ELESTA relays

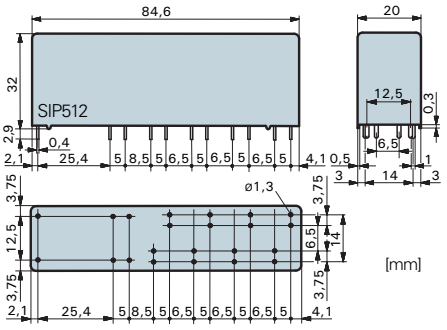
SIP 6 Contacts

Relay data

- PCB relay with forcibly guided contacts
- Protective separation between coil/control contacts and output contacts (> 8mm) and output contacts in one row (> 8mm).
- EN 50205, type A
- Contact mounting:

SIP512	Control contacts	1NO/1NC
	Output contacts	4NO
SIP422	Control contacts	2NC
	Output contacts	4NO

- Small external dimensions
- Mean coil power 1.3W
- Holding power 0.39W
- For Railway Applications: EN 50155



Control contacts

Contact material	$AgSnO_2$+0.2µm Au
Rated switching capacity	250VAC 6A AC1 1'500VA
Electr. life AC1 (360 cycles/h)	approx.100'000
Inrush current max.	15A for 20ms
Switching voltage range	5 to 250 VDC/VAC
Switching current range*	5mA to 6A
Switching capacity range*	0.06VA(W) to 1'500VA
Contact resistance (as delivered)	≤100mΩ/28 V/100mA

Output contacts

Contact material	$AgSnO_2$
Rated switching capacity	250VAC (440VAC) 16A AC1 4'000VA
Electr. life AC1 (360 cycles/h)	approx. 250'000
Inrush current max.	60A for 20ms
Switching voltage range	5 to 480 VDC/VAC
Switching current range*	10mA to 16A
Switching capacity range*	0.12VA(W) to 4'000VA
Contact resistance (as delivered)	≤ 100mΩ / 28 V / 100mA

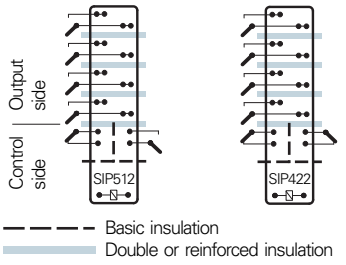
* Guide values

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 %
6	4,2	≥ 0,6	218	27,5	± 10
12	8,4	≥ 1,2	109	110	± 10
18	12,6	≥ 1,8	72,5	248	± 10
24	16,8	≥ 2,4	54,5	440	± 10
48	33,6	≥ 4,8	27,2	1'760	± 10
60	42,0	≥ 6,0	11,8	2'750	± 10
110	77,0	≥ 11,0	6,8	9'250	± 13
220	154,0	≥ 22,0	5,9	37'000	± 15

General data

Circuit diagram (view on relay upper side)



Mechanical life	> 10 x 10^6 operations
Switching frequency, mechanical	15Hz
Response time	typically 18ms
Drop-out time**	typically 5ms
Bounce time of NO contact	typically 8ms
Bounce time of NC contact	typically 12ms
Shock resistance 16ms	NO contact > 10g NC contact 8g
Vibration resistance 10-200Hz	NO contact > 10g NC contact 5g
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. 60g
Mounting position	any
Ambient temperature	-40°C to +70°C
Type of protection	RT II
Solder bath temperature	270°C/5s
Thermal resistance	40K/W
Temperature limit for coil	125°C
Pollution degree	2
Overvoltage category	III
Resistance to short circuiting control contacts	1'000A SCPD 6A gG (pre-fuse)
Resistance to short circuiting output contacts	1'000A SCPD 16A gG (pre-fuse)

** without spark suppression

Insulation terms

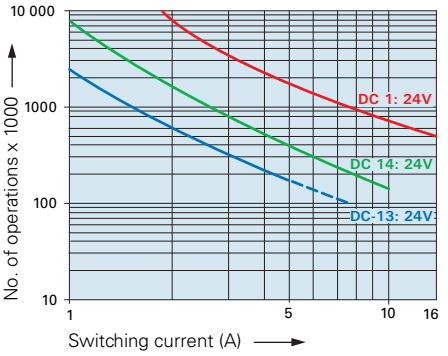
Coil to control contacts: Basic insulation
Coil/control contacts to output contacts: Double or reinforced insulation > 8mm
All output contacts in one row: Double or reinforced insulation > 8mm

Tests, regulations

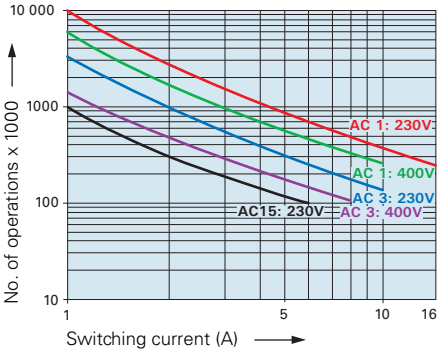
Approvals	SEV, UL, cUL, TÜV
UL File E188953	Sec. 4
Insulation class IEC 60664-1	250VAC
Protection class II	VDE 0106
Fire protection requirements	UL 94 / V0

Diagrams

Contact lifetime (output contacts)

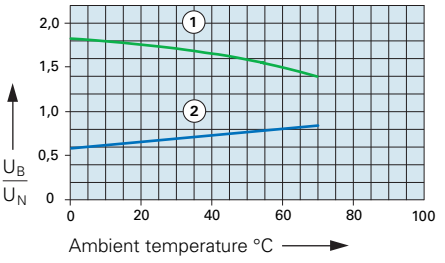


Contact lifetime (output contacts)



UL 508: A600/R150
Maximal contact load at AC 1 with 230V:
2 contacts each with 16A
3 contacts each with 12A
4 contacts each with 10A

Excitation voltage range



1) Max. excitation voltage with contact load: Control contacts ≤2A, output contacts ≤5A
2) Min. excitation voltage (guaranteed values) without previous operation

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

Ordering example

SIP 4 2 2 24VDC

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

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