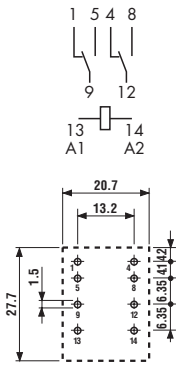
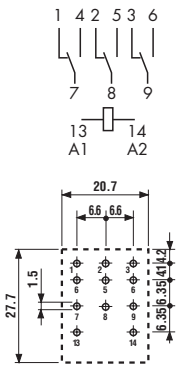
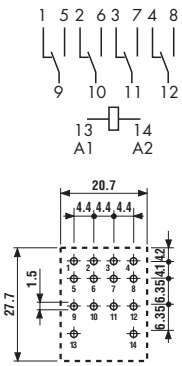
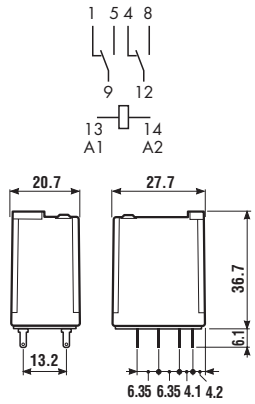
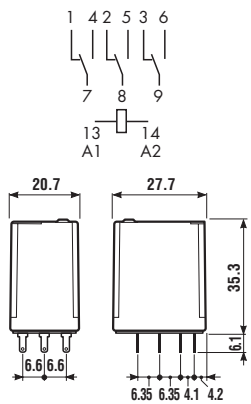
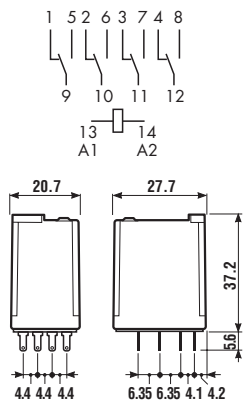
55 Series - Miniature General Purpose Relays 5 -10 A

- *Plug-in or P.C.B. versions*
- *AC or DC coils*
- *Lockable test button and mechanical flag indicator as standard on 2 and 4 CO relays type*
- *Sockets and accessories: see 94, 99 and 86 series*

	55.12	55.13	55.14
			
	- 2 pole - PCB mounting	- 3 pole - PCB mounting	- 4 pole - PCB mounting
			
	h = 35.5 mm	h = 35.5 mm	h = 35.5 mm
Contact specifications			
Contact configuration	2 CO (DPDT)	3 CO (3PDT)	4 CO (4PDT)
Rated current/Maximum peak current A	10/20	10/20	5/10
Rated voltage/Maximum switching voltage V AC	250/400	250/400	250/250
Rated load in AC1 VA	2,500	2,500	1,250
Rated load in AC15 (230 VAC) VA	500	500	250
Single phase motor rating (230 VAC) kW/HP	0.37/0.6	0.37/0.6	0.125/0.2
Breaking capacity in DC1: 30/110/220V A	10/0.25/0.12	10/0.25/0.12	5/0.25/0.12
Minimum switching load mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material	AgNi	AgNi	AgNi
Coil specifications			
Nominal voltage (U_N) V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240		
V DC	6 - 12 - 24 - 48 - 60 - 110		
Rated power AC/DC VA (50 Hz)/W	1.5/1	1.5/1	1.5/1
Operating range AC (50 Hz)	(0.8...1.1)U_N	(0.8...1.1)U_N	(0.8...1.1)U_N
DC	(0.8...1.1)U_N	(0.8...1.1)U_N	(0.8...1.1)U_N
Holding voltage AC/DC	0.8 U_N/0.5 U_N	0.8 U_N/0.5 U_N	0.8 U_N/0.5 U_N
Must drop-out voltage AC/DC	0.2 U_N/0.1 U_N	0.2 U_N/0.1 U_N	0.2 U_N/0.1 U_N
Technical data			
Mechanical life AC/DC cycles	$20 \cdot 10^6/50 \cdot 10^6$	$20 \cdot 10^6/50 \cdot 10^6$	$20 \cdot 10^6/50 \cdot 10^6$
Electrical life at rated load AC1 cycles	$200 \cdot 10^3$	$200 \cdot 10^3$	$150 \cdot 10^3$
Operate/release time (bounce included) ms	10/15	10/15	10/15
Insulation according to EN 61810-5	3.6 kV/2	3.6 kV/2	3.6 kV/2
Insulation between coil and contacts (1.2/50µs) kV	3.6	3.6	3.6
Dielectric strenght between open contacts V AC	1,000	1,000	1,000
Ambient temperature range °C	–40...+70	–40...+70	–40...+70
Protection category	IP 50	IP 50	IP 50
Approvals: (according to type)	CE B BEAB SP D FI GOST N RINA S cULus VDE		

55 Series - Miniature General Purpose Relays 5 -10 A

- *Plug-in or P.C.B. versions*
- *AC or DC coils*
- *Lockable test button and mechanical flag indicator as standard on 2 and 4 CO relays type*
- *Sockets and accessories: see 94, 99 and 86 series*

	55.32	55.33	55.34
			
	- 2 pole - Plug-in for use with 94 Series sockets	- 3 pole - Plug-in for use with 94 Series sockets	- 4 pole - Plug-in for use with 94 Series sockets
			
Contact specifications			
Contact configuration	2 CO (DPDT)	3 CO (3PDT)	4 CO (4PDT)
Rated current/Maximum peak current A	10/20	10/20	5/10
Rated voltage/Maximum switching voltage V AC	250/400	250/400	250/250
Rated load in AC1 VA	2,500	2,500	1,250
Rated load in AC15 (230 VAC) VA	500	500	250
Single phase motor rating (230 VAC) kW/HP	0.37/0.6	0.37/0.6	0.125/0.2
Breaking capacity in DC1: 30/110/220V A	10/0.25/0.12	10/0.25/0.12	5/0.25/0.12
Minimum switching load mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material	AgNi	AgNi	AgNi
Coil specifications			
Nominal voltage (U_N) V AC (50/60 Hz)	6 - 12- 24 - 48 - 60 - 110 - 120 - 230 - 240		
V DC	6 - 12 - 24 - 48 - 60 - 110		
Rated power AC/DC VA (50 Hz)/W	1.5/1	1.5/1	1.5/1
Operating range AC (50 Hz)	(0.8...1.1)U_N	(0.8...1.1)U_N	(0.8...1.1)U_N
DC	(0.8...1.1)U_N	(0.8...1.1)U_N	(0.8...1.1)U_N
Holding voltage AC/DC	0.8 U_N/0.5 U_N	0.8 U_N/0.5 U_N	0.8 U_N/0.5 U_N
Must drop-out voltage AC/DC	0.2 U_N/0.1 U_N	0.2 U_N/0.1 U_N	0.2 U_N/0.1 U_N
Technical data			
Mechanical life AC/DC cycles	20 · 10^6/50 · 10^6	20 · 10^6/50 · 10^6	20 · 10^6/50 · 10^6
Electrical life at rated load AC1 cycles	200 · 10^3	200 · 10^3	150 · 10^3
Operate/release time (bounce included) ms	10/15	10/15	10/15
Insulation according to EN 61810-5	3.6 kV/2	3.6 kV/2	3.6 kV/2
Insulation between coil and contacts (1.2/50µs) kV	3.6	3.6	3.6
Dielectric strenght between open contacts V AC	1,000	1,000	1,000
Ambient temperature range °C	–40...+70	–40...+70	–40...+70
Protection category	IP 50	IP 50	IP 50
Approvals: (according to type)	CE B BEAB SP D FI GOST M N RINA S cULus VDE		

ORDERING INFORMATION

Example: a 55 series plug-in relay, 4 CO (4PDT) contacts, coil rated 12 V DC with a lockable test button and mechanical indicator.

5 5	.	3	4	.	9	.	0 1 2	.	A 0	B 0	C 4	D 0

Series

Type
1 = P.C.B.
3 = Plug-in

No. of poles
2 = 2 CO (DPDT), 10 A
3 = 3 CO (3PDT), 10 A
4 = 4 CO (4PDT), 5 A

Coil version
8 = AC (50/60 Hz)
9 = DC

Coil voltage
see coil specifications

A: Contact material
0 = Standard
2 = AgCdO
5 = AgNi + 5µm Au

B: Contact circuit
0 = Standard

D: Special applications
0 = Standard
1 = Sealed (for 55.12, 55.13 and 55.14 only)
5 = Top flange mount
6 = Rear flange mount

C: Options
0 = Standard
1 = Lockable test button
2 = Mechanical indicator
3 = LED (AC)
4 = Lockable test button + mechanical indicator
5 = Lockable test button + LED (AC)
54 = Lockable test button + LED (AC) + mechanical indicator
6 = LED + diode (positive to pin A2/14, DC non standard polarity)
7 = Lockable test button + LED + diode (positive to pin A2/14, DC non standard polarity)
74 = Lockable test button + LED + diode (positive to pin A2/14, DC non standard polarity) + mechanical indicator
8 = LED + diode (positive to pin A1/13, DC standard polarity)
9 = Lockable test button + LED + diode (positive to pin A1/13, DC standard polarity)
94 = Lockable test button + LED + diode (positive to pin A1/13, DC standard polarity) + mechanical indicator

Only combinations in the same row are possible

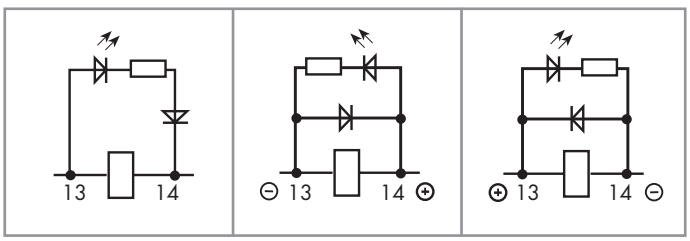
Preferred versions

	coil version	A	B	C	D
55.32/34	AC/DC	0	0	4	0
55.12/13/14	AC/DC	0	0	0	0
55.33	AC/DC	0	0	0	0

All versions

	coil version	A	B	C	D
55.32/34	AC/DC	0 - 2 - 5	0	0	0 - 5 - 6
	AC	0 - 2 - 5	0	2 - 3 - 4 - 5	0 - 6
	AC	0 - 2 - 5	0	54	/
	DC	0 - 2 - 5	0	2 - 4 - 6 - 7 - 8 - 9	0 - 6
	DC	0 - 2 - 5	0	74 - 94	/
55.33	AC/DC	0 - 2 - 5	0	0	0 - 5 - 6
	AC	0 - 2 - 5	0	1 - 3 - 5	0 - 6
	DC	0 - 2 - 5	0	1 - 6 - 7 - 8 - 9	0 - 6
55.12/13/14	AC/DC	0 - 2 - 5	0	0	0 - 1

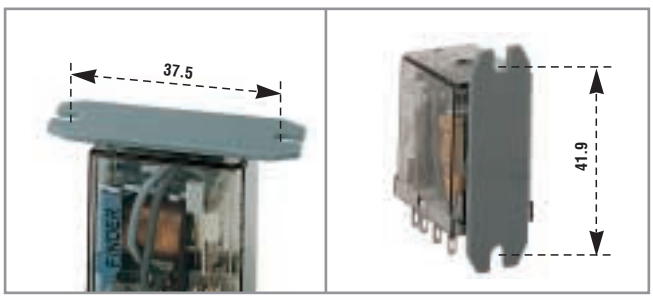
POSSIBLE OPTIONS



Option = 0030
0050
0054

Option = 0060
0070
0074

Option = 0080
0090
0094



Option = 0005
TOP MOUNT FLANGE

Option = 0006
REAR MOUNT FLANGE

LOCKABLE TEST BUTTON AND MECHANICAL FLAG INDICATOR (0040)

The dual-purpose Finder test button can be used in two ways:

Case 1) The plastic pip (located directly above the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.

Case 2) The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position.

In both cases ensure that the test button actuation is swift and decisive.

TECHNICAL DATA

INSULATION

INSULATION according to EN 61810-5	insulation rated voltage	V	250
	rated impulse withstand voltage	kV	3.6
	pollution degree		2
	overvoltage category		III

IMMUNITY

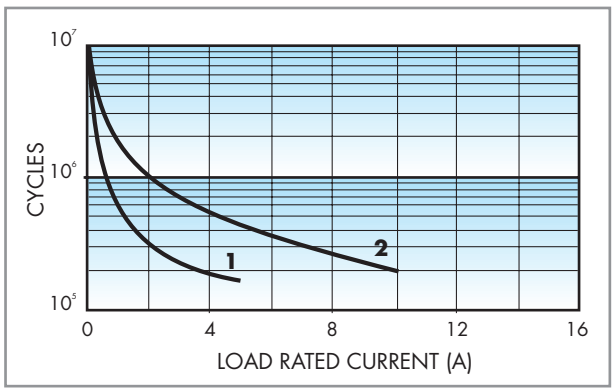
CONDUCTED DISTURBANCE IMMUNITY	BURST (according to EN 61000-4-4) level 4 (4 kV)
	SURGE (according to EN 61000-4-5) level 4 (4 kV)

OTHER DATA

VIBRATION RESISTANCE (10...55Hz): NO/NC	g/g	6/6		
POWER LOST IN THE ENVIRONMENT		**2 CO (DPDT)**	**3 CO (3PDT)**	**4 CO (4PDT)**
without contact current	W	1	1	1
with rated current	W	3	4	2.6
RECOMMENDED DISTANCE between RELAY mounted on P.C.B.s	mm	≥5		

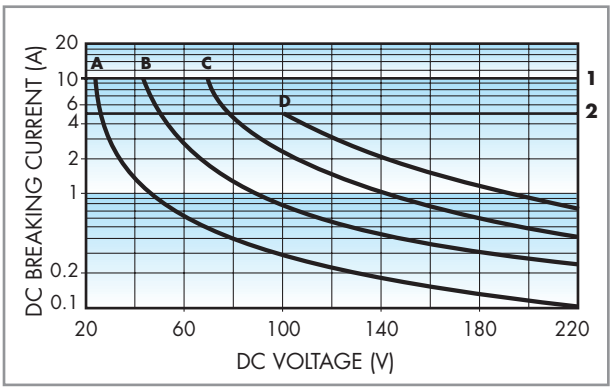
CONTACT SPECIFICATIONS

F 55



Electrical life vs AC1 load.
1 - 4 CO (4PDT) relay type (5 A).
2 - 2 - 3 CO (DPDT - 3PDT) relay type (10 A).

H 55



Breaking capacity for DC1 load.
1 - 2 - 3 CO (DPDT - 3PDT) type.
2 - 4 CO (4PDT) type.
A = load applied to 1 contact
B = load applied to 2 contacts in series
C = load applied to 3 contacts in series
D = load applied to 4 contacts in series

• When switching a resistive load (DC1) having voltage and current values under the curve the expected electrical life is ≥ $100 \cdot 10^3$ cycles.
• In case of DC13 loads the connection of a diode in parallel with the load will permit the same electrical life as for a DC1 load.
Note: the release time of load will be increase.

COIL SPECIFICATIONS

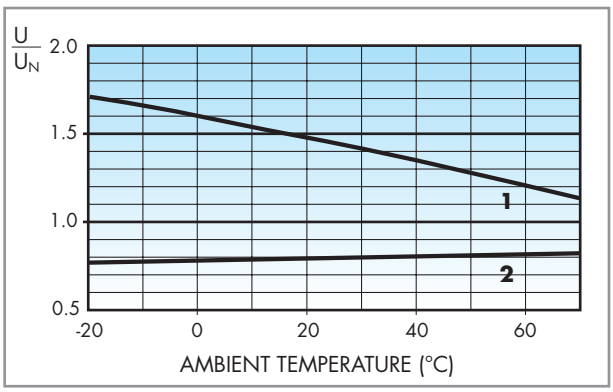
AC VERSION DATA

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil absorption I at U_N (50Hz)
V		V	V	Ω	mA
6	**8**.006	4.8	6.6	12	230
12	**8**.012	9.6	13.2	50	117
24	**8**.024	19.2	26.4	190	58.3
48	**8**.048	38.4	52.8	770	29.2
60	**8**.060	48	66	1,200	23.3
110	**8**.110	88	121	4,000	12.7
120	**8**.120	96	132	4,700	11.3
230	**8**.230	184	253	17,000	6.1
240	**8**.240	192	264	19,100	5.8

DC VERSION DATA

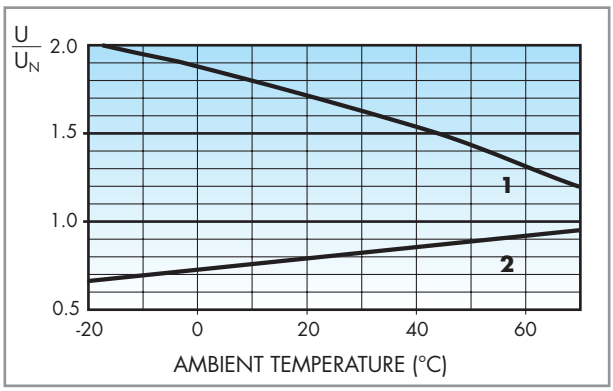
Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil absorption I at U_N
V		V	V	Ω	mA
6	**9**.006	4.8	6.6	40	150
12	**9**.012	9.6	13.2	140	86
24	**9**.024	19.2	26.4	600	40
48	**9**.048	38.4	52.8	2,400	20
60	**9**.060	48	66	4,000	15
110	**9**.110	88	121	12,500	8.8

R 55 AC



Operating range (AC type) vs ambient temperature.
1 - Max coil voltage permitted
2 - Min pick-up voltage with coil at ambient temperature

R 55 DC



Operating range (DC type) vs ambient temperature.
1 - Max coil voltage permitted
2 - Min pick-up voltage with coil at ambient temperature

94 Series - Sockets and Accessories for 55 Series Relays

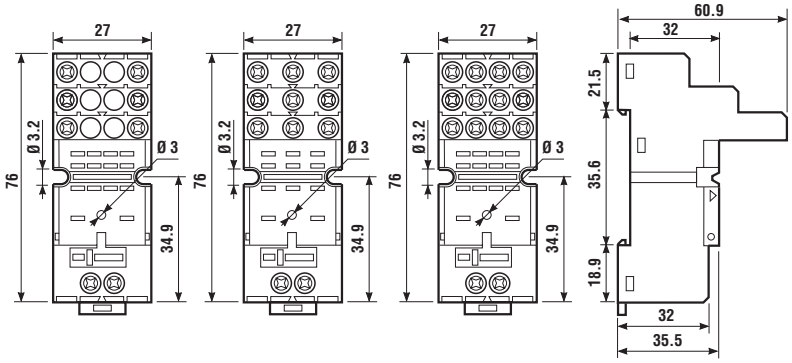

94.04

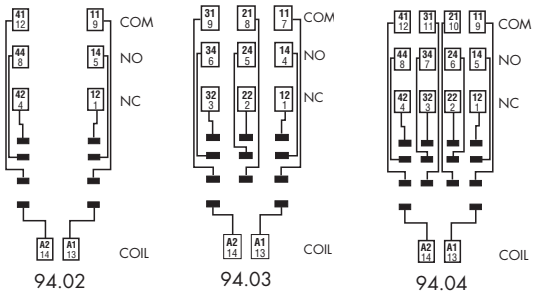
Approvals (according to type):

Relay type		55.32	55.33	55.32, 55.34
Clamp terminal socket: panel or 35 mm rail (EN 50022) mount	BLUE		94.02	94.0394.04
	BLACK*	94.02.0	94.03.0	94.04.0
Retaining clip (supplied with socket)		094.71	094.71	094.71
Identification tag		094.00.4	094.00.4	094.00.4
Modules		99.02	99.02	99.02
6 way jumper link for 94.02, 94.03 and 94.04 sockets		094.06	094.06	094.06
Timer modules		86.10, 86.20	86.10, 86.20	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
- MAX WIRE SIZE:

	solid wire	flexible wire
mm²	1x6 / 2x2.5	1x4 / 2x2.5
AWG	1x10 / 2x14	1x12 / 2x14





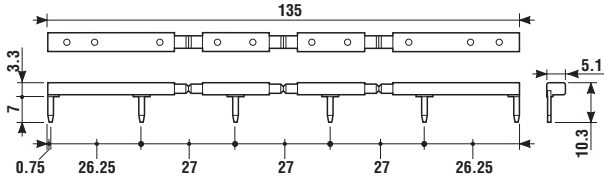
94.02 94.03 94.04


99.02

99 Series modules for 94.02, 94.03 and 94.04 sockets		BLUE	BLACK*
Diode	(6...220) V DC	99.02.3.000.00	99.02.3.000.00.0
Diode (inverted polarity)	(6...220) V DC	99.02.2.000.00	99.02.2.000.00.0
LED	(6...24) V DC/AC	99.02.0.024.59	99.02.0.024.59.0
LED	(28...60) V DC/AC	99.02.0.060.59	99.02.0.060.59.0
LED	(110...240) V DC/AC	99.02.0.230.59	99.02.0.230.59.0
LED + Diode	(6...24) V DC	99.02.9.024.99	99.02.9.024.99.0
LED + Diode	(28...60) V DC	99.02.9.060.99	99.02.9.060.99.0
LED + Diode	(110...220) V DC	99.02.9.220.99	99.02.9.220.99.0
LED + Diode (inverted polarity)	(6...24) V DC	99.02.9.024.79	99.02.9.024.79.0
LED + Diode (inverted polarity)	(28...60) V DC	99.02.9.060.79	99.02.9.060.79.0
LED + Diode (inverted polarity)	(110...220) V DC	99.02.9.220.79	99.02.9.220.79.0
LED + Varistor	(6...24) V DC/AC	99.02.0.024.98	99.02.0.024.98.0
LED + Varistor	(28...60) V DC/AC	99.02.0.060.98	99.02.0.060.98.0
LED + Varistor	(110...240) V DC/AC	99.02.0.230.98	99.02.0.230.98.0
RC circuit	(6...24) V DC/AC	99.02.0.024.09	99.02.0.024.09.0
RC circuit	(28...60) V DC/AC	99.02.0.060.09	99.02.0.060.09.0
RC circuit	(110...240) V DC/AC	99.02.0.230.09	99.02.0.230.09.0
No - remanence	(110...240) V AC	99.02.8.230.07	99.02.8.230.07.0


094.06

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



- RATED VALUES: 10 A - 250 V

*Available on request

94 Series - Sockets and Accessories for 55 Series Relays

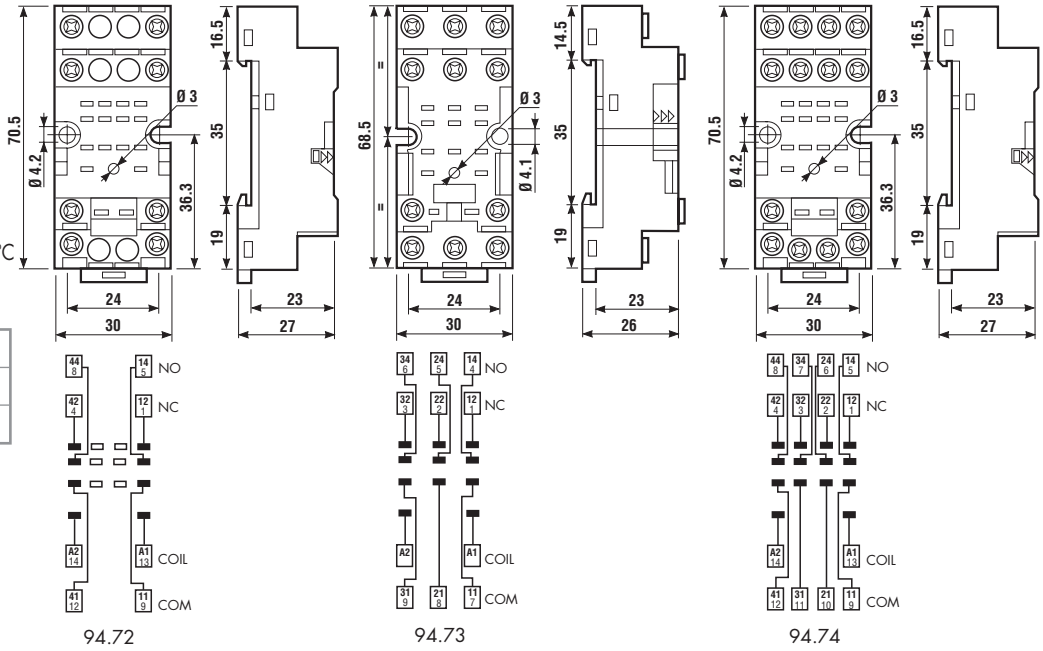

94.74

Relay type		55.32	55.33	55.32, 55.34
Screw terminal socket: panel or 35 mm rail (EN 50022) mount	BLUE	94.72	94.73	94.74
	BLACK*	94.72.0	94.73.0	94.74.0
Retaining clip (supplied with sockets)		094.71	094.71	094.71
Modules		99.01	99.01	99.01

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
- MAX WIRE SIZE:

	solid wire	flexible wire
mm²	1x2.5 / 2x1.5	1x2.5 / 2x1.5
AWG	1x14 / 2x16	1x14 / 2x16



94.72 94.73 94.74

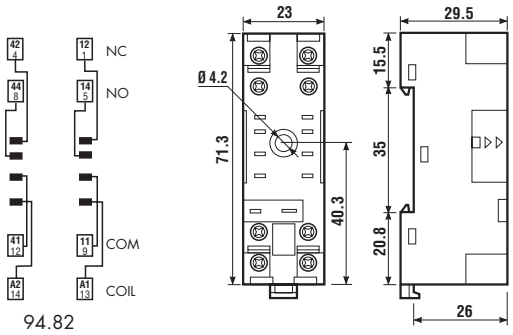

94.82

Relay type		55.32	55.33	55.32, 55.34
Screw terminal socket: panel or 35 mm rail (EN 50022) mount	BLUE	94.82	—	—
	BLACK*	94.82.0	—	—
Retaining clip (supplied with sockets)		094.71	—	—
Modules		99.01	—	—

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
- MAX WIRE SIZE:

	solid wire	flexible wire
mm²	1x2.5 / 2x1.5	1x2.5 / 2x1.5
AWG	1x14 / 2x16	1x14 / 2x16



94.82


99.01

99 Series modules for 94.72, 94.73, 94.74 and 94.82 sockets		BLUE	BLACK*
Diode	(6...220) V DC	99.01.3.000.00	99.01.3.000.00.0
Diode (inverted polarity)	(6...220) V DC	99.01.2.000.00	99.01.2.000.00.0
LED	(6...24) V DC/AC	99.01.0.024.59	99.01.0.024.59.0
LED	(28...60) V DC/AC	99.01.0.060.59	99.01.0.060.59.0
LED	(110...240) V DC/AC	99.01.0.230.59	99.01.0.230.59.0
LED + Diode	(6...24) V DC	99.01.9.024.99	99.01.9.024.99.0
LED + Diode	(28...60) V DC	99.01.9.060.99	99.01.9.060.99.0
LED + Diode	(110...220) V DC	99.01.9.220.99	99.01.9.220.99.0
LED + Diode (inverted polarity)	(6...24) V DC	99.01.9.024.79	99.01.9.024.79.0
LED + Diode (inverted polarity)	(28...60) V DC	99.01.9.060.79	99.01.9.060.79.0
LED + Diode (inverted polarity)	(110...220) V DC	99.01.9.220.79	99.01.9.220.79.0
LED + Varistor	(6...24) V DC/AC	99.01.0.024.98	99.01.0.024.98.0
LED + Varistor	(28...60) V DC/AC	99.01.0.060.98	99.01.0.060.98.0
LED + Varistor	(110...240) V DC/AC	99.01.0.230.98	99.01.0.230.98.0
RC circuit	(6...24) V DC/AC	99.01.0.024.09	99.01.0.024.09.0
RC circuit	(28...60) V DC/AC	99.01.0.060.09	99.01.0.060.09.0
RC circuit	(110...240) V DC/AC	99.01.0.230.09	99.01.0.230.09.0
No - remanence	(110...240) V AC	99.01.8.230.07	99.01.8.230.07.0

*Available on request

94 Series - Sockets and Accessories for 55 Series Relays


94.84.1

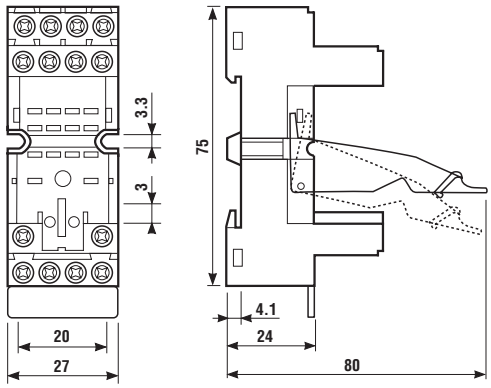
Relay type		55.32, 55.34
Clamp terminal socket: panel or 35 mm rail (EN 50022) mount	BLUE	94.84.1
	BLACK*	94.84.10
Retaining and release clip		094.91
Identification tag		094.80.2
Modules		99.80

Approvals (according to type):

CE SP GOST UL

- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: (-40...+70)°C
- TORQUE: 0.5 Nm
- MAX WIRE SIZE:

	solid wire	flexible wire
mm²	1x6 / 2x2.5	1x4 / 2x2.5
AWG	1x10 / 2x14	1x12 / 2x14



94.84.1


99.80

99 Series modules for 94.84.1 sockets		BLUE	BLACK*
Diode	(6...220) V DC	99.80.3.000.00	99.80.3.000.00.0
LED	(6...24) V DC/AC	99.80.0.024.59	99.80.0.024.59.0
LED	(28...60) V DC/AC	99.80.0.060.59	99.80.0.060.59.0
LED	(110...240) V DC/AC	99.80.0.230.59	99.80.0.230.59.0
LED + Diode	(6...24) V DC	99.80.9.024.99	99.80.9.024.99.0
LED + Diode	(28...60) V DC	99.80.9.060.99	99.80.9.060.99.0
LED + Diode	(110...220) V DC	99.80.9.220.99	99.80.9.220.99.0
LED + Varistor	(6...24) V DC/AC	99.80.0.024.98	99.80.0.024.98.0
LED + Varistor	(28...60) V DC/AC	99.80.0.060.98	99.80.0.060.98.0
LED + Varistor	(110...240) V DC/AC	99.80.0.230.98	99.80.0.230.98.0
RC circuit	(6...24) V DC/AC	99.80.0.024.09	99.80.0.024.09.0
RC circuit	(28...60) V DC/AC	99.80.0.060.09	99.80.0.060.09.0
RC circuit	(110...240) V DC/AC	99.80.0.230.09	99.80.0.230.09.0
No - remanence	(110...240) V AC	99.80.8.230.07	99.80.8.230.07.0

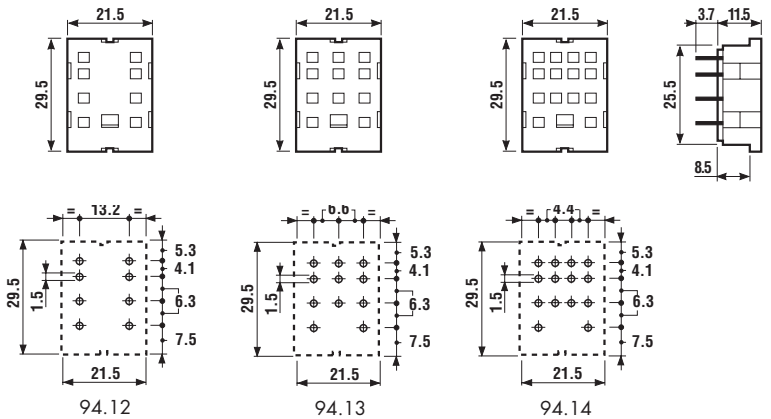

94.14

Relay type		55.32	55.33	55.32, 55.34
P.C.B. socket	BLUE	94.12	94.13	94.14
	BLACK*	94.12.0	94.13.0	94.14.0
Metal retaining clip (supplied with sockets)		094.51	094.51	094.51

Approvals (according to type):

CE SP cULus CSA GOST

- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- AMBIENT TEMPERATURE: (-40...+70)°C



94.12 94.13 94.14

*Available on request

94 Series - Sockets and Accessories for 55 Series Relays

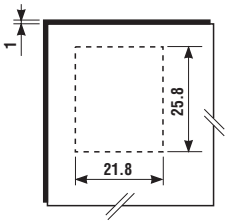

94.22

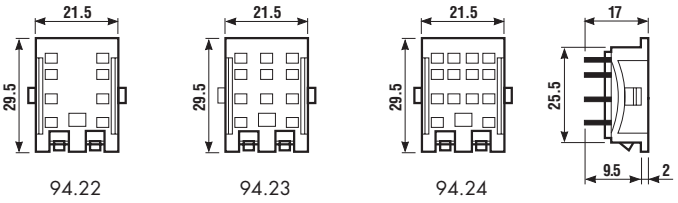
Relay type		55.32	55.33	55.32, 55.34
Panel mount solder socket: 1 mm thick panel	BLUE	94.22	94.23	94.24
	BLACK*	94.22.0	94.23.0	94.24.0
Metal retaining clip (supplied with sockets)		094.51	094.51	094.51

Approvals
(according to type):

GOST

- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- AMBIENT TEMPERATURE: (-40...+70)°C





94.22 94.23 94.24

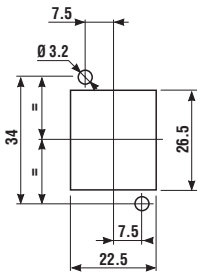

94.34

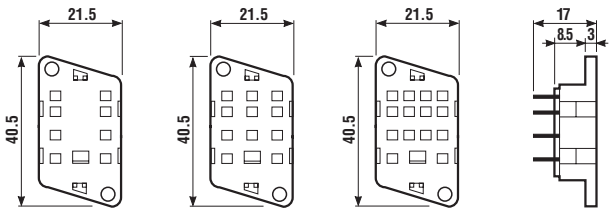
Relay type		55.32	55.33	55.32, 55.34
Panel mount socket: M3 screw mount	BLUE	94.32	94.33	94.34
	BLACK*	94.32.0	94.33.0	94.34.0
Metal retaining clip (supplied with sockets)		094.51	094.51	094.51

Approvals
(according to type):

GOST

- RATED VALUES: 10 A - 250 V
- DIELECTRIC STRENGTH: ≥ 2 kV AC
- AMBIENT TEMPERATURE: (-40...+70)°C





94.32 94.33 94.34

*Available on request