90.02 | 86.00/86.30 |
| 2 | 62.32 | 92.03 | 86.00/86.30 |
| 3 | 55.33 | 94.03 | 86.30 |
| 3 | 60.13 | 90.03 | 86.00/86.30 |
| 3 | 62.33 | 92.03 | 86.00/86.30 |
| 4 | 55.34 | 94.04 | 86.30 |

Technical data

| EMC specifications | | | | |
|---|---------------------------|-----------------------------|--|------|
| Type of test | Reference standard | 86.00 | 86.30 | |
| Electrostatic discharge | contact discharge | EN 61000-4-2 | 4 kV | n.a. |
| | air discharge | EN 61000-4-2 | 8 kV | 8 kV |
| Radio-frequency electromagnetic field (80 ÷ 1000 MHz) | EN 61000-4-3 | 10 V/m | 10 V/m | |
| Fast transients (burst) (5-50 ns, 5 kHz) on Supply terminals | EN 61000-4-4 | 4 kV | 4 kV | |
| Surges (1.2/50 µs) on Supply terminals | common mode | EN 61000-4-5 | 4 kV | 4 kV |
| | differential mode | EN 61000-4-5 | 4 kV | 2 kV |
| Radio-frequency common mode (0.15 ÷ 80 MHz) on Supply terminals | EN 61000-4-6 | 10 V | 10 V | |
| Radiated and conducted emission | EN 55022 | classe B | classe B | |
| Other data | | 86.00 | 86.30 | |
| Current absorption on signal control (B1) | mA | 1 | — | |
| Power lost to the environment | without contact current W | 0.1 (12 V) - 1 (230 V) | 0.2 | |
| | with rated current | See 60 and 62 series relays | See 40, 44, 46, 55, 60, 62 series relays | |

Time scales



NOTE: time scales and functions must be set before energising the timer.

Functions

- U** = Supply voltage
- S** = Signal switch
- = Output contact

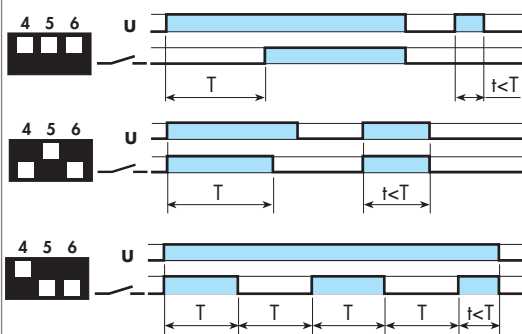
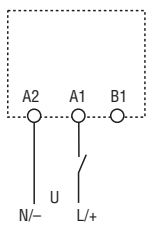
| LED Type 86.00 | LED Type 86.30 | Supply voltage | NO output contact |
|----------------|----------------|----------------|---------------------------|
| | | OFF | Open |
| | | ON | Open |
| | | ON | Open (timing in progress) |
| | | ON | Closed |

Without signal Start= Start via contact in supply line (A1).
 With signal Start = Start via contact into control terminal (B1).

Wiring diagram

Type 86.00

Without signal START



(AI) ON delay.

Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.

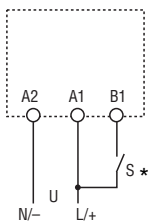
(DI) ON pulse.

Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.

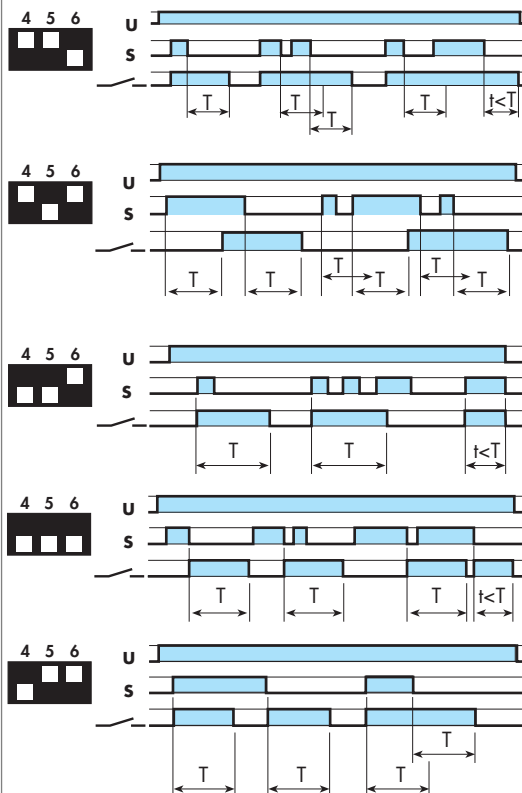
(SW) Symmetrical recycling: ON start.

Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ratio is 1:1 (time on = time off).

With signal START



* With DC supply, positive polarity has to be connected to B1 terminal (according to EN 60204-1).



(BE) Signal OFF delay.

Power is permanently applied to the timer. The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.

(CE) Signal ON and OFF delay.

Power is permanently applied to the timer. Closing the Signal Switch (S) initiates the preset delay, after which time the output contacts transfer. Opening the Signal switch initiates the same preset delay, after which time the output contacts reset.

(DE) Signal ON pulse.

Power is permanently applied to the timer. On momentary or maintained closure of Signal Switch (S), the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

(EE) Signal OFF pulse.

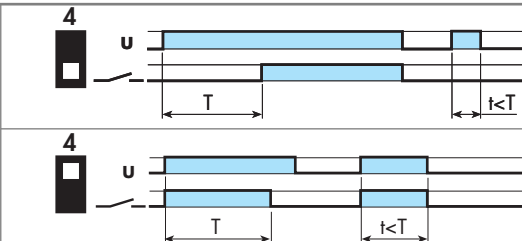
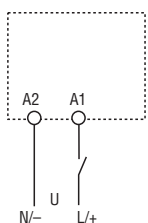
Power is permanently applied to the timer. On opening of the Signal Switch (S) the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

(FE) Signal ON pulse + OFF pulse.

Power is permanently applied to the timer. Both the opening and closing of the Signal Switch (S) initiates the transfer of the output contacts. In both instances the contacts reset after the delay period has elapsed.

Wiring diagram

Type 86.30



(AI) ON delay.

Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.

(DI) ON pulse.

Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.



95.05

Approvals (according to type):



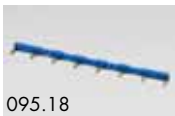
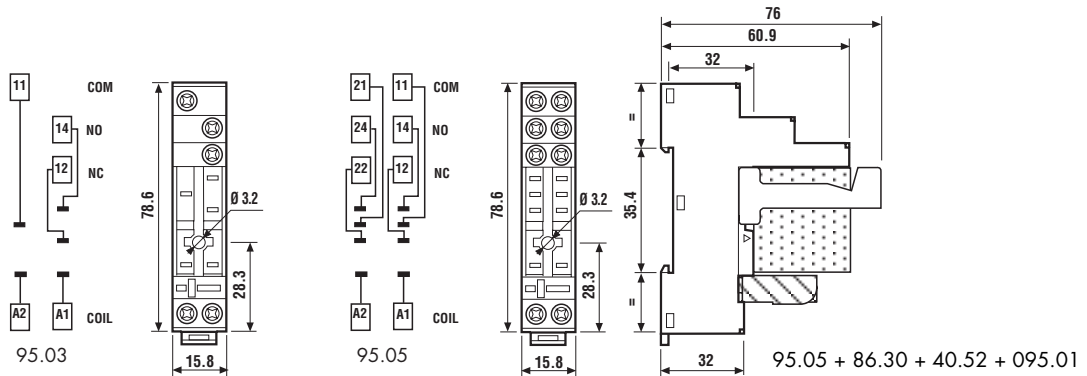
095.01



060.72

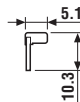
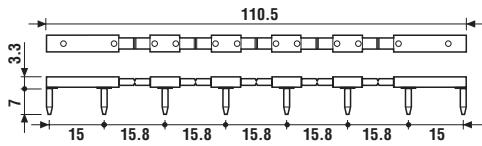
| Screw terminal (Box clamp) socket | 95.03 | 95.03.0 | 95.05 | 95.05.0 |
|--|--|--------------|-------------------------|--------------|
| panel or 35 mm rail (EN 50022) mount | Blue | Black | Blue | Black |
| For relay type | 40.31 | | 40.51/ 52/ 61, 44.52/62 | |
| Accessories | | | | |
| Metal retaining clip | 095.71 | | | |
| Plastic retaining and release clip (supplied with socket - packaging code SPA) | 095.01 | 095.01.0 | 095.01 | 095.01.0 |
| 8-way jumper link | 095.18 | 095.18.0 | 095.18 | 095.18.0 |
| Identification tag | 095.00.4 | | | |
| Timer modules | 86.30 | | | |
| Sheet of marker tags for retaining and release clip 095.01 plastic, 72 tags, 6x12 mm | 060.72 | | | |
| Technical data | | | | |
| Rated values | 10 A - 250 V * | | | |
| Insulation | 6 kV (1.2/50 µs) between coil and contacts | | | |
| Protection category | IP 20 | | | |
| Ambient temperature | °C -40...+70 | | | |
| ⊕ Screw torque | Nm 0.5 | | | |
| Wire strip length | mm 8 | | | |
| Max. wire size for 95.03 and 95.05 sockets | solid wire | | stranded wire | |
| | mm ² | 1x6 / 2x2.5 | 1x4 / 2x2.5 | |
| | AWG | 1x10 / 2x14 | 1x12 / 2x14 | |

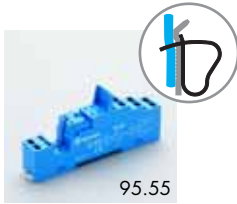
* For currents >10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).



095.18

| 8-way jumper link for 95.03 and 95.05 sockets | 095.18 (blue) | 095.18.0 (black) |
|---|---------------|------------------|
| Rated values | 10 A - 250 V | |

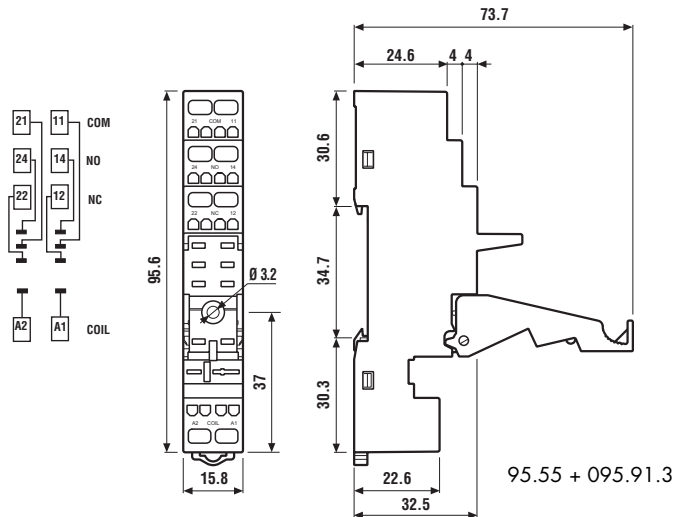
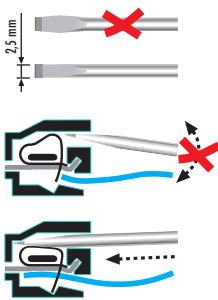




Approvals
(according to type):

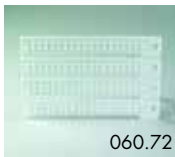


| | | |
|---|--|----------------|
| Screwless terminal socket | 95.55 | 95.55.0 |
| panel or 35 mm rail (EN 50022) mount | Blue | Black |
| For relay type | 40.51/52/61, 44.52/62 | |
| Accessories | | |
| Metal retaining clip | 095.71 | |
| Plastic retaining and release clip (supplied with socket - packaging code SPA) | 095.91.3 | 095.91.30 |
| Timer modules | 86.30 | |
| Sheet of marker tags for retaining and release clip 095.91.3 plastic, 72 tags, 6x12 mm | 060.72 | |
| Technical data | | |
| Rated values | 10 A - 250 V | |
| Insulation | 6 kV (1.2/50 μs) between coil and contacts | |
| Protection category | IP 20 | |
| Ambient temperature | °C | -25...+70 |
| Wire strip length | mm | 8 |
| Max. wire size for 95.55 socket | solid wire | stranded wire |
| | mm ² | 2x(0.2...1.5) |
| | AWG | 2x(24...18) |

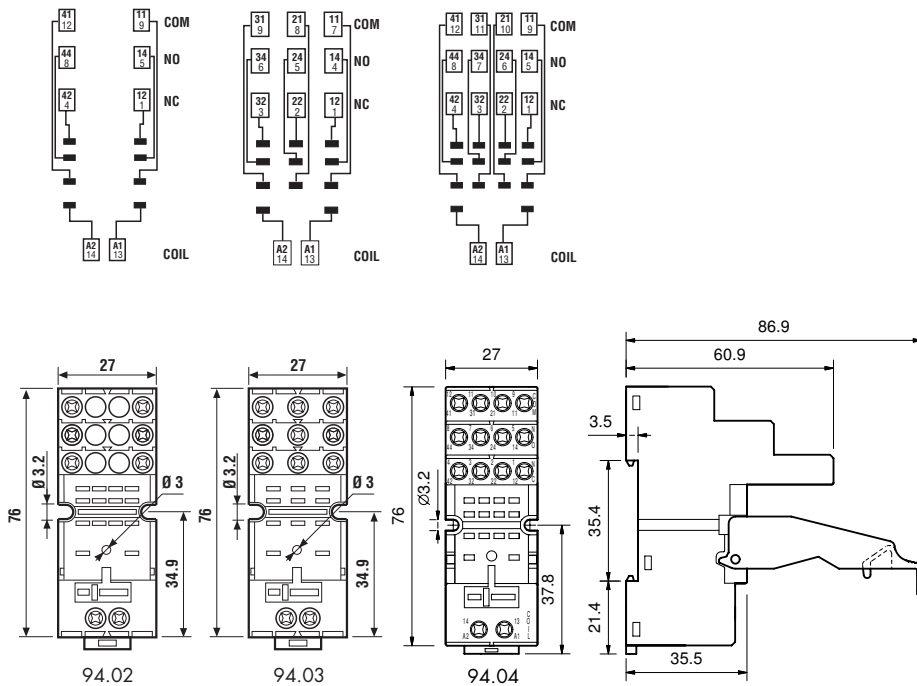




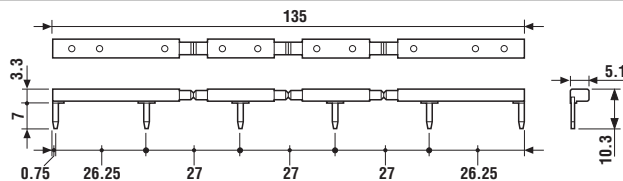
Approvals
(according to type):



| Screw terminal (Box clamp) socket | 94.02 | 94.02.0 | 94.03 | 94.03.0 | 94.04 | 94.04.0 |
|---|-----------------------------|--------------|---------------|--------------|--------------|--------------|
| panel or 35 mm rail (EN 50022) mount | Blue | Black | Blue | Black | Blue | Black |
| For relay type | 55.32 | | 55.33 | | 55.32, 55.34 | |
| Accessories | | | | | | |
| Metal retaining clip | 094.71 | | | | | |
| Plastic retaining and release clip (supplied with socket - packaging code SPA) | 094.91.3 | 094.91.30 | 094.91.3 | 094.91.30 | 094.91.3 | 094.91.30 |
| 6-way jumper link | 094.06 | 094.06.0 | 094.06 | 094.06.0 | 094.06 | 094.06.0 |
| Identification tag | 094.00.4 | | | | | |
| Timer modules | 86.30 | | | | | |
| Sheet of marker tags for retaining and release clip 094.01 plastic, 72 tags, 6x12 mm | 060.72 | | | | | |
| Technical data | | | | | | |
| Rated values | 10 A - 250 V | | | | | |
| Dielectric strength | 2 kV AC | | | | | |
| Protection category | IP 20 | | | | | |
| Ambient temperature | °C -40...+70 | | | | | |
| Screw torque | Nm 0.5 | | | | | |
| Wire strip length | mm 8 | | | | | |
| Max. wire size for 94.02/03/04 sockets | solid wire | | stranded wire | | | |
| | mm ² 1x6 / 2x2.5 | | 1x4 / 2x2.5 | | | |
| | AWG 1x10 / 2x14 | | 1x12 / 2x14 | | | |



| | | |
|---|---------------|------------------|
| 6-way jumper link for 94.02, 94.03 and 94.04 sockets | 094.06 (blue) | 094.06.0 (black) |
| Rated values | 10 A - 250 V | |



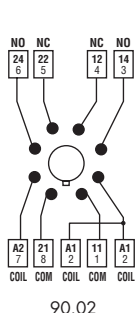


90.03

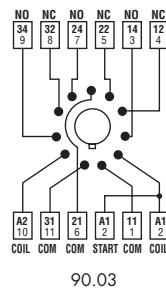
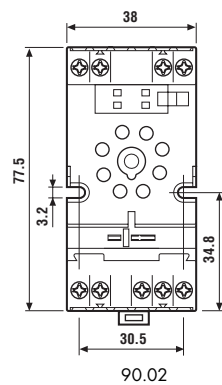
Approvals
(according to type):



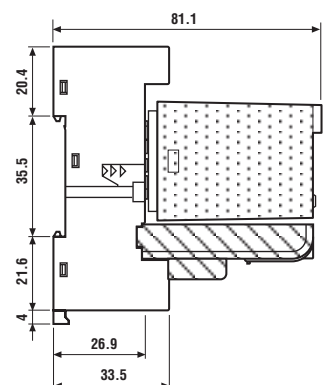
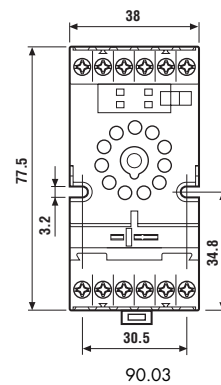
| Screw terminal (Box clamp) socket | 90.02 | 90.02.0 | 90.03 | 90.03.0 |
|--|-----------------|-------------|---------------|-------------|
| panel or 35 mm rail (EN 50022) mount | Blue | Black | Blue | Black |
| For relay type | 60.12 | | 60.13 | |
| Accessories | | | | |
| Metal retaining clip | 090.33 | | | |
| 6-way jumper link | 090.06 | | | |
| Identification tag | 090.00.2 | | | |
| Timer module | 86.00, 86.30 | | | |
| Technical data | | | | |
| Double terminal A1 (for easy start connection) | | | | |
| Rated values | 10 A - 250 V | | | |
| Dielectric strength | 2 kV AC | | | |
| Protection category | IP 20 | | | |
| Ambient temperature | °C -40...+70 | | | |
| ⊕ Screw torque | Nm | 0.6 | | |
| Wire strip length | mm | 10 | | |
| Max. wire size for 90.02 and 90.03 sockets | | solid wire | stranded wire | |
| | mm ² | 1x6 / 2x2.5 | | 1x4 / 2x2.5 |
| | AWG | 1x10 / 2x14 | | 1x12 / 2x14 |



90.02



90.03



90.03 + 60.13 + 86.00

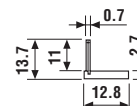
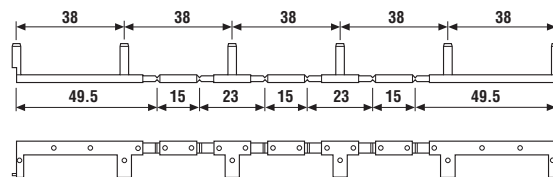


090.06

Approvals
(according to type):



| 6-way jumper link for 90.02 and 90.03 sockets | 090.06 |
|---|--------------|
| Rated values | 10 A - 250 V |



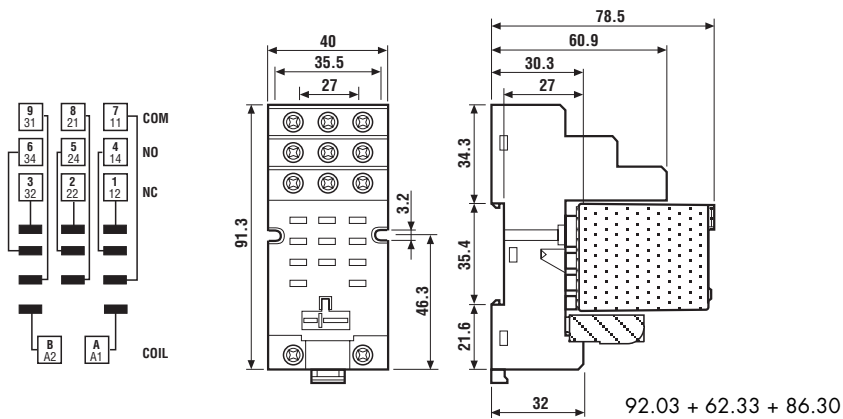


92.03

Approvals
(according to type):



| | | | |
|--|--|--------------------------------|-------------|
| Screw terminal (Box clamp) socket panel or 35 mm rail (EN 50022) mount | 92.03 Blue | 92.03.0 Black | |
| For relay type | 62.32, 62.33 | | |
| Accessories | | | |
| Metal retaining clip (supplied with socket - packaging code SMA) | 092.71 | | |
| Identification tag | 092.00.2 | | |
| Timer modules | 86.00, 86.30 | | |
| Technical data | | | |
| Rated values | 16 A - 250 V | | |
| Insulation | 6 kV (1.2/50 µs) between coil and contacts | | |
| Protection category | IP 20 | | |
| Ambient temperature | °C -40...+70 | | |
| ⊕ Screw torque | Nm | 0.8 | |
| Wire strip length | mm | 10 | |
| Max. wire size for 92.03 socket | solid wire | stranded wire | |
| | mm ² | 1x10 / 2x4 | 1x6 / 2x4 |
| | AWG | 1x8 / 2x12 | 1x10 / 2x12 |



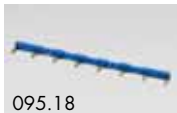
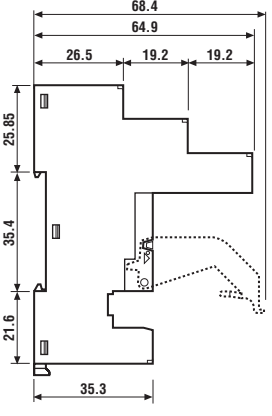
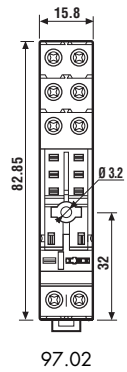
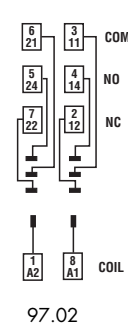
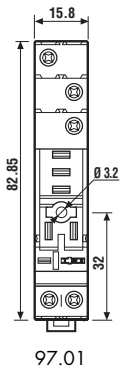
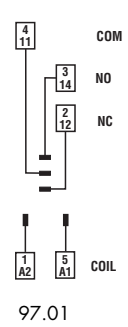
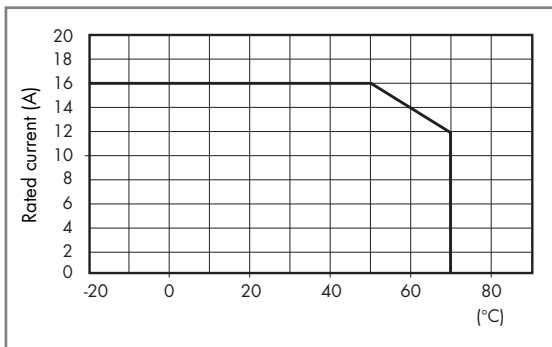


Approvals
(according to type):

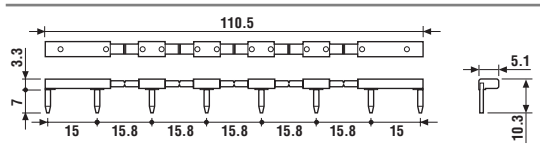


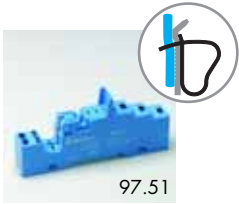
| | | |
|--|--|------------------|
| Screw terminal socket | 97.01 | 97.02 |
| panel or 35 mm rail (EN 50022) mount | Blue | Blue |
| For relay type | 46.61 | 46.52 |
| Accessories | | |
| Plastic retain and eject clip (supplied with socket - packaging code SPA) | 097.01 | |
| 8-way jumper link | 095.18 (blue) | 095.18.0 (black) |
| Identification tag | 095.00.4 | |
| Timer modules | 86.30 | |
| Technical data | | |
| Rated current | 16 A - 250 V AC | 8 A - 250 V AC |
| Dielectric strength | 6 kV (1.2/50 μs) between coil and contacts | |
| Protection category | IP 20 | |
| Ambient temperature | °C -40...+70 (see diagram L97) | |
| ⊕ Screw torque | Nm 0.8 | |
| Wire strip length | mm 8 | |
| Max. wire size for 97.01 and 97.02 sockets | solid wire | stranded wire |
| | mm ² 1x6 / 2x2.5 | 1x4 / 2x2.5 |
| | AWG 1x10 / 2x14 | 1x12 / 2x14 |

L 97 - Rated current vs ambient temperature
(for 46.61 relay / 97.01 socket combination)



| | | |
|--|----------------------|-------------------------|
| 8-way jumper link for 97.01 and 97.02 sockets | 095.18 (blue) | 095.18.0 (black) |
| Rated values | 10 A - 250 V | |





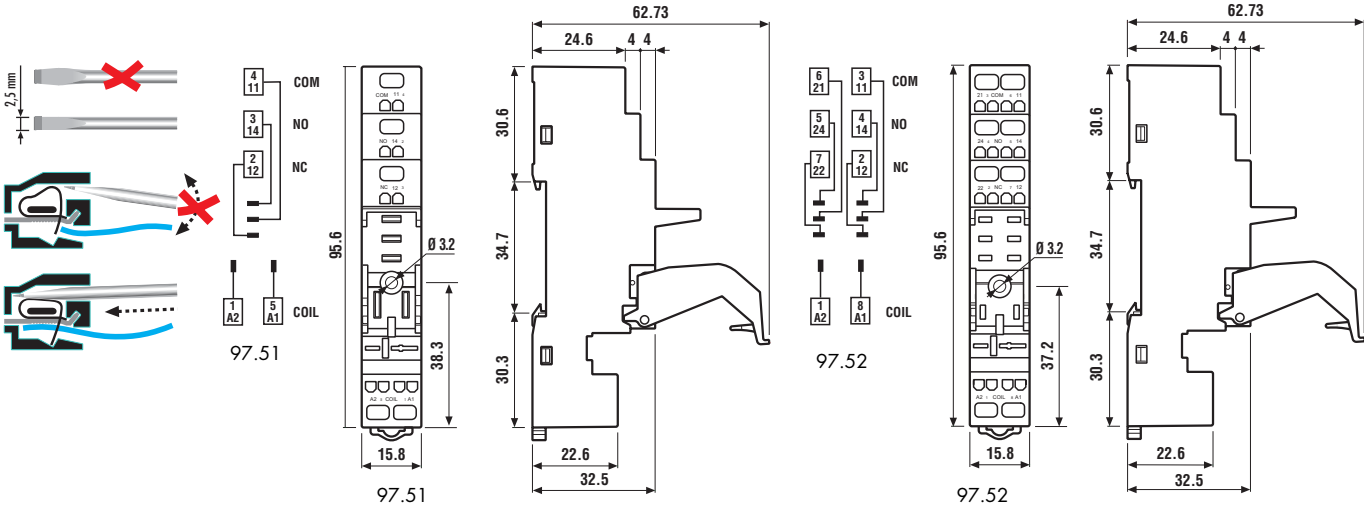
97.51

Approvals
(according to type):



097.01

| | | |
|--|--|----------------|
| Screwless terminal socket | 97.51 | 97.52 |
| panel or 35 mm rail (EN 50022) mount | Blue | Blue |
| For relay type | 46.61 | 46.52 |
| Accessories | | |
| Plastic retain and eject clip (supplied with socket - packaging code SPA) | 097.01 | |
| Timer modules | 86.30 | |
| Technical data | | |
| Rated current | 12 A - 250 V AC | 8 A - 250 V AC |
| Dielectric strength | 6 kV (1.2/50 μs) between coil and contacts | |
| Protection category | IP 20 | |
| Ambient temperature | °C -25...+70 | |
| Wire strip length | mm 8 | |
| Max. wire size for 97.51 and 97.52 sockets | solid wire | stranded wire |
| | mm ² 2x(0.2...1.5) | 2x(0.2...1.5) |
| | AWG 2x(24...18) | 2x(24...18) |



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