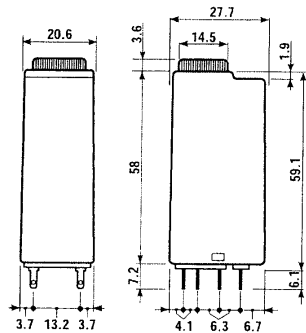




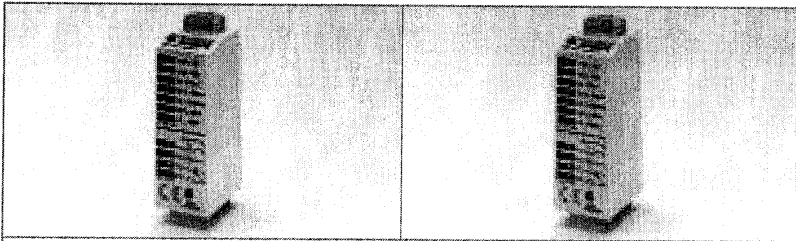
85 Series - Miniature Plug-in Timers 7 - 10 A

- 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

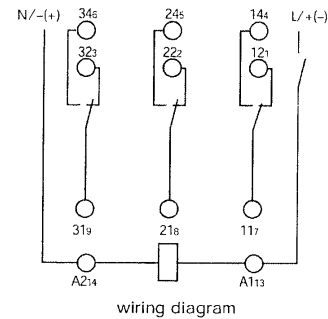
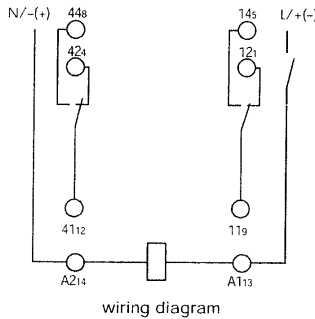


- 2 Pole, 10A
- AC/DC supply non polarized
- Plug-in for use with 94 series sockets

- 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 _N	(0.85...1.1)U _N
	DC (0.85...1.1) U _N	(0.85...1.1)U _N

Technical data

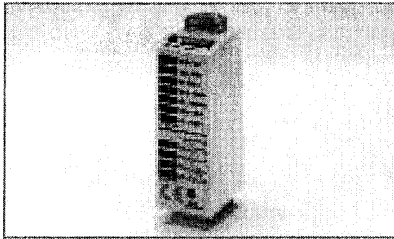
Specified time range	(0.05...1) s, (0.5...10) s, (5...100) s, (0.5...10) min, (5...100) min, (0.5...10) h, (5...100) h
Repeatability	% ± 2
Recovery time	ms ≤ 20
Minimum control impulse	ms —
Setting accuracy-full range	% ± 5
Electrical life at rated load in AC1	cycles 200 · 10 ³
Ambient temperature range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

Approvals: (according to type)

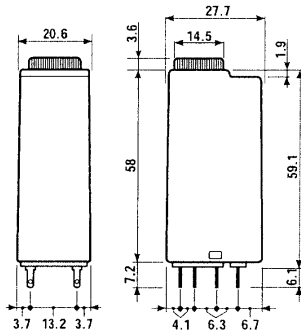


- Plug-in timer relay
- 2, 3 or 4 CO contact available
- Seven time scales, from 0.05s to 100h
- Multifunctions
- Sockets: see 94 series

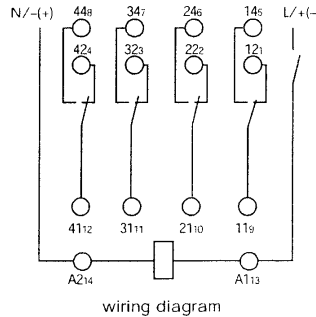
85.04



- 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



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 _N
	DC	(0.85...1.1) U _N

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 ³
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

85

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

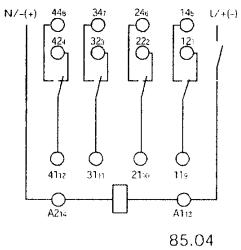
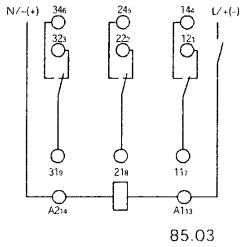
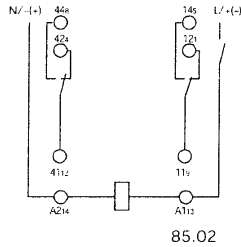
(0.05...1) s	(0.5...10) s	(5...100) s	(0.5...10) min	(5...100) min	(0.5...10) h	(5...100) h
1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

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

FUNCTIONS

	LED Red	Supply voltage	NO output contact	Contacts	
				Open	Closed
U = Supply voltage C = 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

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

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

(G) 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.

(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).

85



94.04

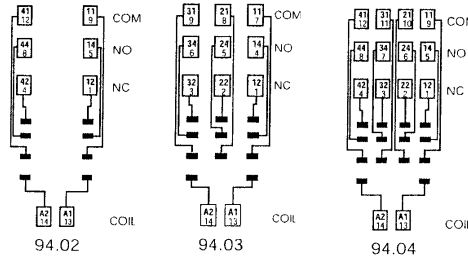
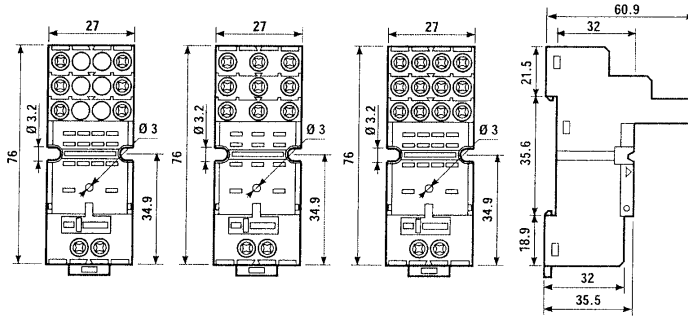
Approvals
(according to type):



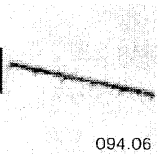
- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: (-40...+70)°C
- TORQUE: 0.5 Nm
- WIRE STRIP LENGTH: 8 mm
- MAX WIRE SIZE:

	solid wire	stranded wire
mm ²	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
Colour	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					



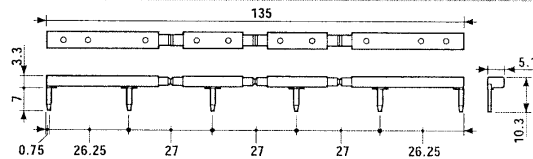
85



094.06

- RATED VALUES: 10 A - 250 V

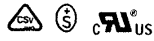
6-way jumper link for 94.02, 94.03 and 94.04 sockets	094.06
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94.74

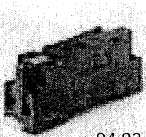
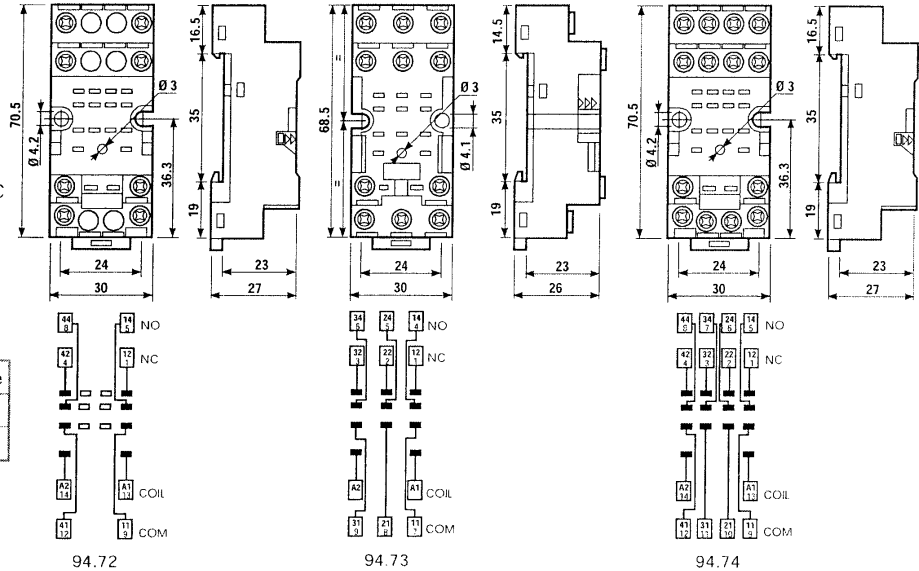
Approvals
(according to type):



- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 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 ²	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

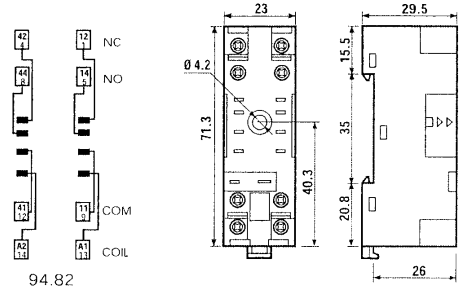
Approvals
(according to type):



- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 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 ²	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	

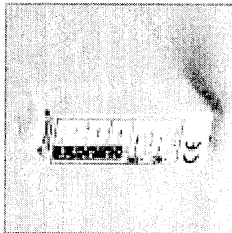


85



PRODUCT COMPARISON 85.3X/85.5X vs. 85.0X

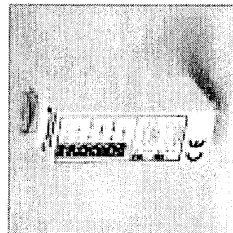
85.3x



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

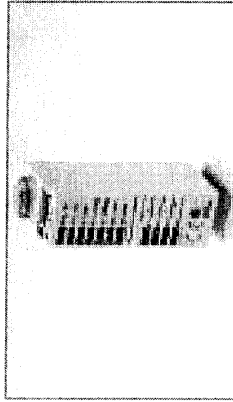
85.5x



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

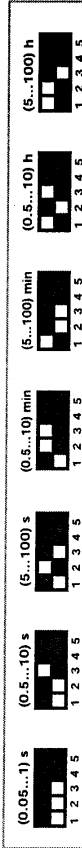
85.0x



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
	—	 12345
	—	 12345
—	—	 12345
—		 12345

(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).	

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