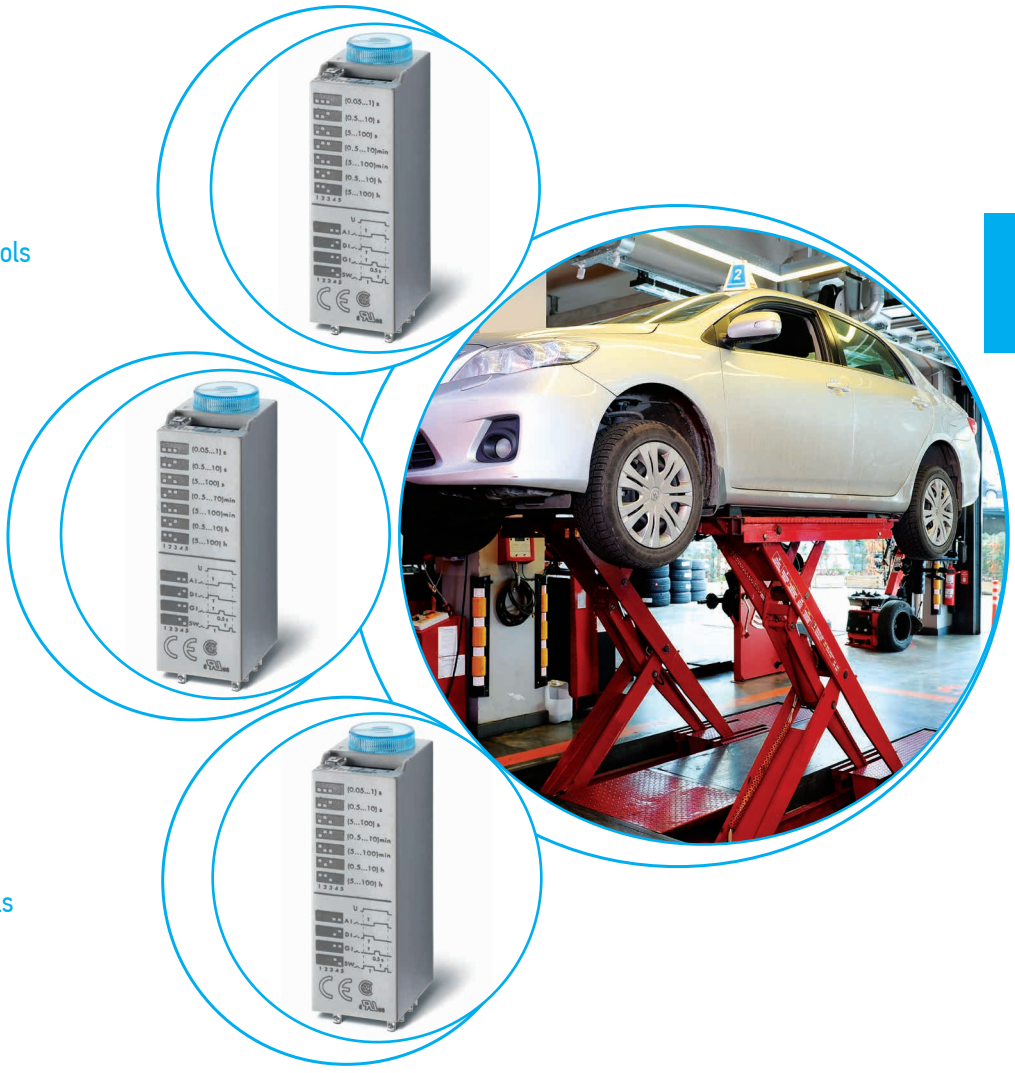
finder
SWITCH TO THE FUTURE

Miniature plug-in timers 7 - 10 A

85
SERIES

- Timers and lighting controls
- Medical and dentistry
- Drying kilns
- Elevators and lifts
- Panels for electrical distribution
- Control panels



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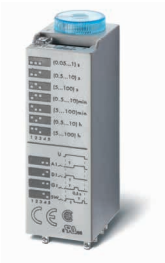
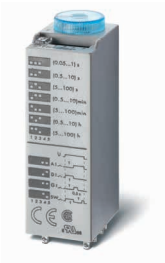
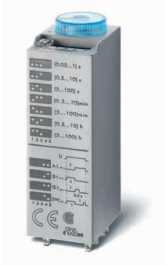
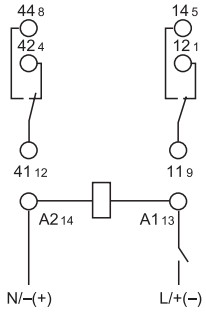
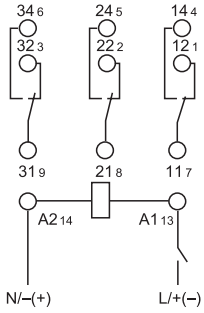
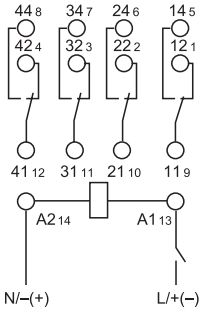
FINDER reserves the right to alter characteristics at any time without notice. FINDER assumes no liability for damage to persons or property, caused as a result of the incorrect use or application of its products.

Plug-in timer

85.02 - 2 Pole 10 A
85.03 - 3 Pole 10 A
85.04 - 4 Pole 7 A

- Multifunctions
- Seven time scales, from 0.05 s to 100 h
- 94 series sockets for 35 mm rail (EN 60715) mount with push-in and screw terminal

	85.02	85.03	85.04
			
	• 2 pole, 10 A • AC/DC supply non polarized • Plug-in for use with 94 series sockets	• 3 pole, 10 A • AC/DC supply non polarized • Plug-in for use with 94 series sockets	• 4 pole, 7 A • AC/DC supply non polarized • Plug-in for use with 94 series sockets
	AI: On-delay **DI:** Interval **SW:** Symmetrical flasher (starting pulse on) **GI:** Pulse delayed	**AI:** On-delay **DI:** Interval **SW:** Symmetrical flasher (starting pulse on) **GI:** Pulse delayed	**AI:** On-delay **DI:** Interval **SW:** Symmetrical flasher (starting pulse on) **GI:** Pulse delayed
For UL ratings see: "General technical information" page V			
For outline drawing see page 4	Wiring diagram (without control signal)	Wiring diagram (without control signal)	Wiring diagram (without control signal)
Contact specification			
Contact configuration	2 CO (DPDT)	3 CO (3PDT)	4 CO (4PDT)
Rated current/Maximum peak current — A	10/20	10/20	7/15
Rated voltage/ Maximum switching voltage — V AC	250/400	250/400	250/250
Rated load AC1 — VA	2500	2500	1750
Rated load AC15 (230 V AC) — VA	500	500	350
Single phase motor rating (230 V AC) — kW	0.37	0.37	0.125
Breaking capacity DC1: 30/110/220 V — A	10/0.25/0.12	10/0.25/0.12	7/0.25/0.12
Minimum switching load — mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material	AgNi	AgNi	AgNi
Supply specification			
Nominal voltage (U_N) — V AC (50/60 Hz)	230…240	230…240	230…240
V AC/DC	12 - 24 - 48 - 110…125 (non polarized)		
Rated power AC/DC — VA (50 Hz)/W	2/2	2/2	2/2
Operating range — AC	(0.85…1.1)U_N	(0.85…1.1)U_N	(0.85…1.1)U_N
DC	(0.85…1.1)U_N	(0.85…1.1)U_N	(0.85…1.1)U_N
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 — %	± 2	± 2	± 2
Recovery time — ms	≤ 20	≤ 20	≤ 20
Minimum control impulse — ms	—	—	—
Setting accuracy-full range — %	± 5	± 5	± 5
Electrical life at rated load in AC1 — cycles	$200 \cdot 10^3$	$200 \cdot 10^3$	$150 \cdot 10^3$
Ambient temperature range — °C	–20…+60	–20…+60	–20…+60
Protection category	IP 40	IP 40	IP 40
Approvals (according to type)	CE UKCA EAC cULus		

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Ordering information

Example: 85 series timer, 4 CO (4PDT), 24 V AC/DC supply voltage, AI, DI, GI, SW functions.

8 5 . 0 4 . 0 . 0 2 4 . 0 0 0 0

Series

Type
0 = Multifunction (AI, DI, GI, SW)*
* AI = On-delay
DI = Interval
GI = Pulse delayed
SW = Symmetrical flasher (starting pulse on)

No. of poles
2 = 2 pole - 10 A
3 = 3 pole - 10 A
4 = 4 pole - 7 A

Supply voltage
012 = 12 V AC/DC
024 = 24 V AC/DC
048 = 48 V AC/DC
125 = (110…125)V AC/DC
240 = (230…240)V AC

Supply version
0 = AC (50/60 Hz)/DC
8 = AC (50/60 Hz) for 240 V only

Technical data

Insulation					
Dielectric strength			**85.02, 85.03**	**85.04**	
	between input and output circuit	V AC	2000	2000	
	between open contacts	V AC	1000	1000	
	between adjacent contacts	V AC	2000	1550	
Insulation (1.2/50 µs) between input and output		kV	6	4	
EMC specifications					
Type of test			**Reference standard**		
Electrostatic discharge	contact discharge		EN 61000-4-2	n.a.	
	air discharge		EN 61000-4-2	8 kV	
Radio-frequency electromagnetic field (80 ÷ 1000 MHz)			EN 61000-4-3	15 V/m	
Fast transients (burst) (5-50 ns, 5 kHz) on Supply terminals			EN 61000-4-4	4 kV	
Surges (1.2/50 µs) on	common mode		EN 61000-4-5	4 kV	
Supply terminals	differential mode		EN 61000-4-5	2 kV	
Radio-frequency common mode (0.15 ÷ 80 MHz) on Supply terminals			EN 61000-4-6	10 V	
Power-frequency (50 Hz)			EN 61000-4-8	30 A/m	
Radiated and conducted emission			EN 55022	class B	
Other data					
Power lost to the environment	without contact current	W	1.6		
	with rated current	W	3.7 (85.02)	4.7 (85.03)	3.6 (85.04)

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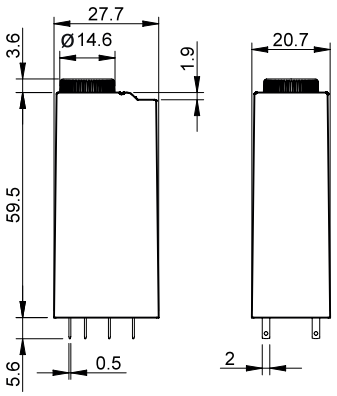
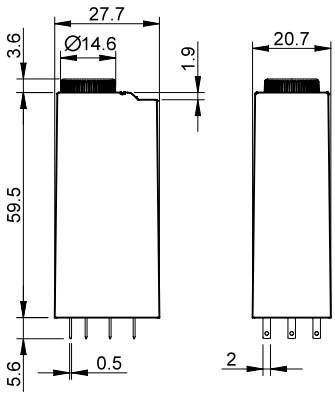
Outline drawings

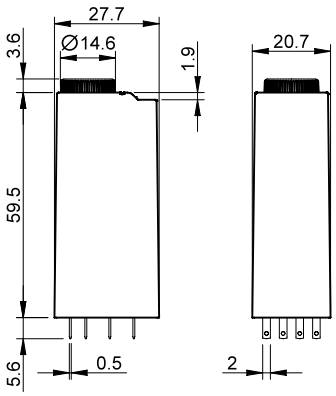
Type 85.02



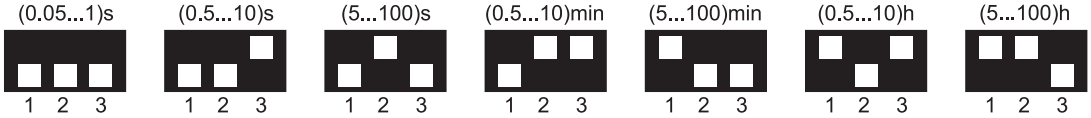
Type 85.03



Type 85.04



Times scales



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

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Functions

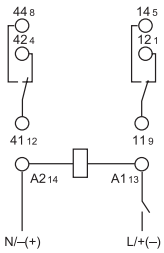
U = Supply voltage

= Output contact

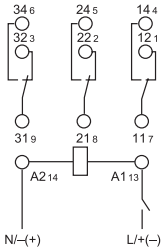
LED	Supply voltage	NO (SPDT-NO) output contact	Contacts	
			Open	Closed
	OFF	Open	x1 - x4	x1 - x2
	ON	Open	x1 - x4	x1 - x2
	ON	Open (Timing in Progress)	x1 - x4	x1 - x2
	ON	Closed	x1 - x2	x1 - x4

Wiring diagram

Type: 85.02, 85.03, 85.04



85.02



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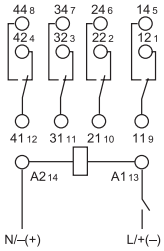

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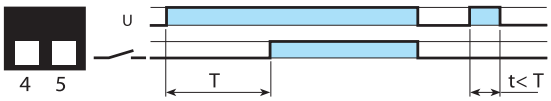
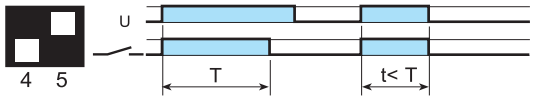
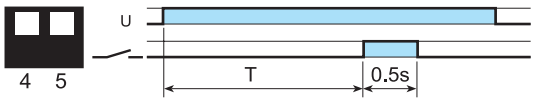


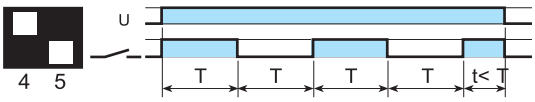
(AI) On-delay.
Apply power to timer.
Output contacts transfer after preset time has elapsed.
Reset occurs when power is removed.



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



(GI) Pulse delayed.
Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs after a fixed time of 0.5 s.



(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).

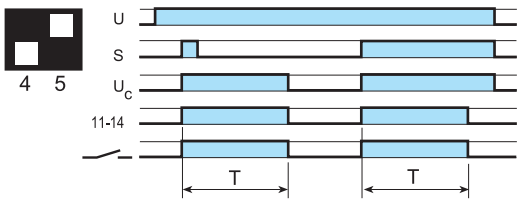
U = Supply voltage

S = Signal switch

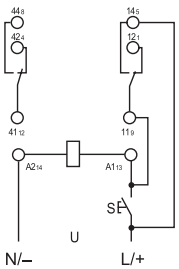
U_c = Supply voltage to the timer

11-14 = Self-holding contact

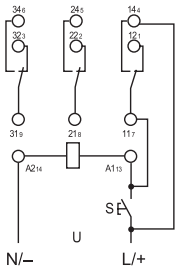
= Output contact



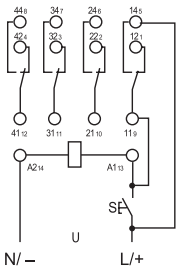
Signal ON Pulse
On mometary closure of Signal Switch (S) > 50 ms, the output contacts transfer and remain so (with self-holding on contact 11-14) for the duration of the preset delay, after which they reset.



85.02

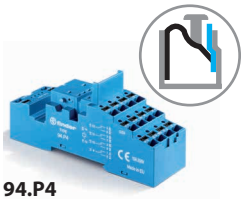


85.03



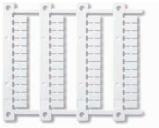
85.04

94 SERIES
Sockets and accessories for 85 series timers



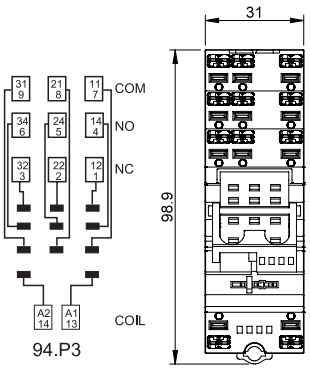
94.P4

Approvals (according to type):

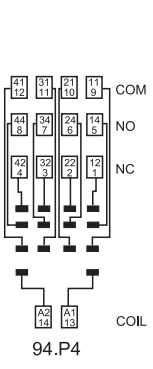


060.48

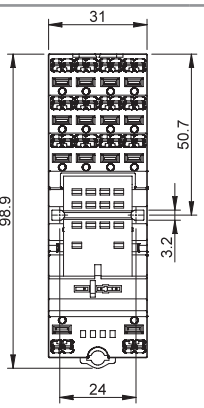
Push-in terminal socket panel or 35 mm (EN 60715) rail mount		**94.P3 Blue**	**94.P4 Blue**
For timer type		85.03	85.02, 85.04
Accessories			
Metal retaining clip		094.81	
6-way jumper link		094.56	
Identification tag		094.00.4	
2-way jumper link		094.52.1	
2-way jumper link		097.52	
Marker tag holder		097.00	
Sheet of marker tags for marker tag holder 097.00 , 48 tags, 6 x 12 mm for CEMBRE thermal transfer printers		060.48	
Technical data			
Rated values		10 A - 250 V	
Dielectric strength		2 kV AC	
Protection category		IP 20	
Ambient temperature	°C	–40…+70	
Wire strip length	mm	8	
Min. wire size for 94.P3 and 94.P4 sockets		solid wire	stranded wire
	mm²	0.5	0.5
	AWG	21	21
Max. wire size for 94.P3 and 94.P4 sockets		solid wire	stranded wire
	mm²	2 x 1.5 / 1 x 2.5	2 x 1.5 / 1 x 2.5
	AWG	2 x 18 / 1 x 14	2 x 18 / 1 x 14



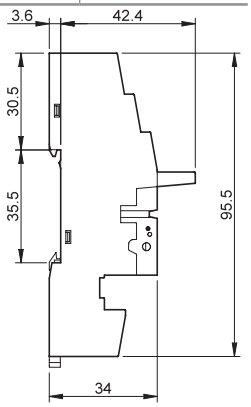
94.P3



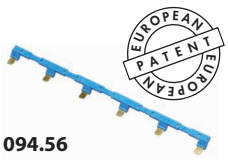
94.P4



94.P3

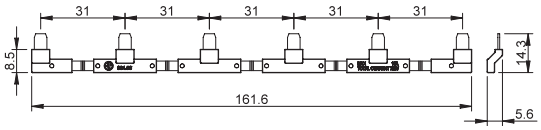


94.P4



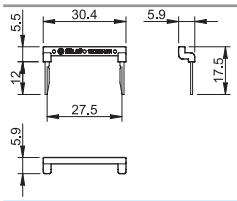
094.56

6-way jumper link for 94.P3 and 94.P4 sockets	094.56 (blue)
Rated values	10 A - 250 V



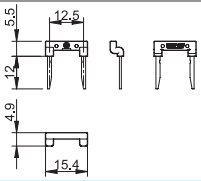
094.52.1

2-way jumper link for 94.P3 and 94.P4 sockets	094.52.1
Rated values	10 A - 250 V



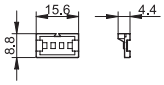
097.52

2-way jumper link for 94.P3 and 94.P4 sockets	097.52
Rated values	10 A - 250 V



097.00

Marker tag holder for 94.P3 and 94.P4 sockets	097.00



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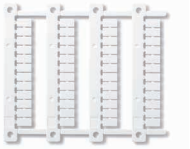
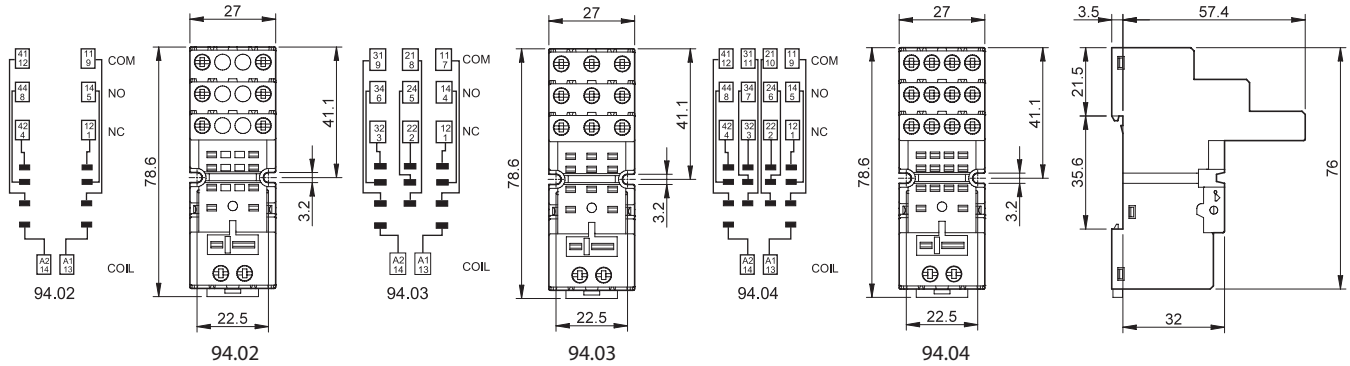
94.04

Approvals
(according to type):



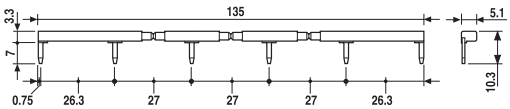
060.48

Screw terminal (Box clamp) socket panel or 35 mm (EN 60715) rail mount	**94.02 Blue**	**94.02.0 Black**	**94.03 Blue**	**94.03.0 Black**	**94.04 Blue**	**94.04.0 Black**
For timer type	85.02		85.03		85.04	
Accessories						
Metal retaining clip	094.81					
6-way jumper link	094.06	094.06.0	094.06	094.06.0	094.06	094.06.0
Identification tag	094.00.4					
Marker tag holder	097.00					
Sheet of marker tags marker tag holder 097.00 , 48 tags, 6 x 12 mm for CEMBRE thermal transfer printers	060.48					
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	1 x 6 / 2 x 2.5			1 x 4 / 2 x 2.5		
AWG	1 x 10 / 2 x 14			1 x 12 / 2 x 14		



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	



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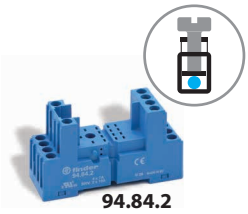
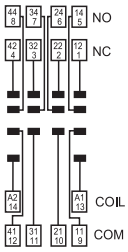
94 SERIES
Sockets and accessories for 85 series timers

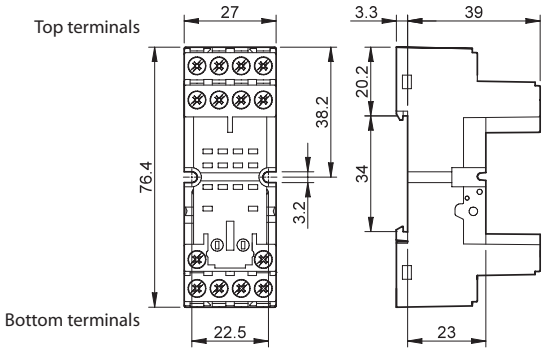

94.84.2

Approvals
(according to type):

Screw terminal (Box clamp) socket panel or 35 mm (EN 60715) rail mount		**94.84.2 Blue**	**94.84.20 Black**
For timer type		85.02, 85.04	
Accessories			
Metal retaining clip (supplied with socket - packaging code SMA)		094.81	
6-way jumper link		094.06	094.06.0
Identification tag		094.80.3	
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	7	
Max. wire size for 94.84.2 socket		solid wire	stranded wire
	mm²	1 x 6 / 2 x 2.5	1 x 4 / 2 x 2.5
	AWG	1 x 10 / 2 x 14	1 x 12 / 2 x 14



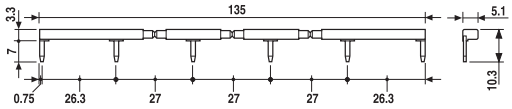
94.84.2



94.84.2

094.06

6-way jumper link for 94.84.2 socket	094.06 (blue)	094.06.0 (black)
Rated values	10 A - 250 V	



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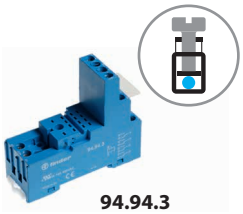
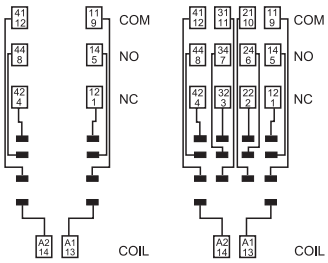
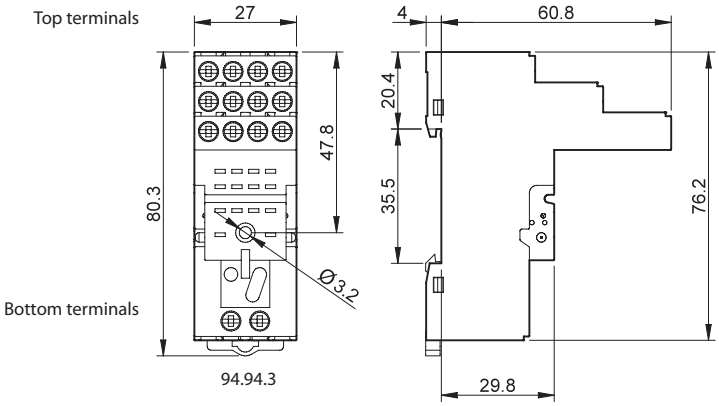


94.94.3

Approvals
(according to type):

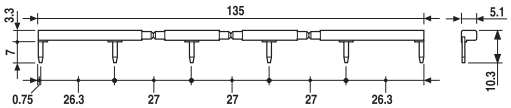
Screw terminal (Box clamp) socket panel or 35 mm rail mount		**94.92.3 (blue)**	**94.92.30 (black)**	**94.94.3 (blue)**	**94.94.30 (black)**
For timer type		85.02		85.04	
Accessories					
Metal retaining clip		094.81			
6-way jumper link		094.06	094.06.0	094.06	094.06.0
Identification tag		094.80.3			
Technical data					
Rated values		10 A - 250 V			
Dielectric strength		2 kV AC			
Protection category		IP 20			
Ambient temperature	°C	–25…+70			
Screw torque	Nm	0.5			
Wire strip length	mm	8			
Max. wire size for 94.92.3 and 94.94.3 sockets		solid wire		stranded wire	
	mm²	1 x 6 / 2 x 2.5		1 x 4 / 2 x 2.5	
	AWG	1 x 10 / 2 x 14		1 x 12 / 2 x 14	





094.06

6-way jumper link for 94.92.3 and 94.94.3 sockets	094.06 (blue)	094.06.0 (black)
Rated values	10 A - 250 V	



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94 SERIES
Sockets and accessories for 85 series timers

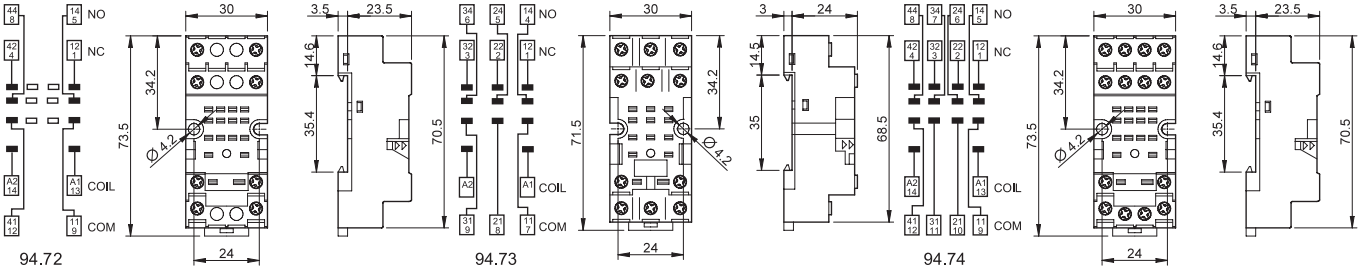
94.74

Approvals
(according to type):

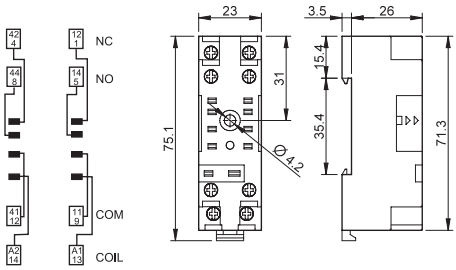
94.82

Approvals
(according to type):

Screw terminal (Plate clamp) socket panel or 35 mm rail (EN 60715) mount	**94.72** **Blue**	**94.72.0** **Black**	**94.73** **Blue**	**94.73.0** **Black**	**94.74** **Blue**	**94.74.0** **Black**
For timer type	85.02		85.03		85.02, 85.04	
Accessories						
Metal retaining clip (supplied with timer)	094.81					
Screw terminal socket panel or 35 mm rail (EN 60715) mount	**94.82** **Blue**			**94.82.0** **Black**		
For timer type	85.02			85.02		
Accessories						
Metal retaining clip (supplied with timer)	094.81					
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 (94.72, 94.73, 94.74)			9 (94.82)		
Max. wire size for 94.72, 94.73, 94.74 and 94.82 sockets	solid wire			stranded wire		
mm²	1 x 2.5 / 2 x 1.5			1 x 2.5 / 2 x 1.5		
AWG	1 x 14 / 2 x 16			1 x 14 / 2 x 16		



94.72 94.72 94.73 94.73 94.74 94.74



94.82 94.82

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