

Timer modules

86
SERIES



Door control



Ancillary equipment



Driver's control console



Message panels infotainment



Timer modules for use in conjunction with relay & socket.

86.00T - Multi-function & multi-voltage timer module

86.30T - Bi-function & multi-voltage timer module

- Complies with EN 45545-2 +A1:2016 (protection against fire of materials), EN 61373 (resistance against random vibrations and shock, Category 1, Class B), EN 50155 (resistance to temperature and humidity, T1 class)
- Timer module:
 - type 86.00T for 96 series sockets
 - type 86.30T for 94, 96, 97 series sockets
- Wide supply voltage range:
 - type 86.00T: 12...240 V AC/DC
 - type 86.30T: 12...24 V AC/DC
- LED indicator

86.00T



- Time scale: from 0.05 s to 100 h
- Multi-function
- Plug-in for use with 96 series sockets

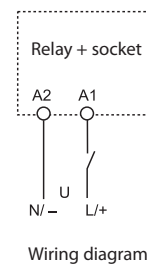
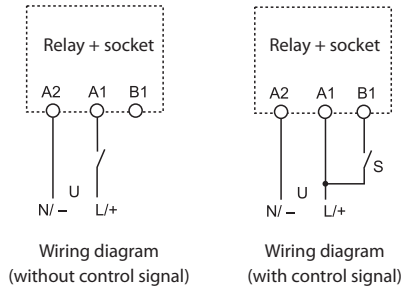
86.30T



- Time scale: from 0.05 s to 100 h
- Bi-function
- Plug-in for use with 94, 96 and 97 series sockets

- AI:** On-delay
DI: Interval
SW: Symmetrical flasher (starting pulse on)
BE: Off-delay with control signal
CE: On- and off-delay with control signal
DE: Interval with control signal on
EE: Interval with control signal off
FE: Interval with control signal on and off

- AI:** On-delay
DI: Interval



* Short term (10 min) +70°C

For outline drawing see page 4

Contact specification

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

See 56T series relays

See 46T, 55T, 56T series relays

Supply specification

Nominal voltage (U _N)	V AC (50/60 Hz)
	V DC
Rated power AC/DC	W
Operating range	V AC (50/60 Hz)
	DC

12...240

12...24

12...240

12...24

1.2

0.15

10.2...265

9.6...33.6

10.2...265

9.6...33.6

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	%	± 1
Recovery time	ms	≤ 50
Minimum control impulse	ms	50
Setting accuracy full range	%	± 5
Electrical life at rated load in AC1	cycles	See 56T series relays
Ambient temperature range	°C	-25...+55*
Protection category		IP 20

12...24

12...24

0.15

9.6...33.6

9.6...33.6

(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

± 1

≤ 50

≤ 50

50

—

± 5

± 5

See 56T series relays

See 46T, 55T and 56T series relays

-25...+55*

-25...+55*

IP 20

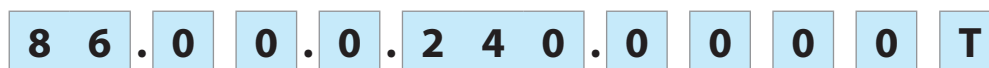
IP 20

Approvals (according to type)



Ordering information

Example: 86 series multi-function timer module, (12...240)V AC/DC supply voltage.



Series _____
Type _____
 0 = Multi-function timer (AI, DI, SW, BE, CE, DE, EE, FE)
 3 = Bi-function timer (AI, DI)
No. of poles _____
 See 46T, 55T, 56T series relays
 Poles for chosen relay/socket combination -
 according to chart below

Supply voltage
 024 = (12...24)V AC/DC (86.30T only)
 240 = (12...240)V AC/DC (86.00T only)
Supply version
 0 = AC (50/60 Hz)/DC

D Combinations

Number of poles	Relay type	Socket type	Timer module
1	46.61T	97.01.7/97.P1.7	86.30T
2	46.52T	97.02.7/97.P2.7	86.30T
4	55.34T	94.04.7/94.P4.7	86.30T
2	56.32T	96.02.7	86.30T
4	56.34T	96.04.7	86.00T/86.30T

Technical data

EMC specifications				
Type of test		Reference standard	86.00T	86.30T
Electrostatic discharge	contact discharge	EN 61000-4-2	4 kV	n.a.
	air discharge	EN 61000-4-2	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	4 kV	2 kV
Surges (1.2/50 µs) on Supply terminals	common mode	EN 61000-4-5	4 kV	2 kV
	differential mode	EN 61000-4-5	4 kV	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		EN55022	class B	class B
Other data		86.00T	86.30T	
Current absorption on signal control (B1)	mA	1	—	
Power lost to the environment	without contact current	W	0.1 (12 V) - 1 (230 V)	
	with rated current		See 56T series relays	See 46T, 55T, 56T series relays

Times scales

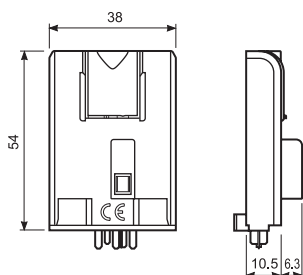


NOTE: Time scales and functions must be set before energising the timer.

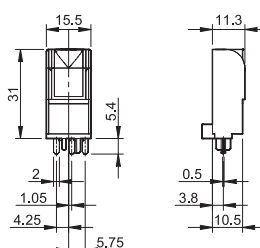
To achieve the minimum time setting of 0.05 seconds it is necessary to use one of the functions with control signal. When setting very short times it may be necessary to take into account the operate time of the relay used.

Outline drawings

Type 86.00T



Type 86.30T



Functions

U = Supply voltage

S = Control signal

= Output contact

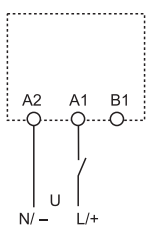
LED Type 86.00T	LED Type 86.30T	Supply voltage	NO output contact
		OFF	Open
		ON	Open
		ON	Open (Timing in Progress)
		ON	Closed

Without control signal = Start via contact in supply line (A1).

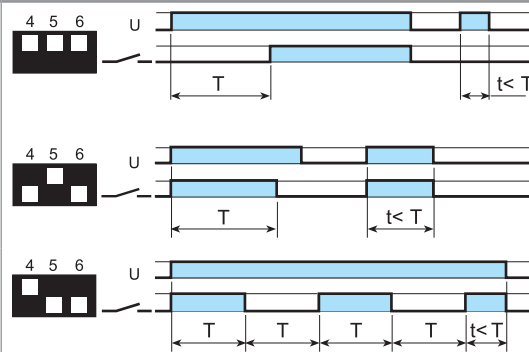
With control signal = Start via contact into control terminal (B1).

Wiring diagram

Without control signal



Type 86.00T



(AI) On-delay.

Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.

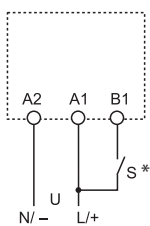
(DI) Interval.

Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.

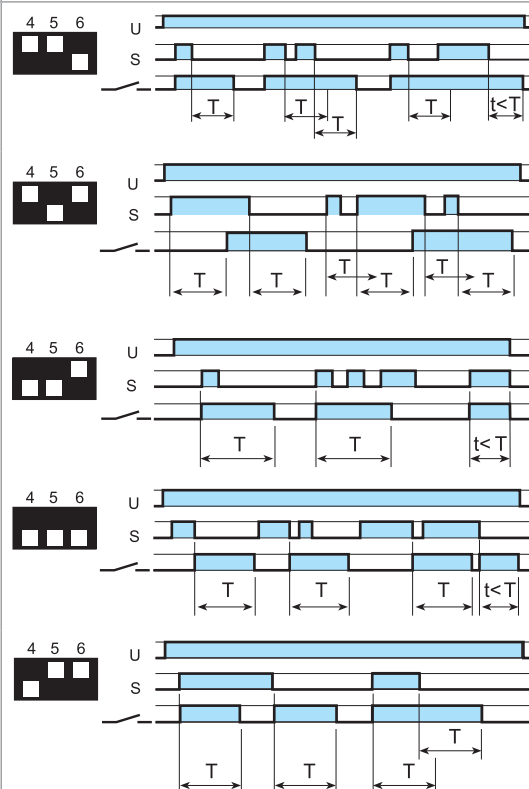
(SW) Symmetrical flasher (starting pulse on).

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).

With control signal



* With DC supply, positive polarity has to be connected to B1 terminal (according to EN 60204-1). Switch S should be exclusively used to provide the control signal to terminal B1. (Do not connect any other load at this point).



(BE) Off-delay with control signal.

Power is permanently applied to the timer. The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.

(CE) On- and off-delay with control signal.

Power is permanently applied to the timer. Closing the Signal Switch (S) initiates the preset delay, after which time the output contacts transfer. Opening the Signal switch initiates the same preset delay, after which time the output contacts reset.

(DE) Interval with control signal on.

Power is permanently applied to the timer. On momentary or maintained closure of Signal Switch (S), the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

(EE) Interval with control signal off.

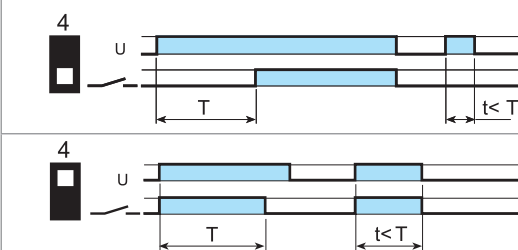
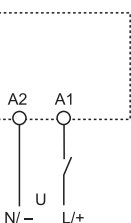
Power is permanently applied to the timer. On opening of the Signal Switch (S) the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.

(FE) Interval with control signal on and off.

Power is permanently applied to the timer. Both the opening and closing of the Signal Switch (S) initiates the transfer of the output contacts. In both instances the contacts reset after the delay period has elapsed.

Wiring diagram

Type 86.30T



(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.



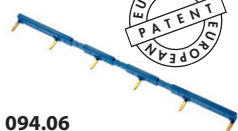
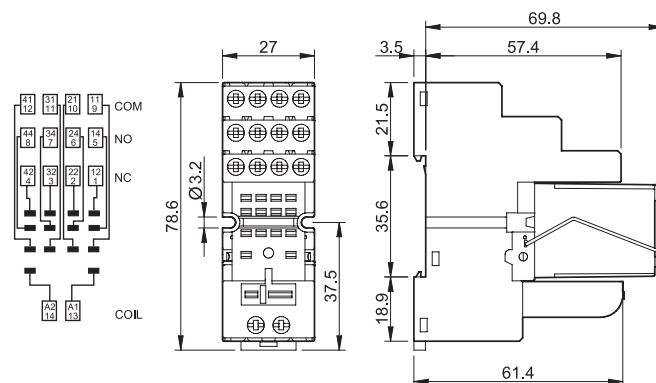
94.04.7

Approvals
(according to type):



Screw terminal (Box clamp) socket panel or 35 mm (EN 60715) rail mount	94.04.7 SMA*	
For relay type	55.34T	
Accessories		
Metal retaining clip	094.71	
6-way jumper link	094.06	
Identification tag	094.00.4	
Timer modules	86.30T	
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 94.04.7 sockets	solid wire	stranded wire
	mm ²	1 x 6 / 2 x 2.5
	AWG	1 x 10 / 2 x 14

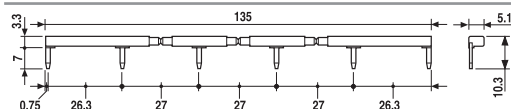
* Complies with **EN 45545-2 +A1:2016** (protection against fire of materials), **EN 61373** (resistance against random vibrations and shock, Category 1, Class B), **EN 50155** (resistance to temperature and humidity, TX class)

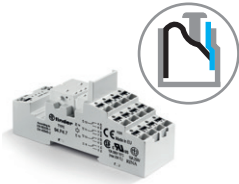


094.06



6-way jumper link for 94.04.7 socket	094.06
Rated values	10 A - 250 V





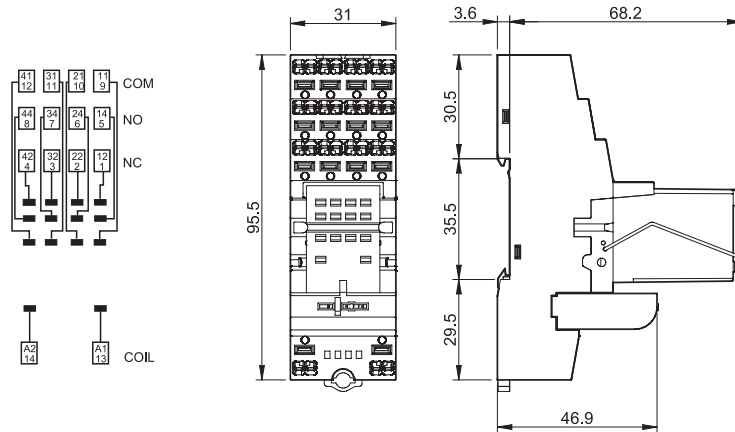
94.P4.7

Approvals
(according to type):



Push-in terminal socket 35 mm rail (EN 60715) mount		94.P4.7 SMA*	
For relay type		55.34T	
Accessories			
Metal retaining clip		094.71	
2-way jumper link		094.52.1	
2-way jumper link		097.52	
Timer modules		86.30T	
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 10	
Min. wire size for 94.P4.7 sockets		solid wire	
		mm ² 0.5	stranded wire 0.5
		AWG 21	21
Max. wire size for 94.P4.7 sockets		solid wire	
		mm ² 2 x 1.5 / 1 x 2.5	stranded wire 2 x 1.5 / 1 x 2.5
		AWG 2 x 18 / 1 x 14	2 x 18 / 1 x 14

* Complies with **EN 45545-2 +A1:2016** (protection against fire of materials), **EN 61373** (resistance against random vibrations and shock, Category 1, Class B), **EN 50155** (resistance to temperature and humidity, TX class)





96.02.7

Approvals
(according to type):



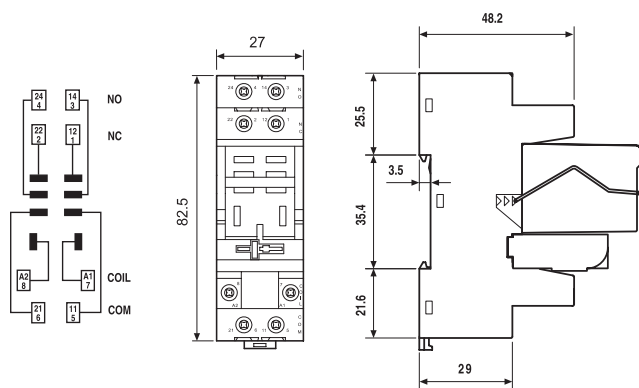
96.04.7

Approvals
(according to type):

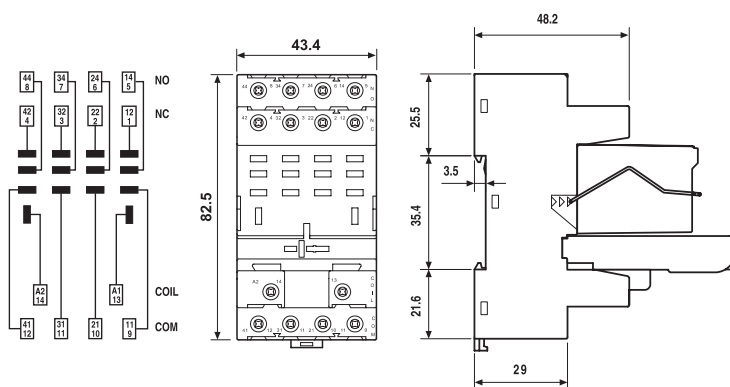


Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount	96.02.7 SMA*	96.04.7 SMA*
For relay type	56.32T	56.34T
Accessories		
Metal retaining clip (supplied with socket - packaging code SMA)	094.71	096.71
6-way jumper link	094.06	—
Identification tag	095.00.4	090.00.2
Timer modules	86.30T	86.00T, 86.30T
Technical data		
Rated values	12 A - 250 V	
Dielectric strength	2 kV AC	
Protection category	IP 20	
Ambient temperature	°C -40...+70	
Screw torque	Nm 0.8	
Wire strip length	mm 8	
Max. wire size for 96.02.7 and 96.04.7 socket	solid wire	stranded wire
	mm ²	1 x 6 / 2 x 2.5
	AWG	1 x 10 / 2 x 14

* Complies with **EN 45545-2 +A1:2016** (protection against fire of materials), **EN 61373** (resistance against random vibrations and shock, Category 1, Class B), **EN 50155** (resistance to temperature and humidity, TX class)



96.02.7 + 56.32T + 094.71 + 86.30T



96.04.7 + 56.34T + 096.71 + 86.00T / 86.30T



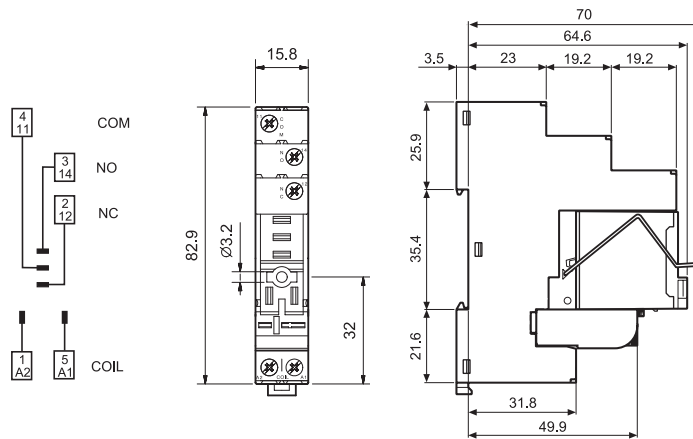
97.01.7

Approvals
(according to type):

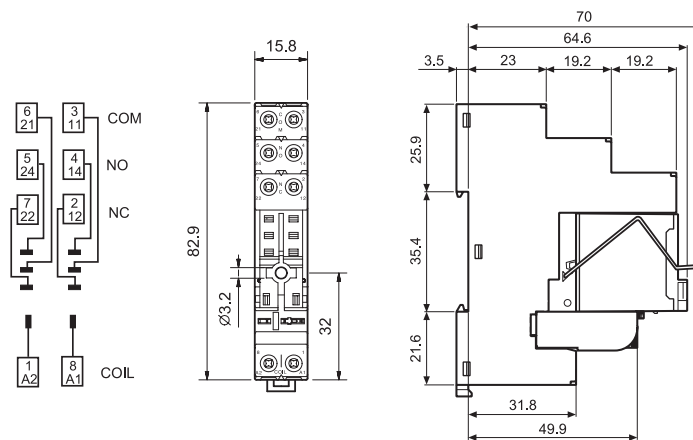


Screw terminal socket		97.01.7 SMA*	97.02.7 SMA*
panel or 35 mm rail (EN 60715) mount			
For relay type		46.61T	46.52T
Accessories			
Metal retaining clip (supplied with socket - packaging code SMA)			097.71
8-way jumper link			095.18
Identification tag			095.00.4
Timer modules			86.30T
Technical data			
Rated current		16 A - 250 V AC	8 A - 250 V AC
Dielectric strength		6 kV (1.2/50 μs) between coil and contacts	
Protection category		IP 20	
Ambient temperature		°C -40...+70	
⊕ Screw torque		Nm 0.8	
Wire strip length		mm 8	
Max. wire size for 97.01.7 and 97.02.7 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

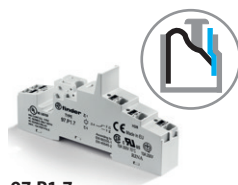
* Complies with **EN 45545-2 +A1:2016** (protection against fire of materials), **EN 61373** (resistance against random vibrations and shock, Category 1, Class B), **EN 50155** (resistance to temperature and humidity, TX class)



97.01.7 + 46.61T + 097.71 + 86.30T



97.02.7 + 46.52T + 097.71 + 86.30T



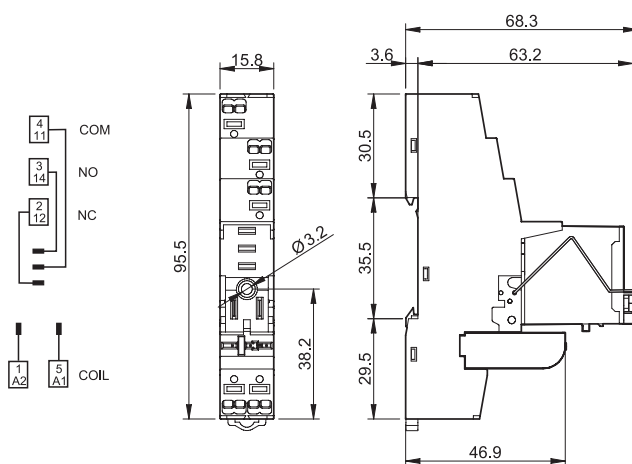
97.P1.7

Approvals
(according to type):

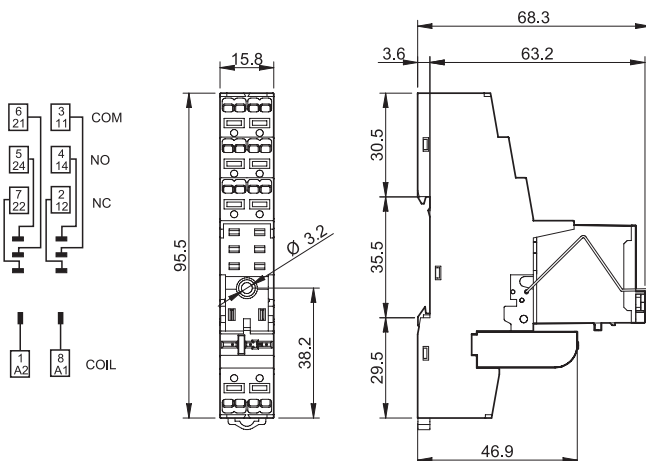


Push-in terminal socket	97.P1.7 SMA*	97.P2.7 SMA*
panel or 35 mm rail (EN 60715) mount		
For relay type	46.61T	46.52T
Accessories		
Metal retaining clip (supplied with socket - packaging code SMA)	097.71	
2-way jumper link	097.52	
2-way jumper link	097.42	
Timer modules	86.30T	
Technical data		
Rated current	10 A - 250 V AC	8 A - 250 V AC
Dielectric strength	6 kV (1.2/50 μs) between coil and contacts	
Protection category	IP 20	
Ambient temperature	°C -40...+70	
Wire strip length	mm 8	
Min. wire size for 97.P1.7 and 97.P2.7 socket	solid wire	stranded wire
	mm ² 0.5	0.5
	AWG 21	21
Max. wire size for 97.P1.7 and 97.P2.7 sockets	solid wire	stranded wire
	mm ² 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

* Complies with **EN 45545-2 +A1:2016** (protection against fire of materials), **EN 61373** (resistance against random vibrations and shock, Category 1, Class B), **EN 50155** (resistance to temperature and humidity, TX class)



97.P1.7 + 46.61T + 097.71 + 86.30T



97.P2.7 + 46.52T + 097.71 + 86.30T