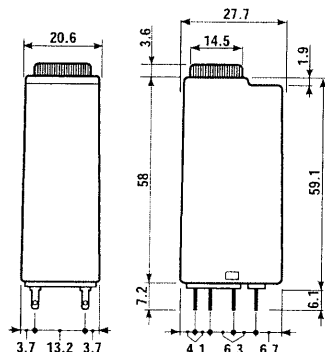




85 Series - Miniature Plug-in Timers 7 - 10 A

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

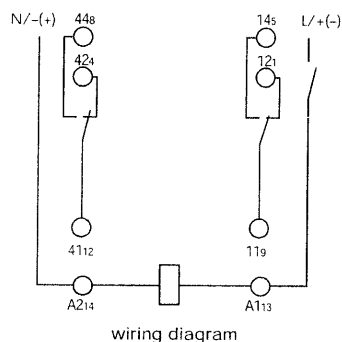


85.02



- 2 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

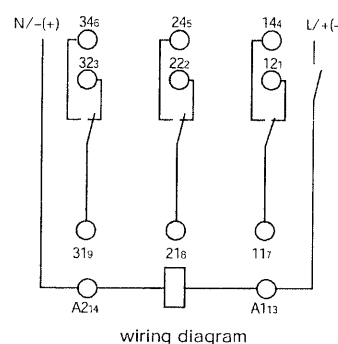


85.03



- 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



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

± 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 · 10³

200 · 10³

Ambient temperature range °C

-20...+60

-20...+60

Protection category

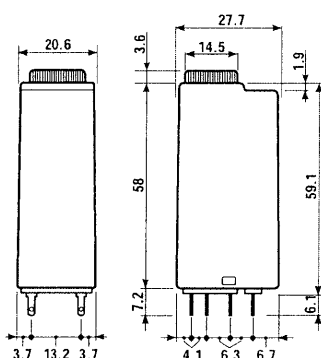
IP 40

IP 40

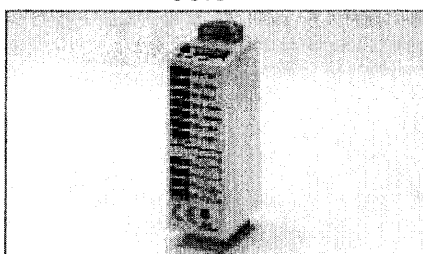
Approvals: (according to type)



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

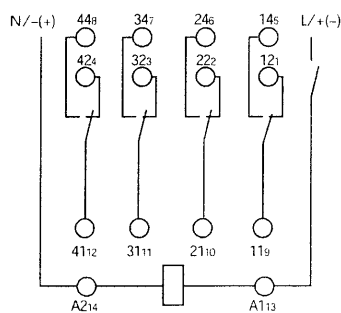


85.04



- 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



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

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	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 Supply terminals		
- common mode	EN 61000-4-5	4 kV
- 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	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

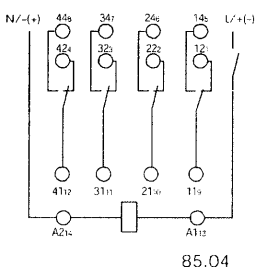
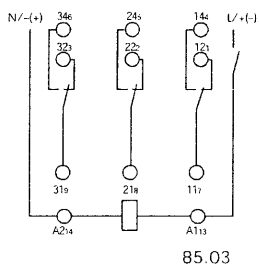
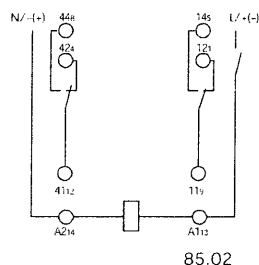
(0.05...1) s	(0.5...10) s	(5...100) s	(0.5...10) min	(5...100) min	(0.5...10) h	(5...100) h
						
1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

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

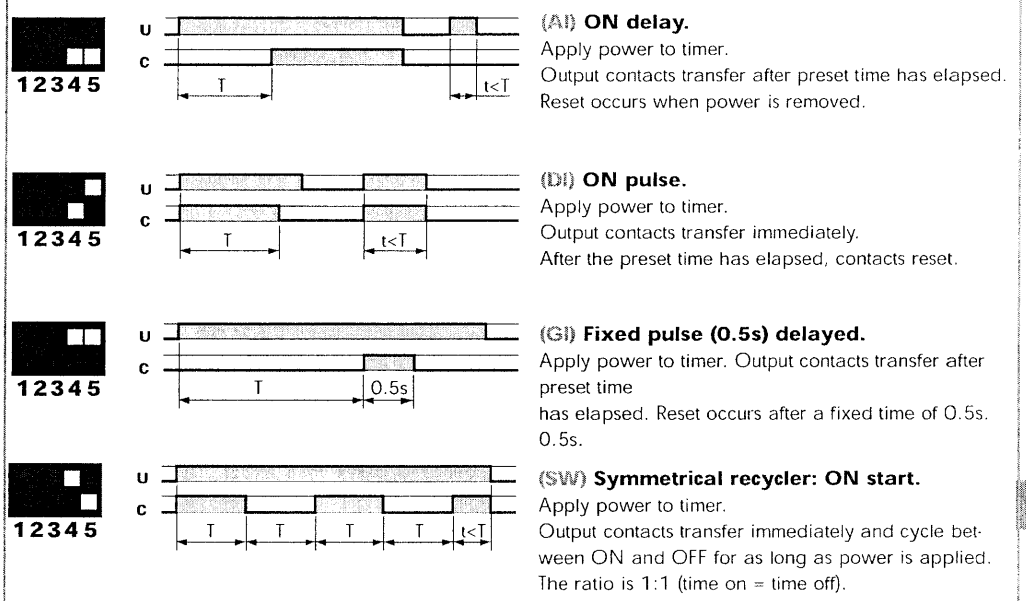
FUNCTIONS

	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





94.04

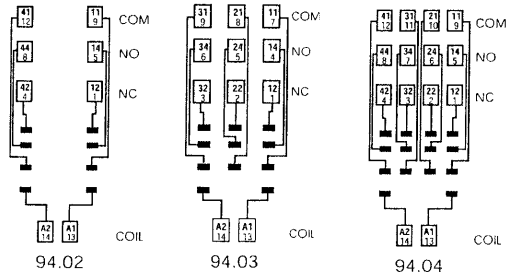
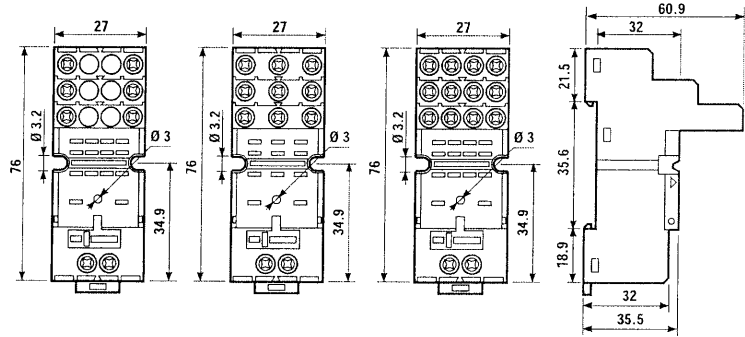
Approvals
(according to type):



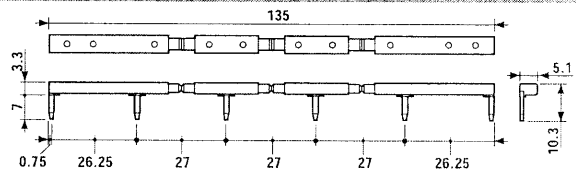
- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: $(-40...+70)^{\circ}\text{C}$
- TORQUE: 0.5 Nm
- WIRE STRIP LENGTH: 8 mm
- MAX WIRE SIZE:

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

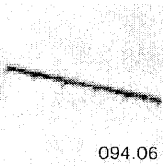
Timer type	85.02		85.03		85.04	
Colour	BLUE	BLACK	BLUE	BLACK	BLUE	BLACK
Clamp terminal socket: panel or 35 mm rail (EN 50022) mount	94.02	94.02.0	94.03	94.03.0	94.04	94.04.0
Retaining clip (supplied with timer)	094.81					
6-way jumper link for 94.02, 94.03 and 94.04 sockets	094.06	094.06.0	094.06	094.06.0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



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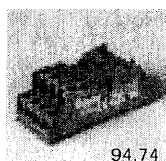


85

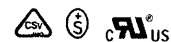


094.06

- RATED VALUES: 10 A - 250 V



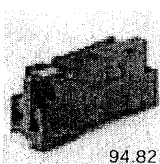
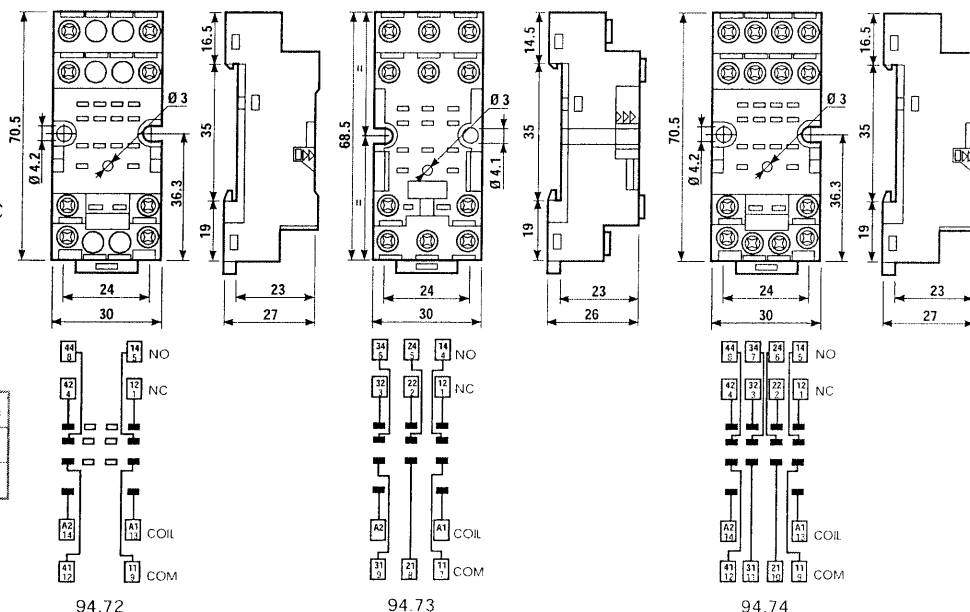
Approvals
(according to type):



- RADET 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	
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					



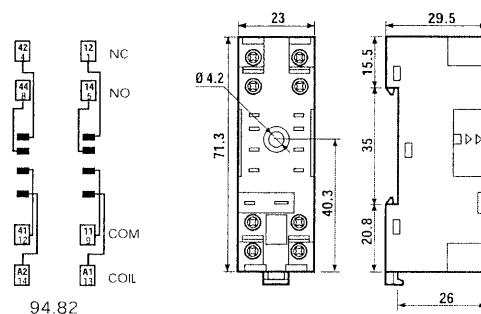
Approvals
(according to type):



- 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	

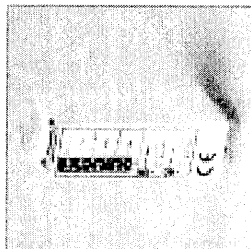


85



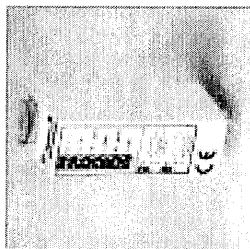
PRODUCT COMPARISON 85.3X/85.5X vs. 85.0X

85.3x



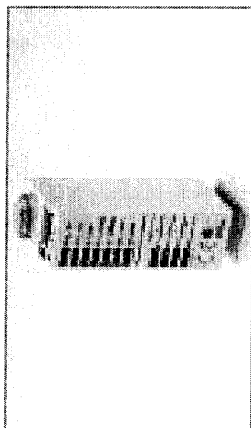
FUNCTIONS
AI: ON delay
DI: ON pulse
TIME SCALES: from 0.1s to 10h
2 Led indicators
Supply voltage: 12 VAC/DC
24 VAC/DC
110...125 VAC/DC
230...240 VAC

85.5x



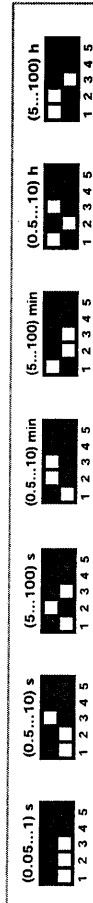
FUNCTIONS
SW: Symmetrical recycler: ON start
SP: Symmetrical recycler: OFF start
TIME SCALES: from 0.1s to 10h
2 Led indicators
Supply voltage: 12 VAC/DC
24 VAC/DC
110...125 VAC/DC
230...240 VAC

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
 1 2 3 4	—	 1 2 3 4 5 (AI) ON delay. Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.
 1 2 3 4	—	 1 2 3 4 5 (DI) ON pulse. Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.
—	—	 1 2 3 4 5 (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.
—	 1 2 3 4	 1 2 3 4 5 (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.