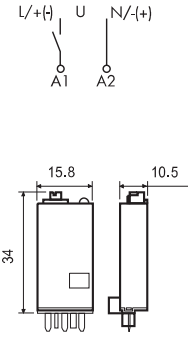
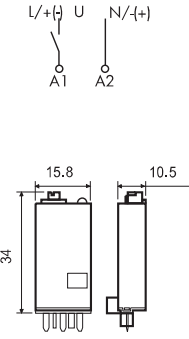


- Mono-function timer modules
- Timer module for 92, 94, 95 series sockets
- LED indicator

	86.10	86.20
		
	- Mono-function - Plug-in for use with 92.03 - 94.02 - 94.03 - 94.04 - 95.03 - 95.05 sockets	- Mono-function - Plug-in for use with 92.03 - 94.02 - 94.03 - 94.04 - 95.03 - 95.05 sockets
	AI: ON delay  wiring diagram	DI: ON pulse  wiring diagram
Contact specifications		
Contact configuration		
Rated current/Maximum peak current	A	
Rated voltage/Maximum switching voltage	V AC	
Rated load in AC1	VA	
Rated load in AC15 (230 VAC)	VA	
Single phase motor rating (230 VAC)	kW	
Breaking capacity in DC1:	30/110/220V A	
Minimum switching load	mW(V/mA)	
Standard contact material		
Supply specifications		
Nominal voltage	V AC(50/60Hz)	12...24
	V DC	12...24 (non polarized)
Rated power AC/DC	mW	150
Operating range	AC	(0.8...1.1)U _N
	DC	(0.8...1.1)U _N
Technical data		
Specified time range	(1.5...15)s,(6...60)s,(0.8...8)min,(6.4...64)min	(1.5...15)s,(6...60)s,(0.8...8)min,(6.4...64)min
Repeatability	%	± 1
Recovery time	ms	≤ 150
Minimum control impulse	ms	—
Setting accuracy-full range	%	± 5
Electrical life at rated load in AC1	cycles	see 40, 44, 55 and 62 series relays
Ambient temperature range	C	0...+50
Protection category		IP 20
Approvals: (according to type)		

- Multi-function timer modules
- Timer module for 90 series sockets
- LED indicator

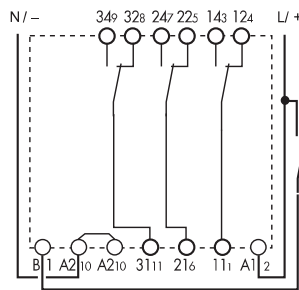
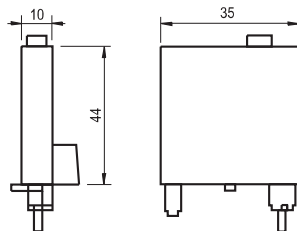
86.60



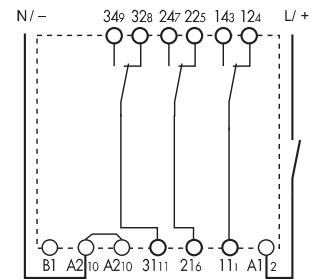
- Time scale: from 15ms to 10 h
- Multi-function
- Plug-in for use with 90.72 and 90.73 sockets

BE: Signal OFF delay
DE: Signal ON pulse
EE: Signal OFF pulse
FE: Signal ON delay + OFF pulse

AI: ON delay
DI: ON pulse
SW: Symmetrical recycler: ON start
SP: Symmetrical recycler: OFF start



(with signal START)



(without signal START)

wiring diagram

Contact specifications

Contact configuration	
Rated current/Maximum peak current	A
Rated voltage/Maximum switching voltage V AC	
Rated load in AC1	VA
Rated load in AC15 (230 VAC)	VA
Single phase motor rating (230 VAC)	kW
Breaking capacity in DC1:	30/110/220V A
Minimum switching load	mW[V/(mA)]
Standard contact material	

see 60 series relays

Supply specifications

Nominal voltage	V AC(50/60Hz)	12...90 - 110...240
	V DC	12...90 - 110...220
Rated current absorption AC/DC	mA	4.6/8
Operating range	AC	10.8...100 - 100...255
	DC	10.8...100 - 100...240

Technical data

Specified time range		(15...125)ms, (0.1...1)s, (1...10)s, (0.1...1)min, (1...10)min, (0.1...1)h, (1...10)h
Repeatability	%	± 1
Recovery time	ms	≤ 120
Minimum control impulse	ms	20
Setting accuracy-full range	%	± 1
Electrical life at rated load in AC1	cycles	see 60 series relays
Ambient temperature range	C	-20...+50
Protection category		IP 20
Approvals: (according to type)		CE C RU US

ORDERING INFORMATION

Example: a 86 series mono-function timer module with (12 to 24) V AC/DC supply voltage.

8	6	.	1	0	.	0	.	0	2	4	.	0	0	0	0
Series			Type			No. of poles			Supply voltage						
			1 = Mono-function (AI)			see 40, 41, 44, 55, 60 and 62 series relays			024 = 12...24 V AC/DC (86.10/20 only)						
			2 = Mono-function (DI)						100 = 12...90 V AC/DC (86.60 only)						
			6 = Multi-function (AI, DI, SW, SP, BE, DE, EE, FE)						250 = $\begin{cases} 110...220 \text{ V DC} \\ 110...240 \text{ V AC} \end{cases}$ (86.60 only)						
									Supply version						
									0 = AC (50/60 Hz)/DC						

COMBINATIONS

Number of poles	Relay type	Socket type	Timer module
1	40.31	95.03	86.10/86.20
1	40.61	95.05	86.10/86.20
2	40.52/44.52/44.62	95.05	86.10/86.20
2	55.32	94.02	86.10/86.20
2	62.32	92.03	86.10/86.20
3	55.33	94.03	86.10/86.20
3	62.33	92.03	86.10/86.20
4	55.34	94.04	86.10/86.20
2	60.12	90.72	86.60
3	60.13	90.73	86.60

TECHNICAL DATA

EMC SPECIFICATIONS

TYPE OF TEST	REFERENCE STANDARD	86.10/20	86.60
ELECTROSTATIC DISCHARGE	- contact discharge	n.a.	4 kV
	- air discharge	8 kV	8 kV
RADIO-FREQUENCY ELECTROMAGNETIC FIELD (80 1000 MHz)	EN 61000-4-3	10 V/m	10 V/m
FAST TRANSIENTS (burst) (5-50 ns, 5 kHz) on Supply terminals	EN 61000-4-4	2 kV	2 kV
SURGES (1.2/50 µs) on Supply terminals	- common mode	2 kV	2 kV
	- differential mode	—	1 kV
RADIO-FREQUENCY COMMON MODE (0.15 80 MHz) on Supply terminals	EN 61000-4-6	10 V	10 V
RADIATED AND CONDUCTED EMISSION	EN 55022	class B	class B

OTHER DATA

	86.10, 86.20	86.60
CURRENT ABSORPTION on signal control (B1)	—	1
POWER LOST IN THE ENVIRONMENT		
- without contact current	0.2	0.1 (12 V) - 1 (230 V)
- with rated current	see 40, 44, 55, 62 series relays	see 60 series relays

TIME SCALES

Type 86.10
Type 86.20

(1.5...15) s	(6...60) s	(0.8...8) min	(6.4...64) min

Type 86.60

(15...125) ms	(0.1...1) s	(1...10) s	(0.1...1) min	(1...10) min	(0.1...1) h	(1...10) h

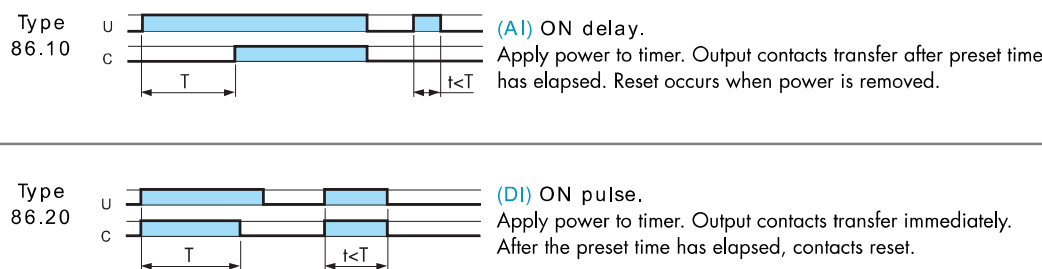
NOTE: time scales and functions must be set before energising the timer.

FUNCTIONS

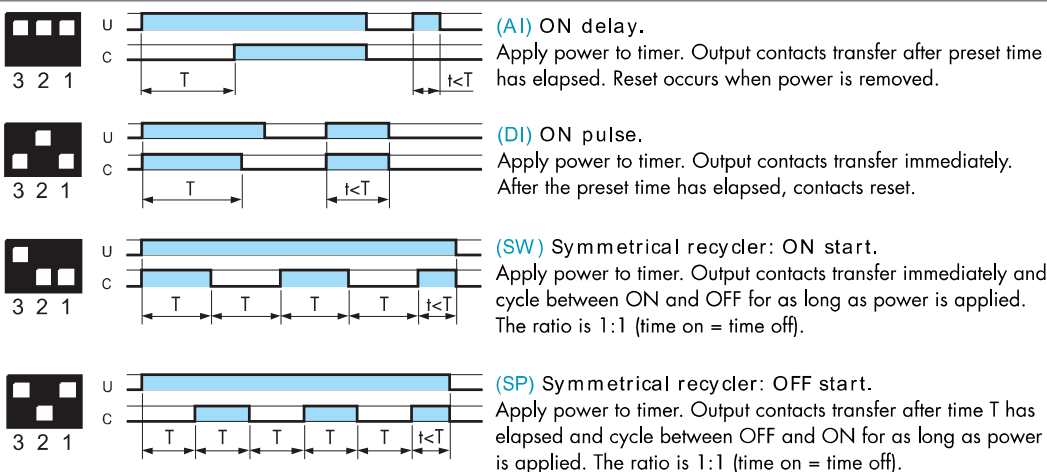
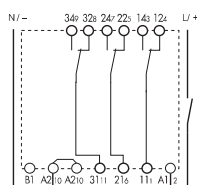
Without signal Start= Start via contact in supply line (A1).
With signal Start = Start via contact into control terminal (B1).

L/+(−) U N/·(+)

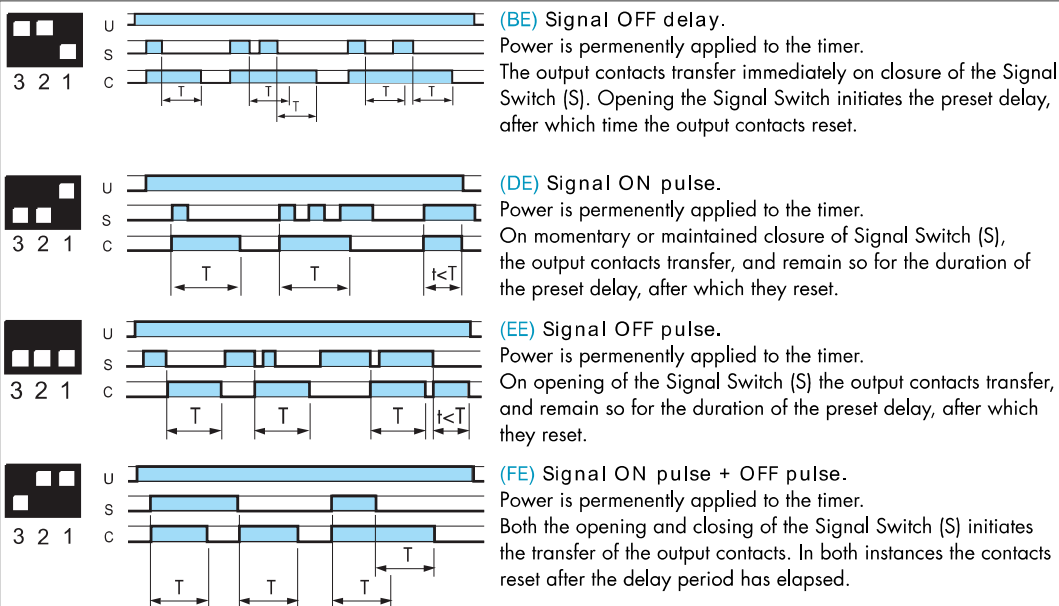
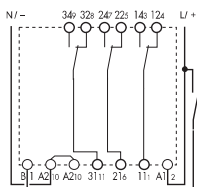
A1 A2



without signal START



with signal START





95.05

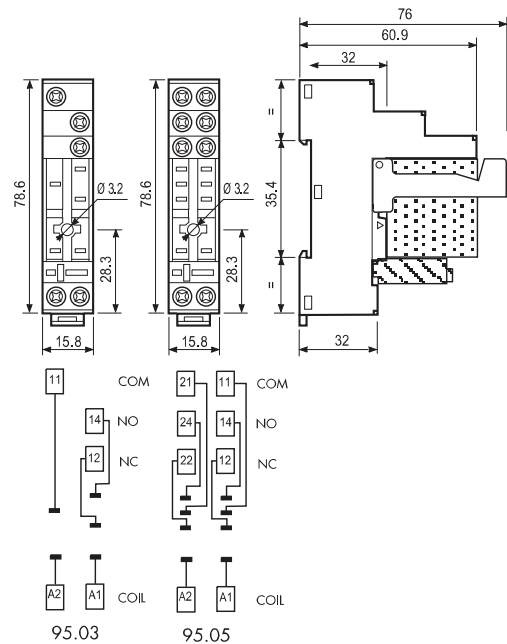
Approvals
(according to type):



Relay type	40.31		40.51/52/61, 44.52/62	
Colour	BLUE	BLACK	BLUE	BLACK
Clamp terminal socket: panel or 35 mm rail (EN 50022) mount retaining clip 095.01 supplied with socket packaging code SPA	95.03	95.03.0	95.05	95.05.0
Retaining and release clip	095.01	095.01.0	095.01	095.01.0
8-way jumper link for 95.03 and 95.05 sockets	095.18	095.18.0	095.18	095.18.0
Identification tag	095.00.4			
Timer modules	86.10, 86.20			

- RATED VALUES: 10 A - 250 V
- INSULATION: ≥ 6 kV (1.2/50 μ s) between coil and contacts
- 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



94.04

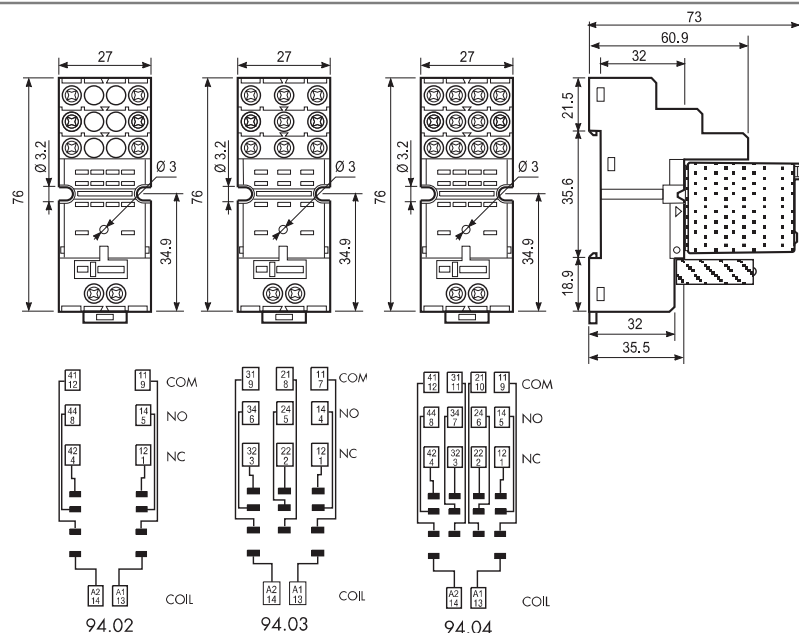
Approvals
(according to type):



Relay type	55.32		55.33		55.32, 55.34	
Colour	BLUE	BLACK	BLUE	BLACK	BLUE	BLACK
Clamp terminal socket: panel or 35 mm rail (EN 50022) mount retaining clip 094.71 supplied with socket packaging code SPA	94.02	94.02.0	94.03	94.03.0	94.04	94.04.0
Retaining clip	094.71					
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					
Timer modules	86.10, 86.20					

- 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: mm² - AWG

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





92.03

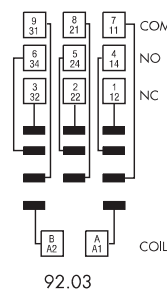
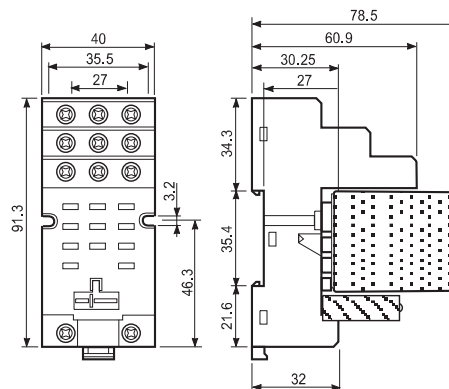
Approvals
(according to type):



- RATED VALUES: 16 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2.5 kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: $(-40...+70)$ °C
- TORQUE: 0.8 Nm
- WIRE STRIP LENGTH: 10 mm
- MAX WIRE SIZE:

	solid wire	stranded wire
mm ²	1x10 / 2x4	1x6 / 2x4
AWG	1x8 / 2x12	1x10 / 2x12

Relay type	62.32		62.33	
Colour	BLUE	BLACK	BLUE	BLACK
Clamp terminal socket: panel or 35 mm rail (EN 50022) mount retaining clip 092.71 supplied with socket packaging code SPA	92.03	92.03.0	92.03	92.03.0
Retaining clip	092.71			
Timer modules	86.10, 86.20			



90.73

Approvals
(according to type):

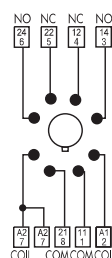
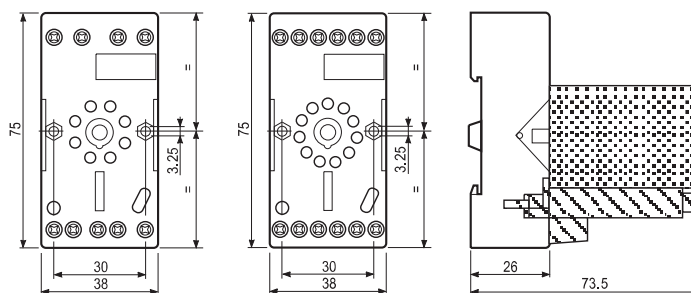
86



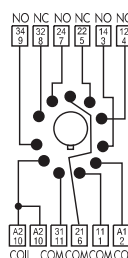
- Double ground terminal (A2).
- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: $(-40...+70)$ °C
- TORQUE: 0.8 Nm
- WIRE STRIP LENGTH: 7 mm
- MAX WIRE SIZE:

	solid wire	stranded wire
mm ²	1x6 / 2x4	1x6 / 2x4
AWG	1x10 / 2x12	1x10 / 2x12

Relay type	60.12		60.13	
Colour	BLUE	BLACK	BLUE	BLACK
Clamp terminal socket: panel or 35 mm rail (EN 50022) mount	90.72	90.72.0	90.73	90.73.0
Retaining clip	090.33			
Timer modules	86.60		86.60	



90.72



90.73