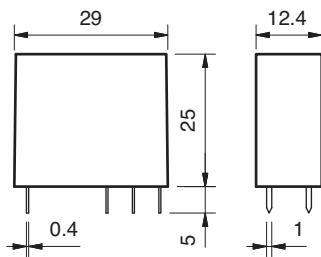




44 Series - Miniature PCB relays 6 - 10 A

Features

- 2 Pole relay range**
44.52 - 2 Pole 6 A (5 mm pin pitch)
44.62 - 2 Pole 10 A (5 mm pin pitch)
- PCB mount - direct or via PCB socket**
35 mm rail mount - via screw and screwless sockets
- High physical separation between adjacent contacts
 - DC coils (Standard or sensitive)
 - Cadmium Free contact materials
 - 8 mm, 6 kV (1.2/50 µs) isolation, coil-contacts
 - UL Listing (certain relay/socket combinations)
 - Flux proof: RT II
 - 95 series sockets
 - Coil EMC suppression
 - Timer accessories 86 series



FOR UL HORSEPOWER AND PILOT DUTY RATINGS
 SEE "General technical information" page V

44.52

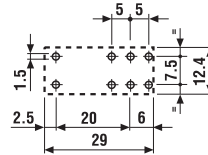
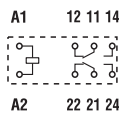


- 2 Pole, 6 A
- 5 mm contact pin pitch
- PCB or 95 series sockets

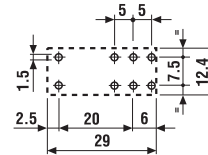
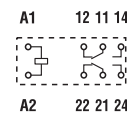
44.62



- 2 Pole, 10 A
- 5 mm contact pin pitch
- PCB or 95 series sockets



Copper side view

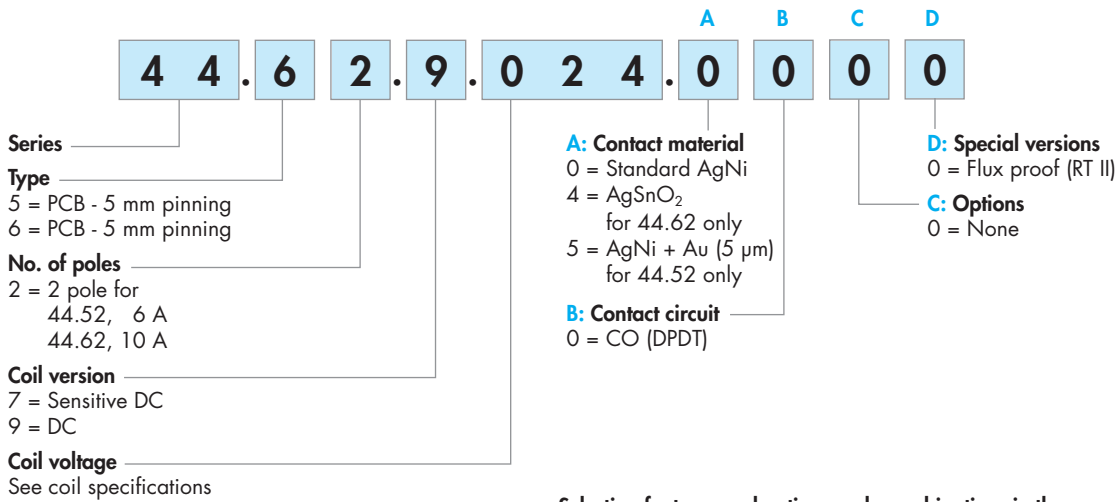


Copper side view

Contact specification			
Contact configuration		2 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak current	A	6/10	10/20
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	1,500	2,500
Rated load AC15 (230 V AC)	VA	250	500
Single phase motor rating (230 V AC)	kW	0.185	0.37
Breaking capacity DC1: 30/110/220 V	A	6/0.3/0.13	10/0.3/0.13
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi
Coil specification			
Nominal voltage (U _N)	V AC (50/60 Hz)	—	—
	V DC	6 - 9 - 12 - 14 - 24 - 28 - 48 - 60 - 110 - 125	
Rated power AC/DC/sens. DC	VA (50 Hz)/W/W	—/0.65/0.5	—/0.65/0.5
Operating range	AC	—	—
	DC/sens. DC	(0.73...1.5)U _N /(0.73...1.7)U _N	(0.73...1.5)U _N /(0.8...1.7)U _N
Holding voltage	AC/DC	—/0.4 U _N	—/0.4 U _N
Must drop-out voltage	AC/DC	—/0.1 U _N	—/0.1 U _N
Technical data			
Mechanical life AC/DC	cycles	—/20 · 10 ⁶	—/20 · 10 ⁶
Electrical life at rated load AC1	cycles	150 · 10 ³	100 · 10 ³
Operate/release time	ms	8/5 - (12/5 sensitive)	8/5 - (12/5 sensitive)
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,000	1,000
Ambient temperature range	°C	—40...+85	—40...+85
Environmental protection		RT II	RT II
Approvals (according to type)		RINA	

Ordering information

Example: 44 series PCB relay, 2 CO (DPDT) 10 A contacts, 24 V DC coil.



Selecting features and options: only combinations in the same row are possible.
 Preferred selections for best availability are shown in **bold**.

Type	Coil version	A	B	C	D
44.52	DC - sens. DC	0 - 5	0	0	0
44.62	DC - sens. DC	0 - 4	0	0	0

Technical data

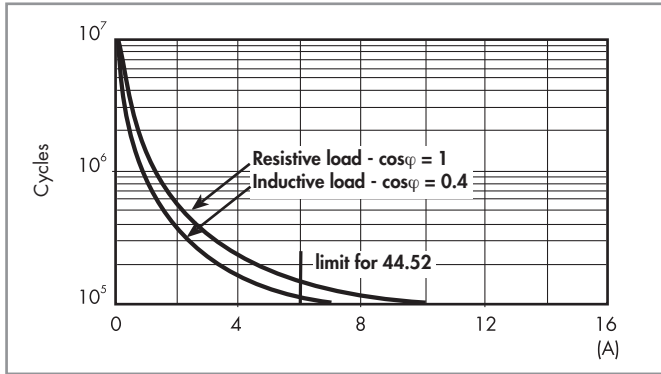
Insulation according to EN 61810-1			
Nominal voltage of supply system	V AC	230/400	
Rated insulation voltage	V AC	250	400
Pollution degree		3	2
Insulation between coil and contact set			
Type of Insulation		Reinforced (8 mm)	
Overvoltage category		III	
Rated impulse voltage	kV (1.2/50 µs)	6	
Dielectric strength	V AC	4,000	
Insulation between adjacent contacts			
Type of insulation		Basic	
Overvoltage category		III	
Rated impulse voltage	kV (1.2/50 µs)	4	
Dielectric strength	V AC	2,500	
Insulation between open contacts			
Type of disconnection		Micro-disconnection	
Dielectric strength	V AC/kV (1.2/50 µs)	1,000/1.5	
Conducted disturbance immunity			
Burst (5...50)ns, 5 kHz, on A1 - A2		EN 61000-4-4	level 4 (4 kV)
Surge (1.2/50 µs) on A1 - A2 (differential mode)		EN 61000-4-5	level 3 (2 kV)
Other data			
Bounce time: NO/NC	ms	4/4	
Vibration resistance (5...55)Hz: NO/NC	g	15/12	
Shock resistance	g	16	
Power lost to the environment	without contact current	W	0.6
	with rated current	W	1.2 (44.52) 2.7 (44.62)
Recommended distance between relays mounted on PCB	mm	≥ 5	



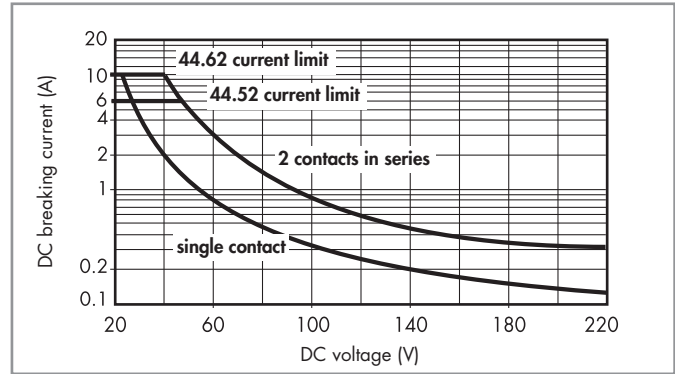
44 Series - Miniature PCB relays 6 - 10 A

Contact specification

F 44 - Electrical life (AC) v contact current



H 44 - Maximum DC1 breaking capacity



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of $\geq 100 \cdot 10^5$ can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load. Note: the release time for the load will be increased.

Coil specifications

DC coil data - 0.65 W standard

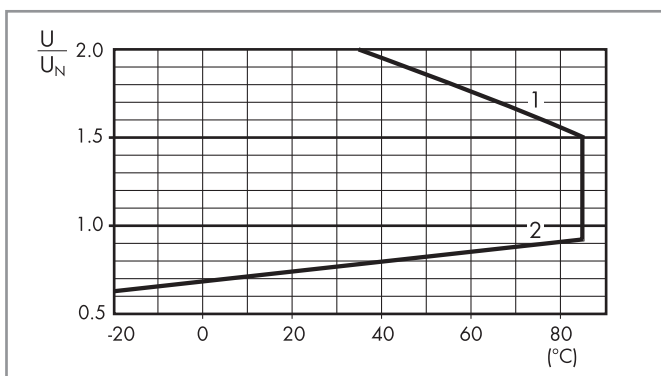
Nominal voltage U_N V	Coil code	Operating range		Resistance R Ω	Rated coil consumption I at U_N mA
		U_{min} V	U_{max} V		
6	9.006	4.4	9	55	109
9	9.009	6.6	13.5	125	72
12	9.012	8.8	18	220	55
14	9.014	10.2	21	300	47
24	9.024	17.5	36	900	27
28	9.028	20.5	42	1,200	23
48	9.048	35	72	3,500	14
60	9.060	43.8	90	5,500	11
110	9.110	80.3	165	18,000	6.2
125	9.125	91.2	188	23,500	5.3

DC coil data - 0.5 W sensitive

Nominal voltage U_N V	Coil code	Operating range		Resistance R Ω	Rated coil consumption I at U_N mA
		U_{min}^* V	U_{max} V		
6	7.006	4.4	10.2	75	80
9	7.009	6.6	15.3	160	56
12	7.012	8.8	20.4	300	40
14	7.014	10.2	23.8	400	35
24	7.024	17.5	40.8	1,200	20
28	7.028	20.5	47.6	1,600	17.5
48	7.048	35	81.6	4,800	10
60	7.060	43.8	102	7,200	8.4
110	7.110	80.3	187	23,500	4.7
125	7.125	100	219	32,000	3.9

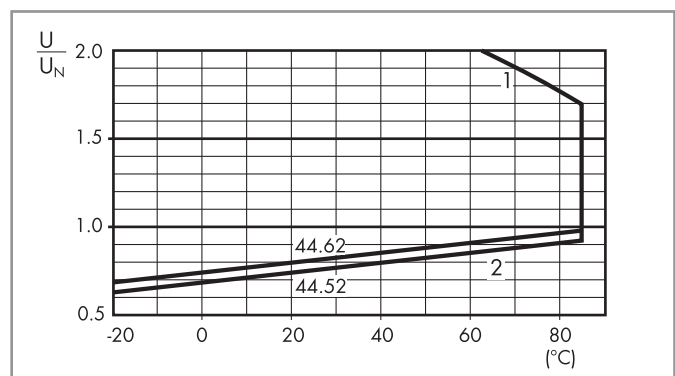
* $U_{min} = 0.8 U_N$ for 44.62

R 44 - DC coil operating range v ambient temperature
Standard coil



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.

R 44 - DC coil operating range v ambient temperature
Sensitive coil



- 1 - Max. permitted coil voltage.
- 2 - Min. pick-up voltage with coil at ambient temperature.



95 Series - Socket overview for 44 series relays



95.05
See page 5



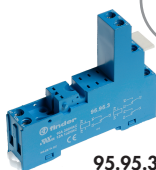
Module	Socket	Relay	Description	Mounting	Accessories
99.02	95.05	44.52 44.62	Screw terminal (Box clamp) socket - Top terminals - Contacts - Bottom terminals - Coil	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Jumper link - Timer modules - Plastic retaining and release clip



95.85.3
See page 6



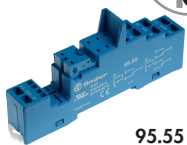
Module	Socket	Relay	Description	Mounting	Accessories
99.80	95.85.3	44.52 44.62	Screw terminal (Box clamp) socket	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Plastic retaining and release clip



95.95.3
See page 7



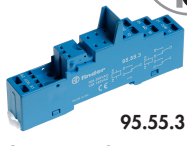
Module	Socket	Relay	Description	Mounting	Accessories
99.80	95.95.3	44.52 44.62	Screw terminal (Box clamp) socket - Top terminals - Contacts - Bottom terminals - Coil	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Plastic retaining and release clip



95.55
See page 8



Module	Socket	Relay	Description	Mounting	Accessories
99.02	95.55	44.52 44.62	Screwless terminal socket - For fast cable connections - Top terminals - Contacts - Bottom terminals - Coil	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Timer modules - Plastic retaining and release clip



95.55.3
See page 9



Module	Socket	Relay	Description	Mounting	Accessories
99.80	95.55.3	44.52 44.62	Screwless terminal socket - For fast cable connections - Top terminals - Contacts - Bottom terminals - Coil	Panel or 35 mm rail (EN 60715) mount	- Coil indication and EMC suppression modules - Plastic retaining and release clip



95.65
See page 10

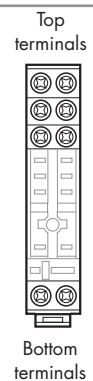


Module	Socket	Relay	Description	Mounting	Accessories
—	95.65	44.52 44.62	Screw terminal (Box clamp) socket - Top terminals - Contacts - Bottom terminals - Coil	Panel or 35 mm rail (EN 60715) mount	- Metal retaining clip



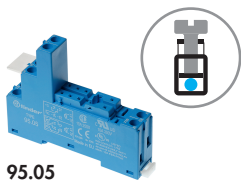
95.15.2
See page 11

Module	Socket	Relay	Description	Mounting	Accessories
—	95.15.2	44.52 44.62	PCB socket	PCB mounting	- Metal retaining clip





95 Series - Sockets and accessories for 44 series relays



95.05

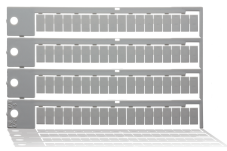
Approvals
(according to type):



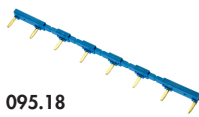
Certain relay/socket combinations



095.01



060.72



95.18



86.30



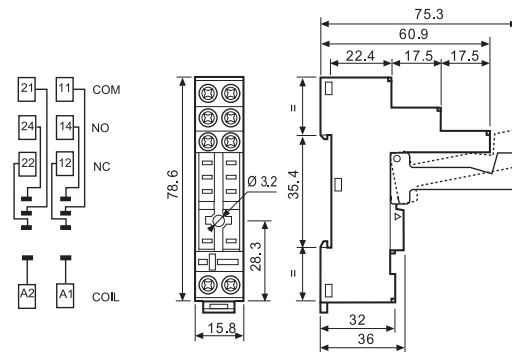
99.02

Approvals
(according to type):

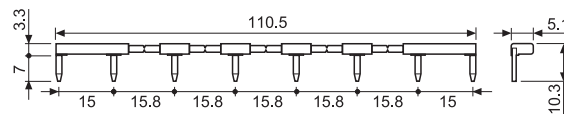


DC Modules with non-standard polarity (+A2) on request.

Screw terminal (Box clamp) socket panel or 35 mm rail mount	95.05 (blue)	95.05.0 (black)	
For relay type	44.52, 44.62		
Accessories			
Metal retaining clip	095.71		
Plastic retaining and release clip (supplied with socket - packaging code SPA)	095.01	095.01.0	
8-way jumper link	095.18	095.18.0	
Identification tag	095.00.4		
Modules (see table below)	99.02		
Timer modules (see table below)	86.30		
Sheet of marker tags for retaining and release clip 095.01 plastic, 72 tags, 6x12 mm	060.72		
Technical data			
Rated values	10 A - 250 V		
Dielectric strength	6 kV (1.2/50 μs) between coil and contacts		
Protection category	IP 20		
Ambient temperature	°C -40...+70		
Screw torque	Nm	0.5	
Wire strip length	mm	8	
Max. wire size for 95.05 socket	solid wire	stranded wire	
	mm ²	1x6 / 2x2.5	1x4 / 2x2.5
	AWG	1x10 / 2x14	1x12 / 2x14



8-way jumper link for 95.05 socket	095.18 (blue)	095.18.0 (black)
Rated values	10 A - 250 V	



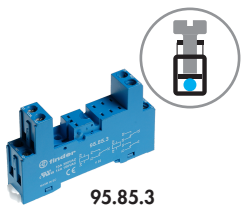
86 series timer modules	
(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)	86.30.0.024.0000

Approvals
(according to type):

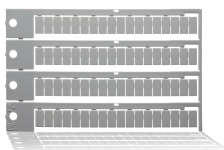
99.02 coil indication and EMC suppression modules for 95.05 socket		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.02.9.220.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07



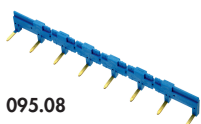
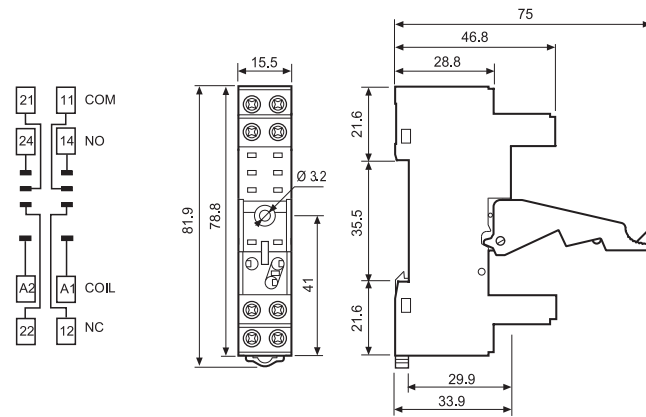
95 Series - Sockets and accessories for 44 series relays



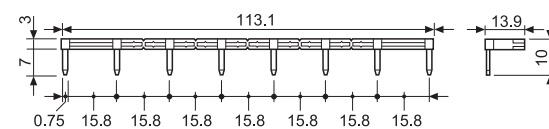
Approvals
(according to type):



Screw terminal (Box clamp) socket panel or 35 mm rail mount	95.85.3 (blue)	95.85.30 (black)
For relay type	44.52, 44.62	
Accessories		
Metal retaining clip	095.71	
Plastic retaining and release clip (supplied with socket - packaging code SPA)	095.91.3	095.91.30
8-way jumper link	095.08	095.08.0
Identification tag	095.80.3	
Modules (see table below)	99.80	
Sheet of marker tags for retaining and release clip 095.91.3 plastic, 72 tags, 6x12 mm	060.72	
Technical data		
Rated values	10 A - 250 V	
Dielectric strength	6 kV (1.2/50 μs) between coil and contacts	
Protection category	IP 20	
Ambient temperature	°C -40...+70	
⊕ Screw torque	Nm	0.5
Wire strip length	mm	7
Max. wire size for 95.85.3 sockets	solid wire	stranded wire
	mm ²	1x6 / 2x2.5
	AWG	1x10 / 2x14



8-way jumper link for 95.85.3 socket	095.08 (blue)	095.08.0 (black)
Rated values	10 A - 250 V	



Approvals
(according to type):



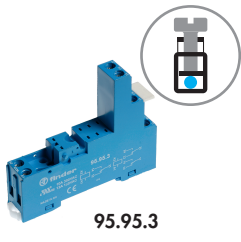
* Modules in Black
housings are
available on request.

Green LED is standard.
Red LED available
on request.

99.80 coil indication and EMC suppression modules for 95.85.3 socket		Blue*
Diode (+A1, standard polarity)	(6...220)V DC	99.80.3.000.00
LED	(6...24)V DC/AC	99.80.0.024.59
LED	(28...60)V DC/AC	99.80.0.060.59
LED	(110...240)V DC/AC	99.80.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.80.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.80.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.80.9.220.99
LED + Varistor	(6...24)V DC/AC	99.80.0.024.98
LED + Varistor	(28...60)V DC/AC	99.80.0.060.98
LED + Varistor	(110...240)V DC/AC	99.80.0.230.98
RC circuit	(6...24)V DC/AC	99.80.0.024.09
RC circuit	(28...60)V DC/AC	99.80.0.060.09
RC circuit	(110...240)V DC/AC	99.80.0.230.09
Residual current by-pass	(110...240)V AC	99.80.8.230.07



95 Series - Sockets and accessories for 44 series relays

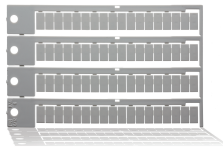


95.95.3

Approvals
(according to type):

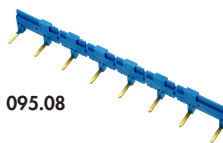
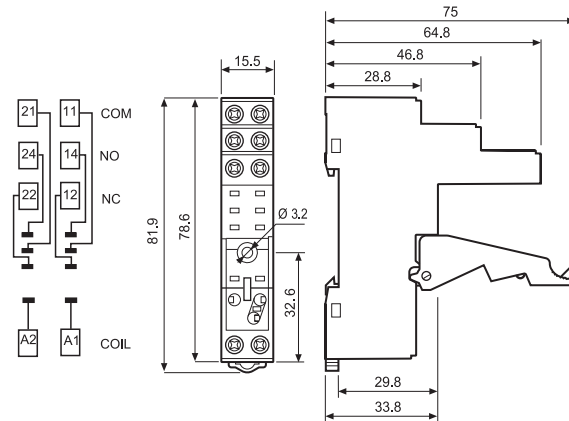


095.91.3



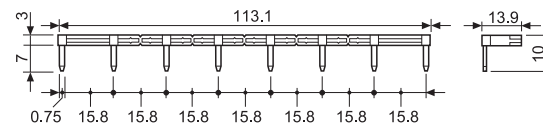
060.72

Screw terminal (Box clamp) socket panel or 35 mm rail mount		95.95.3 (blue)	95.95.30 (black)
For relay type		44.52, 44.62	
Accessories			
Metal retaining clip		095.71	
Plastic retaining and release clip (supplied with socket - packaging code SPA)		095.91.3	095.91.30
8-way jumper link		095.08	095.08.0
Identification tag		095.80.3	
Modules (see table below)		99.80	
Sheet of marker tags for retaining and release clip 095.91.3 plastic, 72 tags, 6x12 mm		060.72	
Technical data			
Rated values		10 A - 250 V	
Dielectric strength		6 kV (1.2/50 μs) between coil and contacts	
Protection category		IP 20	
Ambient temperature		°C -40...+70	
⊕ Screw torque		Nm 0.5	
Wire strip length		mm 8	
Max. wire size for 95.95.3 sockets		solid wire	stranded wire
		m ² 1x6 / 2x2.5	1x4 / 2x2.5
		AWG 1x10 / 2x14	1x12 / 2x14



095.08

8-way jumper link for 95.95.3 socket	095.08 (blue)	095.08.0 (black)
Rated values	10 A - 250 V	



99.80

Approvals
(according to type):



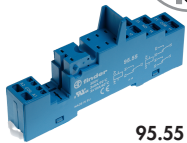
* Modules in Black housing are available on request.

Green LED is standard.
Red LED available on request.

99.80 coil indication and EMC suppression modules for 95.95.3 socket		Blue*
Diode (+A1, standard polarity)	(6...220)V DC	99.80.3.000.00
LED	(6...24)V DC/AC	99.80.0.024.59
LED	(28...60)V DC/AC	99.80.0.060.59
LED	(110...240)V DC/AC	99.80.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.80.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.80.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.80.9.220.99
LED + Varistor	(6...24)V DC/AC	99.80.0.024.98
LED + Varistor	(28...60)V DC/AC	99.80.0.060.98
LED + Varistor	(110...240)V DC/AC	99.80.0.230.98
RC circuit	(6...24)V DC/AC	99.80.0.024.09
RC circuit	(28...60)V DC/AC	99.80.0.060.09
RC circuit	(110...240)V DC/AC	99.80.0.230.09
Residual current by-pass	(110...240)V AC	99.80.8.230.07



95 Series - Sockets and accessories for 44 series relays

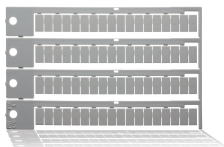


95.55

Approvals
(according to type):

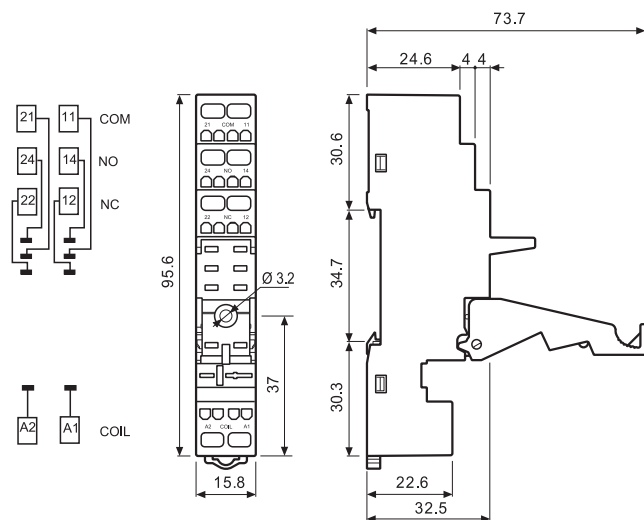


095.91.3



060.72

Screwless terminal socket panel or 35 mm rail mount		95.55 (blue)	95.55.0 (black)
For relay type		44.52, 44.62	
Accessories			
Metal retaining clip			095.71
Plastic retaining and release clip (supplied with socket - packaging code SPA)			095.91.3
Modules (see table below)			99.02
Timer modules (see table below)			86.30
Sheet of marker tags for retaining and release clip 095.91.3 plastic, 72 tags, 6x12 mm			060.72
Technical data			
Rated values		10 A - 250 V	
Dielectric strength		6 kV (1.2/50 μs) between coil and contacts	
Protection category		IP 20	
Ambient temperature		°C -25...+70	
Wire strip length		mm	8
Max. wire size for 95.55 socket		solid wire	
		mm ²	2x(0.2...1.5)
		AWG	2x(24...18)
		stranded wire	
		mm ²	2x(0.2...1.5)
		AWG	2x(24...18)



86 series timer modules	
(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)	86.30.0.024.0000

Approvals
(according to type):



86.30

99.02 coil indication and EMC suppression modules for 95.55 socket		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...240)V DC	99.02.9.230.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07



99.02

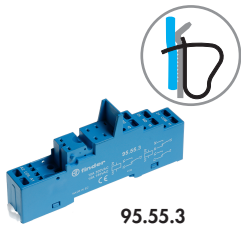
Approvals
(according to type):



DC Modules with
non-standard polarity
(+A2) on request.



95 Series - Sockets and accessories for 44 series relays

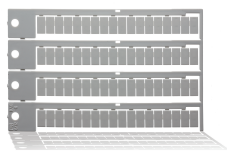


95.55.3

Approvals
(according to type):

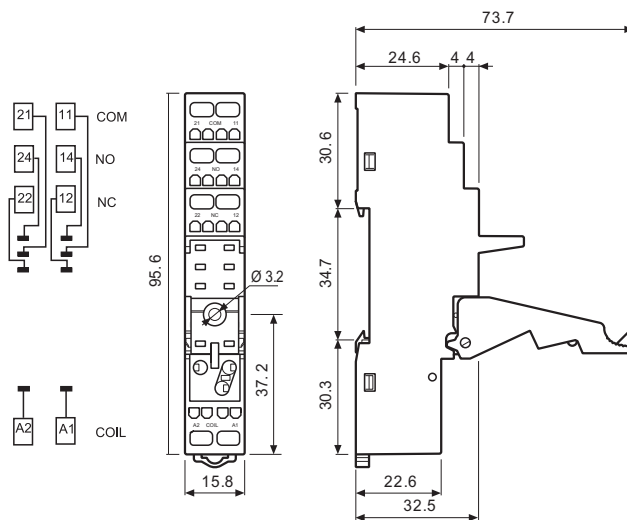


095.91.3



060.72

Screwless terminal socket panel or 35 mm rail mount	95.55.3 (blue)	95.55.30 (black)
For relay type	44.52, 44.62	
Accessories		
Metal retaining clip		095.71
Plastic retaining and release clip (supplied with socket - packaging code SPA)		095.91.3
Modules (see table below)		99.80
Sheet of marker tags for retaining and release clip 095.91.3 plastic, 72 tags, 6x12 mm		060.72
Technical data		
Rated values	10 A - 250 V	
Dielectric strength	6 kV (1.2/50 µs) between coil and contacts	
Protection category	IP 20	
Ambient temperature	°C -25...+70	
Wire strip length	mm	8
Max. wire size for 95.55.3 socket	solid wire	stranded wire
	mm ²	2x(0.2...1.5)
	AWG	2x(24...18)



99.80

Approvals
(according to type):



* Modules in Black housing are available on request.

Green LED is standard.
Red LED available on request.

99.80 coil indication and EMC suppression modules for 95.55.3 socket		Blue*
Diode (+A1, standard polarity)	(6...220)V DC	99.80.3.000.00
LED	(6...24)V DC/AC	99.80.0.024.59
LED	(28...60)V DC/AC	99.80.0.060.59
LED	(110...240)V DC/AC	99.80.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.80.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.80.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.80.9.220.99
LED + Varistor	(6...24)V DC/AC	99.80.0.024.98
LED + Varistor	(28...60)V DC/AC	99.80.0.060.98
LED + Varistor	(110...240)V DC/AC	99.80.0.230.98
RC circuit	(6...24)V DC/AC	99.80.0.024.09
RC circuit	(28...60)V DC/AC	99.80.0.060.09
RC circuit	(110...240)V DC/AC	99.80.0.230.09
Residual current by-pass	(110...240)V AC	99.80.8.230.07



95 Series - Sockets and accessories for 44 series relays

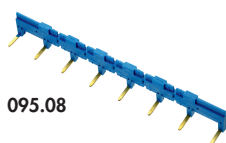
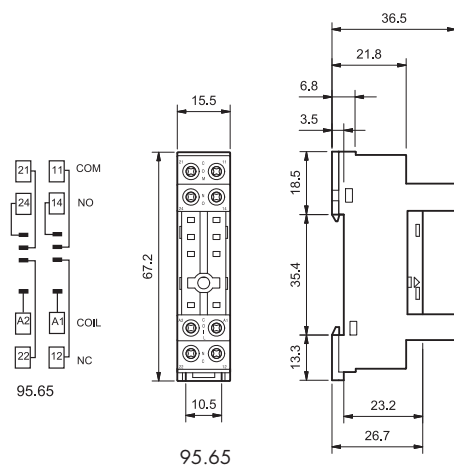


95.65

Approvals
(according to type):

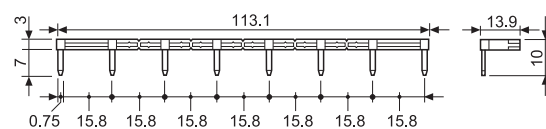
Screw terminal (Box clamp) socket panel or 35 mm rail mount	95.65 (blue)		
For relay type	44.52, 44.62		
Accessories			
Metal retaining clip	095.71		
8-way jumper link	095.08		
Modules	—		
Technical data			
Rated values	10 A - 250 V *		
Dielectric strength (between coil and contacts)	2 kV AC		
Protection category	IP 20		
Ambient temperature	°C	-40...+70	
⊕ Screw torque	Nm	0.5	
Wire strip length	mm	7	
Max. wire size for 95.65 sockets	solid wire	stranded wire	
	m ²	1x6 / 2x2.5	1x4 / 2x2.5
	AWG	1x10 / 2x14	1x12 / 2x14

* For currents > 10 A, contact terminals must be connected in parallel (21 with 11, 24 with 14, 22 with 12).
With the relay 40.51 the change-over contact will be 21-12-14.



095.08

8-way jumper link for 95.65 sockets	095.08 (blue)
Rated values	10 A - 250 V





95 Series - Sockets and accessories for 44 series relays

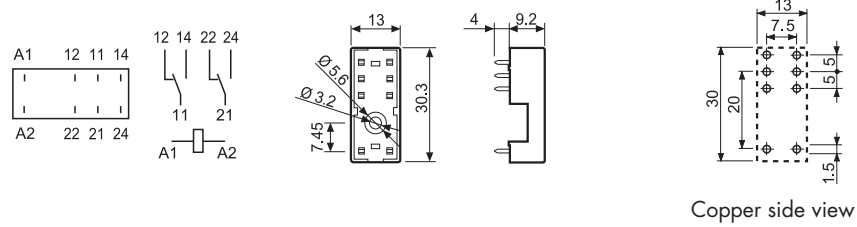


95.15.2

Approvals
(according to type):



PCB socket	95.15.2 (blue)	95.15.20 (black)
For relay type	44.52, 44.62	
Accessories		
Metal retaining clip (supplied with socket - packaging code SMA)		095.51
Plastic retaining clip		095.52
Technical data		
Rated values	10 A - 250 V	
Dielectric strength	6 kV (1.2/50 μs) between coil and contacts	
Protection category	IP 20	
Ambient temperature	°C -40...+70	



Packaging codes

How to code and identify retaining clip and packaging options for sockets.

Example:

