Features

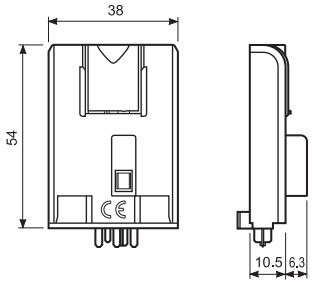
Timer modules for use in conjunction with relay & socket.

86.00 - Multi-function & multi-voltage timer module

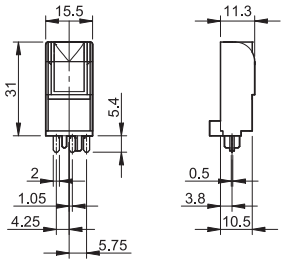
86.30 - Bi-function & multi-voltage timer module

- Timer module type 86.00 for 90, 92, 96 series sockets and type 86.30 for 90, 92, 94, 95, 96, 97 series sockets
- 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



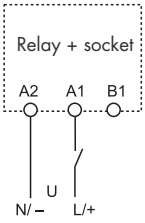
86.30



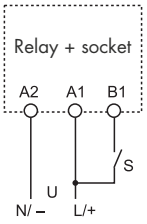
86.00

- Time scale: from 0.05s to 100h
- Multi-function
- Plug-in for use with 90.02, 90.03, 92.03 and 96.04 sockets

AI: On-delay
DI: Interval
SW: Symmetrical flasher (starting pulse on)
BE: Off-delay with control signal
CE: On- and off-delay with control signal
DE: Interval with control signal on
EE: Interval with control signal off
FE: Interval with control signal on and off



Wiring diagram (without control signal)

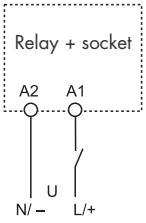


Wiring diagram (with control signal)

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, 94.54, 95.03, 95.05, 95.55, 96.02, 96.04, 97.01, 97.02, 97.51 and 97.52 sockets

AI: On-delay
DI: Interval



Wiring diagram

Contact specification					
Contact configuration		See 56, 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, 56, 60 and 62 series relays		
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	110...125	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	88...137	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	± 1		
Recovery time	ms	≤ 50	≤ 50		
Minimun control impulse	ms	50	—		
Setting accuracy full range	%	± 5	± 5		
Electrical life at rated load in AC1	cycles	See 56, 60 and 62 series relays	See 40, 44, 46, 55, 56, 60 and 62 series relays		
Ambient temperature range	°C	–20...+50	–20...+50		
Protection category		IP 20	IP 20		
Approvals (according to type)		CE EAC cULus			

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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, 56, 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)
120 = (110...125)V AC (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	94.02/94.54	86.30
2	56.32	96.02	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	94.04/94.54	86.30
4	56.34	96.04	86.00/86.30

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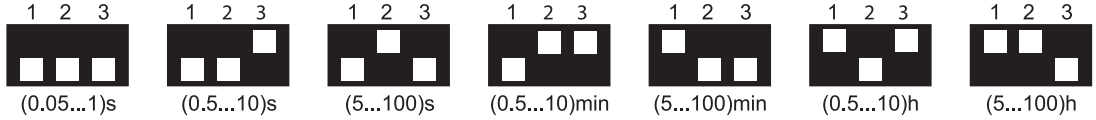
Technical data

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 ÷ 1,000 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	2 kV
Surges (1.2/50 µs) on Supply terminals	common mode	EN 61000-4-5	4 kV	2 kV
	differential mode	EN 61000-4-5	4 kV	1 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	class B	class 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 56, 60 and 62 series relays	See 40, 44, 46, 55, 56, 60, 62 series relays	

Time scales



NOTE: Time scales and functions must be set before energising the timer.
To achieve the minimum time setting of 0.05 seconds it is necessary to use one of the functions with control signal.
When setting very short times it may be necessary to take into account the operate time of the relay used.

Functions

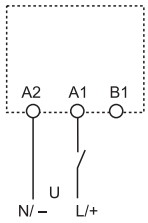
U = Supply voltage
S = Signal switch
= Output contact

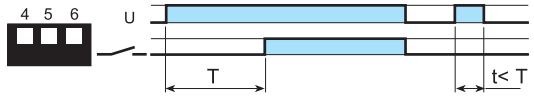
LED Type 86.00	LED Type 86.30	Supply voltage	NO output contact
		OFF	Open
		ON	Open
		ON	Open (timing in progress)
		ON	Closed

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

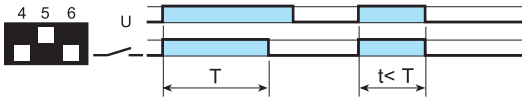
Wiring diagram — Type 86.00

Without control signal

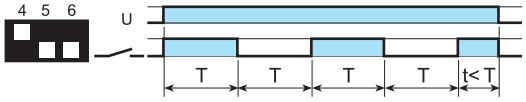




(AI) On-delay.
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.

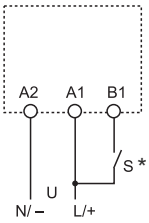


(DI) Interval.
Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.

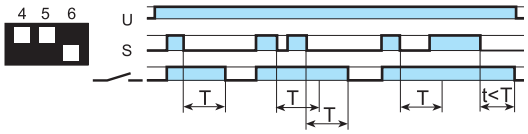


(SW) Symmetrical flasher (starting pulse on).
Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ratio is 1:1 (time on = time off).

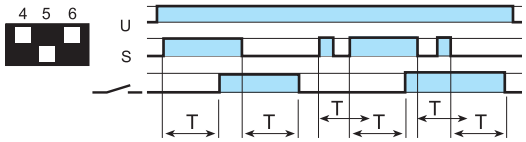
With control signal



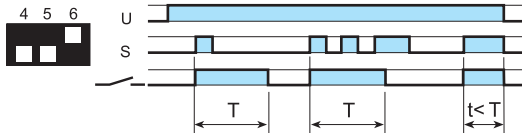
* With DC supply, positive polarity has to be conneted to B1 terminal (according to EN 60204-1). Switch S should be exclusively used to provide the control signal to terminal B1. (Do not connect any other load at this point).



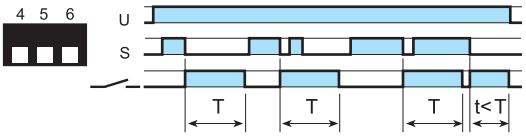
(BE) Off-delay with control signal.
Power is permenently applied to the timer.
The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.



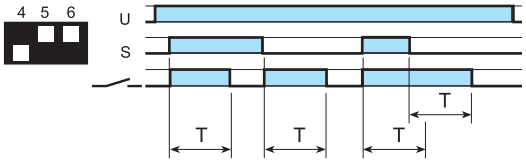
(CE) On- and off-delay with control signal.
Power is permenently applied to the timer.
Closing the Signal Switch (S) initiates the preset delay, after which time the output contacts transfer. Opening the Signal switch initiates the same preset delay, after which time the output contacts reset.



(DE) Interval with control signal on.
Power is permenently 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.

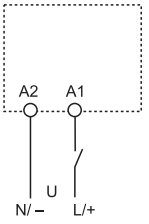


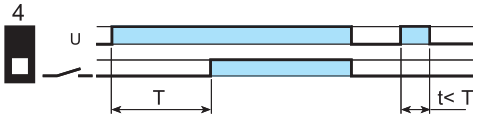
(EE) Interval with control signal off.
Power is permenently applied to the timer.
On opening of the Signal Switch (S) the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.



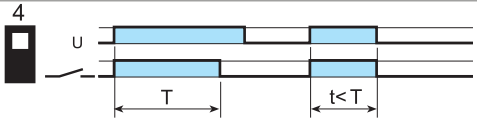
(FE) Interval with control signal on and off.
Power is permenently applied to the timer.
Both the opening and closing of the Signal Switch (S) initiates the transfer of the output contacts. In both instances the contacts reset after the delay period has elapsed.

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

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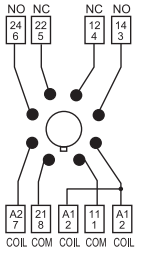
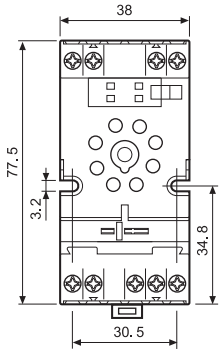
90.03

Approvals
(according to type):

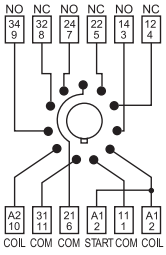
Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		90.02 Blue	90.02.0 Black	90.03 Blue	90.03.0 Black
For relay type		60.12		60.13	
Accessories					
Metal retaining clip		090.33			
6-way jumper link		090.06			
Identification tag		090.00.2			
Timer module		86.00, 86.30			
Technical 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	
	mm²	1x6 / 2x2.5		1x4 / 2x2.5	
	AWG	1x10 / 2x14		1x12 / 2x14	



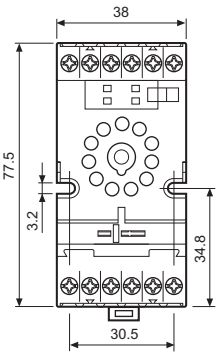
90.02



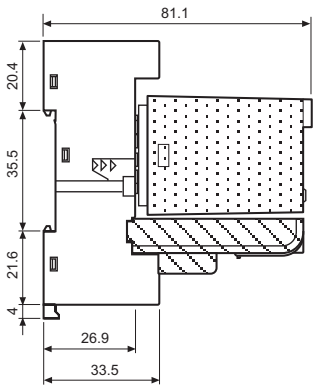
90.02



90.03



90.03



90.03 + 60.13 + 86.00

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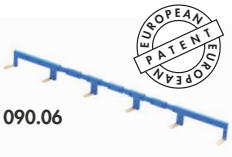
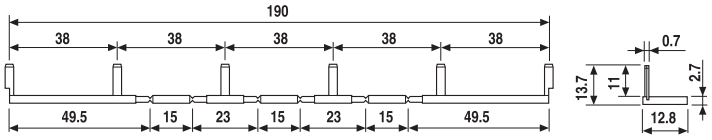


090.06

Approvals
(according to type):

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



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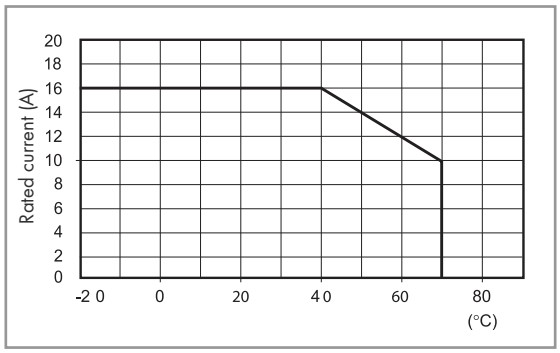
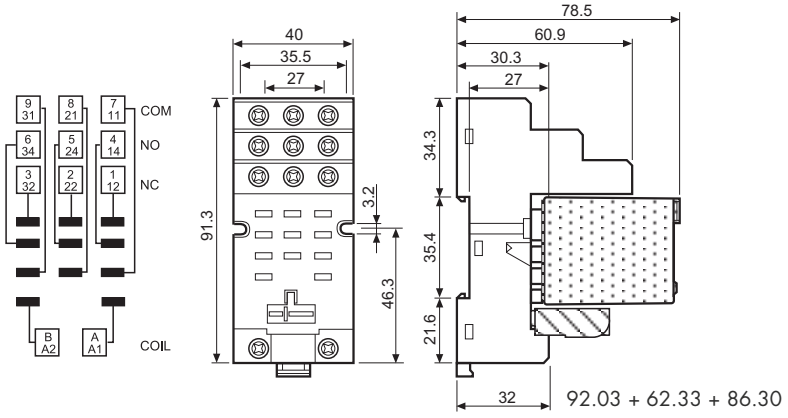
92.03

Approvals (according to type):

Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) 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	
Dielectric strength		6 kV (1.2/50 µs) between coil and contacts	
Protection category		IP 20	
Ambient temperature	°C	–40...+70 (see diagram L92)	
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

L 92 - Rated current vs ambient temperature





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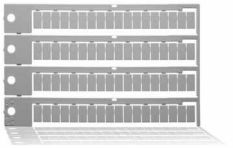
94.04

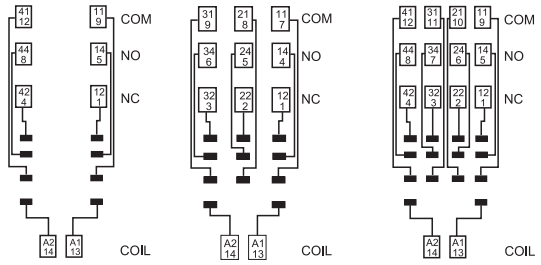
Approvals
(according to type):

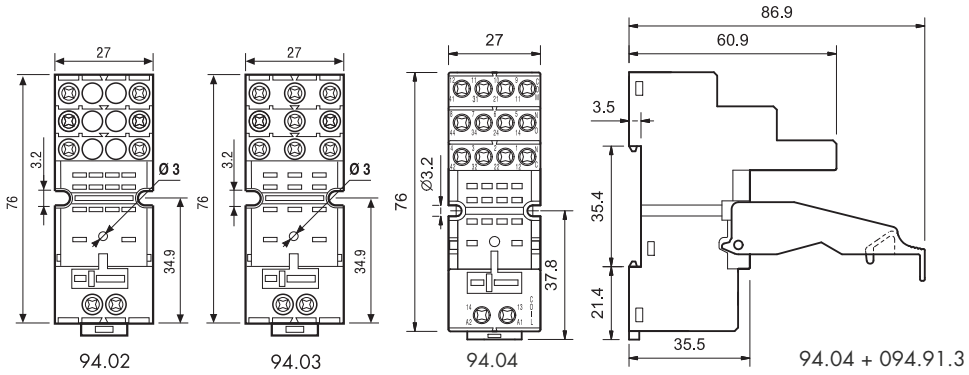
094.91.3

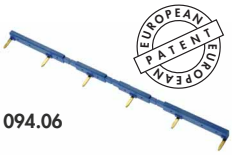


060.72

Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		94.02 Blue	94.02.0 Black	94.03 Blue	94.03.0 Black	94.04 Blue	94.04.0 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			

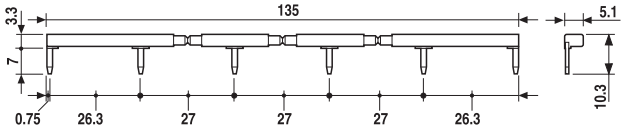






094.06

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	

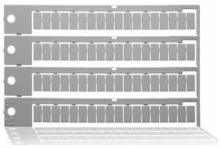


IV-2015, www.findernet.com

94.54

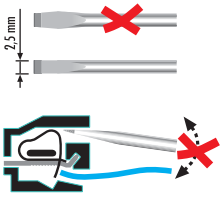
Approvals (according to type):

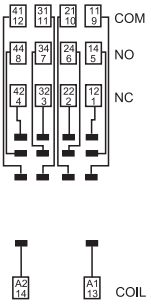
094.91.3

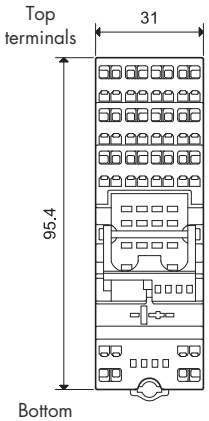


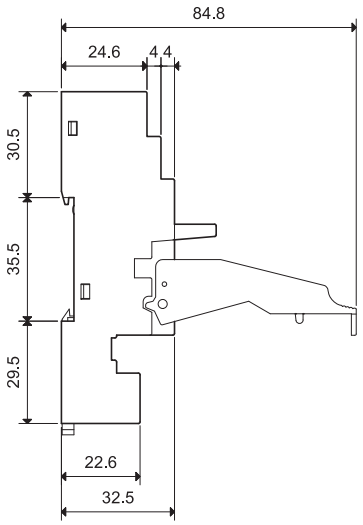
060.72

Screwless terminal socket 35 mm rail (EN 60715) mount		**94.54 (blue)**	
For relay type		55.32, 55.34	
Accessories			
Metal retaining clip		094.71	
Plastic retaining and release clip		094.91.3	
6-way jumper link		094.56	
Modules (see table below)		99.02, 86.30	
Sheet of marker tags, 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	–25...+70	
Wire strip length	mm	10	
Max. wire size for 94.54 socket		solid wire	stranded wire
	mm²	2x(0.2...1.5)	2x(0.2...1.5)
	AWG	2x(24...14)	2x(24...14)

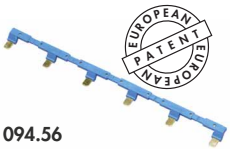






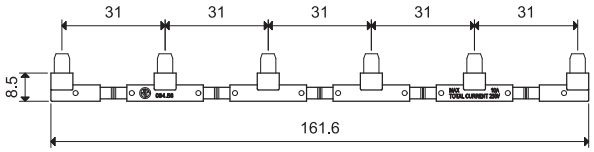


Sockets + jumper link



094.56

6-way jumper link	094.56 (blue)
Rated values	10 A - 250 V



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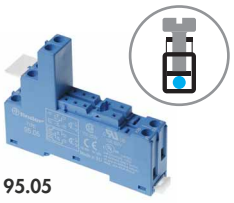
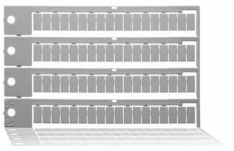


95.05

Approvals
(according to type):

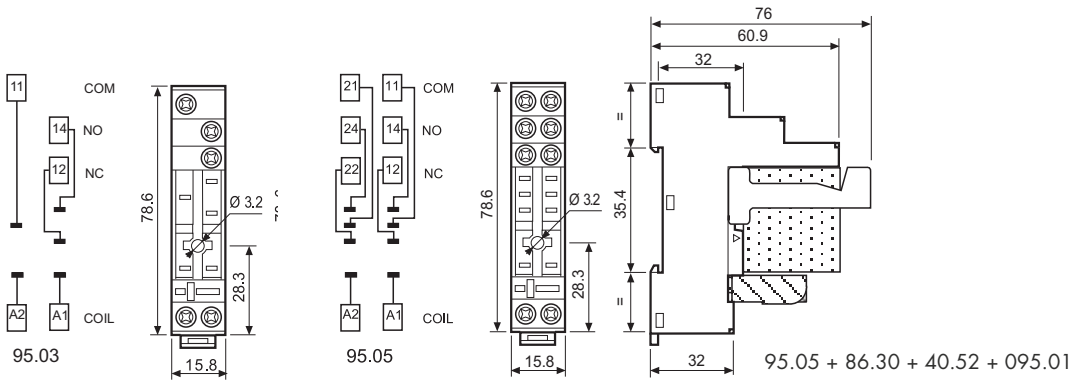
095.01



060.72

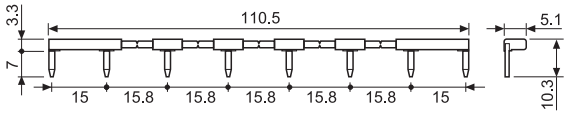
Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		**95.03** **Blue**	**95.03.0** **Black**	**95.05** **Blue**	**95.05.0** **Black**
For relay type		40.31		40.51/ 52/ 61, 44.52/62	
Accessories					
Metal retaining clip		095.71			
Plastic retaining and release clip (supplied with 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 *			
Dielectric strength		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	



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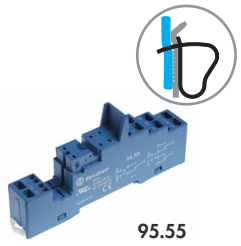
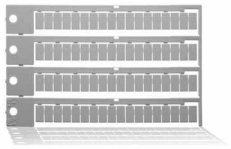


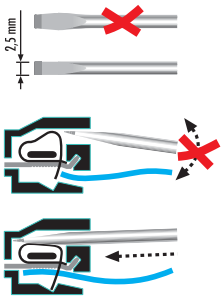
95.55

Approvals (according to type):

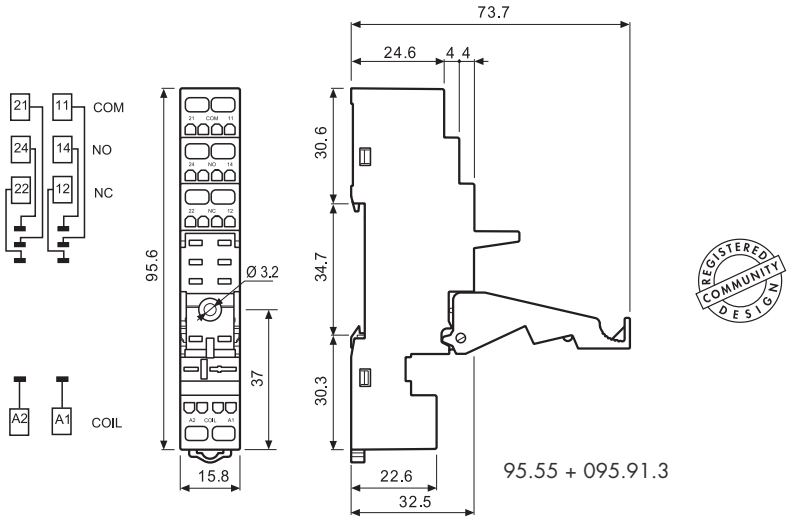
095.91.3



060.72



Screwless terminal socket panel or 35 mm rail (EN 60715) mount		95.55 Blue	95.55.0 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	
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 95.55 socket		solid wire	stranded wire
	mm²	2x(0.2...1.5)	2x(0.2...1.5)
	AWG	2x(24...18)	2x(24...18)



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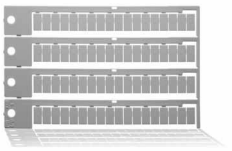
96.02

Approvals
(according to type):

96.04

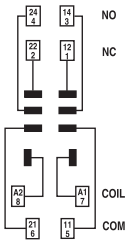
Approvals
(according to type):

094.91.3

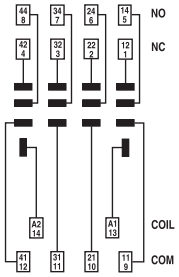


060.72

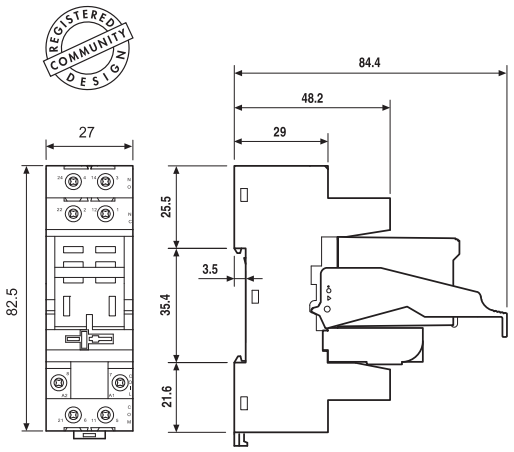
Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount		**96.02** **Blue**	**96.02.0** **Black**	**96.04** **Blue**	**96.04.0** **Black**
For relay type		56.32		56.34	
Accessories					
Metal retaining clip (supplied with socket - packaging code SMA)		094.71		096.71	
Plastic retaining and release clip (supplied with socket - packaging code SPA)		094.91.3	094.91.30	—	—
6-way jumper link		094.06	094.06.0	—	—
Identification tag		095.00.4		090.00.2	
Timer modules		86.30		86.00, 86.30	
Sheet of marker tags for retaining and release clip 094.91.3 plastic, 72 tags, 6x12 mm		060.72		—	
Technical data					
Rated values		12 A - 250 V			
Dielectric strength		2 kV AC			
Protection category		IP 20			
Ambient temperature	°C	–40...+70			
Screw torque	Nm	0.8			
Wire strip length	mm	8			
Max. wire size for 96.02/04 sockets		solid wire		stranded wire	
	mm²	1x6 / 2x2.5		1x4 / 2x2.5	
	AWG	1x10 / 2x14		1x12 / 2x14	



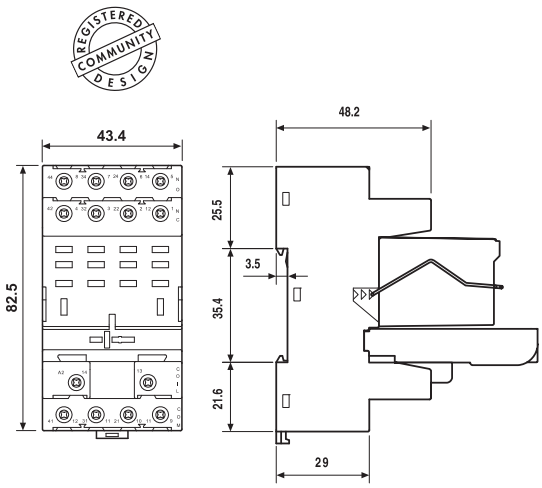
96.02



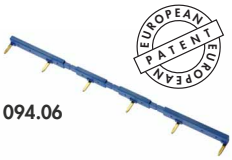
96.04



96.02 96.02 + 56.32 + 094.91.3 + 86.30

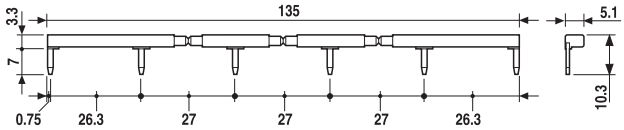


96.04 96.04 + 56.34 + 096.71 + 86.00



094.06

6-way jumper link for 96.02 socket	094.06 (blue)	094.06.0 (black)
Rated values	10 A - 250 V	



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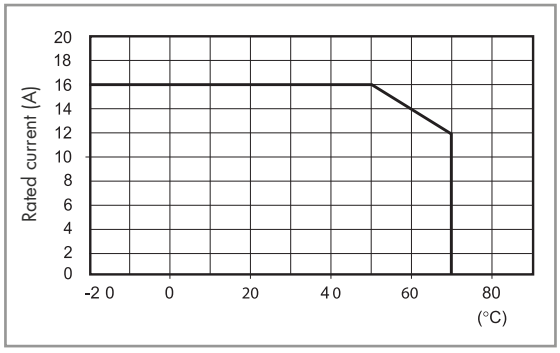
97.01

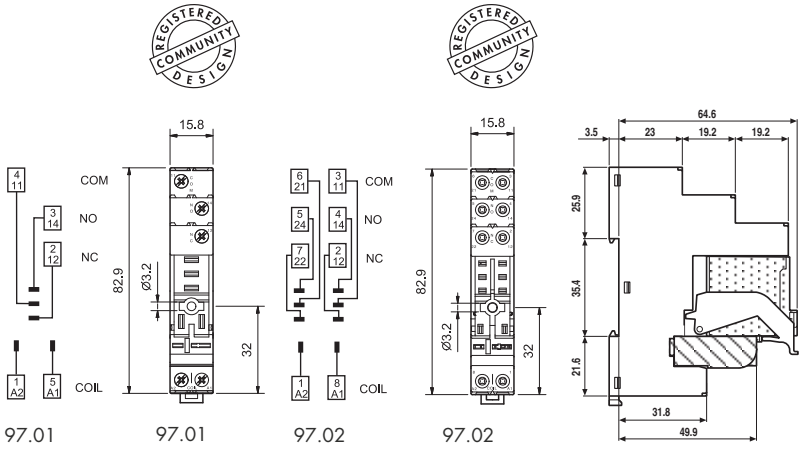
Approvals (according to type):

097.01

Screw terminal socket		97.01	97.02
panel or 35 mm rail (EN 60715) 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)



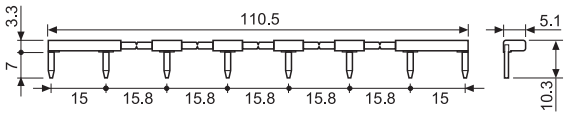


97.01 97.01 97.02 97.02

97.02 + 46.52 + 097.01 + 86.30

095.18

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



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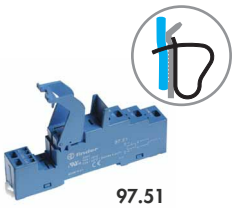
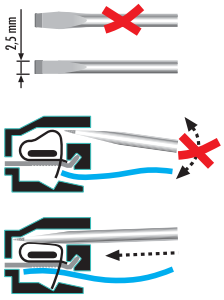


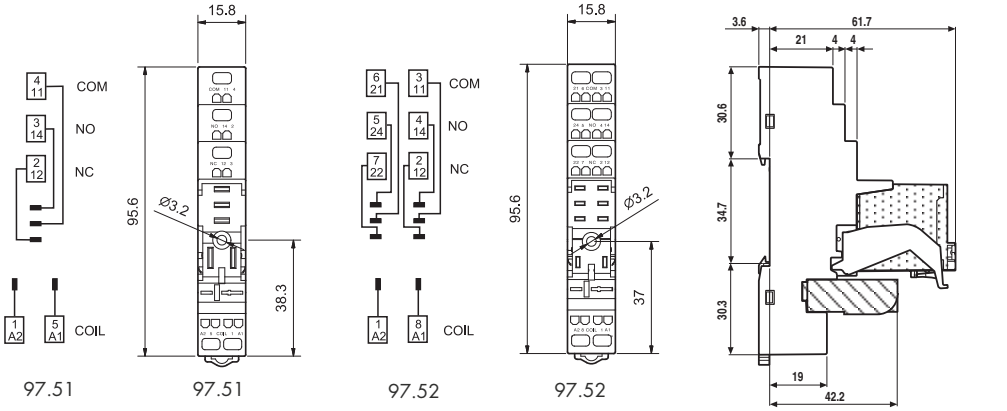
97.51

Approvals
(according to type):

097.01

Screwless terminal socket panel or 35 mm rail (EN 60715) mount		97.51 Blue	97.52 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		10 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
	mm²	2x(0.2...1.5)	2x(0.2...1.5)
	AWG	2x(24...18)	2x(24...18)





97.51 97.51 97.52 97.52

97.52 + 46.52 + 097.01 + 86.30

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