

Relays

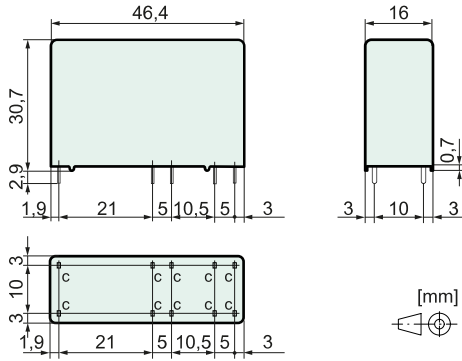
SIR4 Power Series



Features

- Relay with forcibly guided contacts according to IEC 61810-3
- Application type A
- Protective separation (see insulation data)
- Suitable for print mounting
- Inrush current 60 A / continuous current 12 A
- Contact assembly
SIR312 P: 3 NO + 1 NC, SIR222 P: 2 NO + 2 NC

Dimensions



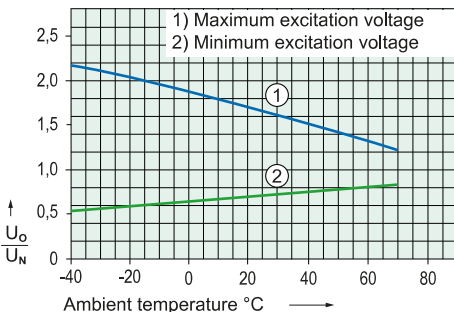
Pin dimension c	1,0 x 0,4 mm
Recommended drilling on PCB	Ø 1,3 mm

Coil data at 20 °C

Nominal power (typ.)	0,75 W
Holding power (typ.)	0,23 W
Coil limit temperature	120 °C

Nominal voltage (VDC)	Min. Pick-up voltage (VDC)	Min. Drop-out voltage (VDC)	Nominal current (mA)	Resistance (Ohm)
5,0	3,5	0,5	151	33 (1 ± 10 %)
12,0	8,4	1,2	63	190 (1 ± 10 %)
18,0	12,6	1,8	42	432 (1 ± 10 %)
24,0	16,8	2,4	32	760 (1 ± 10 %)
48,0	33,6	4,8	16	3050 (1 ± 10 %)
60,0	42,0	6,0	13	4800 (1 ± 13 %)
110,0	77,0	11,0	7	16000 (1 ± 15 %)

Excitation voltage range



Test conditions:

- Graph 1: Contact current 10 A MAX
- Graph 2: without previous operation
- Free-standing relay on PCB
- Duty cycle 100%

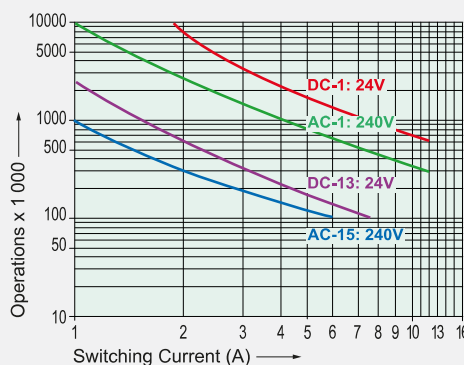
Contact data

Contact resistance as new (max.)	100 mΩ
Contact data apply to contacts 11-12, 21-22, 23-24	
Contact material	AgSnO ₂ + 0,2, ..., 0,4 μm Au
Contact type	crown contact
Rated switching power	1500 VA
250 V / 6 A / AC-1 (max.)	
Electr. life time (0,1 Hz, rel. duty cycle 10%)	100 000
Inrush current	15 A for 20 ms
Switching voltage range	5 V, ..., 250 V DC / AC
Switching current range*	5 mA, ..., 6 A
Switching power range*	60 mW, ..., 1500 W (VA)
Short circuit resistance**	1000 A
with pre-fuse	SCPD 6 A gG / gL (fuse)
Electrical life, Switching capacity, Continuous current	see SIR4 series

Contact data apply to contacts 33-34, 43-44	
Contact material	AgSnO ₂
Contact type	single contact
Rated switching power	5760 VA
480 V / 12 A / AC-1 (max.)	
Electr. life time (0,1 Hz, rel. duty cycle 10%)	250 000
Inrush current	60 A for 20 ms
Switching voltage range	5 ... 250 VDC / 5 ... 480 VAC
Switching current range*	10 mA, ..., 12 A
Switching power range*	120 mW, ..., 3000 W (VA)
Short circuit resistance**	1000 A
with pre-fuse	SCPD 16 A gG / gL (fuse)

* Reference values ** Prospective short-circuit current

Electrical life (NO contacts)

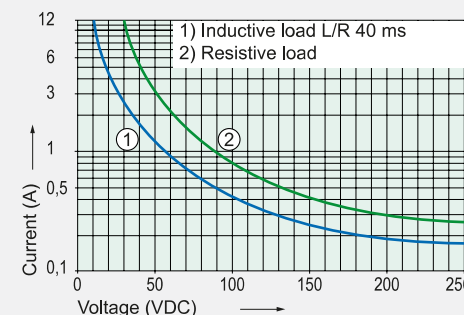


Switching capacity (IEC 61810-1)

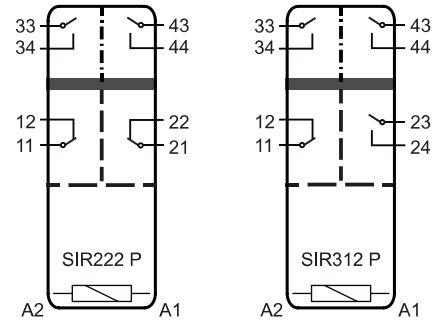
AC-1:	240 V / 12 A MAX
AC-15:	240 V / 6 A MAX
DC-1:	24 V / 12 A MAX
DC-13:	24 V / 7,5 A / 0,1 Hz MAX

Switching capacity (UL 508)	C600, R300
Continuous current per contact at load of: 1 or 2 contacts	12 A MAX

Contact load limit curve (DC)



Circuit diagram (top view)



Insulation data

Rated insulation voltage (IEC 60664-1)	250 VAC
Basic insulation	4 mm
- Air and creepage distance (min.)	4 mm
- Test voltage	2500 V _{rms} / 1 min
Double or reinforced insulation	8 mm
- Air and creepage distance (min.)	8 mm
- Test voltage	4000 V _{rms} / 1 min
Double or reinforced insulation	10 mm
- Air and creepage distance (min.)	10 mm
- Test voltage	5000 V _{rms} / 1 min
Open contact: Test voltage*	1500 V _{rms} / 1 min
Creepage resistance	CTI 250
Pollution degree	2
Overvoltage category	III
Insulation resistance (min.)	100 MΩ
- Test voltage	500 VDC

* Initial value

Mechanical data

Mechanical lifetime (min.)	10 x 10 ⁸ operations
Switching frequency (max.)	15 Hz
Response time (NO closed) (typ.)	15 ms
Drop-out time (NC closed) (typ.)*	4 ms
Bounce time (typ.)	NO: 6 ms / NC: 12 ms
Shock resistance (16 ms) (min.)	NO: 17g / NC: 7g
Vibr. resistance (10-200 Hz) (min.)	NO: 10g / NC: 4,5g
Weight	approx. 32 g
Mounting position	any
Mounting distance (min.)	5 mm

* without coil wiring

Other data

Ambient temperature	-40 °C, ..., +70 °C
Thermal resistance	55 K / W
Protection class	RT II
Solder bath temperature	270 °C / 5 s
Test method (heating)	A (group assembly)
Approvals	cULus, TÜV
Flammability class	UL 94 V-0
UL File	E188953 Sec. 3

Options, Accessories

PCB socket	SRP SIR4
Other coil designs	possible
Coils accord. to EN 50155 (railway applications)	possible

Product key

SIR	Type designation	
2	Number of contacts NO	
2	Number of contacts NC	
2	Connection technology	2 = Solder terminals
P	Power contacts	
24VDC	Nominal coil voltage	
XX	Options	