



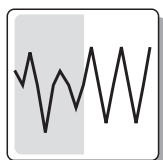
A range of power relays for switching heavy duty loads (up to 7.5 kVA in AC1)

- Top and rear DIN rail mount, top and rear mount flange options
- AC or DC coils
- 3 mm gap between open contacts on NO (AC coil version), FASTON 250 (6.3 x 0.8 mm) versions
- Approvals (according to type): IMQ, CSA, SEMKO, SEV, cUL, VDE

FOOTWEAR
MACHINES



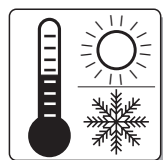
VOLTAGE
STABILIZERS



WHITE
GOODS



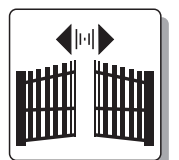
CONDITIONING



COFFEE
MACHINES



AUTOMATIC
GATES





65.31



DOUBLE BREAKING FASTON 250 RELAY

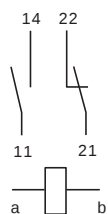
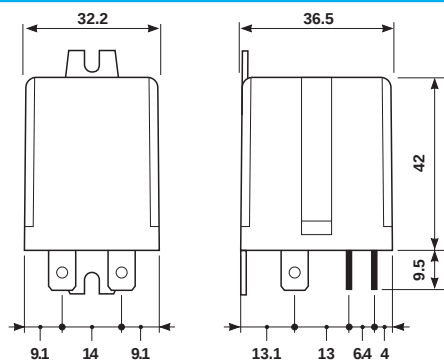
TYPE 65.31 1 NO + 1 NC (SPDT-NC-NO) 20 A

- Flange mount with 3 to 3.5 mm Ø screws
- Tin plated brass connections (6.3 x 0.8 mm)
- Standard contact material: Ag CdO

Options:

TYPE 65.31 - 0300 1 NO (SPST-NO) 30 A

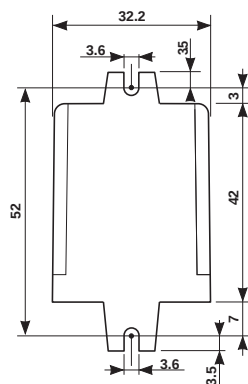
- 1.5 + 1.5 mm gap between open contacts
- Ordering information: see page 93



65.31



65.31 - 0300



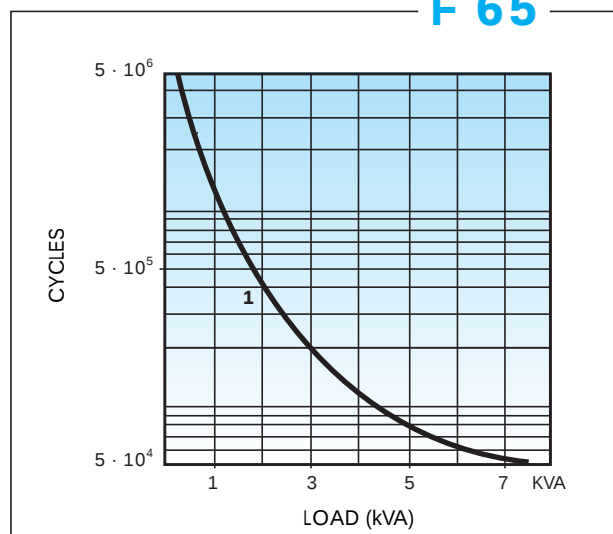
TECHNICAL DATA

DIELECTRIC STRENGTH tested at leakage current ≤ 10 mA for 1 min at 50 Hz	between coil and contacts	2,000 V
	between open contacts	1,500 V
	between open contacts NO version	2,500 V
	between adjacent contacts	2,500 V
	between frame and live parts	2,000 V
SURGE TEST (1.2/50 μs) between coil and contacts	2,500 V	
ISOLATION RESISTANCE	≥ 20 · 10 ³ MΩ	
ISOLATION GROUP	C 250	
MAXIMUM SWITCHING FREQUENCY - without load - at rated load	36,000 cycles/h 600 cycles/h	
AMBIENT TEMPERATURE	(-40 ... +50)°C Option = +75°C	
MECHANICAL LIFE	10 · 10 ⁶ cycles version AC 30 · 10 ⁶ cycles version DC	
PROTECTION CATEGORY OF ENCLOSURES	IP 40	
OPERATE AND RELEASE TIME - pick-up time (0 to U _N) - drop-out time (U _N to 0)	CO ≤ 20 ms (including contact bounce) ≤ 20 ms (including contact bounce)	NO ≤ 25 ms (including contact bounce) —
TYPE OF DUTY	continuous	
DIELECTRIC TEST		
TYPE OF RELAY	all-or-nothing	

CONTACT SPECIFICATIONS

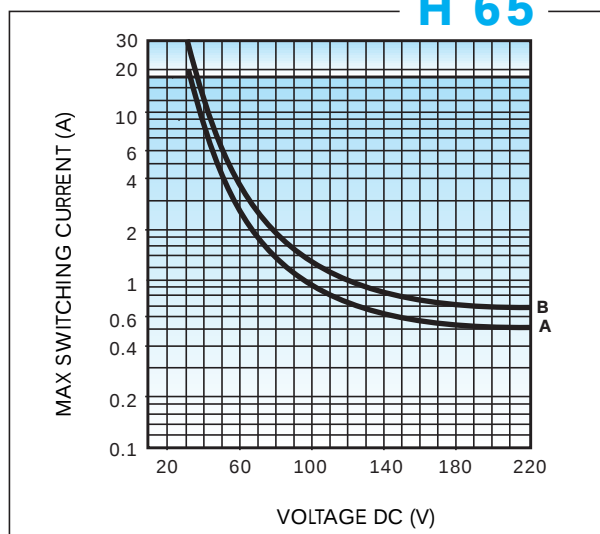
	65.31	65.31 NO
RATED CURRENT	20 A	30 A
MAXIMUM PEAK CURRENT	40 A	50 A
NOMINAL RATE IN AC1	5,000 VA	7,500 VA
NOMINAL RATE IN AC15	1,000 VA	1,250 VA
RATED VOLTAGE	250 V AC	250 V AC
MAXIMUM SWITCHING VOLTAGE	400 V AC	400 V AC
BREAKING CAPACITY IN DC1	see diagram H 65	see diagram H 65
SINGLE PHASE HP MOTOR RATING	1.1 kW / 1.5 HP	1.5 kW / 2 HP
CONTACT RESISTANCE: - initial	$\leq 50 \text{ m}\Omega$	$\leq 50 \text{ m}\Omega$
MINIMUM SWITCHING LOAD	1,000 mW (10 V/10 mA)	1,000 mW (10 V/10 mA)
STANDARD CONTACT MATERIAL	AgCdO	AgCdO

F 65



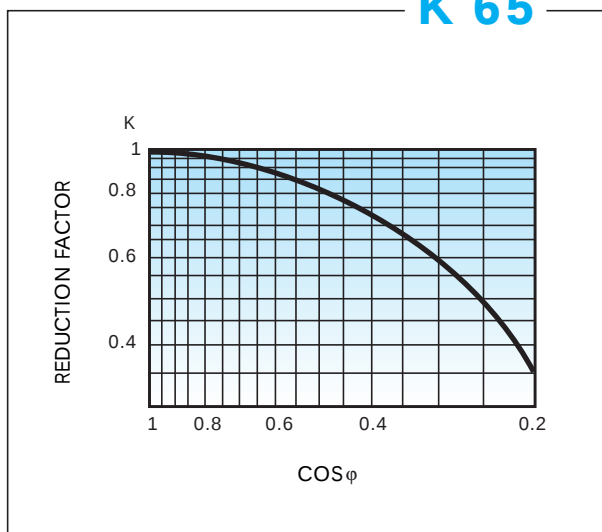
Contact life vs AC1 load at 600 cycles/h.
1 - types 65.31 and 65.31-0300; 65.61 and 65.61-0300

H 65



Breaking capacity for DC1 load at 600 cycles/h.
 Load applied to 1 contact.
A - types 65.31 - 65.61
B - NO versions

K 65



Load reduction factor vs $\cos \varphi$.

COIL SPECIFICATIONS

VERSIONS:

AC - alternating current 50/60 Hz

DC - direct current

	AC	DC
RATED POWER	2.2 VA	1.3 W
OPERATING RANGE	$(0.8 \dots 1.1) U_N$	$(0.8 \dots 1.1) U_N$
HOLDING VOLTAGE	$\leq 0.8 U_N$	$\leq 0.6 U_N$
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	41°C/W	41°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	Nominal coil absorption U_N 50 Hz I
	U_{min}	U_{max}	R	
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	10.4
240	192	264	8,500	9.2

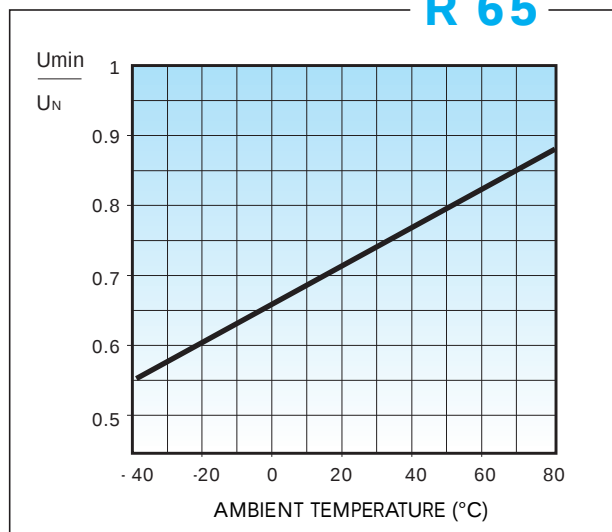
DC VERSION DATA

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

Rated voltage U_N	Operating range		Resistance	Nominal coil absorption I
	U_{min}	U_{max}	R	
V	V	V	Ω	mA
6	5.1	6.6	28	214
12	10.2	13.2	110	109
24	20.4	26.4	445	53.9
48	40.8	52.8	1,770	27.1
60	51	66	2,760	21.7
110	93.5	121	9,420	11.7

COIL SPECIFICATIONS

R 65

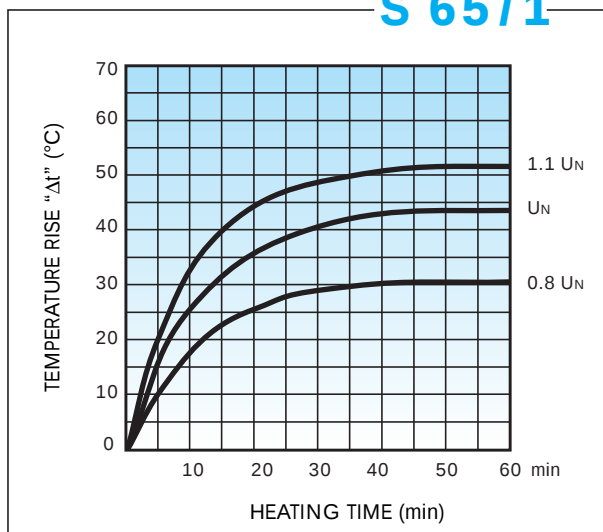


DC coil min pick-up voltage vs ambient temperature.

U_{min} = pick-up voltage

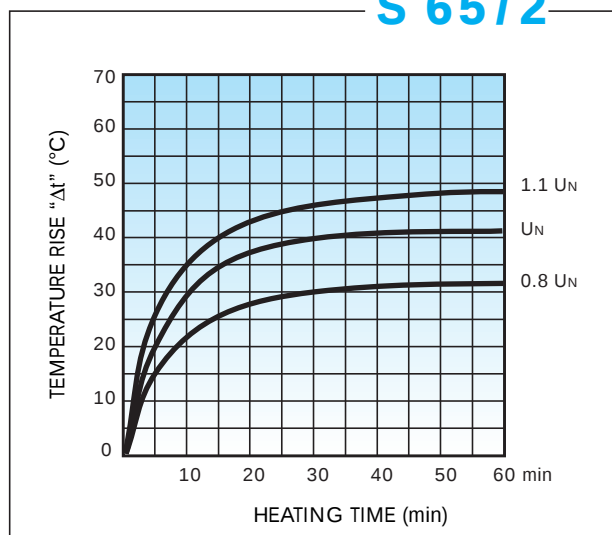
U_N = rated voltage

S 65/1



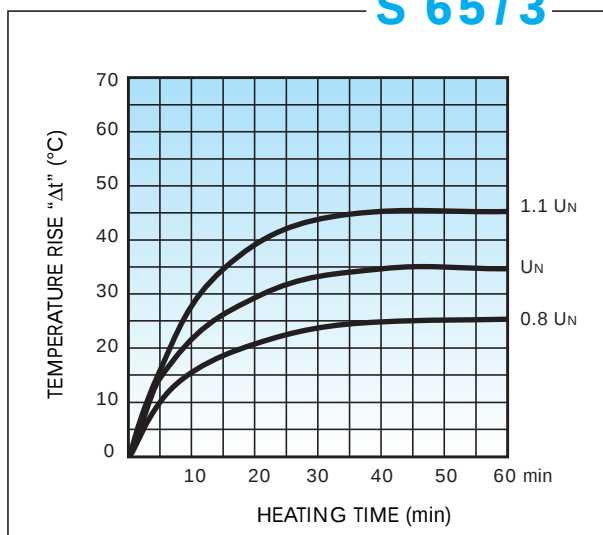
Temperature rise " Δt " vs applied voltage. DC coils.

S 65/2



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

S 65/3



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

ORDERING INFORMATION

Example: a 65 series power relays with 1 CO contact with a 12 V DC coil.

6 5	3 1	9	0 1 2	0 0 0 0
Series	No. of poles 1 = 1 CO	Coil version 8 = AC (50/60 Hz) 9 = DC	Coil rated voltage 006 = 6 V 012 = 12 V 024 = 24 V 048 = 48 V 060 = 60 V 110 = 110 V 125 = 125 V 230 = 230 V	Contact material and contact circuit 00 = Standard 03 = NO
	Type 3 = FASTON 250, with rear flange mount			Light and mechanical indicators 00 = Standard 05 = Top flange mount 07 = Top DIN rail mount 08 = Rear DIN rail mount

OPTIONS



TOP DIN RAIL MOUNT (0007)



REAR DIN RAIL MOUNT (0008)