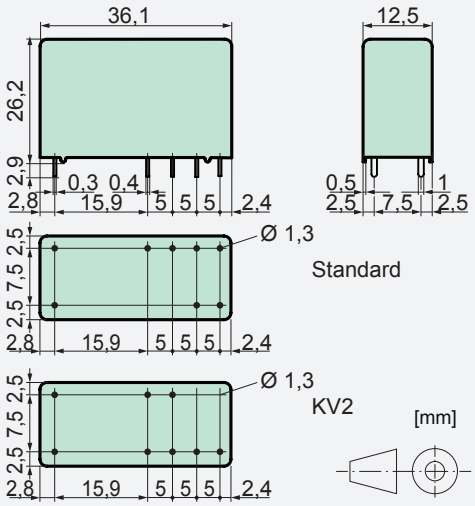
SIM 3 Series



Relay Key Data

- PCB Relay with forcibly guided contacts
- Protective separation between coil and contacts (leakage and creepage distances >14 mm); protective separation diagonally between left and right contact side (leakage and creepage distances >5,5 mm)
- EN50205 type A
- Contact mounting: SIM212 2 NO / 1 NC
- Small external dimensions
- Nominal coil power 0,75 W
- Holding coil power 0,21 W
- Coils for railway application (EN 50155) on request

Dimensions



Contact Data

Contact material	$AgSnO_2$ + 0,2 µm Au
Type of contact	Crest contact
Rated switching capacity	250 VAC 8 A AC1 2000 VA
Electr. life AC 1(360 cycles / h)	approx.100000
Inrush current max.	20 A for 20 ms
Switching voltage range	5 to 250 VDC / VAC
Switching current range*	10 mA to 8 A
Switching capacity range*	60 mW to 2000 W(VA)
Contact resistance (as delivered)	≤100 mΩ / 6 V / 100 mA

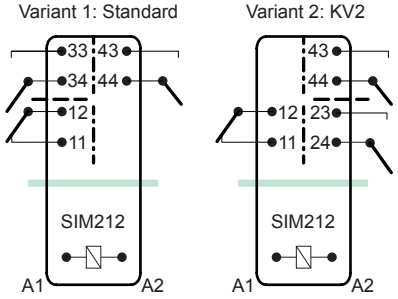
*Guided values

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
5	3,75	≥0,5	151,0	33 ± 10%
6	4,5	≥0,6	125,0	48 ± 10%
12	9,0	≥1,2	63,1	190 ± 10%
21	15,75	≥2,1	35,5	590 ± 10%
24	18,0	≥2,4	30,0	800 ± 10%
48	36,0	≥4,8	15,4	3100 ± 10%
60	45,0	≥6,0	12,5	4800 ± 13%
110	82,5	≥11,0	6,8	16000 ± 15%

Circuit Diagram (view on relay upper side)



Insulation Data

- Basic insulation	at 250 VAC
- Air and creepage distance	>4 mm
- Test voltage	2500 V / 50 Hz / 1 min
- Double or reinforced insulation	at 250 VAC
- Air and creepage distance	>5,5 mm
- Test voltage	4000 V / 50 Hz / 1 min
- Double or reinforced insulation	at 250 VAC
- Air and creepage distance	>14 mm
- Test voltage	5000 V / 50 Hz / 1 min
Test voltage contact oopen	1500 V / 50 Hz / 1 min
Creepage resistance	CTI 250
Pollution degree	2
Overvoltage category	III
Insulation resistance at Up 500 VDC	>100 MΩ

Additional Data

Mechanical endurance	>10 x 10^6 operations
Switching frequency, mechanical	15 Hz
Response time (all NO closed)	typically 10 ms
Drop-out time** (NC closed)	typically 4 ms
Bounce time of NO contact	typically 6 ms
Bounce time of NC contact	typically 12 ms
Shock resistance 16 ms	NO > 10g NC > 2,5g
Vibration resistance (10-200 Hz)	NO > 10g NC > 1g
Resistance to short circuiting contacts	1000 A SCPD 10 A gG / gL (pre-fuse)
Ambient temperature	-40°C to +70°C
Thermal Resistance	50 K / W
Temperature limit for coil	120°C
Weight	ca. 25 g
Mounting position	any
Type of protection	RT II
Solder bath temperature	270°C / 5 s

**without spark suppression

Tests, Regulations

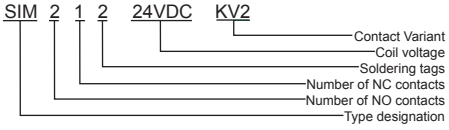
Approvals

UL File E188953	Sec. 3
Insulation class IEC 60664-1	250 VAC
Fire protection requirements	UL 94 / V0

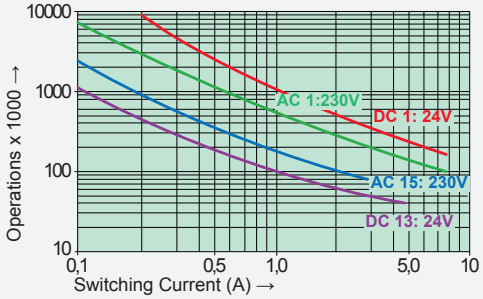
Options, Accessories

PCB socket, DIN rail socket	Page 30

Product Key



Contact Lifetime NO-Contacts

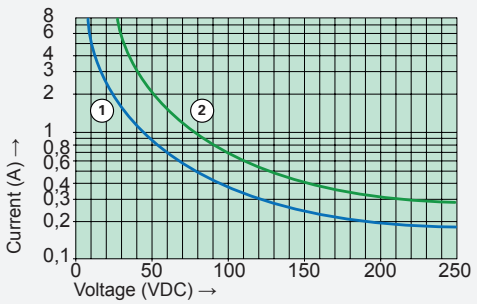


Maximal switching characteristics (DIN EN60947-5-1, Tab. C2)

AC 1:	250 V / 8 A
AC 15:	230 V / 3 A
DC 1:	24 V / 8 A
DC 13:	24 V / 6 A / 0,1 Hz
UL 508:	C150 / R300

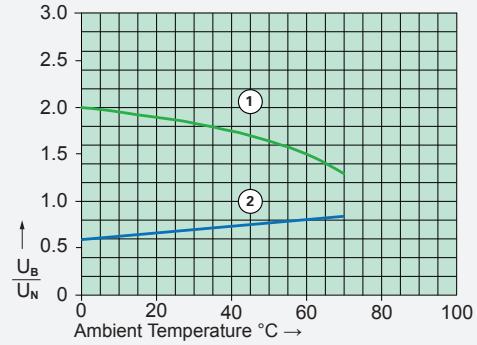
Maximal contact load at AC 1 with 230 V:
2 contacts with 8 A each

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: ≤6 A
2) Min. excitation voltage (guaranteed values) without previous operation

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

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SIF422-24VDC SIR912-12VDC SISF212-12VDC SMD318-24VDC SMF219-12VDC SMF328-12VDC
SMF419-24VDC SID314-12VDC SIR222P-24VDC SIR442-124VDC SIS 222 24VDC SIS222-12VDC
SMF418-12VDC SIF 422 12VDC SMD319-12VDC SMF229-24VDC SIR422-24VDC SIR912-24VDC