

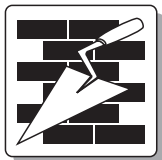


A range of miniature power relays, with 2 or 4 CO contact

Features include:

- Plug-in (FASTON 187) mount versions available
- AC or DC coils
- Dual-function lockable test button with mechanical flag indicator, top or rear mount flange, top or rear DIN rail mount options available
- Module facilities: low consumption LED indicator and surge suppression diode options
- Sockets and accessories: see 96 and 99.01 series
- Approvals (according to type): BBJ, CSA, IMQ, NEMKO, SEMKO, SEV, cUL, UTE, VDE

CERAMICS INDUSTRY  
MACHINES



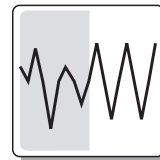
PACKING  
MACHINES



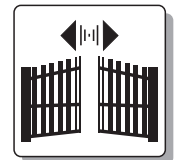
COFFEE  
MACHINES



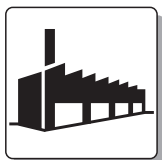
VOLTAGE  
STABILIZERS



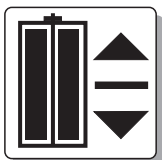
AUTOMATIC  
GATES



INDUSTRIAL  
APPLIANCES



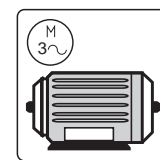
ELEVAT



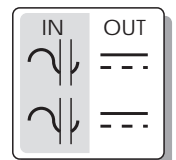
TOOLING  
MACHINES



ELECTRIC  
MOTOR LOADS



U.P.S.





56.32



56.34



### MINIATURE POWER RELAYS 2 CO (DPDT) 12 A

#### TYPE 56.32 plug-in

- Lockable test button
- Tin plated brass connections:  
FASTON 187 (4.8 x 0.5 mm) for plug-in versions
- Standard contact material: AgNi
- Options:

**TYPE 56.32 - 0300** 2 NO (DPST-NO) 12 A

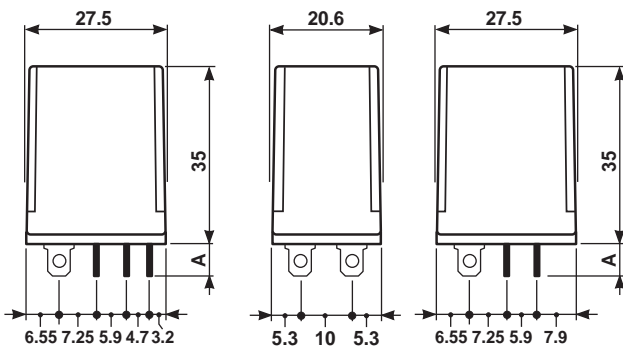
**TYPE 56.42 - 0300** 2 NO (DPST-NO) 12 A

- 1.5 mm gap between open contacts (AC version only)
- Options: see coding table page 62
- Ordering information: see page 62

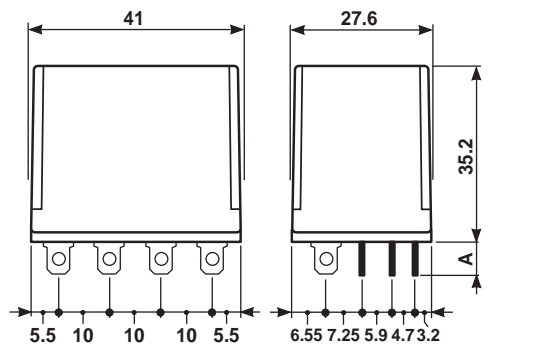
### MINIATURE POWER RELAYS 4 CO (4PDT) 12 A

#### TYPE 56.34 plug-in

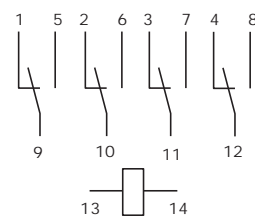
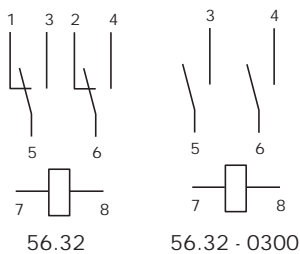
- Tin plated brass connections:  
FASTON 187 (4.8 x 0.5 mm) for plug-in versions
- Standard contact material: AgNi
- Options: see coding table page 62
- Ordering information: see page 62




A = 6.4 mm



A = 6.4 mm

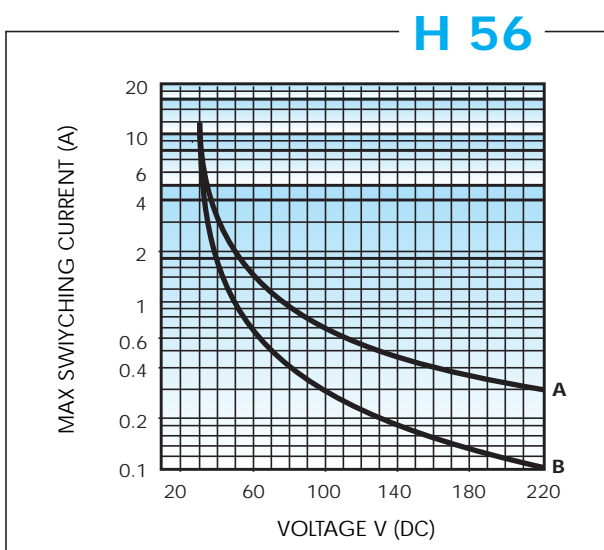
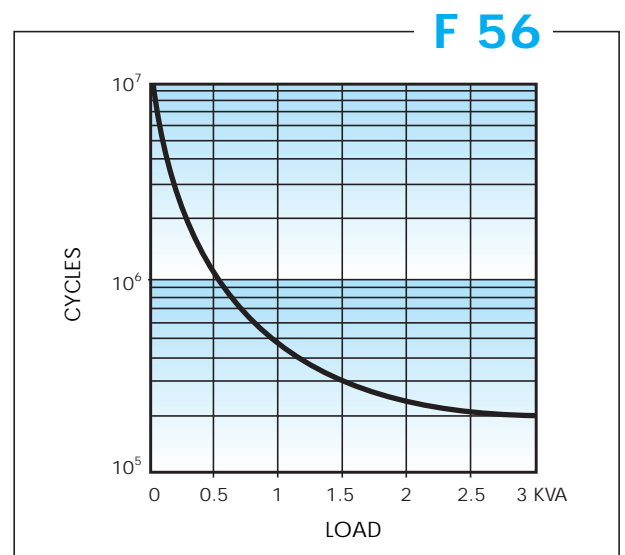


### TECHNICAL DATA

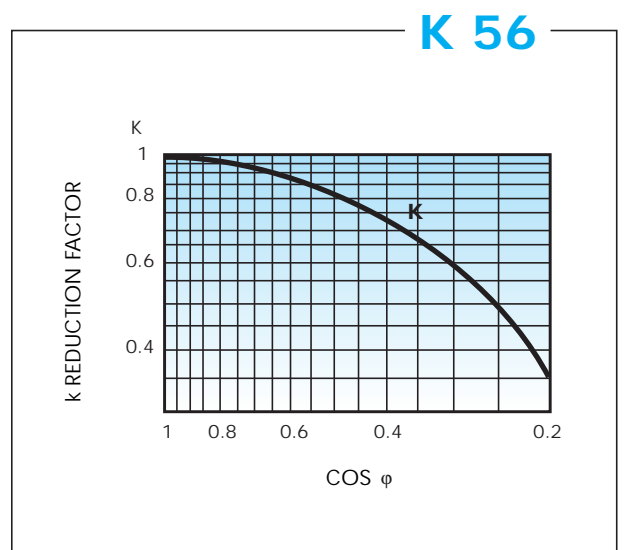
DIELECTRIC STRENGTH tested at leakage current ≤ 10 mA for 1 min at 50 Hz	between coil and contact	2,000 V
	between open contact	1,000 V
	between adjacent contact	2,000 V
	between frame and live parts	relay without external ground
SURGE TEST (1.2/50 μs) between coil and contacts	4,000 V	
ISOLATION RESISTANCE	≥ 20 · 10 <sup>3</sup> MΩ	
ISOLATION GROUP	C 250	
MAXIMUM SWITCHING FREQUENCY - without load - at rated load	36,000 cycles/h 600 cycles/h	
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)	<b>4 CO</b> ≤ 15 ms (including contact bounce) ≤ 15 ms (including contact bounce)	<b>2 NO</b> ≤ 20 ms (including contact bounce) —
TYPE OF DUTY	continuous	
DIELECTRIC TEST		
TYPE OF RELAY	all-or-nothing	

### CONTACT SPECIFICATIONS

RATED CURRENT	12 A
MAXIMUM PEAK CURRENT	20 A
NOMINAL RATE IN AC1	3,000 VA
NOMINAL RATE IN AC15	500 VA
RATED VOLTAGE	250 V AC
MAXIMUM SWITCHING VOLTAGE	400 V AC
BREAKING CAPACITY IN DC1	see diagram H56
SINGLE PHASE HP MOTOR RATING AT 250 V	0.55 kW; 0.7 HP
CONTACT RESISTANCE: - initial	≤ 50 mΩ
MINIMUM SWITCHING LOAD	500 mW (10 V/5 mA)
STANDARD CONTACT MATERIAL	AgNi



Breaking capacity for DC1 load at 600 cycles/h. Load applied to 1 contact.  
**A** = types 56.32 - 0300 and 56.42 - 0300    **B** = other types



Load reduction factor vs cos φ.

### COIL SPECIFICATIONS

VERSIONS:

AC - alternating current 50/60 Hz

DC - direct current

	AC - 2 CO (DPDT)	DC - 2 CO (DPDT)	AC - 4 CO (4PDT)	DC - 4 CO (4PDT)
RATED POWER	1.5 VA	1 W	2 VA	1.3 W
OPERATING RANGE	(0.8 ... 1.1) U <sub>N</sub>	(0.85 ... 1.1) U <sub>N</sub>	(0.8 ... 1.1) U <sub>N</sub>	(0.85 ... 1.1) U <sub>N</sub>
HOLDING VOLTAGE	≤ 0.8 U <sub>N</sub>	≤ 0.6 U <sub>N</sub>	≤ 0.8 U <sub>N</sub>	≤ 0.6 U <sub>N</sub>
MUST DROP-OUT VOLTAGE	≥ 0.2 U <sub>N</sub>	≥ 0.1 U <sub>N</sub>	≥ 0.2 U <sub>N</sub>	≥ 0.1 U <sub>N</sub>
NOMINAL MAGNETOMOTIVE FORCE	150 A	200 A	125 A	180 A
THERMAL INSULATION CLASS OF WIRE	F (+155°C)	F (+155°C)	F (+155°C)	F (+155°C)
THERMAL RESISTANCE	50°C/W	50°C/W	35°C/W	35°C/W
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 VERSION DATA (2 CO/DPDT)

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

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	3,940	12.7
120	96	132	4,700	10.8
230	184	253	17,000	6.1
240	192	264	19,100	5.8

#### DC VERSION DATA (2 CO/DPDT)

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

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	5.1	6.6	44	150
12	10.2	13.2	140	86
24	20.4	26.4	600	40
48	40.8	52.8	2,400	20
60	51	66	4,000	15
110	93.5	121	12,500	8.8

#### AC VERSION DATA (4 CO/4PDT)

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

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	6	290
12	9.6	13.2	23	150
24	19.2	26.4	80	75
48	38.4	52.8	380	36
60	48	66	600	26
110	88	121	1,900	16.5
120	96	132	2,600	13.4
230	184	253	8,000	7.2
240	192	264	10,500	6.9

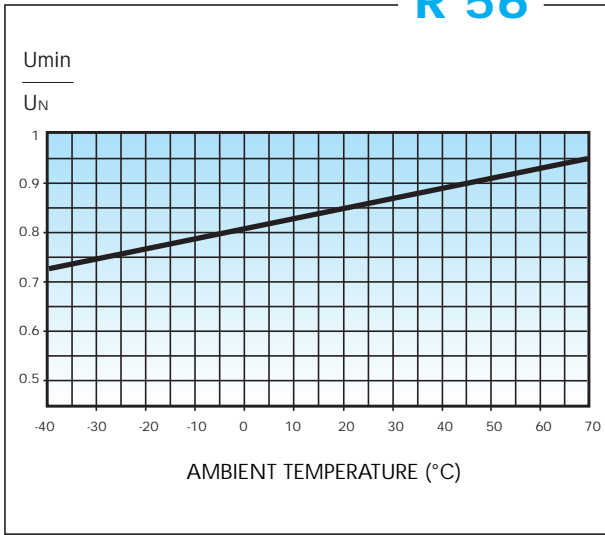
#### DC VERSION DATA (4 CO/4PDT)

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

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	5.1	6.6	33	182
12	10.2	13.2	125	92
24	20.4	26.4	500	46
48	40.8	52.8	1,800	25
60	51	66	3,000	20
110	93.5	121	10,500	10

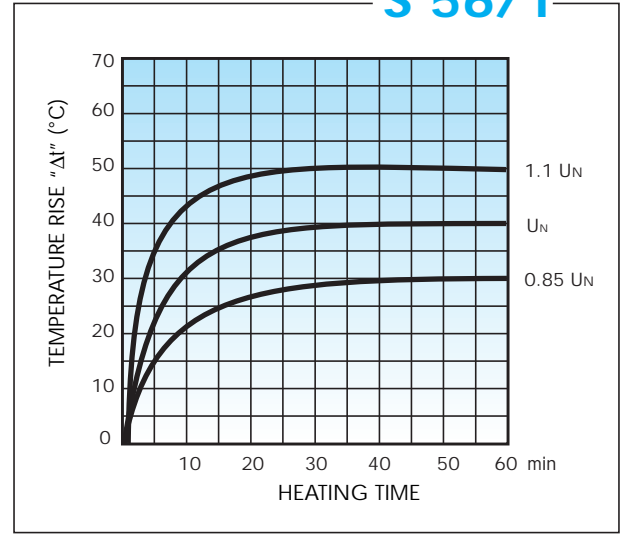
## COIL SPECIFICATIONS

### R 56



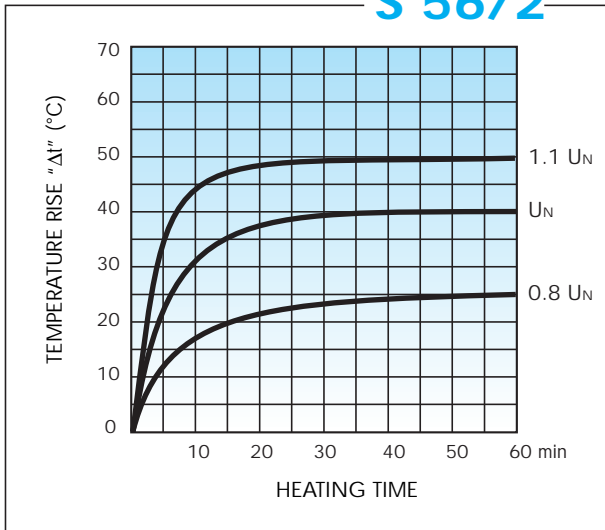
DC coil min pick-up voltage vs ambient temperature.  
Umin = pick-up voltage      UN = rated voltage

### S 56/1



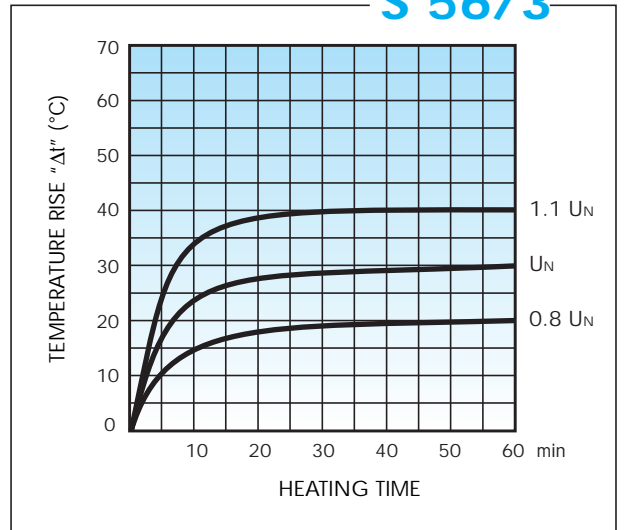
Temperature rise "Δt" vs applied voltage.  
DC coils 2 CO (DPDT) and 4 CO (4PDT).

### S 56/2



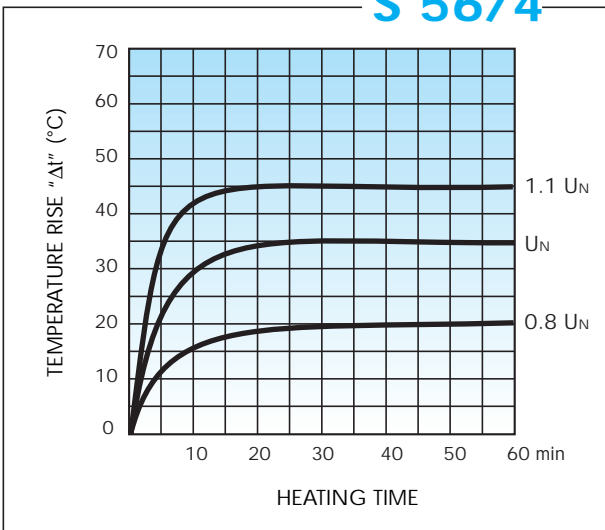
Temperature rise "Δt" vs applied voltage.  
AC 50 Hz coils 4 CO (4PDT).

### S 56/3



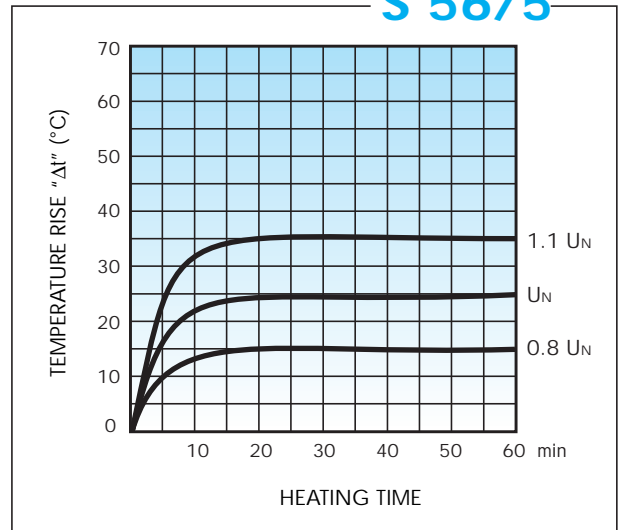
Temperature rise "Δt" vs applied voltage.  
AC 60 Hz coils 4 CO (4PDT).

### S 56/4



Temperature rise "Δt" vs applied voltage.  
AC 50 Hz coils 2 CO (DPDT).

### S 56/5



Temperature rise "Δt" vs applied voltage.  
AC 60 Hz coils 2 CO (DPDT).

## ORDERING INFORMATION

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



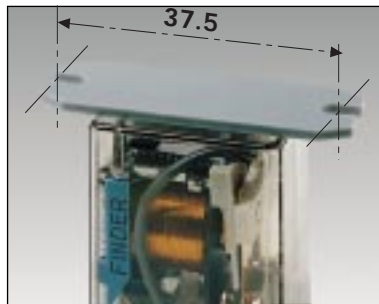
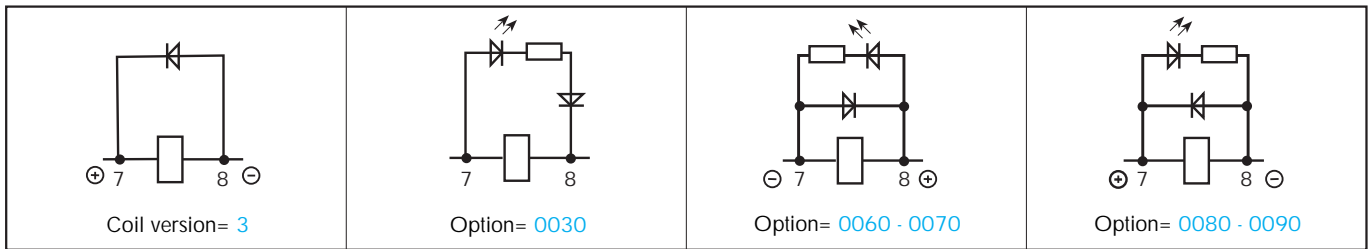
Series	No. of poles	Coil version	Contact material and contact circuit	Options
56	2 = 2 CO (DPDT) 4 = 4 CO (4PDT)	3 = DC diode in parallel to the coil (positive to pin 7) for 2 CO only 8 = AC (50/60 Hz) 9 = DC	00 = Standard 03 = NO $\geq 1,5$ mm** 20 = AgCdO 40 = AgSnO <sub>2</sub>	00 = Standard 05 = Top flange mount 06 = Rear flange mount 07 = Top DIN rail mount (4 CO only) 08 = Rear DIN rail mount (4 CO only) 10 = Lockable test button 20 = Mechanical indicator * 30 = LED (AC only) # 40 = Lockable test button + mechanical indicator * 50 = Lockable test button + LED (AC only) # 54 = Lockable test button + LED (AC only) + 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 (polarity positive to pin 7, DC)# 90 = Lockable test button + LED (polarity positive to pin 7, DC) * 94 = Lockable test button + LED + mechanical indicator (polarity positive to pin 7, DC) *
	<b>Type</b> 3 = Plug-in		<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	

\* for 56.32 (2 CO) only

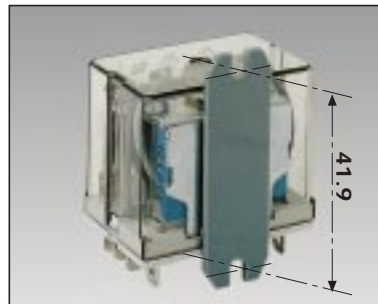
# for 56.32 (2 CO) and 56.32 (2 NO · DPDT-NO)

\*\* for 56.32 (2 CO) AC only

## OPTIONS



TOP MOUNT FLANGE (0005)



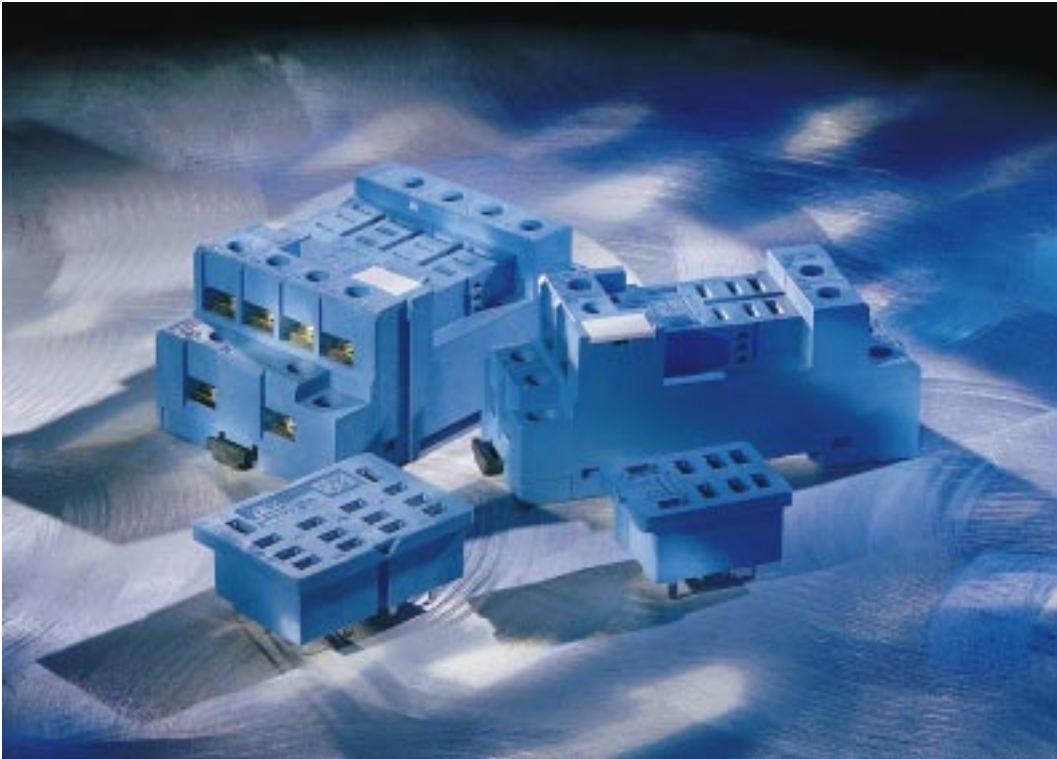
REAR MOUNT FLANGE (0006)



REAR DIN MOUNT RAIL (0008) (4 CO - 4PDT only)



LOCKABLE TEST BUTTON + MECHANICAL FLAG INDICATOR (0040) (2 CO - DPDT only)



- A range of sockets and accessories for the 56 series relays
- PCB mount, screw terminal connection, panel and DIN rail 46277 mount versions available
- Can be used with supply status indication and coil protection modules
- Flammability in accordance with UL 94
- Approvals (according to type): BBJ, CS - IMQ, cULus



96.12



96.74



### P.C.B. SOCKETS

**TYPE 96.12** for type 56.32

**TYPE 96.14** for type 56.34

Accessories: **TYPE 094.51** retaining clip

### CHARACTERISTICS

- LOAD: 12 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 tin plated

### SCREW TERMINAL SOCKETS

**TYPE 96.72** for type 56.32

**TYPE 96.74** for type 56.34

Accessories: **TYPE 094.71** retaining clip for socket 96.72

**TYPE 096.71** retaining clip for socket 96.74

**TYPE 99.01** module facilities

### CHARACTERISTICS

- LOAD: 12 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 + Cu Sn 8
- PROTECTION CATEGOR: IP 20
- Non removable pozidrive slotted terminal screws.
- Identification tag.

