



A range of general purpose relays with 2 CO (DPDT) or 3 CO (3PDT) contacts

- PCB mount version available
- AC or DC coils
- Approvals (according to type): BEAB, CSA, DEMKO, GOST, IMQ, RINA, SEV, cUL, VDE

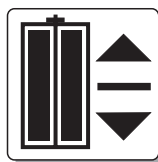
WOOD-PROCESSING
MACHINES



INDUSTRIAL
APPLIANCES



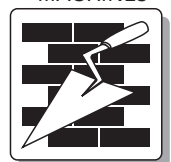
ELEVATORS



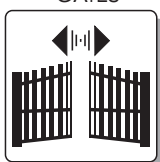
TOOLING
MACHINES



CERAMIC INDUSTRY
MACHINES



AUTOMATIC
GATES



MEDICAL
EQUIPMENT



PLASTIC
MOULDING



ON-BOARD SHIP
APPLIANCES





60.43



P.C.B. RELAYS 10 A

TYPE 60.42 2 CO (DPDT)

TYPE 60.43 3 CO (3PDT)

· Tin plated copper pins (1.2 x 0.5 mm)

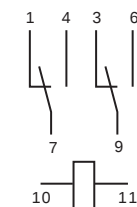
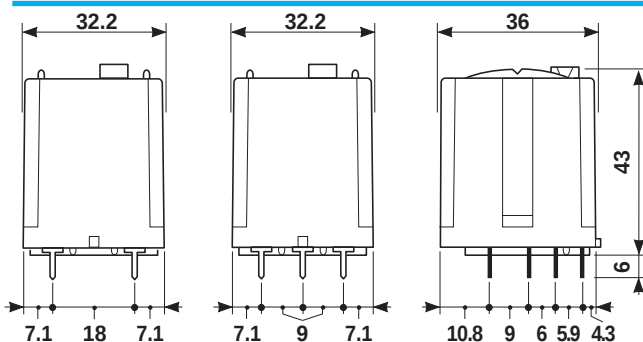
· Standard contact material: AgNi

· Options: see coding table page 62

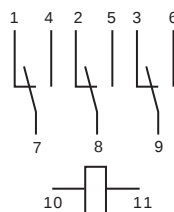
· Ordering information: see page 62

TECHNICAL DATA

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

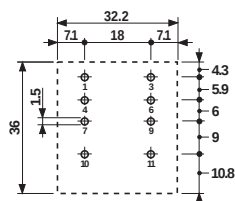


60.42

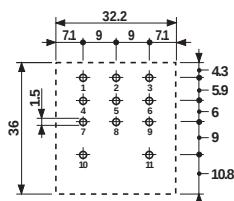


60.43

copper side view



60.42

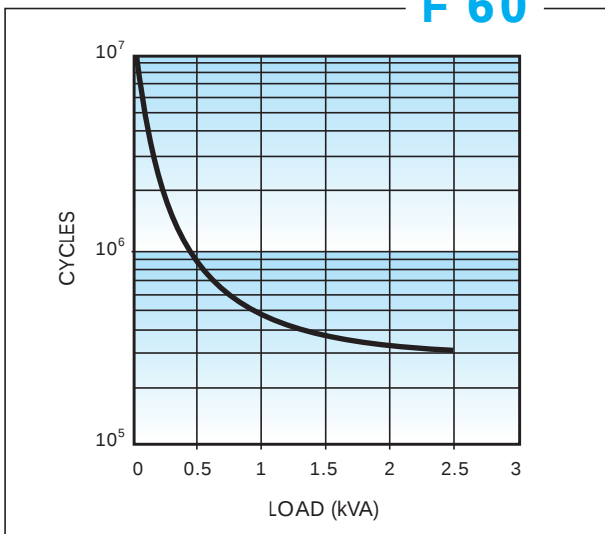


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CONTACT SPECIFICATIONS

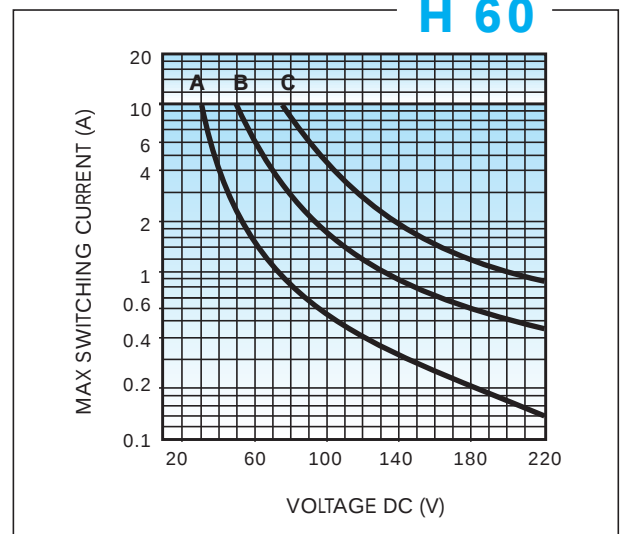
RATED CURRENT	10 A
MAXIMUM PEAK CURRENT	20 A
NOMINAL RATE IN AC1	2,500 VA
NOMINAL RATE IN AC15	500 VA
RATED VOLTAGE	250 V AC
MAXIMUM SWITCHING VOLTAGE	400 V AC
BREAKING CAPACITY IN DC1	see diagram H 60
SINGLE PHASE HP MOTOR RATING	0.37 kW / 0.6 HP
CONTACT RESISTANCE: - initial	$\leq 50 \text{ m}\Omega$
MINIMUM SWITCHING LOAD	500 mW (10 V/5 mA)
STANDARD CONTACT MATERIAL	AgNi

F 60



Contact life vs AC1 load at 1800 cycles/h.

H 60



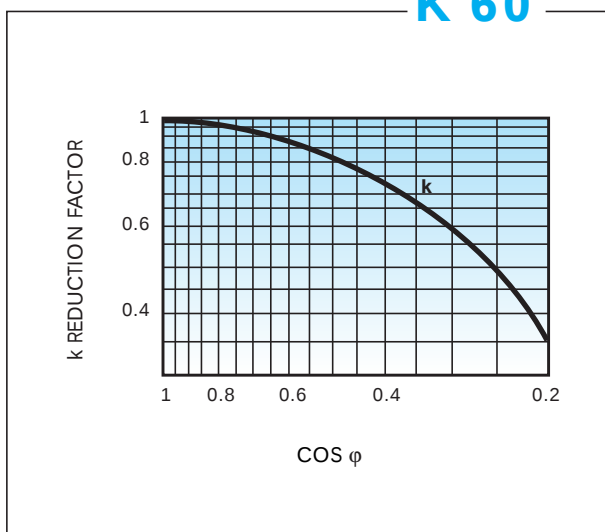
Breaking capacity for DC1 load at 1800 cycles/h.

A = load applied to 1 contact

B = load applied to 2 contacts in series

C = load applied to 3 contacts in series

K 60



Load reduction factor vs $\cos \varphi$.

COIL SPECIFICATIONS

VERSIONS:

AC - alternating current 50/60 Hz

DC - direct current

AM - current sensing

DI - DC coil with a diode in parallel

	AC	DC
RATED POWER	2.2 VA	1.3 W
OPERATING RANGE	(0.8 to 1.1) U_N	(0.8 to 1.1) U_N
HOLDING VOLTAGE	$\leq 0.8 U_N$	$\leq 0.5 U_N$
MUST DROP-OUT VOLTAGE	$\geq 0.2 U_N$	$\geq 0.1 U_N$
NOMINAL MAGNETOMOTIVE FORCE	180 A	250 A
THERMAL INSULATION CLASS OF WIRE	F (+155°C)	F (+155°C)
THERMAL RESISTANCE	43°C/W	43°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

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

Rated voltage U_N	Operating range		Resistance R	Nominal coil absorption U_N 50 Hz I
	U_{min}	U_{max}		
V	V	V	Ω	mA
6	4.8	6.6	4.6	367
12	9.6	13.2	19	183
24	19.2	26.4	80	91.7
48	38.4	52.8	320	45.8
60	48	66	500	36.7
110	88	121	1,800	20
120	96	132	1,940	18.6
230	184	253	7,250	9.6
240	192	264	8,500	9.2

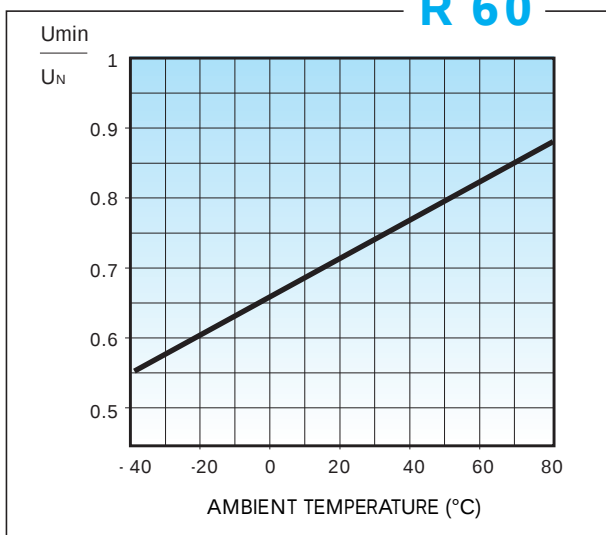
DC VERSION DATA

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

Rated voltage U_N	Operating range		Resistance R	Nominal coil absorption I
	U_{min}	U_{max}		
V	V	V	Ω	mA
6	4.8	6.6	28	214
12	9.6	13.2	110	109
24	19.2	26.4	445	53.9
48	38.4	52.8	1,770	27.1
60	48	66	2,760	21.7
110	88	121	9,420	11.7

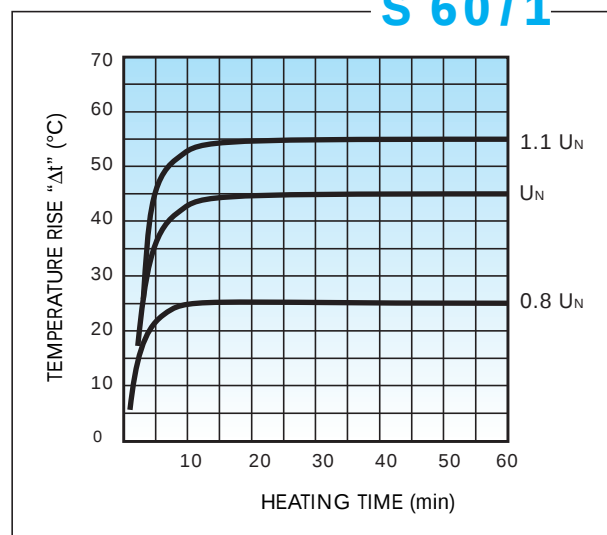
COIL SPECIFICATIONS

R 60



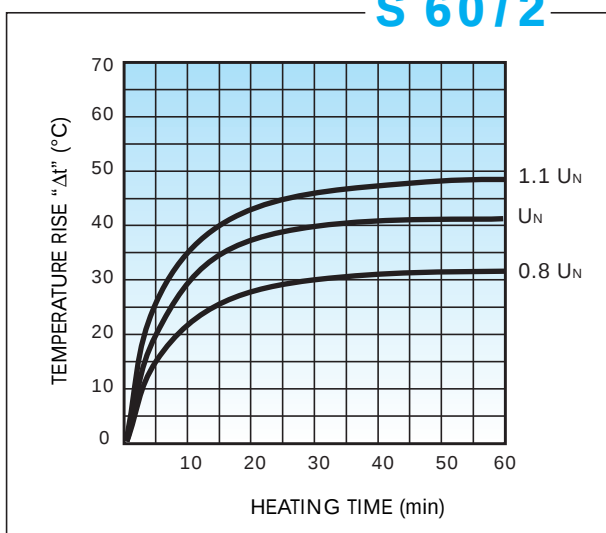
DC coil min pick-up voltage vs ambient temperature.
 U_{min} = pick-up voltage
 U_N = rated voltage

S 60/1



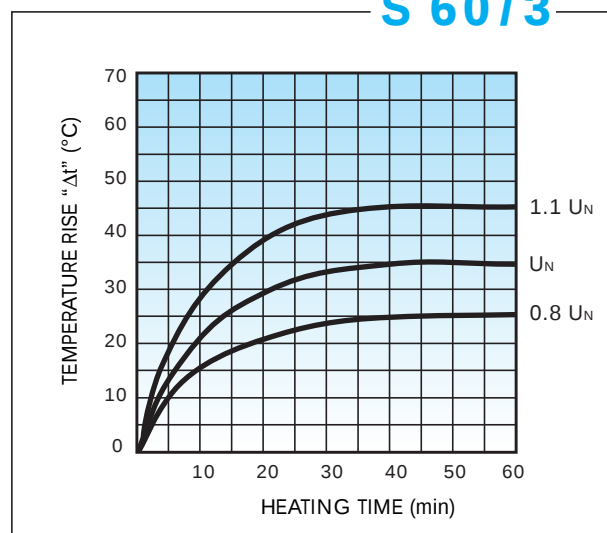
Temperature rise " Δt " vs applied voltage. DC coils.

S 60/2



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

S 60/3



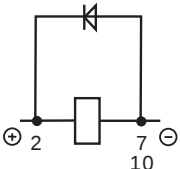
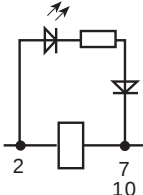
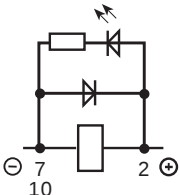
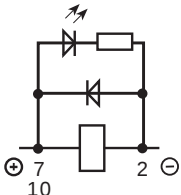
Temperature rise " Δt " vs applied voltage. AC 60 Hz coils.

ORDERING INFORMATION

Example: a 60 series P.C.B. relay, 3 CO (3PDT) with coil rated 12 V DC.

6	0	4	3	9	0	1	2	0	0	0	0
Series		No. of poles 2 = 2 CO (DPDT) 3 = 3 CO (3PDT)	Coil version 3 = DC diode in parallel to coil (positive to pin 2) 8 = AC (50/60 Hz) 9 = DC		Coil voltage 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			Contact material and contact circuit 00 = Standard 20 = AgCdO 50 = AgNi + 5µm Au		Options 00 = Standard	
		Type 4 = P.C.B.									

OPTIONS

 Coil version = 3	 Option = 0030	 Option = 0060 - 0070	 Option = 0080 - 0090
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