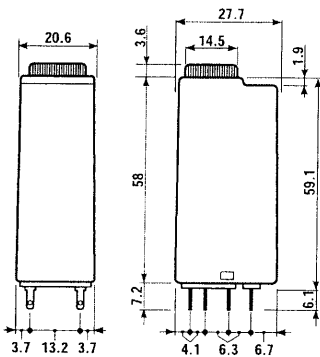




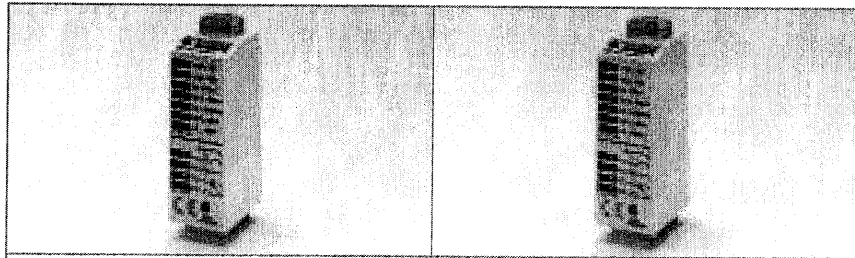
## 85 Series - Miniature Plug-in Timers 7 - 10 A

- Plug-in timer relay
- 2, 3 or 4 CO contact available
- Seven time scales, from 0.05s to 100h
- Multifunctions
- Sockets: see 94 series



85.02

85.03

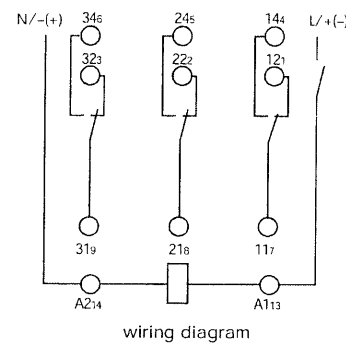
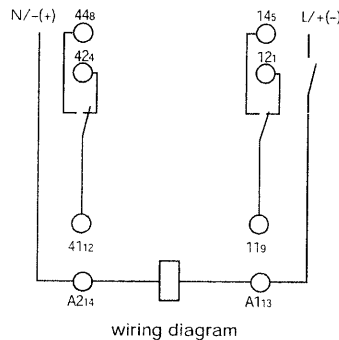


- 2 Pole, 10A
- AC/DC supply non polarized
- Plug-in for use with 94 series sockets

- 3 Pole, 10A
- AC/DC supply non polarized
- Plug-in for use with 94 series sockets

- AI:** ON delay
- DI:** ON pulse
- SW:** Symmetrical recycler: ON start
- GI:** Fixed pulse (0.5s) delayed

- AI:** ON delay
- DI:** ON pulse
- SW:** Symmetrical recycler: ON start
- GI:** Fixed pulse (0.5s) delayed



### Contact specifications

Contact configuration		2 CO	3 CO
Rated current/Maximum peak current	A	10/20	10/20
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load in AC1	VA	2,500	2,500
Rated load in AC15 (230 VAC)	VA	500	500
Single phase motor rating (230 VAC)	kW	0.37	0.37
Breaking capacity in DC1:	30/110/220V A	10/0.25/0.1	10/0.25/0.1
Minimum switching load	mW(V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi

### Supply specifications

Nominal voltage	V AC(50/60Hz)	230...240	230...240
	V AC/DC	12 · 24 · 48 · 110...125 (non polarized)	12 · 24 · 48 · 110...125 (non polarized)
Rated power AC/DC	VA (50Hz)/W	2/2	2/2
Operating range	AC	(0.85...1.1)U <sub>N</sub>	(0.85...1.1)U <sub>N</sub>
	DC	(0.85...1.1) U <sub>N</sub>	(0.85...1.1)U <sub>N</sub>

### Technical data

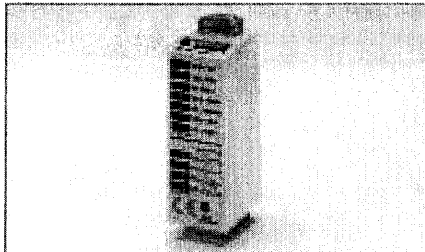
Specified time range		(0.05...1) s, (0.5...10) s, (5...100) s, (0.5...10) min, (5...100) min, (0.5...10) h, (5...100) h	
Repeatability	%	± 2	± 2
Recovery time	ms	≤ 20	≤ 20
Minimum control impulse	ms	—	—
Setting accuracy-full range	%	± 5	± 5
Electrical life at rated load in AC1	cycles	200 · 10 <sup>3</sup>	200 · 10 <sup>3</sup>
Ambient temperature range	°C	-20...+60	-20...+60
Protection category		IP 40	IP 40

Approvals: (according to type)

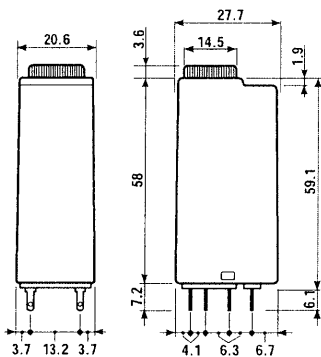


- Plug-in timer relay
- 2, 3 or 4 CO contact available
- Seven time scales, from 0.05s to 100h
- Multifunctions
- Sockets: see 94 series

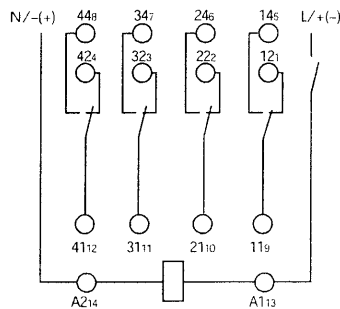
## 85.04



- 4 Pole, 7A
- AC/DC supply non polarized
- Plug-in for use with 94 series sockets



- AI:** ON delay
- DI:** ON pulse
- SW:** Symmetrical recycler: ON start
- GI:** Fixed pulse (0.5s) delayed



wiring diagram

### Contact specifications

Contact configuration		4 CO
Rated current/Maximum peak current	A	7/10
Rated voltage/Maximum switching voltage V AC		250/250
Rated load in AC1	VA	1,750
Rated load in AC15 (230 VAC)	VA	350
Single phase motor rating (230 VAC)	kW	0.125
Breaking capacity in DC1:	30/110/220V A	7/0.25/0.1
Minimum switching load	mW(V/mA)	300 (5/5)
Standard contact material		AgNi

### Supply specifications

Nominal voltage	V AC(50/60Hz)	230...240
	V AC/DC	12 - 24 - 48 - 110...125 (non polarized)
Rated power AC/DC	VA (50Hz)/W	2/2
Operating range	AC	(0.85...1.1)U <sub>N</sub>
	DC	(0.85...1.1) U <sub>N</sub>

### Technical data

Specified time range		*See below
Repeatability	%	± 2
Recovery time	ms	≤ 20
Minimum control impulse	ms	—
Setting accuracy-full range	%	± 5
Electrical life at rated load in AC1	cycles	150·10 <sup>3</sup>
Ambient temperature range	°C	-20...+60
Protection category		IP 40

**Approvals:** (according to type)



\*(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

## ORDERING INFORMATION

Example: 85 series timer, 4 CO, 24 V AC/DC supply voltage with AI - DI functions.

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

**Series**

**Type**

0 = Multifunction (AI, DI, GI, SW)

**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 230 V only

## TECHNICAL DATA

### EMC SPECIFICATIONS

TYPE OF TEST	REFERENCE STANDARD	
ELECTROSTATIC DISCHARGE	- contact discharge	EN 61000-4-2
	- air discharge	EN 61000-4-2
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 Supply terminals	- common mode	EN 61000-4-5
	- differential mode	EN 61000-4-5
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		2 pole	3 pole	4 pole
- without contact current	W	1.6	1.6	1.6
- with rated current	W	3.7	4.7	3.6

85

## TIME 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
1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

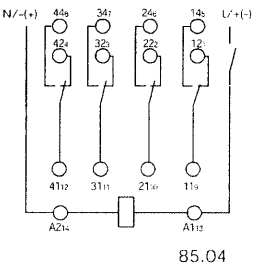
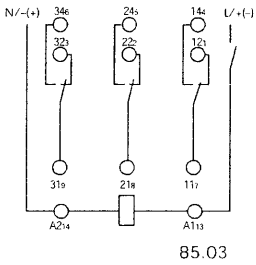
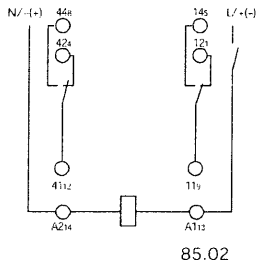
NOTE: time scales and functions must be set before energising the timer.

**FUNCTIONS**

	LED Red	Supply voltage	NO output contact	Contacts	
				Open	Closed
<b>U</b> = Supply voltage <b>C</b> = Output contact		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**

**Types: 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) ON pulse.**  
Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.

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

**(SW) Symmetrical recycler: 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).



94.04

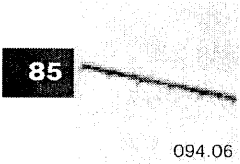
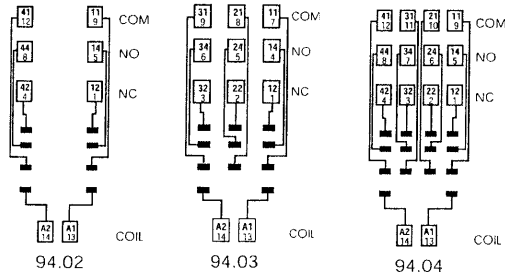
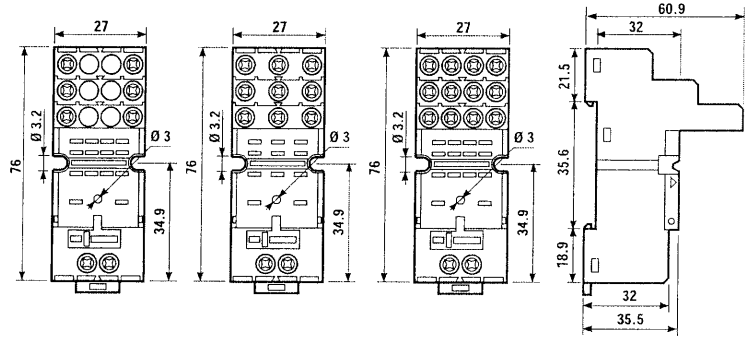
Approvals  
(according to type):



- RATED VALUES: 10 A · 250 V
- DIELECTRIC STRENGTH:  $\geq 2$  kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: (-40...+70)°C
- TORQUE: 0.5 Nm
- WIRE STRIP LENGTH: 8 mm
- MAX WIRE SIZE:

	solid wire	stranded wire
mm <sup>2</sup>	1x6 / 2x2.5	1x4 / 2x2.5
AWG	1x10 / 2x14	1x12 / 2x14

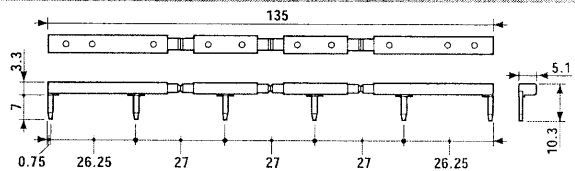
Timer type	85.02		85.03		85.04	
	BLUE	BLACK	BLUE	BLACK	BLUE	BLACK
Clamp terminal socket: panel or 35 mm rail (EN 50022) mount	94.02	94.02.0	94.03	94.03.0	94.04	94.04.0
Retaining clip (supplied with timer)	094.81					
6-way jumper link for 94.02, 94.03 and 94.04 sockets	094.06	094.06.0	094.06	094.06.0	094.06	094.06.0
Identification tag	094.00.4					



094.06

- RATED VALUES: 10 A · 250 V

<b>6-way jumper link</b> for 94.02, 94.03 and 94.04 sockets	094.06
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94.74

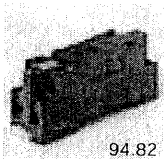
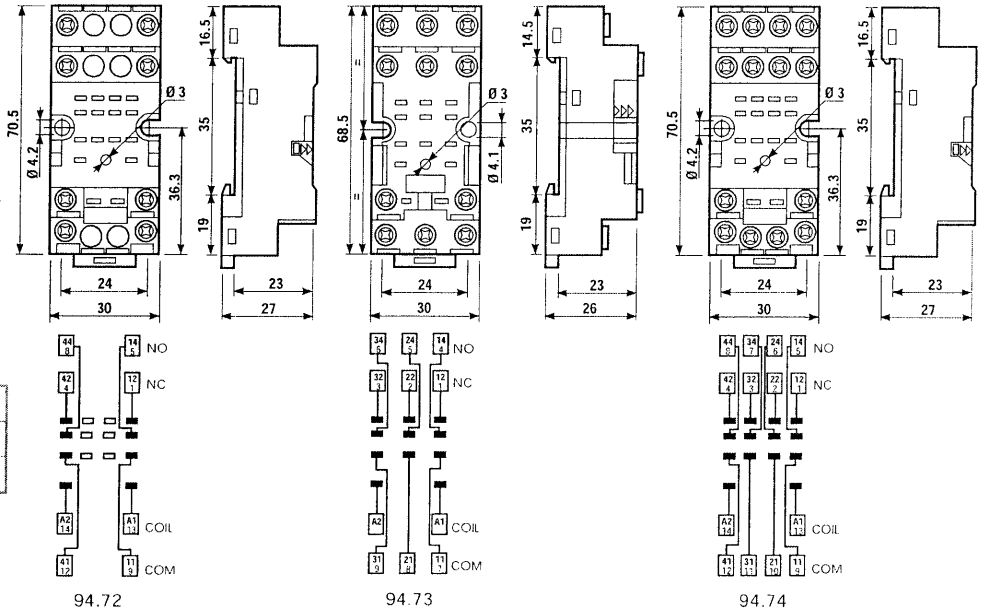
Approvals  
(according to type):



- RADET VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH:  $\geq 2$  kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: (-40...+70)°C
- TORQUE: 0.5 Nm
- WIRE STRIP LENGTH: 8 mm
- MAX WIRE SIZE:

	solid wire	stranded wire
mm <sup>2</sup>	1x2.5 / 2x1.5	1x2.5 / 2x1.5
AWG	1x14 / 2x16	1x14 / 2x16

Timer type	85.02		85.03		85.04	
	BLUE	BLACK	BLUE	BLACK	BLUE	BLACK
Colour	BLUE	BLACK	BLUE	BLACK	BLUE	BLACK
Screw terminal socket: panel or 35 mm rail (EN 50022) mount	94.72	94.72.0	94.73	94.73.0	94.74	94.74.0
Retaining clip (supplied with timer)						094.81



94.82

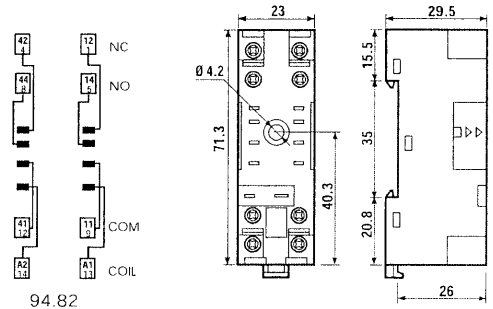
Approvals  
(according to type):



- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH:  $\geq 2$  kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: (-40...+70)°C
- TORQUE: 0.5 Nm
- WIRE STRIP LENGTH: 9 mm
- MAX WIRE SIZE:

	solid wire	stranded wire
mm <sup>2</sup>	1x2.5 / 2x1.5	1x2.5 / 2x1.5
AWG	1x14 / 2x16	1x14 / 2x16

Timer type	85.02	
Colour	BLUE	BLACK
Screw terminal socket: panel or 35 mm rail (EN 50022) mount	94.82	94.82.0
Retaining clip (supplied with timer)	094.81	



85



finder

**PRODUCT COMPARISON  
85.3X/85.5X vs. 85.0X**

85.3x



**FUNCTIONS**

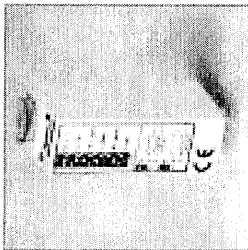
**AI:** ON delay  
**DI:** ON pulse

**TIME SCALES:** from 0.1s to 10h

**2 Led indicators**

**Supply voltage:** 12 VAC/DC  
24 VAC/DC  
110...125 VAC/DC  
230...240 VAC

85.5x



**FUNCTIONS**

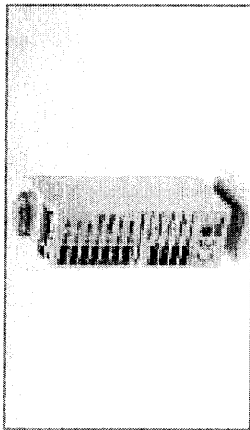
**SW:** Symmetrical recycler: ON start  
**SP:** Symmetrical recycler: OFF start

**TIME SCALES:** from 0.1s to 10h

**2 Led indicators**

**Supply voltage:** 12 VAC/DC  
24 VAC/DC  
110...125 VAC/DC  
230...240 VAC

85.0x



**FUNCTIONS**

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

**GI:** Fixed pulse (0.5s) delayed

**SW:** Symmetrical recycler: ON start

**TIME SCALES:** from 0.05s to 100h

**Single multi-function LED indicator**

**Supply voltage:** 12 VAC/DC  
24 VAC/DC  
110...125 VAC/DC  
230...240 VAC

**TIME SCALES**



**Comparison of functions**

Types 85.3x Types 85.5x **NEW TYPES 85.0x**

	—			<b>(AI) ON delay.</b> Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.
	—			<b>(DI) ON pulse.</b> Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.
—	—			<b>(GI) Fixed pulse (0.5s) delayed.</b> Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs after a fixed time of 0.5s. 0.5s.
—				<b>(SW) Symmetrical recycler: ON start.</b> 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).

**NOTE: (SP) Symmetrical recycler: OFF start:** to obtain the SP function use the SW function but with the load connected to the NC contact.