

Miniature power relays 12 A



Industrial
furnaces
and ovens



Control and
management of
electric power



Industrial
motors



Circuit
breakers and
switches



Panels for
electrical
distribution



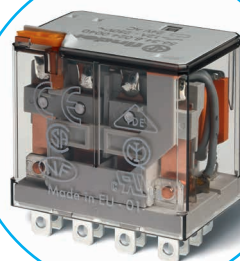
Control panels



Carousel
warehouses



Vending
machines

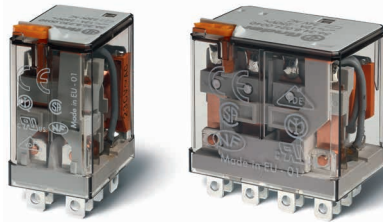


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Plug-in - 12 A Power relay, 2 & 4 pole

- Flange mount option - (Faston 187, 4.8 x 0.5 mm termination)
- AC coils & DC coils
- Lockable test button and mechanical flag indicator
- Cadmium Free contacts (standard version)
- Contact material options
- 96 series sockets
- Coil EMC suppression
- Accessories
- European Patent

56.32/56.34



- 2 or 4 pole changeover contact
- Plug-in/Faston 187

56.32-0300



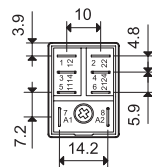
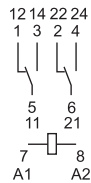
- 2 pole normally open contact (≥ 1.5 mm gap)
- Plug-in/Faston 187

* For 4 CO (4PDT) only.

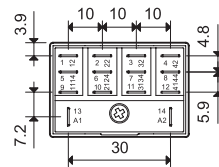
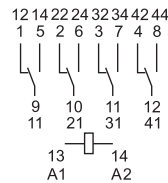
FOR UL RATINGS SEE:

"General technical information" page IX

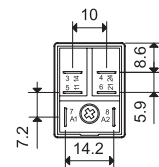
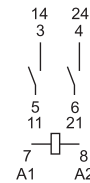
For outline drawing see page 8



56.32



56.34



56.32-0300

Contact specification

Contact configuration	2 CO (DPDT)	4 CO (4PDT)	2NO (DPST-NO) - ≥ 1.5 mm gap
Rated current/Maximum peak current	A 12/20		12/20
Rated voltage/ Maximum switching voltage	V AC 250/400		250/400
Rated load AC1	VA 3000		3000
Rated load AC15 (230 V AC)	VA 700		700
Single phase motor rating (230 V AC)	kW 0.55		0.55
Breaking capacity DC1: 24/110/220 V	A 12/0.5/0.25		12/1/0.5
Minimum switching load	mW (V/mA) 500 (10/5)		500 (10/5)
Standard contact material	AgNi		AgNi

Coil specification

Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400*	
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220	—
Rated power AC/DC	VA (50 Hz)/W	1.5/1	2/1.3
Operating range	AC	$(0.8 \dots 1.1) U_N$	
	DC	$(0.8 \dots 1.1) U_N$	$(0.8 \dots 1.1) U_N$
Holding voltage	AC/DC	$0.8 U_N / 0.6 U_N$	
Must drop-out voltage	AC/DC	$0.2 U_N / 0.1 U_N$	

Technical data

Mechanical life AC/DC	cycles	$20 \cdot 10^6 / 50 \cdot 10^6$	
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$	
Operate/release time	ms	9/6	11/11
Insulation between coil and contacts (1.2/50 μ s)	kV	4	5
Dielectric strength between open contacts	V AC	1000	
Ambient temperature range	°C	$-40 \dots +70$	
Environmental protection		RT I	

Approvals (according to type)



Printed circuit mount**12 A Power relay**

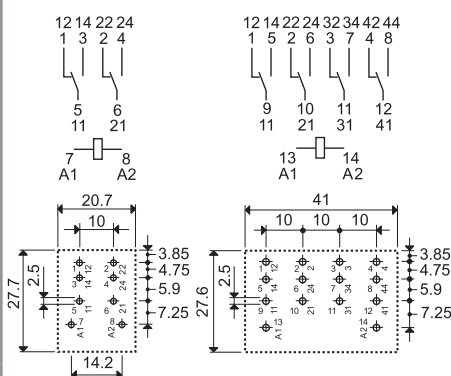
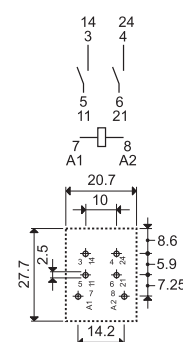
- 2 & 4 pole
- AC coils & DC coils
- Cadmium Free contacts (standard version)
- Contact material option

56.42/56.44

- 2 or 4 pole changeover contact
- PCB mount

56.42-0300

- 2 pole normally open contact (≥ 1.5 mm gap)
- PCB mount

56.42
Copper side view56.44
Copper side view56.42-0300
Copper side view

* For 4 CO (4PDT) only.

FOR UL RATINGS SEE:

"General technical information" page IX

For outline drawing see page 8

Contact specification

Contact configuration		2 CO (DPDT)	4 CO (4PDT)	2NO (DPST-NO) - ≥ 1.5 mm gap
Rated current/Maximum peak current	A	12/20		12/20
Rated voltage/ Maximum switching voltage	V AC	250/400		250/400
Rated load AC1	VA	3000		3000
Rated load AC15 (230 V AC)	VA	700		700
Single phase motor rating (230 V AC)	kW	0.55		0.55
Breaking capacity DC1: 24/110/220 V	A	12/0.5/0.25		12/1/0.5
Minimum switching load	mW (V/mA)	500 (10/5)		500 (10/5)
Standard contact material		AgNi		AgNi

Coil specification

Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400*		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		—
Rated power AC/DC	VA (50 Hz)/W	1.5/1	2/1.3	1.5/—
Operating range	AC	$(0.8 \dots 1.1) U_N$		$(0.85 \dots 1.1) U_N$
	DC	$(0.8 \dots 1.1) U_N$	$(0.8 \dots 1.1) U_N$	—
Holding voltage	AC/DC	$0.8 U_N / 0.6 U_N$		$0.85 U_N / —$
Must drop-out voltage	AC/DC	$0.2 U_N / 0.1 U_N$		$0.2 U_N / —$

Technical data

Mechanical life AC/DC	cycles	$20 \cdot 10^6 / 50 \cdot 10^6$		$20 \cdot 10^6 / —$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$		$100 \cdot 10^3$
Operate/release time	ms	9/6	11/11	8/4
Insulation between coil and contacts (1.2/50 μ s)	kV	4	5	4
Dielectric strength between open contacts	V AC	1000		2000
Ambient temperature range	°C	-40...+70		-40...+70
Environmental protection		RT I		RT I

Approvals (according to type)

Example: 56 series plug-in relay, 2 CO (DPDT), 12 V DC coil, lockable test button and mechanical indicator.



Technical data

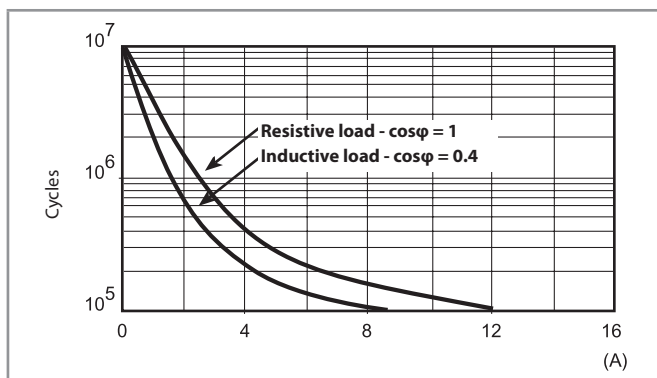
* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

Insulation according to EN 61810-1			2 CO - 4 CO		2 NO	
Nominal voltage of supply system	V AC		230/400		230/400	
Rated insulation voltage	V AC		250	400	250	400
Pollution degree			3	2	3	2
Insulation between coil and contact set						
Type of Insulation			Basic		Basic	
Overvoltage category			III		III	
Rated impulse voltage	kV (1.2/50 μ s)		4		4	
Dielectric strength	V AC		2500		2500	
Insulation between adjacent contacts						
Type of insulation			Basic		Basic	
Overvoltage category			III		III	
Rated impulse voltage	kV (1.2/50 μ s)		4		4	
Dielectric strength	V AC		2500		2500	
Insulation between open contacts						
Type of disconnection			Micro-disconnection		Full-disconnection*	
Overvoltage category			—		II	
Rated impulse voltage	kV (1.2/50 μ s)		—		2.5	
Dielectric strength	V AC/kV (1.2/50 μ s)		1000/1.5		2000/3	
Insulation between coil terminals						
Rated impulse voltage (according to EN 61180)	kV (1.2/50 μ s)		2.5 (56.32, 56.42)/4 (56.34, 56.44)			
Other data						
Bounce time: NO/NC	ms		1/4 (2 CO) , 1/7 (4 CO)		3/— (normally open)	
Vibration resistance (5...55)Hz: NO/NC	g		17/14			
Shock resistance	g		20/14			
Power lost to the environment	without contact current	W	1 (56.32, 56.42)		1.3 (56.34, 56.44)	
	with rated current	W	3.8 (56.32, 56.42)		6.9 (56.34, 56.44)	
Recommended distance between relays mounted on PCB	mm		≥ 5			

Contact specification

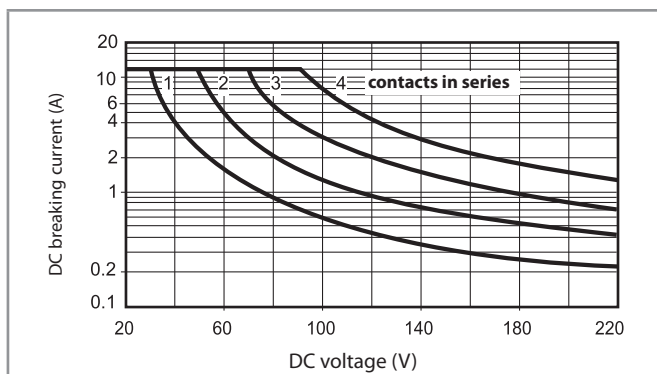
F 56 - Electrical life (AC) v contact current

2 - 4 pole relays



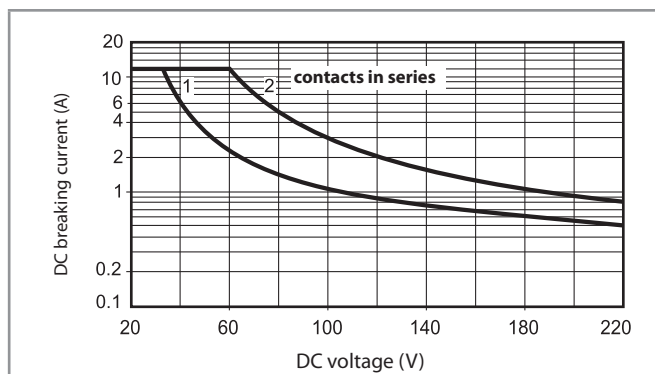
H 56 - Maximum DC1 breaking capacity

Changeover version



H 56 - Maximum DC1 breaking capacity

Normally open version



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of $\geq 100 \cdot 10^3$ 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 of the load will be increased.

Coil specifications

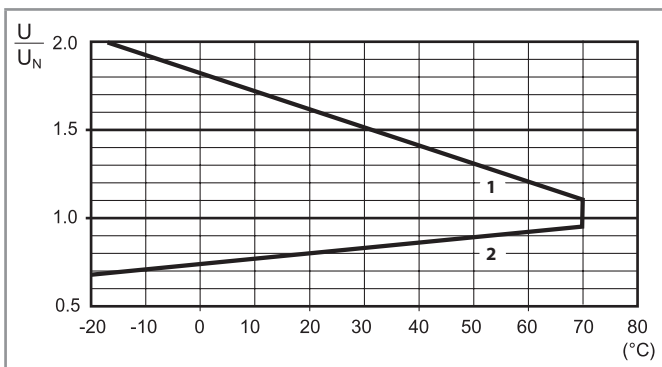
DC coil data, 2 pole relay

Nominal voltage U_N	Coil code	Operating range		Resistance R	Rated coil consumption I at U_N
V		U_{min} V	U_{max} V	Ω	mA
6	9.006	4.8	6.6	40	150
12	9.012	9.6	13.2	140	86
24	9.024	19.2	26.4	600	40
48	9.048	38.4	52.8	2400	20
60	9.060	48	66	4000	15
110	9.110	88	121	12500	8.8
125	9.125	100	138	17300	7.2
220	9.220	176	242	54000	4

DC coil data, 4 pole relay

Nominal voltage U_N	Coil code	Operating range		Resistance R	Rated coil consumption I at U_N
V		U_{min} V	U_{max} V	Ω	mA
6	9.006	4.8	6.6	32.5	185
12	9.012	9.6	13.2	123	97
24	9.024	19.2	26.4	490	49
48	9.048	38.4	52.8	1800	27
60	9.060	48	66	3000	20
110	9.110	88	121	10400	10.5
125	9.125	100	138	14200	8.8
220	9.220	176	242	44000	5

R 56 - DC coil operating range v ambient temperature
2 and 4 pole relay



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

AC coil data, 2 pole relay

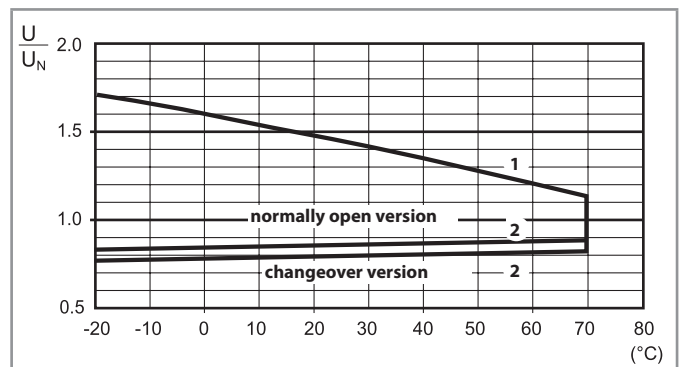
Nominal voltage U_N	Coil code	Operating range		Resistance R	Rated coil consumption I at U_N (50 Hz)
V		U_{min}^* V	U_{max} V	Ω	mA
6	8.006	4.8	6.6	12	200
12	8.012	9.6	13.2	50	97
24	8.024	19.2	26.4	190	53
48	8.048	38.4	52.8	770	25
60	8.060	48	66	1200	21
110	8.110	88	121	3940	12.5
120	8.120	96	132	4700	12
230	8.230	184	253	17000	6
240	8.240	192	264	19100	5.3

* $U_{min} = 0.85 U_N$ for normally open version.

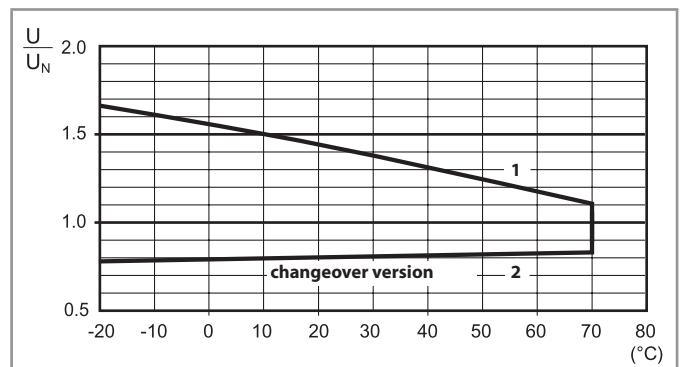
AC coil data, 4 pole relay

Nominal voltage U_N	Coil code	Operating range		Resistance R	Rated coil consumption I at U_N (50 Hz)
V		U_{min} V	U_{max} V	Ω	mA
6	8.006	4.8	6.6	5.7	300
12	8.012	9.6	13.2	22	150
24	8.024	19.2	26.4	81	90
48	8.048	38.4	52.8	380	37
60	8.060	48	66	600	30
110	8.110	88	121	1900	16.5
120	8.120	96	132	2560	13.4
230	8.230	184	253	7700	9
240	8.240	192	264	10000	7.5
400	8.400	320	440	26000	4.9

R 56 - AC coil operating range v ambient temperature
2 pole relay



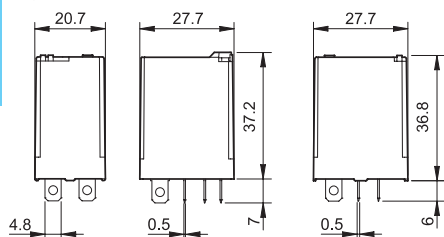
R 56 - AC coil operating range v ambient temperature
4 pole relay



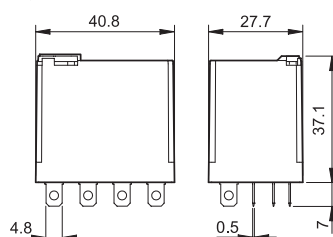
- 1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Outline drawings

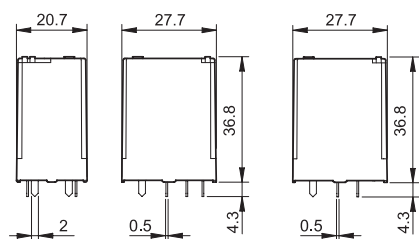
Types 56.32/32-0300



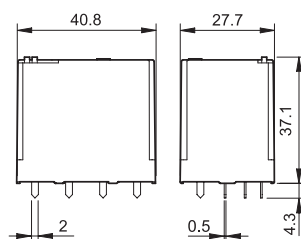
Type 56.34



Types 56.42/42-0300



Type 56.44



Accessories



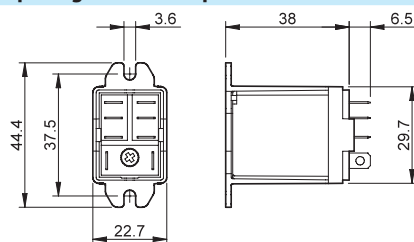
056.25



056.25 with relay

Top flange mount adaptor for 56.32

056.25



056.25 with relay



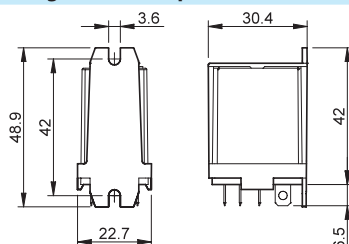
056.26



056.26 with relay

Rear flange mount adaptor for 56.32

056.26



056.26 with relay



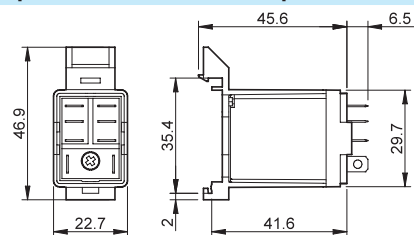
056.27



056.27 with relay

Top 35 mm rail (EN 60715) adaptor for 56.32

056.27



056.27 with relay



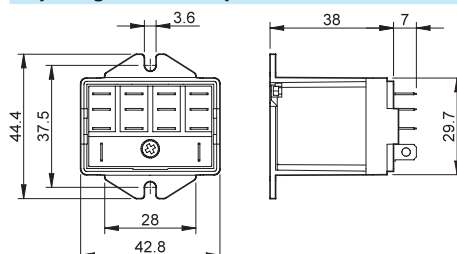
056.45



056.45 with relay

Top flange mount adaptor for 56.34

056.45



056.45 with relay



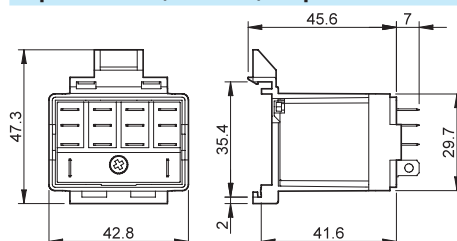
056.47



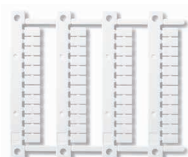
056.47 with relay

Top 35 mm rail (EN 60715) adaptor for 56.34

056.47



056.47 with relay



060.48

Sheet of marker tags for relay type 56.34, plastic, 48 tags, 6 x 12 mm, for CEMBRE thermal transfer printers

060.48

A



96.02
Approvals
(according to type):

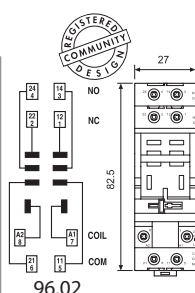
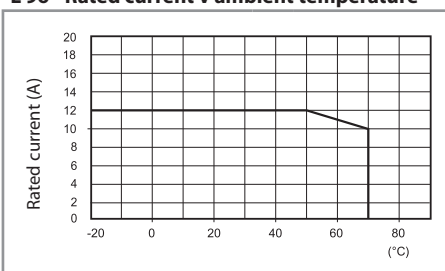


96.04
Approvals
(according to type):



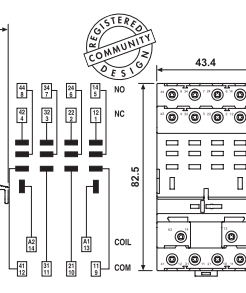
094.91.3

L 96 - Rated current v ambient temperature



96.02

96.02



96.04

96.04

96.04



094.06



86.00



86.30



99.02

Approvals
(according to type):



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

Box clamp socket

35 mm rail mount (EN 60715)

For relay type

96.02

Blue

96.02.0

Black

96.04

Blue

96.04.0

Black

56.32

56.34

Accessories

Metal retaining clip

(supplied with socket - packaging code SMA)

094.71

096.71

Plastic retaining and release clip

(supplied with socket - packaging code SPA)

094.91.3

094.91.30

—

—

6-way jumper link

094.06

094.06.0

—

—

Identification tag

095.00.4

090.00.2

Modules (see table below)

99.02

Timer modules (see table below)

86.30

86.00, 86.30

Sheet of marker tags for retaining and release clip
094.91.3, plastic, 48 tags, 6 x 12 mm, for CEMBRE
thermal transfer printers

060.48

—

Technical data

Rated values

12 A - 250 V

Dielectric strength

2 kV AC

Protection category

IP 20

Ambient temperature

°C -40...+70 (see diagram L96)

Screw torque

Nm 0.8

Wire strip length

mm 8

Max. wire size for 94.02/04 sockets

solid wire

stranded wire

mm² 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

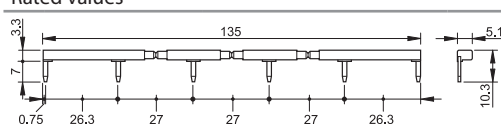
6-way jumper link for 96.02 socket

Rated values

094.06 (blue)

094.06.0 (black)

10 A - 250 V



86 series timer modules

Multi-voltage: (12...240)V AC/DC;

Multi-functions: AI, DI, SW, BE, CE, DE, EE, FE; (0.05 s...100 h)

86.00.0.240.0000

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

86.30.0.024.0000

(110...125)V AC; Bi-function: AI, DI; (0.05 s...100 h)

86.30.8.120.0000

(230...240)V AC; Bi-function: AI, DI; (0.05 s...100 h)

86.30.8.240.0000

Approvals (according to type):



99.02 coil indication and EMC suppression modules for 96.02 and 96.04 sockets

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

* Additional 0.9 W power dissipation



96.72

Approvals
(according to type):

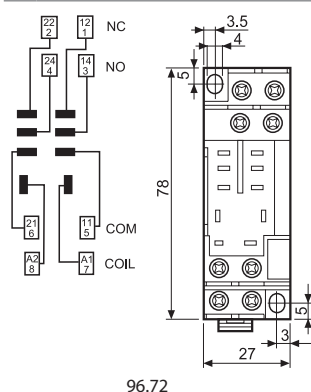


96.74

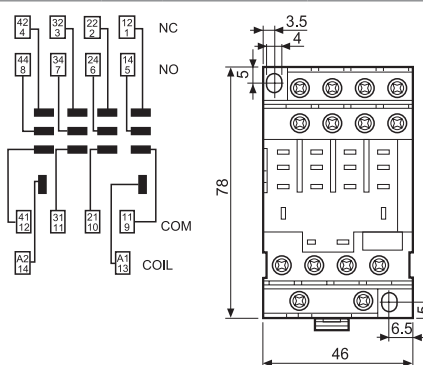
Approvals
(according to type):



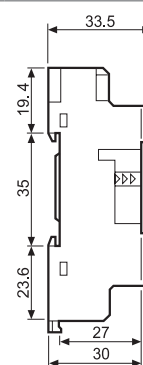
Screw terminal (Plate clamp) socket panel or 35 mm rail (EN 60715) mount	96.72 Blue	96.72.0 Black	96.74 Blue	96.74.0 Black
For relay type	56.32		56.34	
Accessories				
Metal retaining clip (supplied with socket - packaging code SMA)	094.71		096.71	
Modules (see table below)	99.01			
Technical data				
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	10		
Max. wire size for 96.72 and 96.74 sockets		solid wire	stranded wire	
	mm²	1 x 4 / 2 x 4	1 x 4 / 2 x 2.5	
	AWG	1 x 12 / 2 x 12	1 x 12 / 2 x 14	



96.72



96.74



99.01

Approvals
(according to type):



* Modules in Black
housing are available on
request.
Green LED is standard.
Red LED available on
request.

99.01 coil indication and EMC suppression modules for types 96.72 and 96.74 sockets

		Blue*
Diode (+A1, standard polarity)	(6...220)V DC	99.01.3.000.00
Diode (+A2, non-standard polarity)	(6...220)V DC	99.01.2.000.00
LED	(6...24)V DC/AC	99.01.0.024.59
LED	(28...60)V DC/AC	99.01.0.060.59
LED	(110...240)V DC/AC	99.01.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.01.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.01.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.01.9.220.99
LED + Diode (+A2, non-standard polarity)	(6...24)V DC	99.01.9.024.79
LED + Diode (+A2, non-standard polarity)	(28...60)V DC	99.01.9.060.79
LED + Diode (+A2, non-standard polarity)	(110...220)V DC	99.01.9.220.79
LED + Varistor	(6...24)V DC/AC	99.01.0.024.98
LED + Varistor	(28...60)V DC/AC	99.01.0.060.98
LED + Varistor	(110...240)V DC/AC	99.01.0.230.98
RC circuit	(6...24)V DC/AC	99.01.0.024.09
RC circuit	(28...60)V DC/AC	99.01.0.060.09
RC circuit	(110...240)V DC/AC	99.01.0.230.09
Residual current by-pass *	(110...240)V AC	99.01.8.230.07

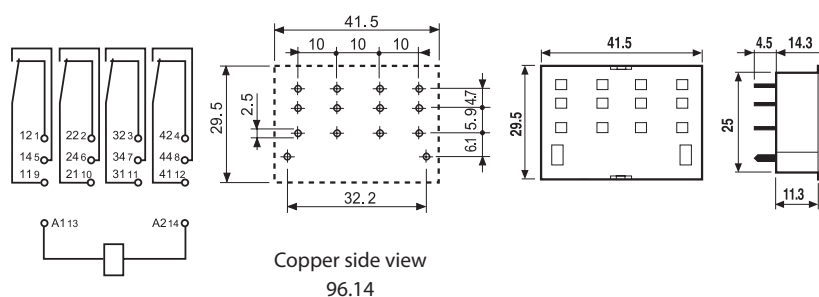
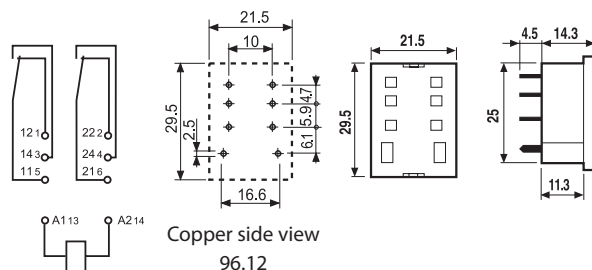
* Additional 0.9 W power dissipation

**96.12****A**

Approvals
(according to type):



PCB socket	96.12 Blue	96.12.0 Black	96.14 Blue	96.14.0 Black
For relay type	56.32		56.34	
Accessories				
	094.51			
Technical data				
Rated values	15 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature	°C	−40...+70		



Packaging codes

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

Example:

