

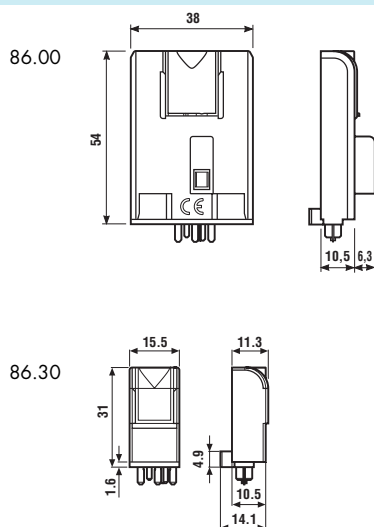
Features

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

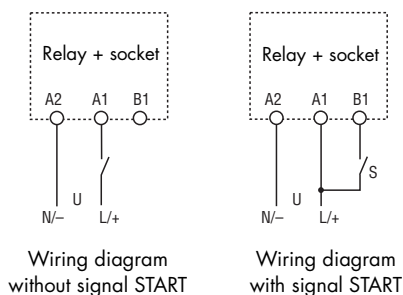


86.00



- 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

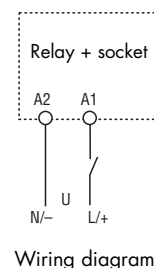


86.30



- 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)

A

VA

Rated power AC/DC W

Operating range V AC (50/60 Hz)

DC

Technical data

Specified time range

Repeatability %

Recovery time ms

Minimum control impulse ms

Setting accuracy full range %

Electrical life at rated load in AC1 cycles

Ambient temperature range °C

Protection category

Approvals (according to type)

See 60 and 62 series relays

Note: Do not use with relays

62.3x.x012.x300 and 62.3x.x012.x600

See 40, 44, 46, 55, 60 and 62 series relays

12...240

12...240

1.2

10.2...265

10.2...265

(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

± 1

≤ 50

50

± 5

See 60 and 62 series relays

-20...+50

IP 20

12...24

12...24

0.15

9.6...33.6

9.6...33.6

(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

± 1

≤ 50

—

± 5

See 40, 44, 46, 55, 60 and 62 series relays

-20...+50

IP 20

Ordering information

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

8 6 . 0 0 . 0 . 2 4 0 . 0 0 0 0

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

1 2 3 [] [] [] (0.05...1)s	1 2 3 [] [] [] (0.5...10)s	1 2 3 [] [] [] (5...100)s	1 2 3 [] [] [] (0.5...10)min	1 2 3 [] [] [] (5...100)min	1 2 3 [] [] [] (0.5...10)h	1 2 3 [] [] [] (5...100)h
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NOTE: time scales and functions must be set before energising the timer.

Functions

U = Supply voltage
S = Signal switch
 = Output contact

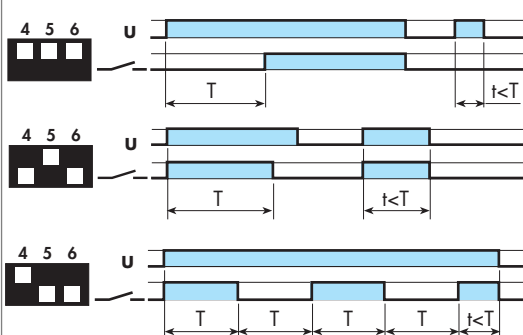
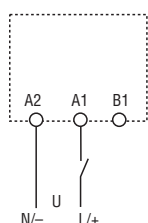
LED Type 86.00	LED Type 86.30	Supply voltage	NO output contact
		OFF	Open
		ON	Open
		ON	Open (timing in progress)
		ON	Closed

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.

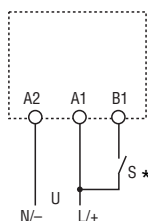
(DI) ON pulse.

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

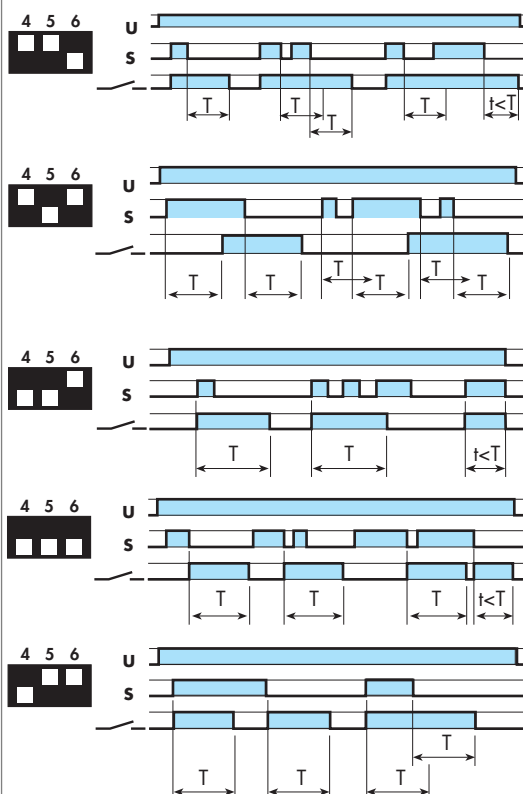
(SW) Symmetrical recycling: ON start.

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.

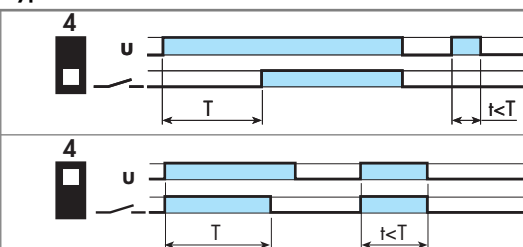
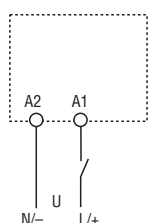
Power is permanently applied to the timer. On opening of the Signal Switch (S) the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

(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):



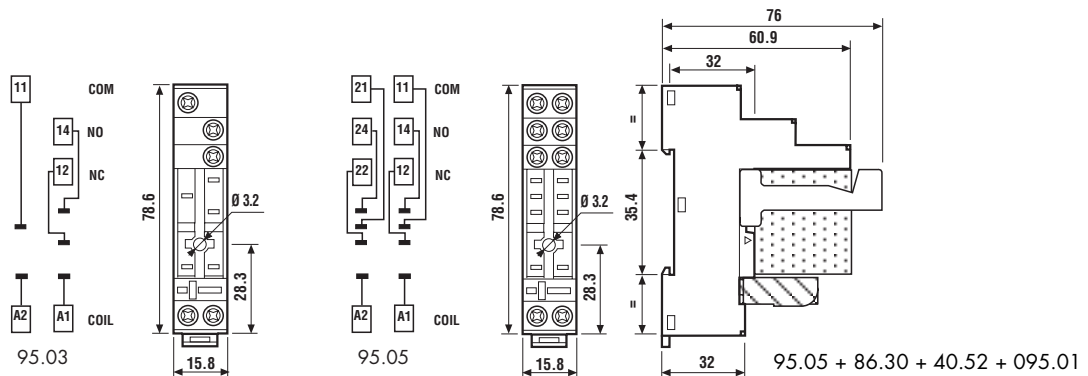
095.01



060.72

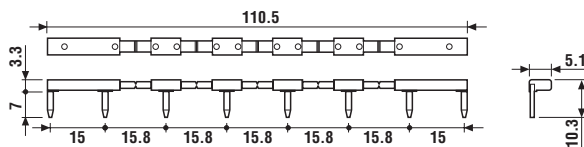
Screw terminal (Box clamp) socket	95.03	95.03.0	95.05	95.05.0
panel or 35 mm rail (EN 50022) mount	Blue	Black	Blue	Black
For relay type	40.31		40.51/ 52/ 61, 44.52/62	
Accessories				
Metal retaining clip	095.71			
Plastic retaining and release clip (supplied with socket - packaging code SPA)	095.01	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	
	mm²	1x6 / 2x2.5		1x4 / 2x2.5
	AWG	1x10 / 2x14		1x12 / 2x14

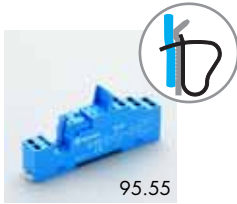
* For currents >10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).



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

panel or 35 mm rail (EN 50022) mount

For relay type

Accessories

Metal retaining clip

Plastic retaining and release clip

(supplied with socket - packaging code SPA)

Timer modules

Sheet of marker tags for retaining and release clip 095.91.3

plastic, 72 tags, 6x12 mm

Technical data

Rated values

Insulation

Protection category

Ambient temperature

Wire strip length

Max. wire size for 95.55 socket

95.55

Blue

40.51/52/61, 44.52/62

95.55.0

Black

095.71

095.91.3

095.91.30

86.30

060.72

10 A - 250 V

6 kV (1.2/50 μ s) between coil and contacts

IP 20

-25...+70

mm

8

solid wire

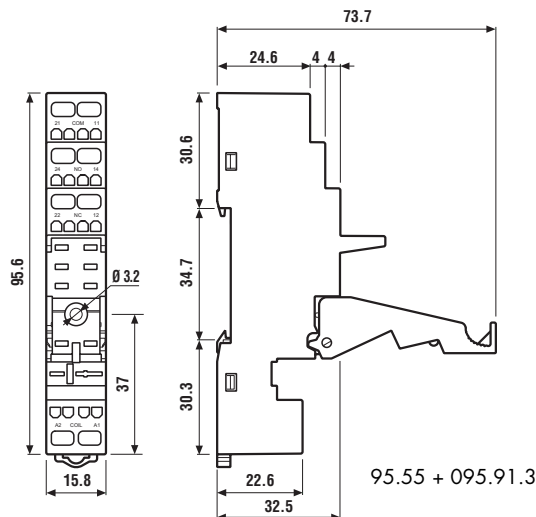
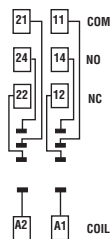
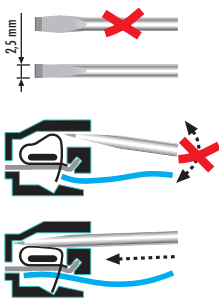
stranded wire

mm² 2x(0.2...1.5)

2x(0.2...1.5)

AWG 2x(24...18)

2x(24...18)

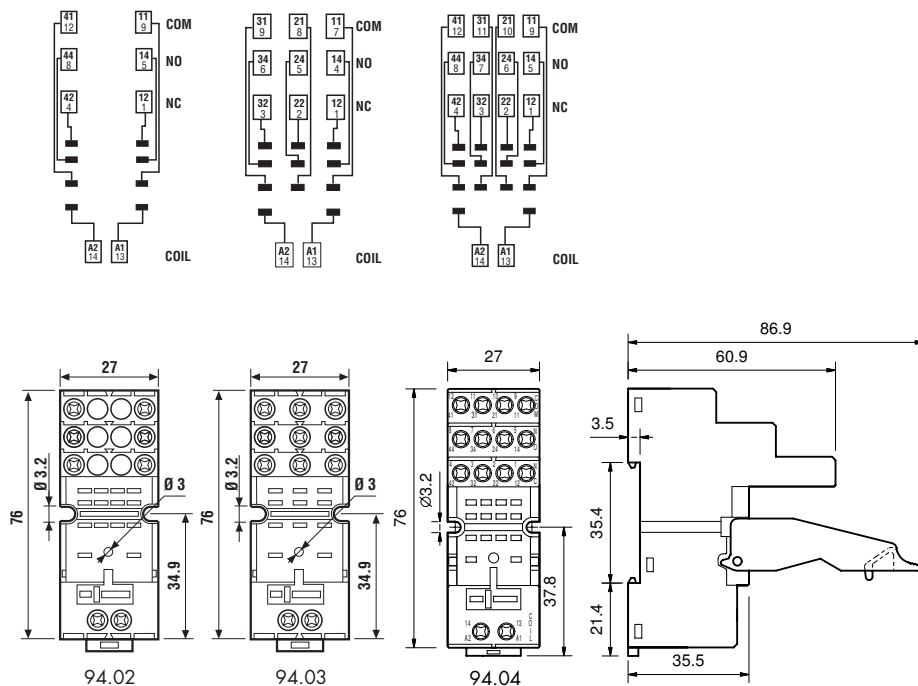




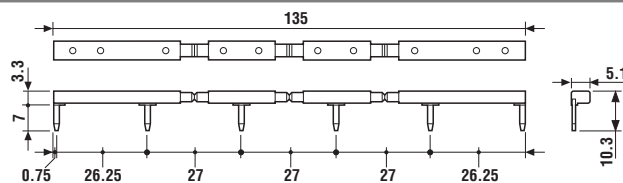
Approvals
(according to type):



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	
	mm²	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	



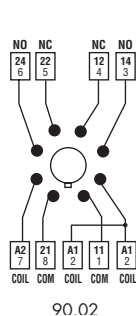


90.03

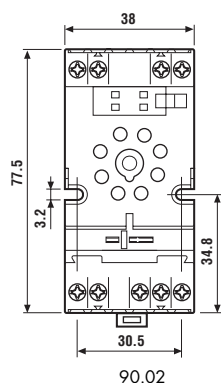
Approvals
(according to type):



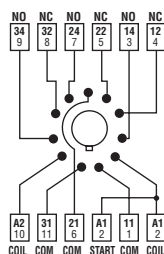
Screw terminal (Box clamp) socket	90.02	90.02.0	90.03	90.03.0
panel or 35 mm rail (EN 50022) mount	Blue	Black	Blue	Black
For relay type	60.12		60.13	
Accessories				
Metal retaining clip	090.33			
6-way jumper link	090.06			
Identification tag	090.00.2			
Timer module	86.00, 86.30			
Technical data				
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	



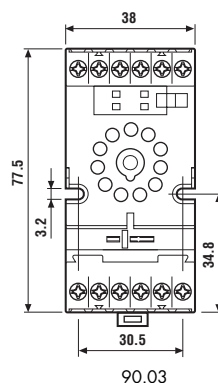
90.02



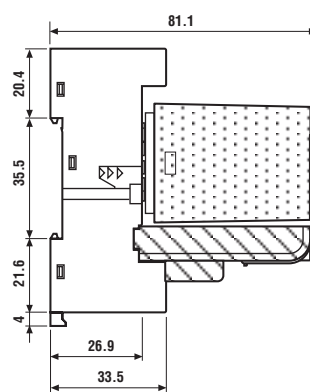
90.02



90.03



90.03



90.03 + 60.13 + 86.00



090.06

Approvals
(according to type):



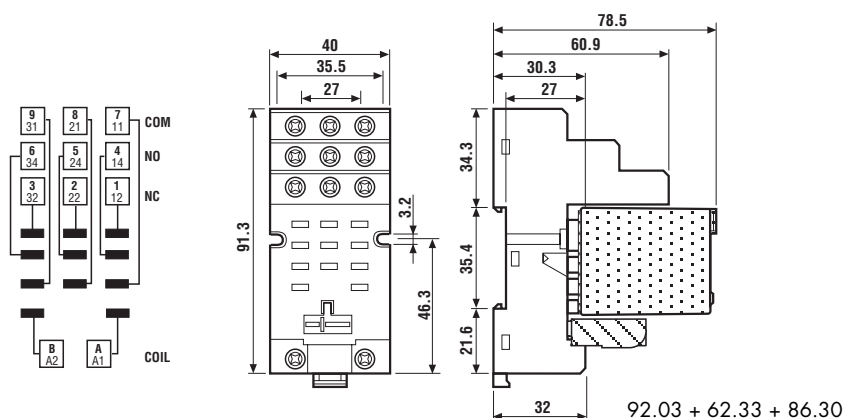
6-way jumper link for 90.02 and 90.03 sockets	090.06
Rated values	10 A - 250 V



Approvals
(according to type):



Screw terminal (Box clamp) socket	92.03	92.03.0
panel or 35 mm rail (EN 50022) mount	Blue	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
	mm²	1x10 / 2x4
	AWG	1x8 / 2x12
		1x10 / 2x12



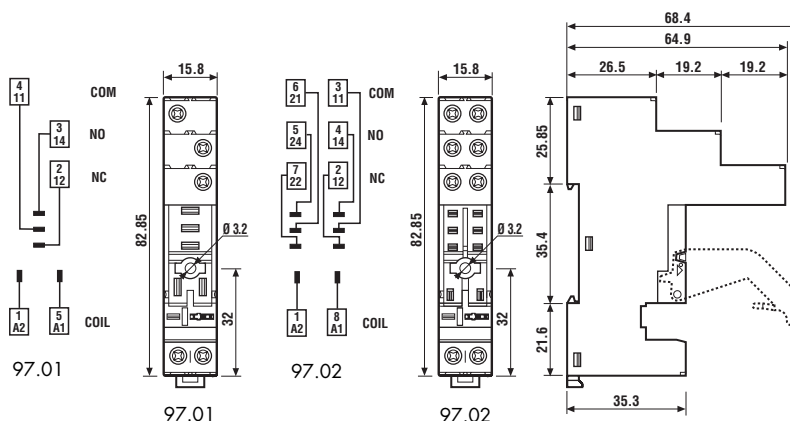
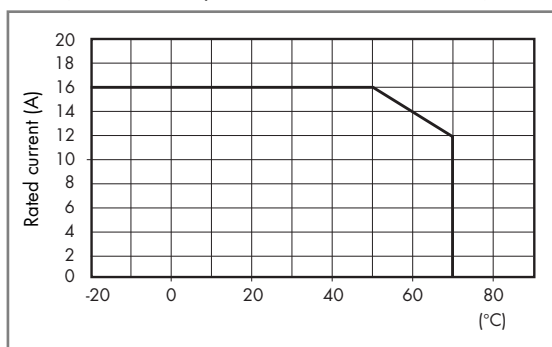


Approvals
(according to type):

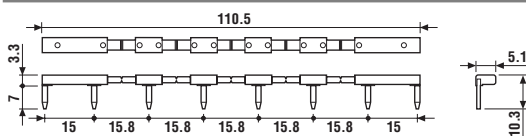


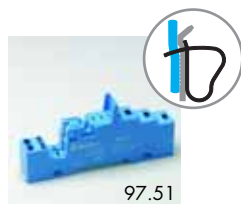
Screw terminal socket		97.01	97.02
panel or 35 mm rail (EN 50022) mount		Blue	Blue
For relay type		46.61	46.52
Accessories			
Plastic retain and eject clip (supplied with socket - packaging code SPA)		097.01	
8-way jumper link		095.18 (blue)	095.18.0 (black)
Identification tag		095.00.4	
Timer modules		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	





Approvals
(according to type):



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)

