



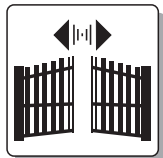
A range of miniature general purpose relays, with 1, 2, 3 or 4 CO contacts  
Features include:

- Plug-in mount versions available
- AC or DC coils
- Dual-function lockable test button with mechanical flag indicator as standard
- B250 insulation group (in accordance with VDE 0110)
- Can be used with supply status indication, coil protection and timer modules
- Sockets and accessories: see 94 and 99 series, 86.10 and 86.20 timers
- Approvals (according to type): BBJ, BEAB, CSA, DEMKO, FIMKO, GOST, IMQ, NEMKO, RINA, SEMKO, SEV, cUL, UTE, VDE

INDUSTRIAL  
AUTOMATION



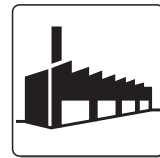
AUTOMATIC  
GATES



TEXTILE  
MACHINES



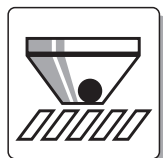
INDUSTRIAL  
APPLIANCES



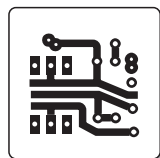
MEDICAL  
EQUIPMENT



PLASTIC  
MOULDING  
MACHINES



ELECTRONIC  
APPLIANCES



WHITE  
GOODS





55.31



### MINIATURE GENERAL PURPOSE RELAYS 1 CO (SPDT) 16 A TYPE 55.31 plug-in

- Tin plated brass connections: 2.0 x 0.5 mm for plug-in versions
- Standard contact material: AgCdO (contact option not available)
- Options: see coding table page 51
- Ordering information: see page 51

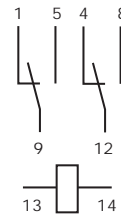
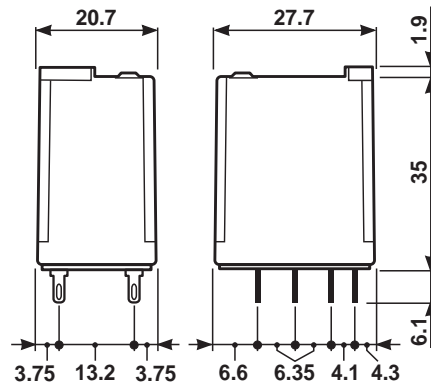
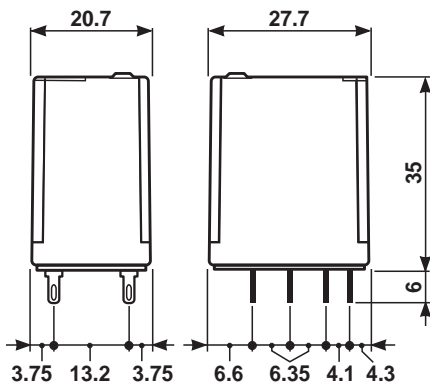


55.32



### MINIATURE GENERAL PURPOSE RELAYS 2 CO (DPDT) 10 A TYPE 55.32 plug-in - with dual-function lockable test button and mechanical indicator as standard

- Tin plated brass connections: 2.0 x 0.5 mm for plug-in versions
- Standard contact material: AgNi
- Options: see coding table page 51
- Ordering information: see page 51





55.33



55.34



### MINIATURE GENERAL PURPOSE RELAYS 3 CO (3PDT) 10 A

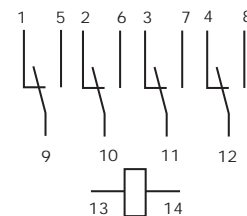
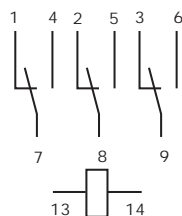
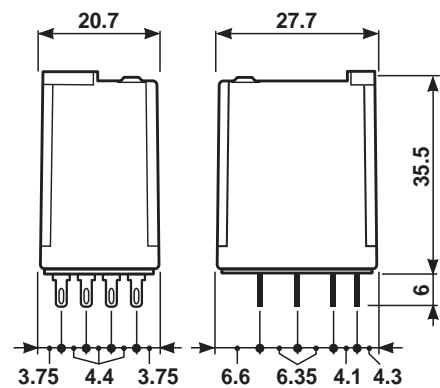
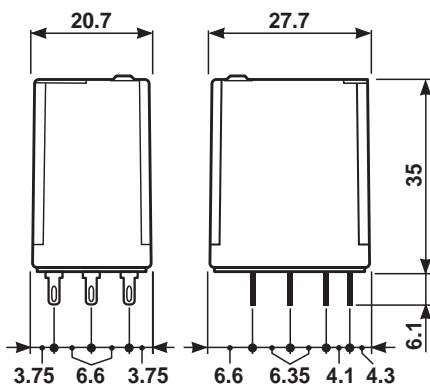
#### TYPE 55.33 plug-in

- Tin plated brass connections: 2.0 x 0.5 mm for plug-in versions
- Standard contact material: AgNi
- Options see coding table page 51
- Ordering information: see page 51

### MINIATURE GENERAL PURPOSE RELAYS 4 CO (4PDT) 5 A

#### TYPE 55.34 plug-in - with dual-function lockable test button and mechanical indicator as standard

- Tin plated brass connections: 2.0 x 0.5 mm for plug-in versions
- Standard contact material: AgNi
- Options: see coding table page 51
- Ordering information: see page 51

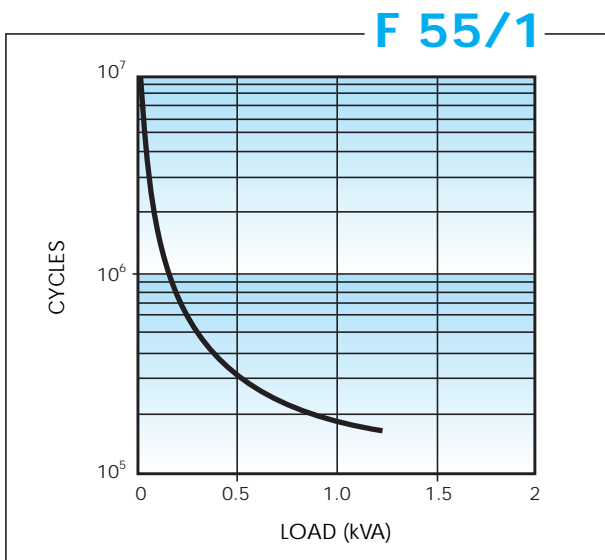


## TECHNICAL DATA

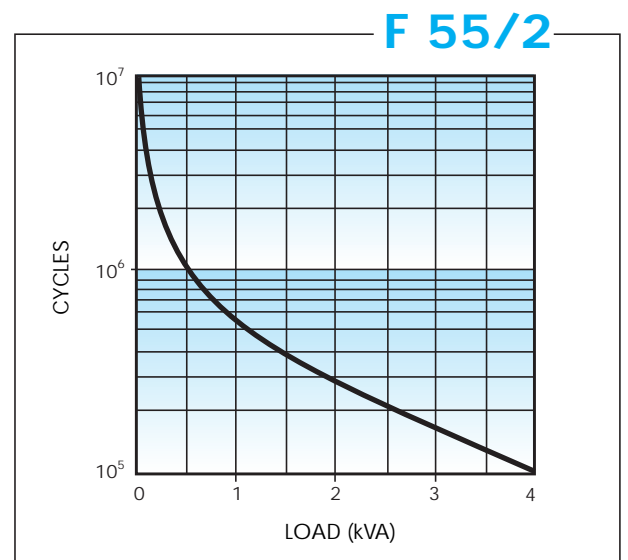
DIELECTRIC STRENGTH  tested at leakage current ≤ 10 mA for 1 min at 50 Hz		1 - 2 - 3 CO	4 CO
	between coil and contacts		2,000 V
between open contacts		1,000 V	1,000 V
between adjacent contacts		2,000 V	1,550 V
between frame and live parts		1,500 V	1,500 V
SURGE TEST (1.2/50 μs) between coil and contacts	2,500 V		
ISOLATION RESISTANCE	≥ 10 · 10 <sup>3</sup> MΩ		
ISOLATION GROUP	B 250		
MAXIMUM SWITCHING FREQUENCY - without load - at rated load	36,000 cycles/h 1,800 cycles/h (5 - 10 A) 600 cycles/h (16 A)		
AMBIENT TEMPERATURE	(-40 ... +70)°C		
MECHANICAL LIFE	20 · 10 <sup>6</sup> cycles version AC 50 · 10 <sup>6</sup> cycles version DC		
PROTECTION CATEGORY OF ENCLOSURES	IP 40		
OPERATE AND RELEASE TIME - pick-up time (0 to U <sub>N</sub> ) - drop-out time (U <sub>N</sub> to 0)	≤ 10 ms (including contact bounce) ≤ 15 ms (including contact bounce)		
TYPE OF DUTY	continuous		
DIELECTRIC TEST	2		
TYPE OF RELAY	all-or-nothing		

## CONTACT SPECIFICATIONS

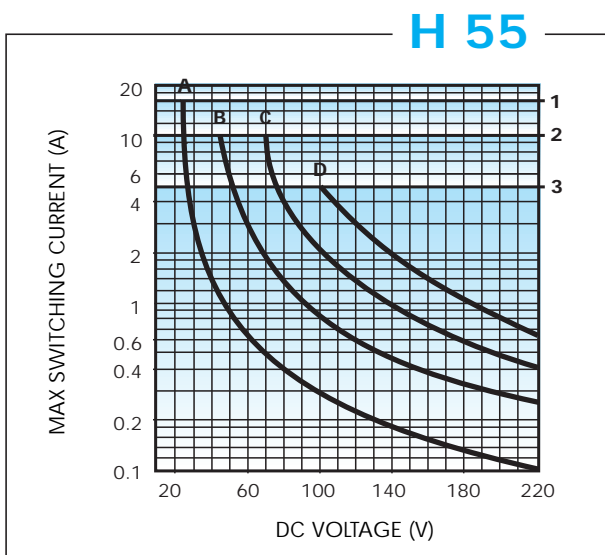
	1 CO (SPDT)	2 CO (SPDT)	3 CO (3PDT)	4 CO (4PDT)
RATED CURRENT	16 A	10 A	10 A	5 A
MAXIMUM PEAK CURRENT	30 A	20 A	20 A	10 A
NOMINAL RATE IN AC1	4,000 V A	2,500 V A	2,500 V A	1,250 V A
NOMINAL RATE IN AC15	750 V A	500 V A	500 V A	250 V A
RATED VOLTAGE	250 V AC	250 V AC	250 V AC	250 V AC
MAXIMUM SWITCHING VOLTAGE	400 V AC	400 V AC	400 V AC	400 V AC
BREAKING CAPACITY IN DC1	see diagram H 55			
SINGLE PHASE HP MOTOR RATING	0.8 kW/1.2 HP	0.37 kW/0.6 HP	0.37 kW/0.6 HP	0.12 kW/0.2 HP
CONTACT RESISTANCE: - initial	≤ 50 mΩ	≤ 50 mΩ	≤ 50 mΩ	≤ 50 mΩ
MINIMUM SWITCHING LOAD	500 mW (10 V/5 mA)	300 mW (5 V/5 mA)	300 mW (5 V/5 mA)	300 mW (5 V/5 mA)
STANDARD CONTACT MATERIAL	AgCdO	AgNi	AgNi	AgNi



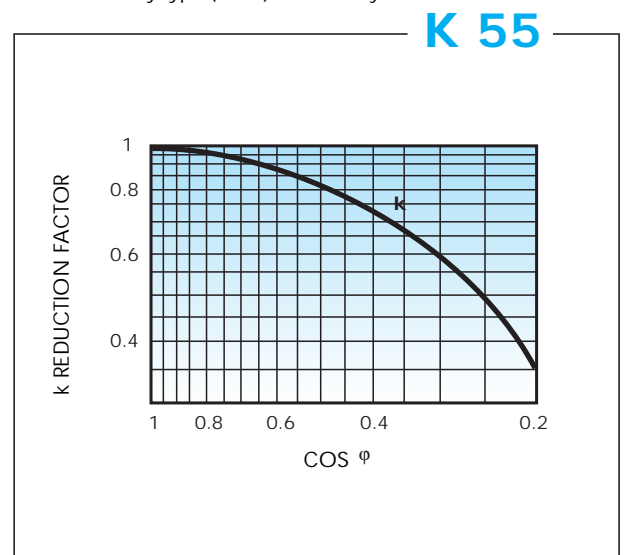
Contact life vs AC1 load.  
4 CO relay type (5 A) at 1800 cycles/h.



Contact life vs AC1 load.  
1 CO relay type (16 A) at 600 cycles/h.  
2 - 3 CO relay type (10 A) at 1800 cycles/h.



Breaking capacity for DC1 load.  
**1** - 1 CO type (600 cycles/h)  
**2** - 2 - 3 CO type (1800 cycles/h)  
**3** - 4 CO type (1800 cycles/h)  
**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



Load reduction factor vs  $\cos \phi$ .

## COIL SPECIFICATIONS

VERSIONS:

AC - alternating current 50/60 Hz

DC - direct current

DI - DC coil with a diode in parallel

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

	AC	DC
RATED POWER	1.5 VA	1 W
OPERATING RANGE	(0.8 ... 1.1) U <sub>N</sub>	(0.8 ... 1.1) U <sub>N</sub>
HOLDING VOLTAGE	≤ 0.8 U <sub>N</sub>	≤ 0.5 U <sub>N</sub>
MUST DROP-OUT VOLTAGE	≥ 0.2 U <sub>N</sub>	≥ 0.1 U <sub>N</sub>
NOMINAL MAGNETOMOTIVE FORCE	150 A	200 A
THERMAL INSULATION CLASS OF WIRE	F (+155°C)	F (+155°C)
THERMAL RESISTANCE	50°C/W	50°C/W

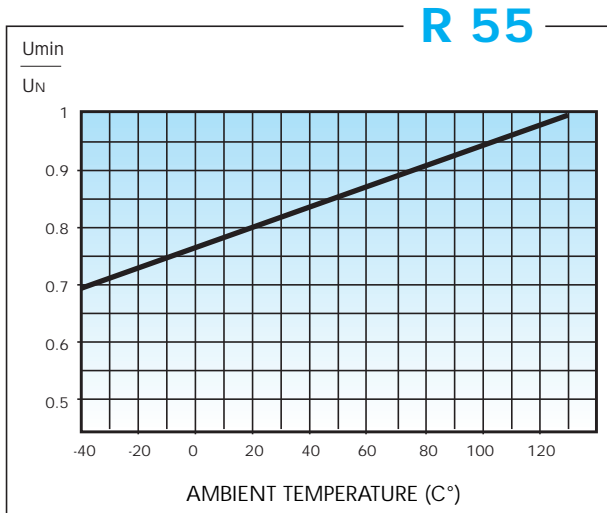
### AC VERSION DATA

Rated voltage U <sub>N</sub>	Operating range		Resistance R	Nominal coil absorption U <sub>N</sub> 50 Hz I
	U <sub>min</sub>	U <sub>max</sub>		
V	V	V	Ω	mA
6	4.8	6.6	12	230
12	9.6	13.2	50	117
24	19.2	26.4	190	58.3
48	38.4	52.8	770	29.2
60	48	66	1,200	23.3
110	88	121	4,000	12.7
120	96	132	4,700	11.3
230	184	253	17,000	6.1
240	192	264	19,100	5.8

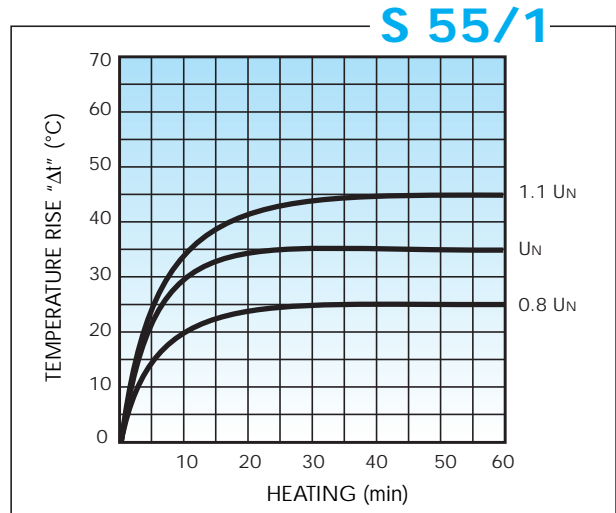
### DC VERSION DATA

Rated voltage U <sub>N</sub>	Operating range		Resistance R	Nominal coil absorption I
	U <sub>min</sub>	U <sub>max</sub>		
V	V	V	Ω	mA
6	4.8	6.6	40	150
12	9.6	13.2	140	86
24	19.2	26.4	600	40
48	38.4	52.8	2,400	20
60	48	66	4,000	15
110	88	121	12,500	8.8

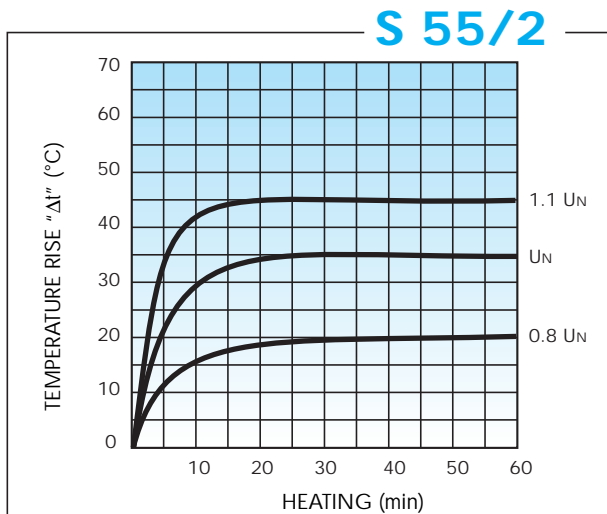
R values relate to +20°C. Tolerance of R and I values: ± 10%.



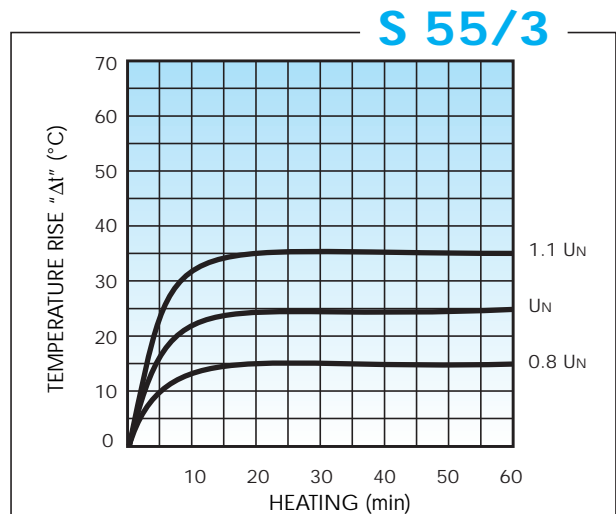
DC coil min pick-up voltage vs ambient temperature.  
U<sub>min</sub> = pick-up voltage      U<sub>N</sub> = rated voltage



Temperature rise "Δt" vs applied voltage. DC coils.



Temperature rise "Δt" vs applied voltage. AC - 50 Hz coils.



Temperature rise "Δt" vs applied voltage. AC - 60 Hz coils.

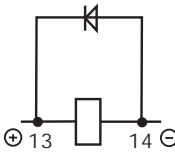
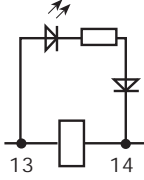
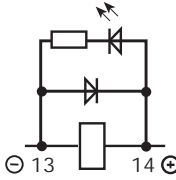
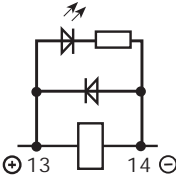
## ORDERING INFORMATION

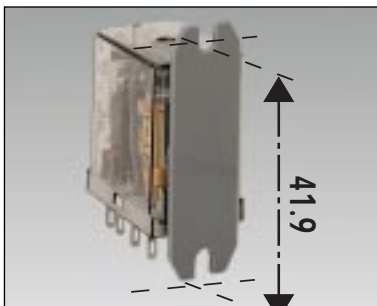
Example: a 55 series plug-in relay, 4 CO (4PDT) contacts, coil rated 12 V DC with a lockable test button and mechanical indicator.

<div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">5</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">5</div> <p><b>Series</b></p>	<div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">3</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">4</div> <p><b>No. of poles</b> 1 = 1 CO (SPDT) 2 = 2 CO (DPDT) 3 = 3 CO (3PDT) 4 = 4 CO (4PDT)</p> <p><b>Type</b> 3 = Plug-in</p>	<div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">9</div> <p><b>Coil version</b> 3 = DC diode in parallel to the coil (+A1/13) ** 8 = AC (50/60 Hz) 9 = DC</p>	<div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">0</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">1</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">2</div> <p><b>Coil voltage</b> 006 = 6 V 012 = 12 V 024 = 24 V 048 = 48 V 060 = 60 V 110 = 110 V 120 = 120 V AC only 230 = 230 V AC only 240 = 240 V AC only</p>	<div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">0</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">0</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">4</div> <div style="border: 1px solid black; padding: 2px; width: 30px; margin: 0 auto;">0</div> <p><b>Contact material and contact circuit</b> 00 = Standard 20 = AgCdO 50 = AgNi + 5µm Au **</p> <p><b>Options</b> 00 = Standard 05 = Top flange mount 06 = Rear flange mount 10 = Lockable test button 20 = Mechanical indicator* 30 = LED (AC) 40 = Lockable test button + mechanical indicator* 50 = Lockable test button + LED (AC) 54 = Lockable test button + LED (AC) + mechanical indicator* 60 = LED + diode (positive to pin A2/14, DC non standard polarity) 70 = 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* 80 = LED + diode (positive to pin A1/13, DC standard polarity) 90 = 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*</p>
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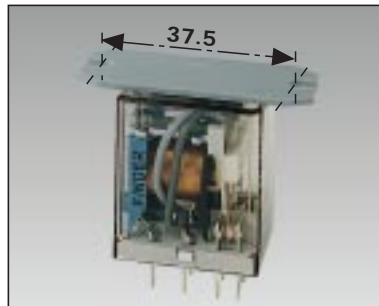
\* 55.32 and 55.34 only  
\*\* not available for 55.31

## OPTION

 <p>Coil version = 3</p>	 <p>Option = 0030</p>	 <p>Options = 0060 - 0070</p>	 <p>Options = 0080 - 0090</p>
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REAR MOUNT FLANGE (0006)



TOP MOUNT FLANGE (0005)



LOCKABLE TEST BUTTON AND MECHANICAL FLAG INDICATOR (0040)





A range of sockets and accessories for 55 series relays

Features include:

- PCB, screw terminal, panel or DIN rail 46277 mount versions
- Can be used with supply status indication, coil protection and timer modules
- Protection category IP 20
- Flammability in conformity with UL 94
- Sockets and accessories: see 95 series, 99.01, 99.02, 86.10 and 86.20
- Approvals (according to type): BBJ, CSA, DEMKO, CS-IMQ, SEV, cULus





94.14



94.22



### P.C.B. SOCKETS

**TYPE 94.12** for types 55.31 - 55.32

**TYPE 94.13** for types 55.33

**TYPE 94.14** for types 55.34

Accessories: **TYPE 094.51** retaining clip

### CHARACTERISTICS

- LOAD: 10 A 250 V
- ISOLATION RESISTANCE:  $\geq 10^3 \text{ M}\Omega$
- DIELECTRIC STRENGTH:  $\geq 2 \text{ kV AC}$
- MATERIAL: self-extinguishing PPEm (V1)
- CONNECTIONS: Cu Sn 6 tin plated

### PANEL MOUNT SOLDER SOCKETS (1 mm thick panel mount)

**TYPE 94.22** for types 55.31 - 55.32

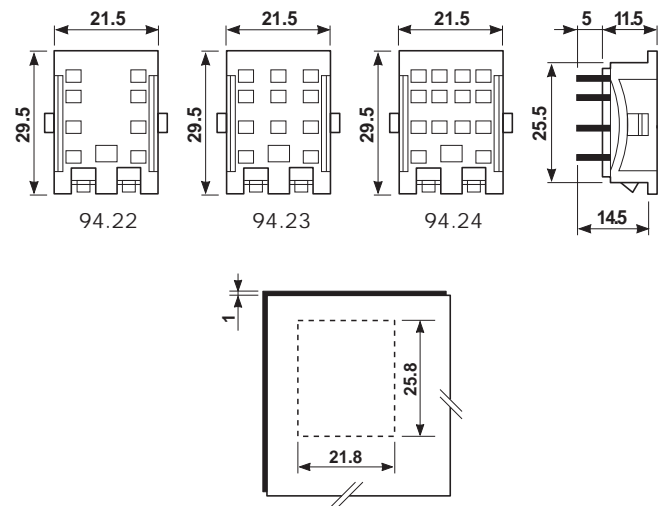
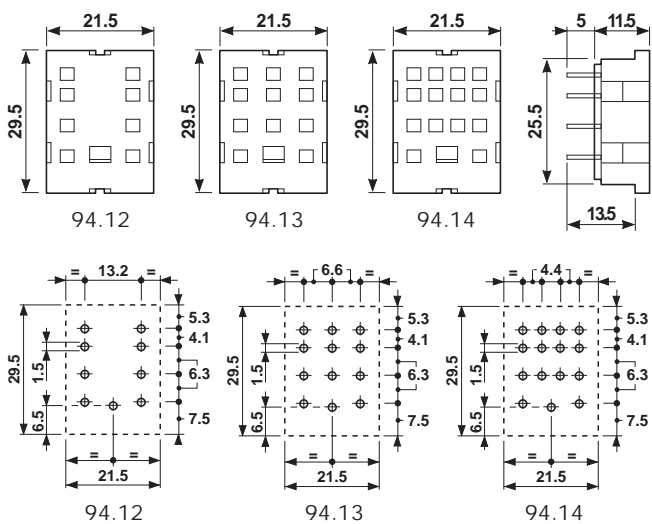
**TYPE 94.23** for types 55.33

**TYPE 94.24** for types 55.34

Accessories: **TYPE 094.51** retaining clip

### CHARACTERISTICS

- LOAD: 10 A 250 V
- ISOLATION RESISTANCE:  $\geq 10^3 \text{ M}\Omega$
- DIELECTRIC STRENGTH:  $\geq 2 \text{ kV AC}$
- MATERIAL: polycarbonate (PC)
- CONNECTIONS: Cu Sn 6 silver plated





94.34



94.64



### PANEL MOUNT SOLDER SOCKETS (M3 screw mount)

**TYPE 94.32** for types 55.31 - 55.32

**TYPE 94.33** for types 55.33

**TYPE 94.34** for types 55.34

Accessories: **TYPE 094.51** retaining clip

### CHARACTERISTICS

- LOAD: 10 A 250 V
- ISOLATION RESISTANCE:  $\geq 10^3$  M $\Omega$
- DIELECTRIC STRENGTH:  $\geq 2$  kV AC
- MATERIAL: self-extinguishing PPEm (V1)
- CONNECTIONS: Cu Sn 6 tin plated

### CLAMP TERMINAL SOCKETS (panel or 46277 rail DIN mount)

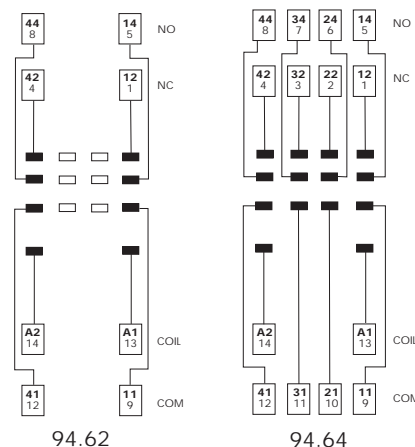
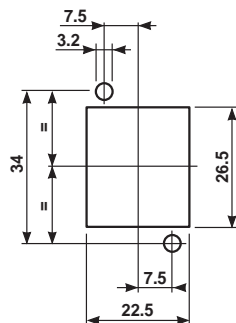
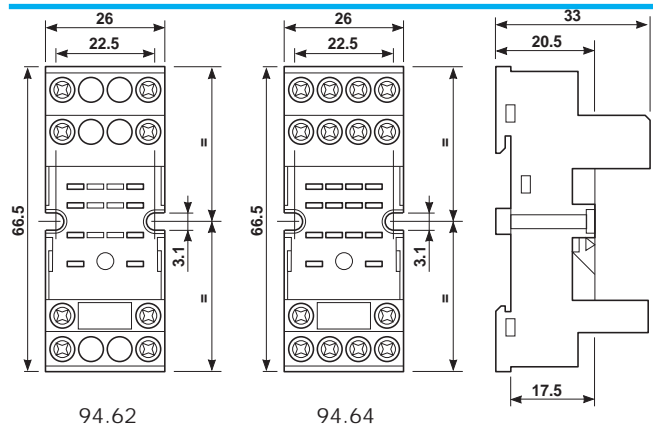
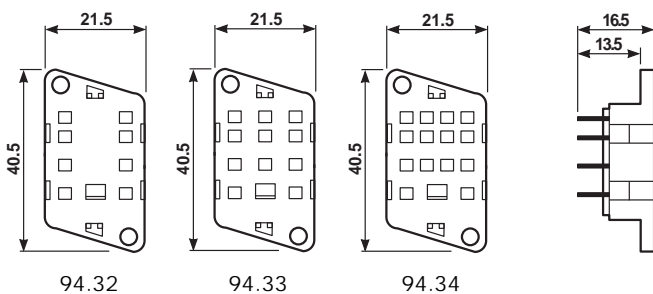
**TYPE 94.62** for types 55.31 - 55.32

**TYPE 94.64** for types 55.34

Accessories: **TYPE 094.71** retaining clip

### CHARACTERISTICS

- LOAD: 10 A 250 V
- ISOLATION RESISTANCE:  $\geq 10^3$  M $\Omega$
- DIELECTRIC STRENGTH:  $\geq 2$  kV AC
- MATERIAL: self-extinguishing PPEm (V1)
- CONNECTIONS: Cu Zn 33 nickel plated
- PROTECTION CATEGORY: IP 20
- Non removable pozidrive slotted terminal screws.
- Identification label





94.74



94.82



### CLAMP TERMINAL SOCKETS (panel or 46277 rail DIN mount)

**TYPE 94.73** for types 55.33

**TYPE 94.74** for types 55.34

Accessories: **TYPE 094.71** retaining clip

**TYPE 99.01** coil status indication and coil protection modules

### CHARACTERISTICS

- LOAD: 10 A 250 V
- ISOLATION RESISTANCE:  $\geq 10^3 \text{ M}\Omega$
- DIELECTRIC STRENGTH:  $\geq 2 \text{ kV AC}$
- MATERIAL: self-extinguishing PPEm (V1)
- CONNECTIONS: Cu Zn 33 nickel plated
- PROTECTION CATEGORY: IP 20
- Non removable pozidrive slotted terminal screws.

### SCREW TERMINAL SOCKETS (panel or 46277 rail DIN mount)

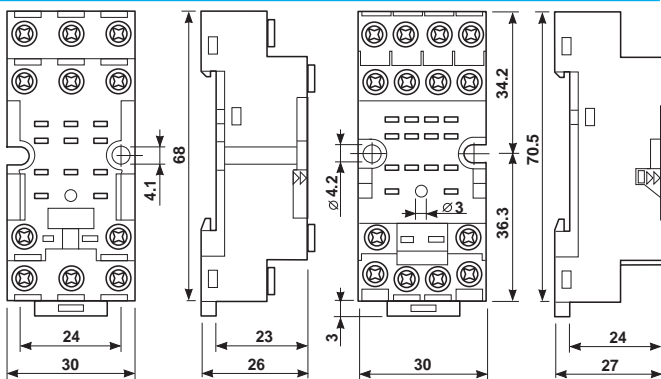
**TYPE 94.82** for types 55.31 - 55.32

Accessories: **TYPE 094.71** retaining clip

**TYPE 99.01** coil status indication and coil protection modules

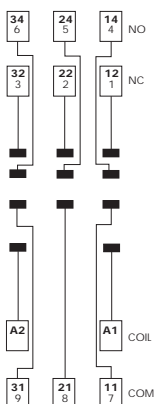
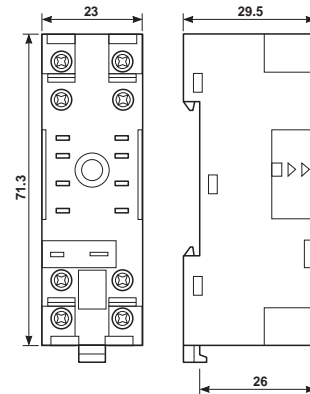
### CHARACTERISTICS

- LOAD: 10 A 250 V
- ISOLATION RESISTANCE:  $\geq 10^3 \text{ M}\Omega$
- DIELECTRIC STRENGTH:  $\geq 2 \text{ kV AC}$
- MATERIAL: self-extinguishing PPEm (V1)
- CONNECTIONS: Cu Zn 33 nickel plated
- PROTECTION CATEGORY: IP 20
- Non removable pozidrive slotted terminal screws.
- Identification label.

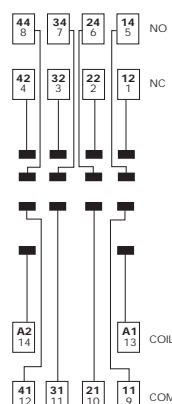


94.73

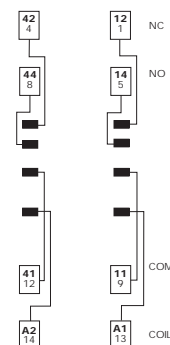
94.74



94.73



94.74





94.04



094.06



### CLAP TERMINAL SOCKETS (panel or 46277 rail DIN mount)

**TYPE 94.02** for types 55.31 - 55.32

**TYPE 94.04** for types 55.34

Accessories: **TYPE 094.71** retaining clip

**TYPE 99.02** coil status indication and coil protection modules

**TYPE 094.06** 6-way jumper link

**TYPES 86.10 - 20** timer modules

### CHARACTERISTICS

- LOAD: 10 A 250 V
- ISOLATION RESISTANCE:  $\geq 10^3$  M $\Omega$
- DIELECTRIC STRENGTH:  $\geq 2$  kV AC
- MATERIAL: self-extinguishing PPEm (V1)
- CONNECTIONS: Cu Zn 33 nickel plated
- PROTECTION CATEGORY: IP 20
- Non removable pozidrive slotted terminal screws.
- Identification label.

### 6-WAY JUMPER LINK

**TYPE 094.06** for socket 94.02 and 94.04

### CHARACTERISTICS

- LOAD: 10 A 250 V

