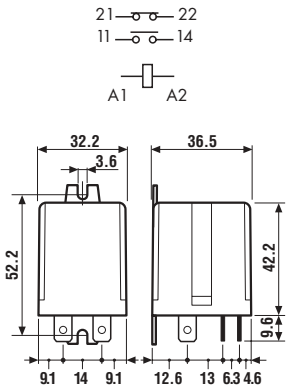
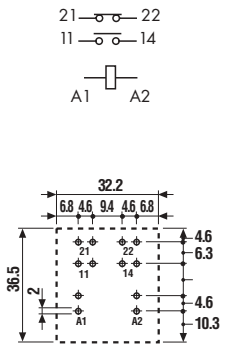
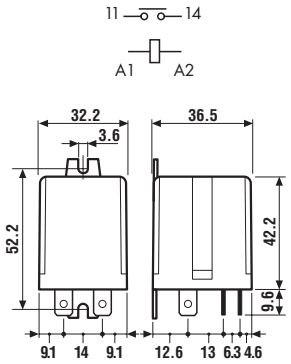
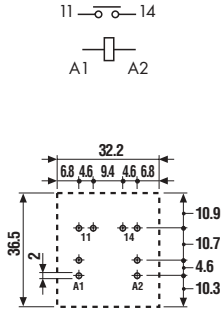
- *P.C.B. or flange mount*
- *AC or DC coils*

	65.31	65.61
		
	- 1NO+1NC (SPST-NO+SPST-NC) - Flange mount - Faston 250 (6.3x0.8 mm)	- 1NO+1NC (SPST-NO+SPST-NC) - P.C.B. mounting - Bifurcated terminals
		 Copper side view h = 46 mm

* With the $AgSnO_2$ material the maximum peak current is 100 A - 5 ms on NO contact.
** For 400 V applications, where requirements for pollution degree 2 are met.

Contact specifications			
Contact configuration		1NO+1NC (SPST-NO+SPST-NC)	1NO+1NC (SPST-NO+SPST-NC)
Rated current/Maximum peak current	A	20/40*	20/40*
Rated voltage/Maximum switching voltage	V AC	250/400**	250/400**
Rated load in AC1	VA	5,000	5,000
Rated load in AC15 (230 V AC)	VA	1,000	1,000
Single phase motor rating (230 V AC)	kW	1.1	1.1
Breaking capacity in DC1: 30/110/220 V	A	20/0.8/0.5	20/0.8/0.5
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		AgCdO	AgCdO
Coil specifications			
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400	
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220	
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3	2.2/1.3
Operating range	AC	$(0.8...1.1)U_N$	$(0.8...1.1)U_N$
	DC	$(0.85...1.1)U_N$	$(0.85...1.1)U_N$
Holding voltage	AC/DC	$0.8\ U_N/0.6\ U_N$	$0.8\ U_N/0.6\ U_N$
Must drop-out voltage	AC/DC	$0.2\ U_N/0.1\ U_N$	$0.2\ U_N/0.1\ U_N$
Technical data			
Mechanical life AC/DC	cycles	$10 \cdot 10^6/30 \cdot 10^6$	$10 \cdot 10^6/30 \cdot 10^6$
Electrical life at rated load AC1	cycles	$80 \cdot 10^3$	$80 \cdot 10^3$
Operate/release time	ms	10/12	10/12
Insulation according to EN 61810-1 ed. 2		4 kV/3	4 kV/3
Insulation between coil and contacts (1.2/50 µs)	kV	4	4
Dielectric strength between open contacts	V AC	1,500	1,500
Ambient temperature range	°C	–40...+75	–40...+75
Environmental protection		RT I	RT I
Approvals (according to type):		CE B SP GOST EAC cULus VDE	

- *P.C.B. or flange mount*
- *AC or DC coils*
- *3 mm gap between open contacts on NO (SPST-NO) version*

	65.31-0300	65.61-0300
		
	- 1NO (SPST-NO) 3mm contact gap - Flange mount - Faston 250 (6.3x0.8 mm)	- 1NO (SPST-NO) 3mm contact gap - P.C.B. mounting - Bifurcated terminals
		 Copper side view h = 42 mm

65

* Distance between contacts ≥ 3 mm (EN 60335-1).
** With the $AgSnO_2$ material the maximum peak current is 100 A - 5 ms on NO contact.
***For 400 V applications, where requirements for pollution degree 2 are met.

Contact specifications			
Contact configuration		1 NO 3 mm*	1 NO 3 mm*
Rated current/Maximum peak current	A	30/50**	30/50**
Rated voltage/Maximum switching voltage	V AC	250/400***	250/400***
Rated load in AC1	VA	7,500	7,500
Rated load in AC15 (230 V AC)	VA	1,250	1,250
Single phase motor rating (230 V AC)	kW	1.5	1.5
Breaking capacity in DC1: 30/110/220 V	A	30/1.1/0.7	30/1.1/0.7
Minimum switching load	mW (V/mA)	1,000 (10/10)	1,000 (10/10)
Standard contact material		AgCdO	AgCdO
Coil specifications			
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400	
	V DC	6 - 12 - 24 - 48 - 60 - 110 -125 - 220	
Rated power AC/DC	VA (50 Hz)/W	2.2/1.3	2.2/1.3
Operating range	AC	$(0.8...1.1)U_N$	$(0.8...1.1)U_N$
	DC	$(0.85...1.1)U_N$	$(0.85...1.1)U_N$
Holding voltage	AC/DC	0.8 U_N/0.6 U_N	0.8 U_N/0.6 U_N
Must drop-out voltage	AC/DC	0.2 U_N/0.1 U_N	0.2 U_N/0.1 U_N
Technical data			
Mechanical life AC/DC	cycles	$10 \cdot 10^6/30 \cdot 10^6$	$10 \cdot 10^6/30 \cdot 10^6$
Electrical life at rated load AC1	cycles	$50 \cdot 10^3$	$50 \cdot 10^3$
Operate/release time	ms	15/4	15/4
Insulation according to EN 61810-1 ed. 2		4 kV/3	4 kV/3
Insulation between coil and contacts (1.2/50 µs)	kV	4	4
Dielectric strength between open contacts	V AC	2,500	2,500
Ambient temperature range	°C	–40...+75	–40...+75
Environmental protection		RT I	RT I
Approvals (according to type):		CE B SP GOST cULus VDE	

ORDERING INFORMATION

Example: a 65 series power relay, for P.C.B. with bifurcated terminals, 1 NC + 1 NO (SPST-NO + SPST-NC) contact with a 12 V DC coil.

6	5	.	6		1	.	9	.	0	1	2	.	A: 0	B: 0	C: 0	D: 0

Series

Type
3 = Faston 250 (6.3x0.8 mm) with rear flange mount
6 = P.C.B. with bifurcated terminals

No. of poles
1 = 1 NC + 1 NO (SPST-NO + SPST-NC)

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

Coil voltage
see coil specifications

A: Contact material
0 = Standard AgCdO
4 = $AgSnO_2$

B: Contact circuit
0 = 1 NO + 1 NC (SPST-NO + SPST-NC)
3 = NO (≥ 3 mm contact gap)

C: Options
0 = None

D: Special versions
0 = Standard
5 = Top flange mount
7 = Top 35 mm rail (EN 50022) mount
8 = Rear 35 mm rail (EN 50022) mount

Only combinations in the same row are possible

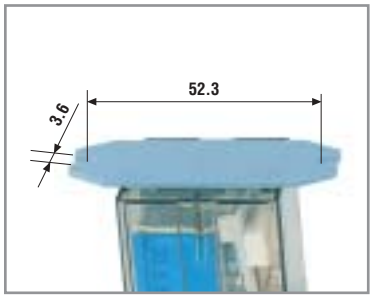
Preferred versions

	coil version	A	B	C	D
65.31	AC-DC	0	0	0	0
65.61	AC-DC	0	0	0	0

All versions

	coil version	A	B	C	D
65.31	AC-DC	0 - 4	0 - 3	0	0 - 5 - 7 - 8
65.61	AC-DC	0 - 4	0 - 3	0	0

POSSIBLE OPTIONS



Option = 0005
TOP FLANGE MOUNT

Option = 0008
REAR 35 mm RAIL MOUNT

TECHNICAL DATA

INSULATION

Insulation according to EN 61810-1 ed. 2	insulation rated voltage	V	250
	rated impulse withstand voltage	kV	4
	pollution degree		3
	overvoltage category		III

CONDUCTED DISTURBANCE IMMUNITY

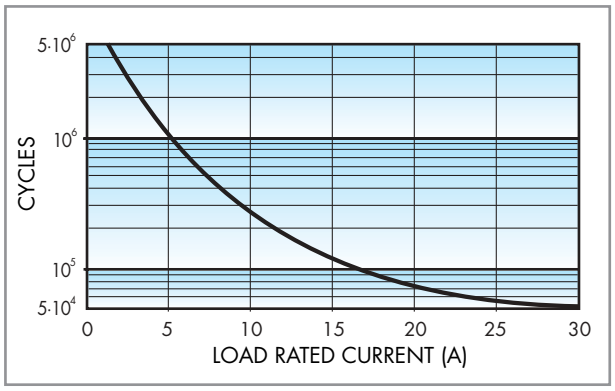
Burst (5...50)ns, 5 kHz, on A1 - A2	EN 61000-4-4	level 4 (4 kV)
Surge (1.2/50 µs) on A1 - A2 (differential mode)	EN 61000-4-5	level 4 (4 kV)

OTHER DATA

Bounce time: NO/NC		ms	5/6 (for 1NO+1NC or SPST-NO+SPST-NC)	7/– (for NO or SPST-NO)
Vibration resistance (10...55)Hz, max. ± 1 mm: NO/NC		g/g	10/4	
Power lost to the environment			1 NO + 1 NC (SPST-NO+SPST-NC)	1 NO (SPST-NO)
	without contact current	W	1.3	1.3
	with rated current	W	2.1	3.1
Recommended distance between relays mounted on P.C.B.s		mm	≥ 5	

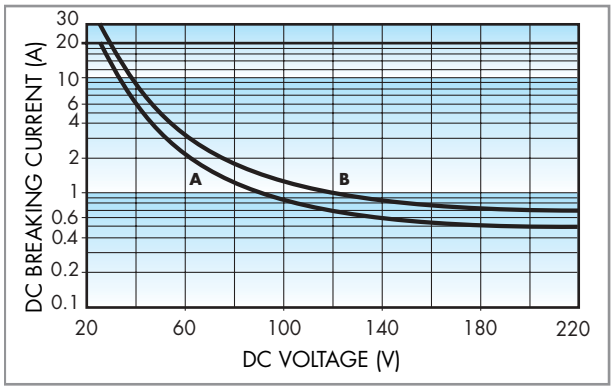
CONTACT SPECIFICATIONS

F 65



Electrical life vs AC1 load.

H 65



Breaking capacity for DC1 load.
Load applied to 1 contact
A - 1 NO + 1 NC type
B - 1 NO type

- When switching a resistive load (DC1) having voltage and current values under the curve the expected electrical life is ≥ 100·10³ 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

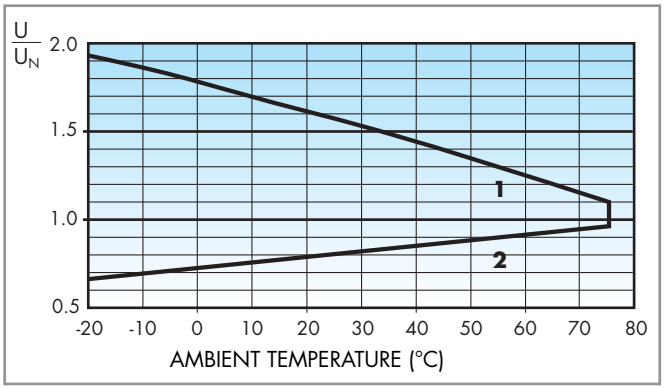
DC VERSION DATA

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
6	**9**.006	5.1	6.6	28	214
12	**9**.012	10.2	13.2	110	109
24	**9**.024	8.8	26.4	445	54
48	**9**.048	40.8	52.8	1,770	27.1
60	**9**.060	51	66	2,760	21.7
110	**9**.110	93.5	121	9,420	11.7
125	**9**.125	100	137.5	12,000	10.4
220	**9**.220	176	242	37,300	5.8

AC VERSION DATA

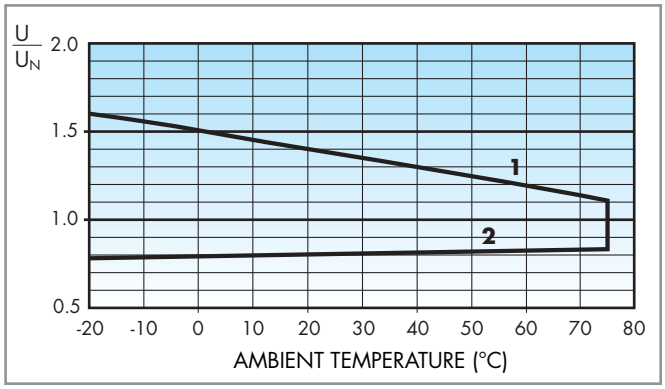
Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N (50Hz)
V		V	V	Ω	mA
6	**8**.006	4.8	6.6	4.6	367
12	**8**.012	9.6	13.2	19	183
24	**8**.024	19.2	26.4	74	90
48	**8**.048	38.4	52.8	290	47
60	**8**.060	48	66	450	37
110	**8**.110	88	121	1,600	20
120	**8**.120	96	132	1,940	18.6
230	**8**.230	184	253	7,250	10.5
240	**8**.240	192	264	8,500	9.2
400	**8**.400	320	440	19,800	6

R 65 DC



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

R 65 AC



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