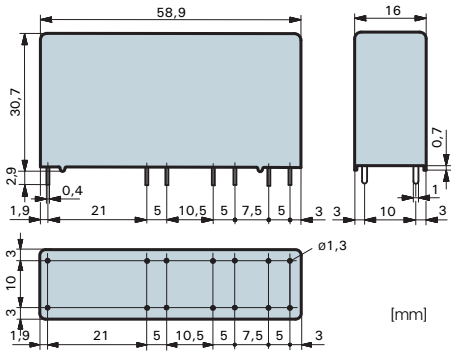
ELESTA relays

SIR 6 Contacts

Relay data

- PCB relay with forcibly guided contacts
- Protective separation between coil/control contacts and output contacts (> 10mm) as well as protective separation between the output contacts themselves (> 8mm)
- EN 50205, type A
- Contact mounting:
  SIR332 3NO/3NC
  SIR422 4NO/2NC
  SIR512 5NO/1NC
- Small external dimensions
- Mean coil power 0.75W
- Holding power 0.22W
- For Railway Applications: EN 50155



Contact material	$AgSnO_2$+0.2µm Au
Type of contact	Crest contact
Rated switching capacity 250VAC 10A AC1	2'500VA
Electr. life AC1 (360 cycles/h)	approx.100'000
Inrush current max.	25A for 20ms
Switching voltage range	5 to 250 VDC/VAC
Switching current range*	10mA to 10A
Switching capacity range* 0.06VA(W) to	2'500VA
Contact resistance (as delivered)	≤100mΩ/28 V/100mA

* Guide values

Standard coils for direct current (other voltages on request)

Nominal voltage VDC	Min. pick-up voltage at 20°C	Drop-out voltage at 20 °C	Nominal current in mA	Resistance in Ohm at 20 °C	Tolerance in %
5	3,5	≥ 0,5	151,0	33	± 10
6	4,2	≥ 0,6	125	48	± 10
12	8,4	≥ 1,2	63,1	190	± 10
18	12,6	≥ 1,8	41,6	432	± 10
24	16,8	≥ 2,4	31,5	760	± 10
48	33,6	≥ 4,8	15,7	3'050	± 10
60	42,0	≥ 6,0	12,5	4'800	± 13
110	77,0	≥ 11,0	6,8	16'000	± 15

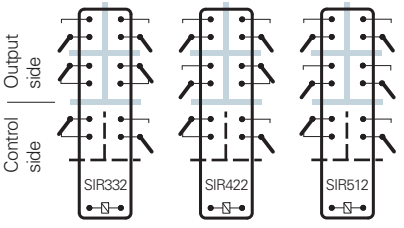
Ordering example

SIR 4 2 2 24VDC

- 24VDC — Coil voltage
- 2 — Soldering tags
- 2 — Number of NC contacts
- 4 — Number of NO contacts
- SIR — Type designation

General data

Circuit diagram (view on relay upper side)



Basic insulation
Double or reinforced insulation

Mechanical life	> 10 x 10^6 operations
Switching frequency, mechanical	15Hz
Response time	typically 15ms
Drop-out time**	typically 4ms
Bounce time of NO contact	typically 6ms
Bounce time of NC contact	typically 12ms
Shock resistance 16ms	NO contact > 10g NC contact 6g
Vibration resistance 10-200Hz	NO contact > 5g NC contact 2g
Test voltage coil/control contacts	2'500Veff 1min
Test voltage coil-control contacts/output contacts	5'000Veff 1min
Test voltage output contacts as against each other	4'000Veff 1min
Test voltage contact open	1'500Veff 1min
Insulation resistance	10^{11} Ω
Creepage resistance	CTI 250
Weight	approx. 35g
Mounting position	any
Ambient temperature	-40°C to +70°C
Type of protection	RT II
Solder bath temperature	270 °C/5s
Thermal resistance	55K/W
Temperature limit for coil	120°C
Pollution degree	2
Overvoltage category	III
Resistance to short circuiting	1'000A SCPD 10A gG (pre-fuse)

** without spark suppression

Insulation terms

Coil to control contacts: Basic insulation
Coil/control contacts to output contacts: Double or reinforced insulation > 10mm
Output contacts as against each other: Double or reinforced insulation > 8mm

Tests, regulations

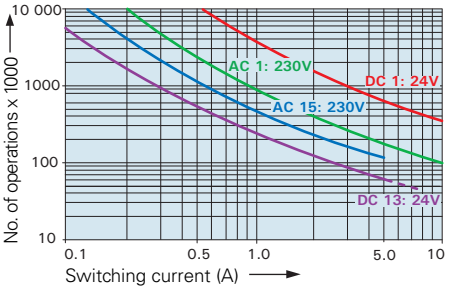
Approvals	SEV, UL, cUL, TÜV
UL File E188953	Sec. 3
Insulation class IEC 60664-1	250VAC
Protection class II	VDE 0106
Fire protection requirements	UL 94 / V0

Options, accessories

PCB socket — see page 31

Diagrams

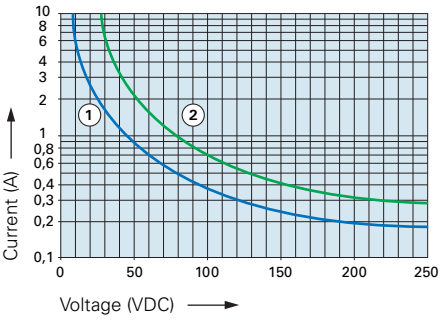
Contact lifetime



Max. switching characteristics (determined acc. to DIN EN 60947-5-1 table C2):
AC 15: 230V/5A
DC 13: 24V/7.5A/0.1 Hz
UL 508: C600/R300

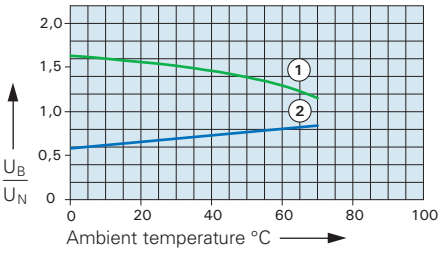
Maximal contact load at AC 1 with 230V:
2 contacts each with 10A
3 contacts each with 8.4A
4 contacts each with 7.3A
5 contacts each with 6A

Load limit curve with direct current



1) Inductive load, L/R 40 ms
2) Resistive load

Excitation voltage range



1) Max. excitation voltage with contact load ≤ 2A
2) Min. excitation voltage (guaranteed values) without previous operation

No heat accumulation due to intrinsic heating of other components.
Continuous duty 100%.

ELESTA relays GmbH, Heuteilstrasse 18, CH - 7310 Bad Ragaz, Switzerland
Phone: +41 (0)81 303 54 00 Fax: +41 (0)81 303 54 01
E-Mail: admin@elestarelays.com Internet: http://www.elestarelays.com

We reserve the right to make technical alterations.