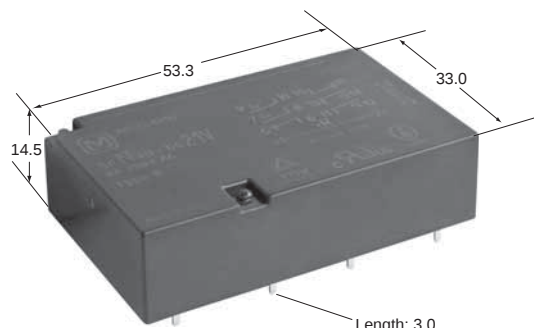


Low profile safety relay with forcibly guided double contacts

SFN4D RELAY

FEATURES

- Relay complies with EN 50205, Type B
- Polarized magnet system with snap action function
- Extremely small total power loss
 - Nominal coil power consumption of 390mW
 - Double contacts with low contact resistance, e.g. $[(6A)^2 \times 2.5m\Omega] \times 4NO = 360mW$
- Relay height, 14.5mm
- Reinforced insulation according to EN 50178
 - between coil-contacts and contacts-contacts
 - rated voltage of the circuits 230 / 400V or 277 / 480Vrms
 - rated impulse voltage of 6kV → clearance ≥ 5.5 mm
 - pollution degree 2 → creepage distance ≥ 5.5 mm



Tolerance ± 0.3 mm
Weight approx. 42 g

SPECIFICATIONS

Contact

Contact configuration (a = normally open / NO, b = normally closed / NC)	4a2b
Contact material	AgSnO ₂ , with Au flash
Contact resistance (initial at 6V DC, 1A)	$\leq 30m\Omega$
Typical contact resistance	2.5m Ω
Max. switching capacity	6A/8A* ¹ 250V AC
Max. switching voltage	500V AC / DC
Min. switching voltage / min. switching current	Reference 10V / 10mA
Pick-up / drop-out / bounce time (approx. values at U _{nominal})	23 / 6* ² / 2ms
Mechanical life	10 ⁷ ops

Coil

Operate / release and holding at 20°C (% of U _{nominal})* ³	75% / 25% min. 48%
Pick-up/nominal power consumption	219-236 / 390-420mW

Characteristics

Max. switching frequency (without load)	5Hz
Permissible ambient temperature at nominal power consumption* ³	-25°C to 92°C
Upper temperature limit	105°C
Test voltage: open contact / contact-contact / contact-coil	2500 / 4000 / 5000V _{rms}
Insulation resistance at 500V DC (initial)	10 ⁹ Ω
Shock resistance (11ms) NO/NC* ⁴	20 / 15G
Vibration resistance 10 – 200 Hz (10 – 55 Hz, amplitude 2 mm)* ⁴	10G
Degree of protection	RT III* ⁵
Unit weight	42g

Important: Relay characteristics may be influenced by:

- strong external magnetic fields
- magnetic conductive materials near the relay
- narrow top-to-top mounting (printed surface to printed surface)

1 See "ELECTRICAL LIFE (Reference Data)" on page 2.

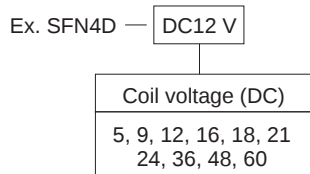
*2 Without diode

*3 See also "REFERENCE DATA" on page 3.

*4 Contact interruption $< 10\mu s$

*5 According to EN 61810-1: 2004, table 2

ORDERING INFORMATION



Notes: 1) Standard packing; Tube: 10 pcs. Case 100 pcs.
2) Other coil voltage available upon request

COIL DATA (at 20°C)

Part number	Coil nominal voltage V DC	Operate voltage ^{*1} V DC	Release voltage ^{*1} V DC	Coil resistance Ω ($\pm 10\%$, 20°C)
SFN4D-DC5V	5	3.75	1.25	64.1
SFN4D-DC9V	9	6.75	2.25	207.7
SFN4D-DC12V	12	9.00	3.00	369.2
SFN4D-DC16V	16	12.00	4.00	656.4
SFN4D-DC18V	18	13.5	4.50	830.8
SFN4D-DC21V	21	15.75	5.25	1130.8
SFN4D-DC24V	24	18.00	6.00	1476.9
SFN4D-DC36V	36	27.00	9.00	3085.7
SFN4D-DC48V	48	36.00	12.00	5485.7
SFN4D-DC60V	60	45.00	15.00	8571.4

*1 Operate and release voltage at different temperatures, see "REFERENCE DATA" on page 3, coil voltage characteristics.

SWITCHING CAPABILITY

- Making / breaking capacities according to EN 60947-5-1: 2000, table 4 / 5; AC15: 6A 230V AC / DC13: 6A 24V DC
- Endurance / overload test according to UL 508 16 edition, sections 42 / 43; 6A 250V AC / 6A 24V DC; B300 / R300; File E120782

ELECTRICAL LIFE (Reference Data)*

Voltage	Current (A)	Load type	Frequency	Duty cycle	No. of contacts	No. of ops.
230V AC	8	AC 1	0.25Hz	25%	4	85,000
230V AC	6	AC 1	0.25Hz	25%	4	200,000
230V AC	2.5	AC 1	0.25Hz	25%	4	1,500,000
230V AC	60 / 6	AC 15	0.20Hz	20%	3	40,000
24V DC	6	DC 1	0.25Hz	25%	4	2,000,000
250V DC	0.27	DC 13	0.10Hz	10%	4	1,000,000

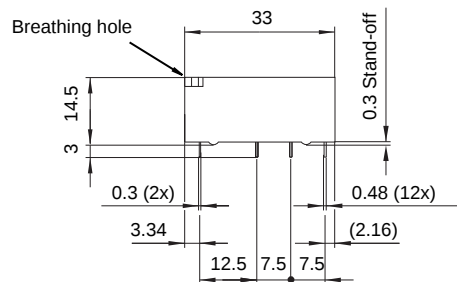
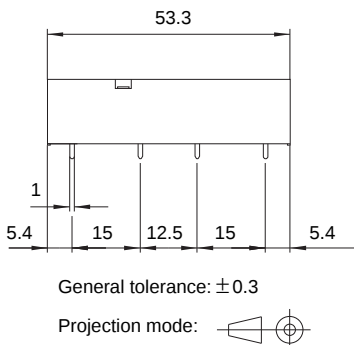
*Test conditions: Room temperature, breathing hole closed, dielectric strength according to EN61810-1:2004.

DIMENSIONS

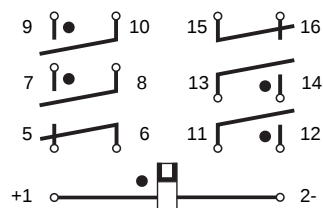
Download [CAD Data](#) from our Web site.

Outer dimensions

[CAD Data](#)



Schematic (Bottom view)



PC board pattern (Bottom view)

