

Miniature plug-in timers 7 - 10 A

AUTOMATION

APREX

85
SERIES



Timers and
lighting controls



Medical and
dentistry



Drying kilns



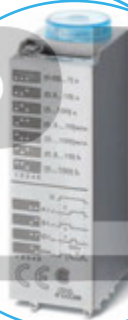
Elevators
and lifts



Panels for
electrical
distribution



Control panels





85 SERIES

Miniature plug-in timers 7 - 10 A

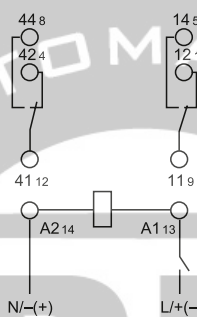
Plug-in timer**85.02 - 2 Pole 10 A****85.03 - 3 Pole 10 A****85.04 - 4 Pole 7 A**

- 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

- 2 pole, 10 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

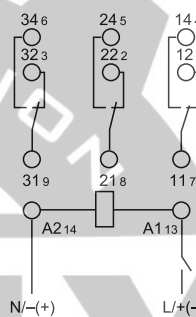


Wiring diagram
(without control signal)

85.03

- 3 pole, 10 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

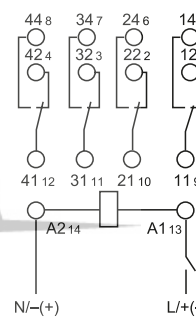


Wiring diagram
(without control signal)

85.04

- 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



Wiring diagram
(without control signal)

For UL RATINGS SEE:

"General technical information" page V

For outline drawing see page 4

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)

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)

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

No. of poles

2 = 2 pole - 10 A

3 = 3 pole - 10 A

4 = 4 pole - 7 A

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

Electrostatic discharge

contact discharge

Reference standard

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)

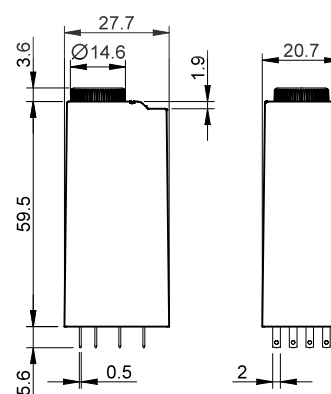
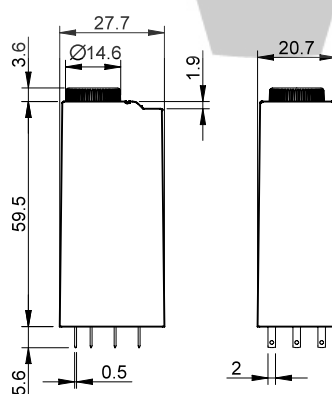
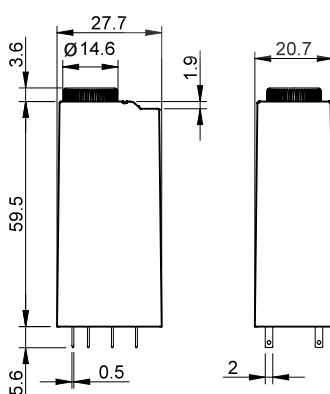
3.6 (85.04)

Outline drawings

Type 85.02

Type 85.03

Type 85.04



Times scales

(0.05...1)s



(0.5...10)s



(5...100)s



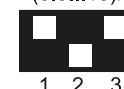
(0.5...10)min



(5...100)min



(0.5...10)h



(5...100)h



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

Functions

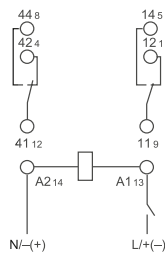
U = Supply voltage

= Output contact

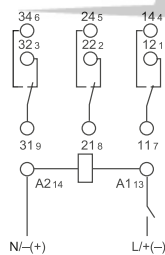
LED	Supply voltage	NO (SPDT-NO) output contact	Contacts	
			Open	Closed
	OFF	Open	x1 - x4	x1 - x2
	ON	Open	x1 - x4	x1 - x2
	ON	Open (Timing in Progress)	x1 - x4	x1 - x2
	ON	Closed	x1 - x2	x1 - x4

Wiring diagram

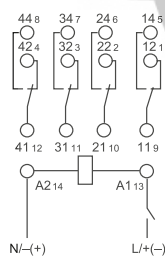
Type: 85.02, 85.03, 85.04



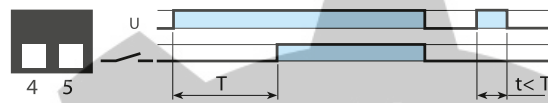
85.02



85.03



85.04



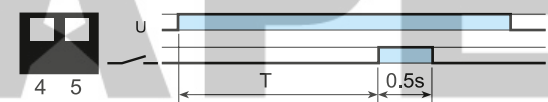
(AI) On-delay.

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).

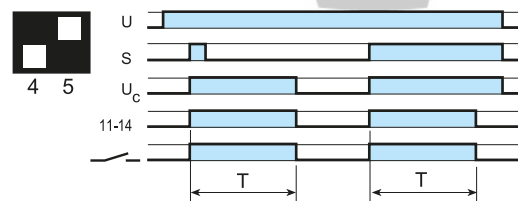
U = Supply voltage

S = Signal switch

U_c = Supply voltage to the timer

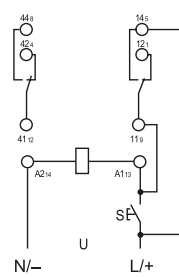
11-14 = Self-holding contact

= Output contact

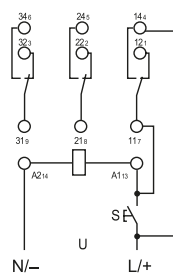


Signal ON Pulse

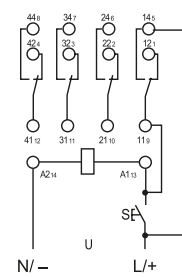
On momentary closure of Signal Switch (S) > 50 ms, the output contacts transfer and remain so (with self-holding on contact 11-14) for the duration of the preset delay, after which they reset.



85.02



85.03



85.04

**94.P4**

Approvals
(according to type):

**060.48**

Push-in terminal socket panel or 35 mm
(EN 60715) rail mount

For timer type

94.P3
Blue
85.03

94.P4
Blue
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

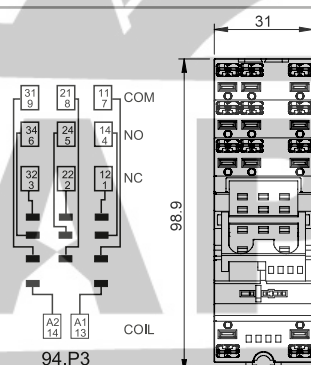
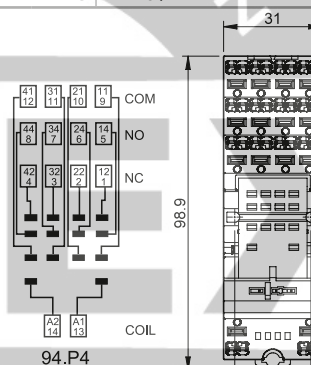
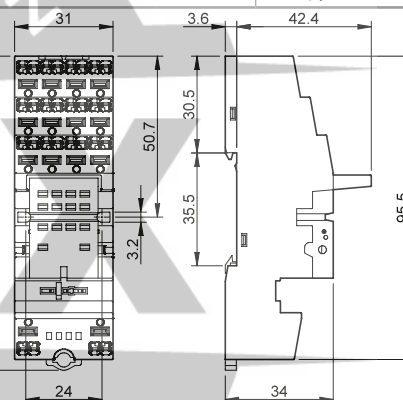
stranded wire

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

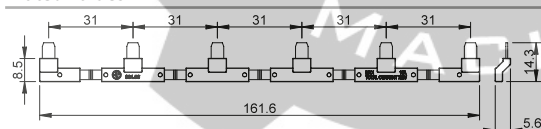
**94.P3****94.P4****94.P4**

6-way jumper link for 94.P3 and 94.P4 sockets

094.56 (blue)

Rated values

10 A - 250 V

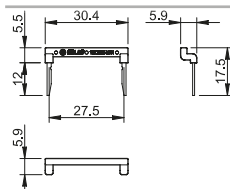
**094.56**

2-way jumper link for 94.P3 and 94.P4 sockets

094.52.1

Rated values

10 A - 250 V

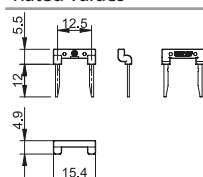
**094.52.1**

2-way jumper link for 94.P3 and 94.P4 sockets

097.52

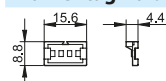
Rated values

10 A - 250 V

**097.52**

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

097.00

**097.00**

94 SERIES

Sockets and accessories for 85 series timers

94.04

Approvals
(according to type):



060.48

Screw terminal (Box clamp) socket panel or 35 mm
(EN 60715) rail mount

For timer type

94.02 Blue	94.02.0 Black	94.03 Blue	94.03.0 Black	94.04 Blue	94.04.0 Black
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
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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

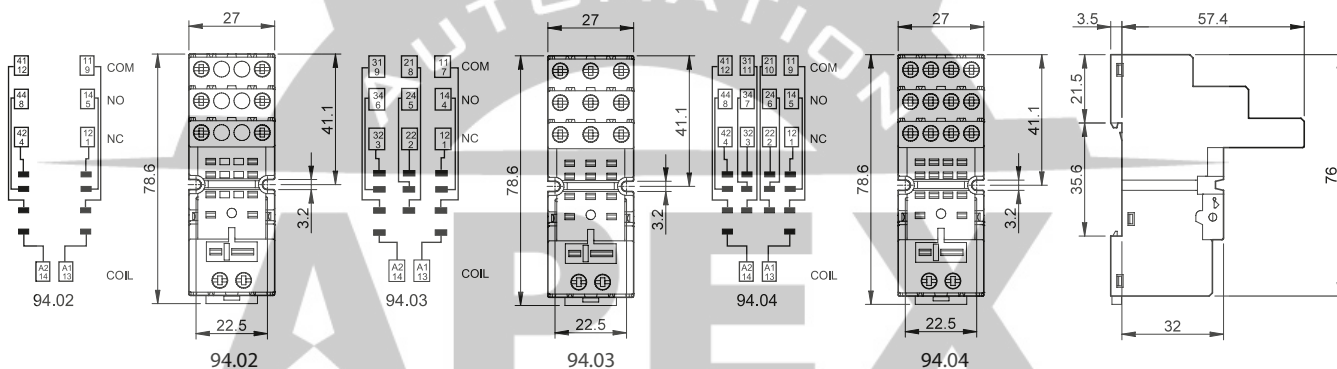
Nm 0.5

Wire strip length

mm 8

Max. wire size for 94.02/03/04 sockets

	solid wire	stranded wire
mm ²	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



6-way jumper link for 94.02, 94.03 and 94.04 sockets

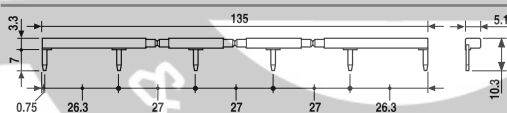
094.06 (blue)

094.06.0 (black)

Rated values

10 A - 250 V

094.06



H

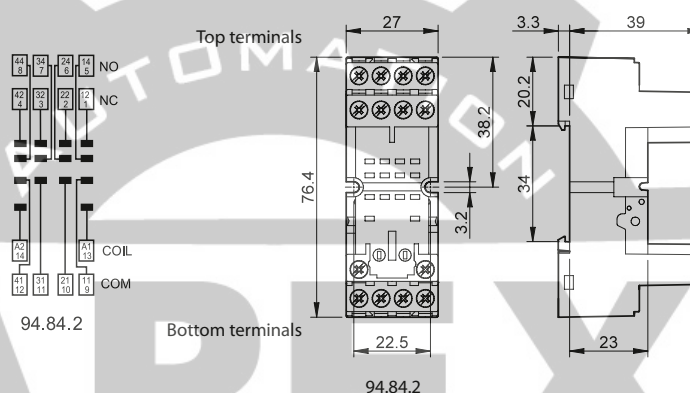


94.84.2

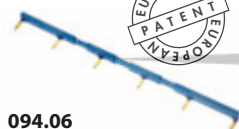
Approvals
(according to type):



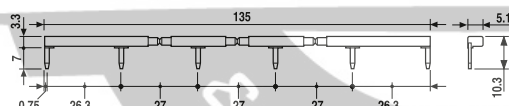
Screw terminal (Box clamp) socket panel or 35 mm (EN 60715) rail mount		94.84.2	94.84.20
		Blue	Black
For timer type		85.02, 85.04	
Accessories			
Metal retaining clip (supplied with socket - packaging code SMA)		094.81	
6-way jumper link		094.06	094.06.0
Identification tag		094.80.3	
Technical data			
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
		mm ²	1 x 6 / 2 x 2.5
		AWG	1 x 10 / 2 x 14



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



094.06



94 SERIES

Sockets and accessories for 85 series timers

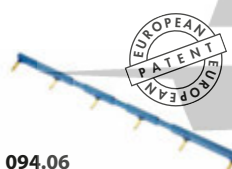
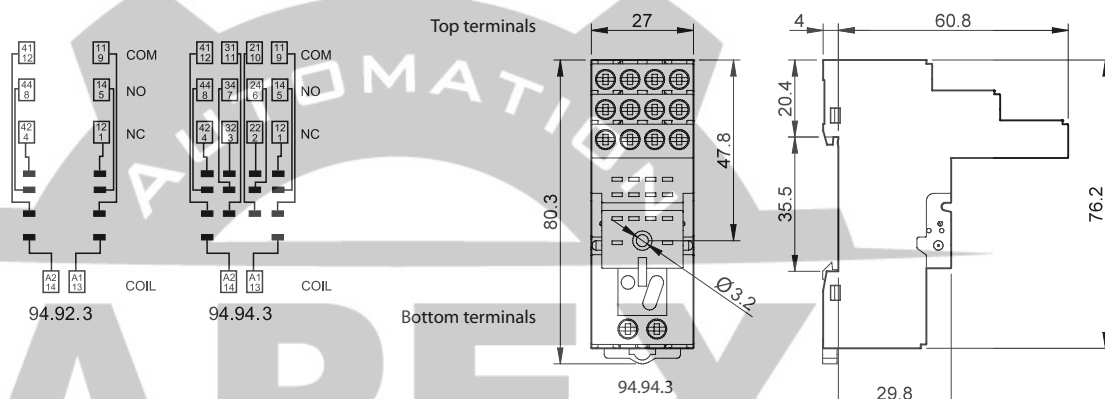


94.94.3

Approvals
(according to type):

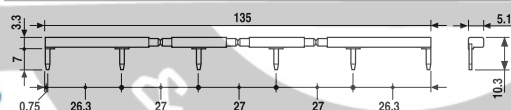


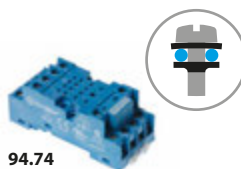
Screw terminal (Box clamp) socket panel or 35 mm rail mount	94.92.3 (blue)	94.92.30 (black)	94.94.3 (blue)	94.94.30 (black)
For timer type	85.02		85.04	
Accessories				
Metal retaining clip	094.81			
6-way jumper link	094.06	094.06.0	094.06	094.06.0
Identification tag	094.80.3			
Technical data				
Rated 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

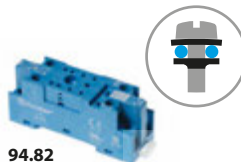
6-way jumper link for 94.92.3 and 94.94.3 sockets	094.06 (blue)	094.06.0 (black)
Rated values	10 A - 250 V	





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

For timer type

94.72**Blue****94.72.0****Black****94.73****Blue****94.73.0****Black****94.74****Blue****94.74.0****Black**

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

For timer type

94.82**Blue****94.82.0****Black**

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

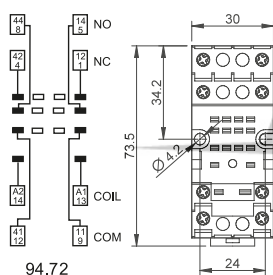
stranded wire

mm² 1 x 2.5 / 2 x 1.5

1 x 2.5 / 2 x 1.5

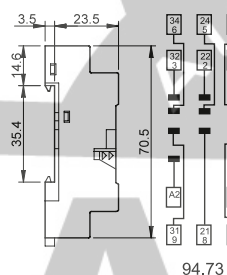
AWG 1 x 14 / 2 x 16

1 x 14 / 2 x 16

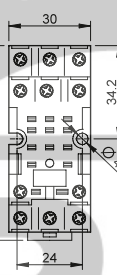


94.72

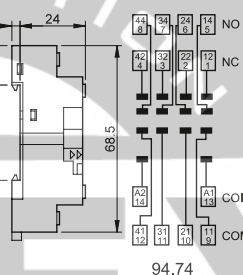
94.72



94.73

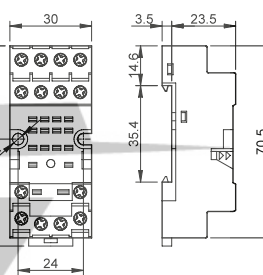


94.73

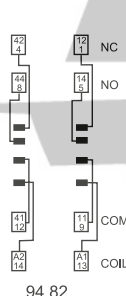


94.74

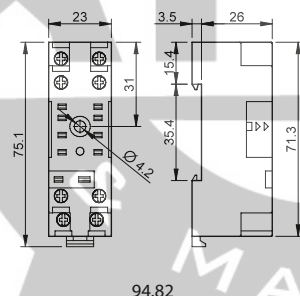
94.74



94.74



94.82



94.82