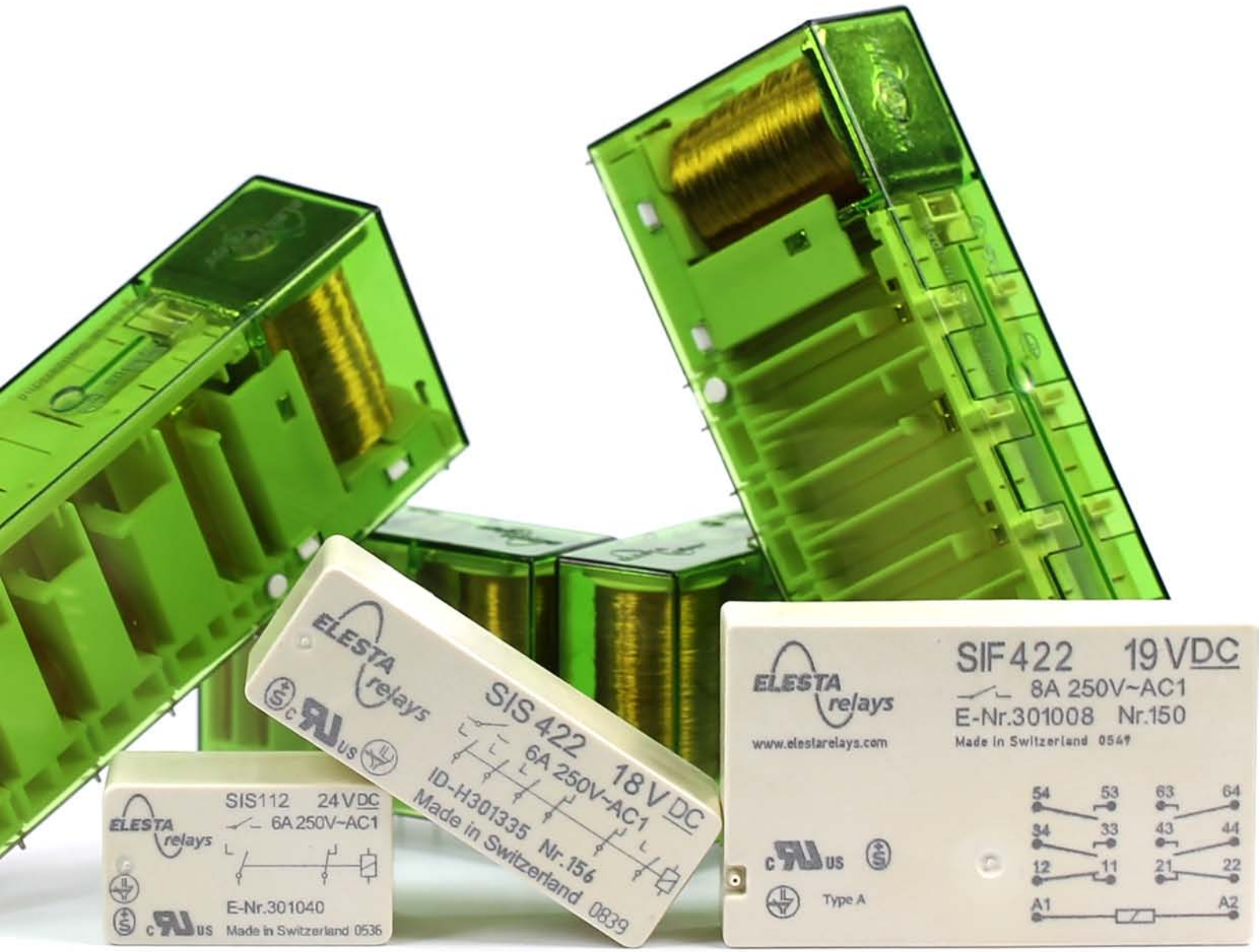
Product Catalogue

Relays with forcibly guided Contacts



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ELESTA relays GmbH
Safety, Innovation und Dynamic

We are rooted back to the middle of the last century. Since these days we are producing and developing relays at our factory in Bad Ragaz, St.Gallen, Switzerland. In the year of 1997 the ELESTA relys GmbH was founded as a producer of relays with forcibly guided contacts.

The characteristics of these electromechanical relays exsist out of the secial Contact approach after the EN 50205., that effects that all contacts are contacted to each other in a way that closer and opener never can be closed at the same time even during a disturbtion.

Relays with forcibly guided contacts are usually used in controls for functional safety, that means they are used in any case where the life and body of mankind need to be safed. Because of „Safety Relays“ the load and the monitoring circuit can be easily connected in safety controls. A high degree of diagnoses overlap and high reliability predestine the relays with forcibly guided contacts for use in machine and plant construction, as well as in process, in medical devices, in elevator controls or in railway engineering, to name just a few.

17 relay lines with 2 to 10 contacts are bulding the basis of various variants. Switching currents starting at 5mA up to 16 A are covered as well as excitation voltages from 3 VDC to 220 VDC. Due to the usage of newest raw materials and new developed contact systems, our relays guarantee system availability above range. Energy effeciency relay drives and enviormental materials support our ecological control design.

Customer benefits means, that our relays are tailored to our customers. Our offered options carry from coil adjustments to coded Contacts with special relay drives. Due to that there are various variations which are costum made after Norms, like the EN 50155 (Railway Applications). Such individual solutions are developed in close dialogue with the customer. Dependable and competent consultation is an thereby obvious.

Innovation is our motivating force. Huge experience, continuous development, tight Cooperation with research institutions and supplieres, as well as active participation in standard and professional bodies enable us to transpose new technology and market requirements in future products, early.

Every single part of the ELESTA relays GmbH company operates according to the LEAN Concept. Clear structures can not just be found in our „Green Factory“, which gets by without any fossile fuels, but also in our processes, at which we always set higher standards as the EN ISO 9001:2008 demands. Highest product quality, availability and service quality are the three pillars of our company, with which our employees identify themselves above average.

The use of relays with forcibly guided contacts requires trust. We will gladly face this responsibility.

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Geschäftsführer / CEO
ELESTA relays GmbH

Product Overview

Relays with forcibly guided contacts

Relay	 SIS 2	 SIS 3	 SIS 3 sen	 SIS 4	 SIS 6	 SIF 4	 SIF 6	 SIR 282	 SIR 282 sen
Number of Contacts	2	3	3	4	6	4	6	2WK	2WK
Contact Material	AgCuNi	AgCuNi	AgCuNi	AgCuNi	AgCuNi	AgCuNi	AgCuNi	$AgSnO_2$	$AgSnO_2$
Coil Current	5VDC-60VDC	5VDC-110VDC	5VDC-60VDC	5VDC-110VDC	5VDC-110VDC	5VDC-110VDC	5VDC-110VDC	5VDC-110VDC	5VDC-110VDC
Coil Capacity	0.27W	0.6W	0.4W	0.5W	0.66W	0.7W	0.66W	1W	0.7W
Switching Current Range	5mA - 6A	5mA - 6A	5mA - 6A	5mA - 6A	5mA - 6A	5mA - 8A	5mA - 8A	10mA - 8A	10mA - 8A
Protection	RT III	RT III	RT III	RT III	RT III	RT II	RT II	RT II	RT II
Dimensions (external)	29.2x16.6x16.5	29.2x16.6x16.5	29.2x16.6x16.5	48x16.6x16.5	48x16.6x16.5	41x29.4x10.9	53.6x33.5x10.9	30.2x12.7x25.6	30.2x12.7x25.6
Accessories	-	-	-	-	-	-	-	Page 27	Page 27
Data sheet	Page 4	Page 5	Page 6	Page 7	Page 8	Page 9	Page 10	Page 11	Page 12

Relay	 SGR 282Z	 SGR 282Z sen	 SIM 2	 SIM 3	 SIM 4	 SLR 4	 SIR 4	 SIR 4 sen	 SIR 4 P
Number of Contacts	2WK	2WK	2	3	4	4	4	4	4
Contact Material	AgCuNi[1]	AgCuNi[1]	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Coil Current	5VDC - 110VDC	5VDC - 110VDC	5VDC - 110VDC	5VDC - 110VDC	5VDC - 110VDC	5VDC - 110VDC	5VDC - 110VDC	5VDC - 110VDC	5VDC - 110VDC
Coil Capacity	1W	0.7W	0.5W	0.75W	1W	0.6W	0.6W	0.36W	0.75W
Switching Current Range	10mA - 6A	10mA - 6A	10mA - 8A	10mA - 8A	10mA - 8A	10mA - 10A	10mA - 10A	10mA - 10A	5mA - 12A
Protection	RT II	RT II	RT II	RT II	RT II	RT II	RT II	RT II	RT II
Dimensions (external)	30.2x12.7x25.6	30.2x12.7x25.6	27.4x12.5x26.2	36.1x12.5x26.2	36.1x12.5x26.2	53.3x33.4x16.5	46.4x16x30.7	46.4x16x30.7	46.4x16x30.7
Accessories	Page 27	Page 27	-	Page 28	Page 28	-	Page 29	Page 29	Page 29
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Relay	 SIR 6	 SIR 6 sen	 SIR 8	 SIR 10	 SIP 6
Number of Contacts	6	6	8	10	6
Contact Material	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$	$AgSnO_2$
Coil Current	5VDC - 110VDC	5VDC - 110VDC	5VDC - 220VDC	5VDC - 220VDC	5VDC - 220VDC
Coil Capacity	0.75W	0.5W	1.3W	1.3W	1.3W
Switching Current Range	10mA - 10A	10mA - 10A	10mA - 10A	10mA - 10A	5mA - 16A
Protection	RT II	RT II	RT II	RT II	RT II
Dimensions (external)	58.9x16x30.7	58.9x16x30.7	85.5x20x32	85.5x20x32	84.6x20x32
Accessories	Page 29	Page 29	-	-	-
Data sheet	Page 22	Page 23	Page 24	Page 25	Page 26

Sockel	Kurzbeschreibung	Details
	Printsocket for **SGR 282Z** and **SIR 282**	Page 27
	DIN rail socket for **SGR 282Z** and **SIR 282**	Page 27
	Printsocket for **SIM 3** and **SIM 4**	Page 28
	DIN rail socket for **SIM 3** and **SIM4**	Page 28
	Printsocket for **SIR 4**	Page 29
	Printsocket for **SIR 6**	Page 29

*Reference Value 20°C; [1]Also as an option with 4-6 µm Au

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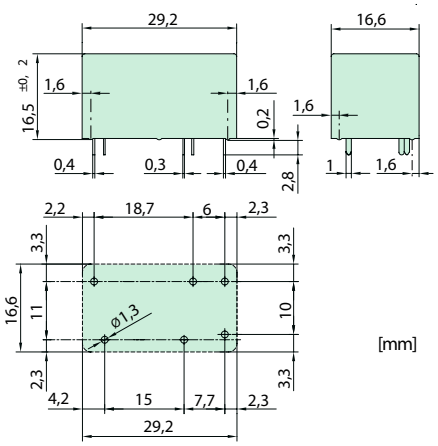
SIS 2 Series

Relay Key Data

- PCB Relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (>5.5mm) as well as Contacts side by side (>5.5mm)
- EN50205 Type A
- Double and Reinforced Insulation
- Contact Mounting: SIS112 1NO / 1NC
- Small external Dimensions
- Mean Coil Power 0.27W
- Holding Power 0.08W
- For Railway Application EN50155 on request

Dimensions



Contact Data

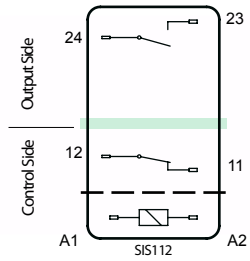
Contact Material	AgCuNi+0.2-0.4µm Au
Type of Contact	Single Contact with notched Crown
Rated Switching Capacity	250VAC 6A AC1 1'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	30A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	5mA to 6A
Switching Capacity Range*	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	≤3.5	≥0.5	54.9	91 ± 10%
6	≤4.2	≥0.6	46.1	130 ± 10%
9	≤6.3	≥0.9	30.5	295 ± 10%
12	≤8.4	≥1.2	23.0	520 ± 10%
18	≤12.6	≥1.8	15.2	1'180 ± 10%
24	≤16.8	≥2.4	11.4	2'100 ± 10%
48	≤33.6	≥4.8	5.7	8'350 ± 13%
60	≤42.0	≥6.0	4.5	13'100 ± 15%

Circuit Diagram (Topview)



Insulation Data

- Basic Insulation	at 250VAC
- Air and Creepage Distance	>4mm
- Test Voltage	2'500V/50Hz/1min
- Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>10mm
- Test Voltage	5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 175
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 10ms
Drop-Out Time** (all NC closed)	typ. 3ms
Bounce Time of NO Contact	typ. 2ms
Bounce Time of NC Contact	typ. 15ms
Shock Resistance 16ms	NO > 17g NC > 7g
Vibration Resistance (10-200Hz)	NO > 7g NC > 2g
Resistance to short circuiting output contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.18g
Mounting Position	any
Type of Protection	RT III
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

Approvals

UL File E188953	Sec. 5
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

Options, Accessories

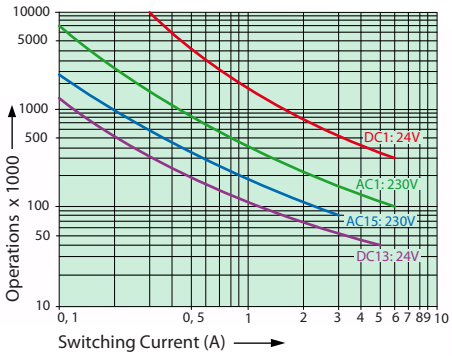
None

Product Key

SIS 1 1 2 24VDC

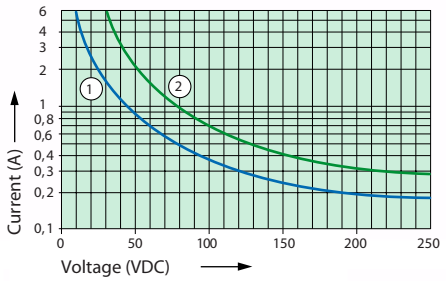
- 24VDC: Coil Voltage
- 2: Soldering Tags
- 1: Number of NC Contacts
- 1: Number of NO Contacts
- SIS: Typ Designation

Contact Lifetime



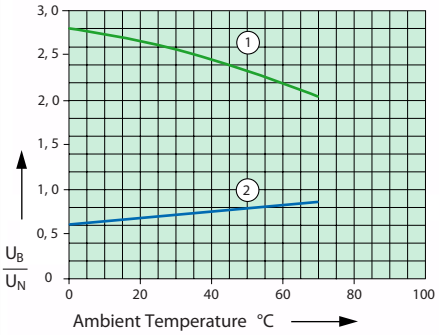
Max. Switching Characteristics (DIN EN60947-5-1 / EN 60947-5-1):
AC1: 250V / 6A
AC 15: 230V / 3A
DC1: 24V / 6A
DC 13: 24V / 5A / 0.1Hz
UL 508: B300/ R300

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <4A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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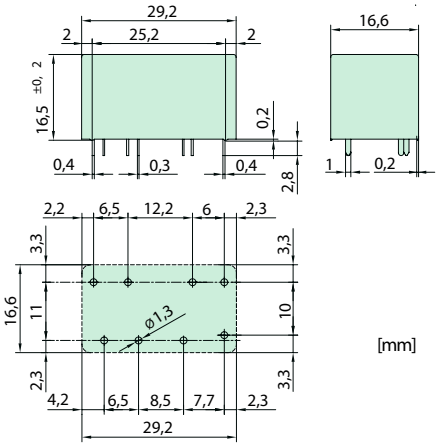
SIS 3 Series

Relay Key Data

- PCB Relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (>5.5mm) as well as Contacts side by side (>5.5mm)
- EN50205 Type A
- Double and Reinforced Insulation
- Contact Mounting: SIS212 2NO / 1NC
- Small external Dimensions
- Mean Coil Power 0.6W
- Holding Power 0.18W
- For Railway Application EN50155 on request

Dimensions



Contact Data

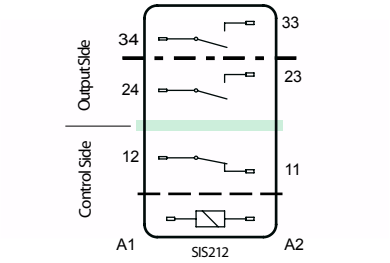
Contact Material	AgCuNi+0.2-0.4µm Au
Type of Contact	Single Contact with notched Crown
Rated Switching Capacity	250VAC 6A AC1 1'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	30A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	5mA to 6A
Switching Capacity Range*	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	≤3.5	≥0.5	120.0	41.5 ± 10%
9	≤6.3	≥0.9	66.6	135 ± 10%
12	≤8.4	≥1.2	50.0	240 ± 10%
18	≤12.6	≥1.8	33.3	540 ± 10%
24	≤16.8	≥2.4	25.0	960 ± 10%
48	≤33.6	≥4.8	12.5	3'840 ± 10%
60	≤42.0	≥6.0	10.0	6'000 ± 13%
110	≤77.0	≥11.0	5.4	20'150 ± 15%

Circuit Diagram (Topview)



Insulation Data

- - - -	- Basic Insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
-·-·-·-	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >5.5mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 175
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>10 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operation
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 10ms
Drop-Out Time** (all NC closed)	typ. 3ms
Bounce Time of NO Contact	typ. 2ms
Bounce Time of NC Contact	typ. 15ms
Shock Resistance 16ms	NO > 17g NC > 10g
Vibration Resistance (10-200Hz)	NO > 7g NC > 3g
Resistance to short circuiting output contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.20g
Mounting Position	any
Type of Protection	RT III
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

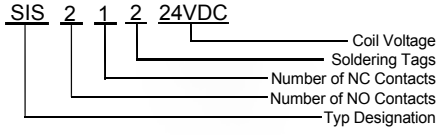
Approvals

UL File E188953	Sec. 5
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

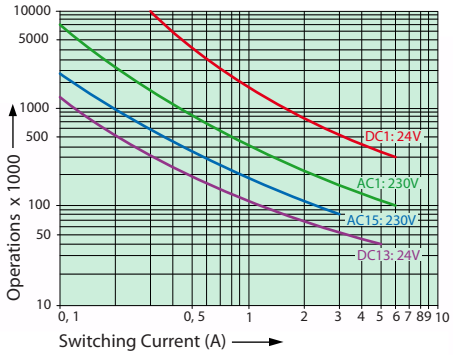
Options, Accessories

None

Product Key



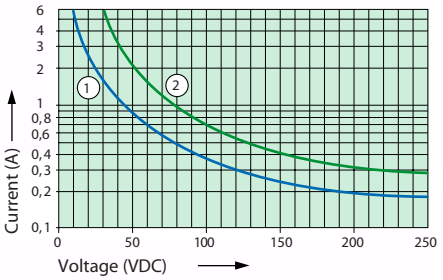
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1 / EN 60947-5-1):
AC1: 250V / 6A
AC 15: 230V / 3A
DC1: 24V / 6A
DC 13: 24V / 5A / 0.1Hz
UL 508: B300/ R300

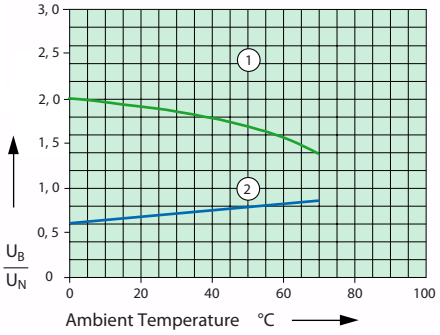
Max. Contact Load at AC1 with 230V:
2 Contacts with 6A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <4A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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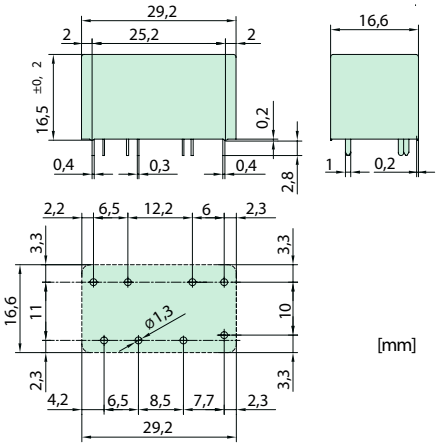
SIS 3 sensitive Series

Relay Key Data

- PCB Relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (>5.5mm) as well as Contacts side by side (>5.5mm)
- EN50205 Type A
- Double and Reinforced Insulation
- Contact Mounting: SIS212 2NO / 1NC
- Small external Dimensions
- Mean Coil Power 0.4W
- Holding Power 0.14W
- For Railway Application EN50155 on request

Dimensions



Contact Data

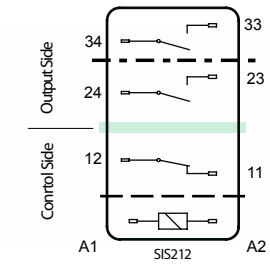
Contact Material	AgCuNi+0.2-0.4µm Au
Type of Contact	Single Contact with notched crown
Rated Switching Capacity	250VAC 6A AC1 1'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	30A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	5mA to 6A
Switching Capacity Range*	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	80.0	62.5 ± 10%
6	≤4.5	≥0.6	66.6	90 ± 10%
9	≤6.75	≥0.9	44.5	202 ± 10%
12	≤9.0	≥1.2	33.3	360 ± 10%
18	≤13.5	≥1.8	22.2	810 ± 10%
24	≤18.0	≥2.4	16.6	1'440 ± 10%
48	≤36.0	≥4.8	8.3	5'750 ± 13%
60	≤45.0	≥6.0	6.6	9'000 ± 15%

Circuit Diagram (Topview)



Insulation Data

- Basic Insulation	at 250VAC
- Air and Creepage Distance	>4mm
- Test Voltage	2'500V/50Hz/1min
- Double and Reinforced Insulation	at 250VAC
- Air and Creepage Distance	5.5mm
- Test Voltage	4'000V/50Hz/1min
- Double and Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>8mm
- Test Voltage	4'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 175
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>10 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 10ms
Drop-Out Time** (all NC closed)	typ. 3ms
Bounce Time of NO Contact	typ. 2ms
Bounce Time of NC Contact	typ. 15ms
Shock Resistance 16ms	NO > 17g
	NC > 10g
Vibration Resistance	NO > 7g
(10-200Hz)	NC > 3g
Resistance to short circuiting output contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.20g
Mounting Position	any
Type of Protection	RT III
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

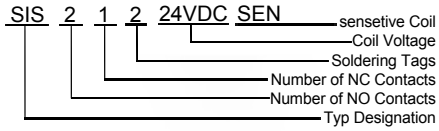
Approvals

UL File E188953	Sec. 5
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

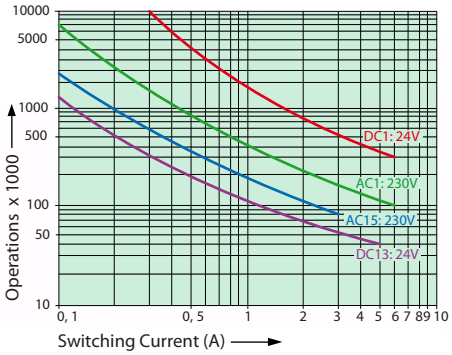
Options, Accessories

None

Product Key



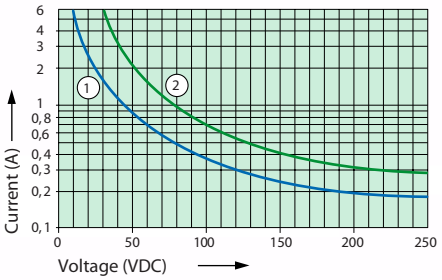
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1 / EN 60947-5-1):
AC1: 250V / 6A
AC 15: 230V / 3A
DC1: 24V / 6A
DC 13: 24V / 5A / 0.1Hz
UL 508: B300/ R300

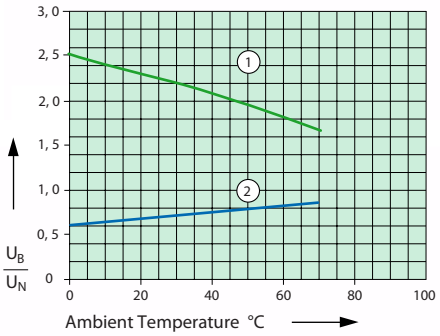
Max. Contact Load at AC1 with 230V:
2 Contacts with 6A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <4A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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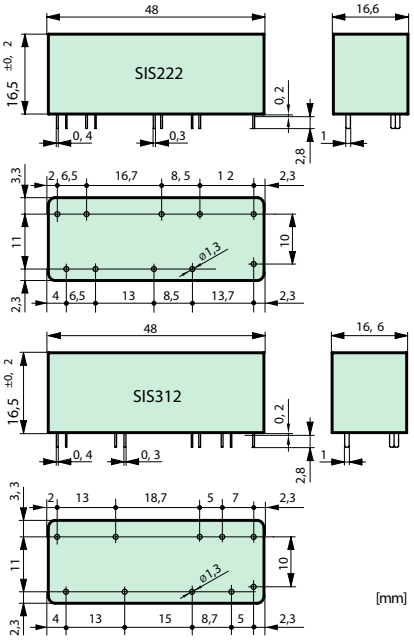
SIS 4 Series

Relay Key Data

PCB Relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (>5.5mm) as well as Contacts side by side (>5.5mm)
- EN50205 Type A
- Double and Reinforced Insulation
- Contact Mounting: SIS312 3NO / 1NC
  SIS222 2NO / 2NC
- Small external Dimensions
- Mean Coil Power 0.5W
- Holding Power 0.15W
- For Railway Application EN50155 on request

Dimensions



Contact Data

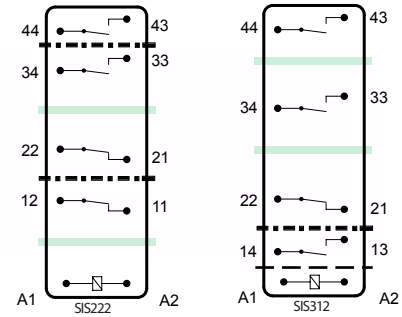
Contact Material	AgCuNi+0.2-0.4µm Au
Type of Contact	Single Contact with notched crown
Rated Switching Capacity	250VAC 6A AC1 1'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	30A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	5mA to 6A
Switching Capacity Range*	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	3.5	≥0.5	100	50 ± 10%
9	6.3	≥0.9	56.2	160 ± 10%
12	8.4	≥1.2	42.1	285 ± 10%
18	12.6	≥1.8	28.1	640 ± 10%
24	16.8	≥2.4	20.8	1'150 ± 10%
48	33.6	≥4.8	10.4	4'600 ± 10%
60	42.0	≥6.0	8.3	7'200 ± 13%
110	77.0	≥11.0	4.5	24'200 ± 15%

Circuit Diagram (Topview)



Insulation Data

- Basic Insulation	at 250VAC
- Air and Creepage Distance	>4mm
- Test Voltage	2'500V/50Hz/1min
- Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>5.5mm
- Test Voltage	4'000V/50Hz/1min
- Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>8mm
- Test Voltage	4'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 175
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>10 MΩ

Additional Relay Data

Mechanical life	$>10x10^6$ operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 15ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 2ms
Bounce Time of NC Contact	typ. 15ms
Shock Resistance 16ms	NO > 10g
	NC > 10g
Vibration Resistance	NO > 10g
(10-200Hz)	NC > 4g
Resistance to short circuiting output contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C tp +70°C
Themal Resistance	45 K/W
Temperature Limit for Coil	120°C
Weight	approx.30g
Mounting Position	any
Type of Protection	RT III
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

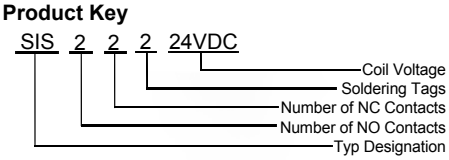
Approvals

UL File E188953	Sec. 5
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

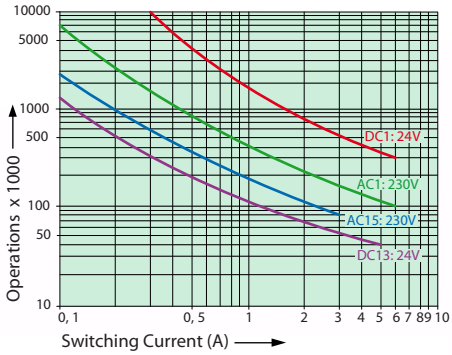
Options, Accessories

None

Product Key



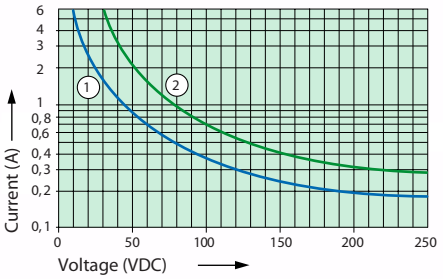
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1 / EN 60947-5-1):
AC1: 250V / 6A
AC 15: 230V / 3A
DC1: 24V / 6A
DC 13: 24V / 5A / 0.1Hz
UL 508: B300/ R300

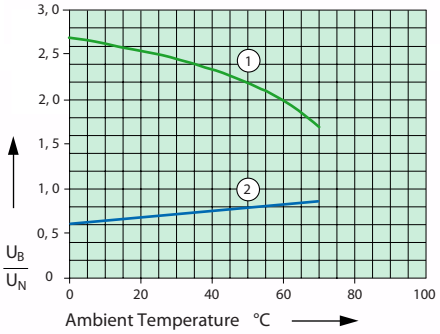
Max. Contact Load at AC1 with 230V:
2 Contacts with 6A each
3 Contacts with 4A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <4A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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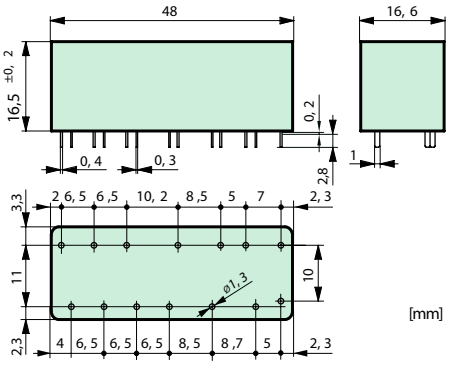
SIS 6 Series

Relay Key Data

- PCB Relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (>5.5mm) as well as Contacts side by side (>5.5mm)
- EN50205 Type A
- Double and Reinforced Insulation
- Contact Mounting: SIS422 4NO / 2NC
- Small external Dimensions
- Mean Coil Power 0.66W
- Holding Power 0.20W
- For Railway Application EN50155 on request

Dimensions



Contact Data

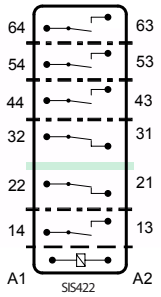
Contact Material	AgCuNi+0.2µm Au
Type of Contact	Single contact with notched crown
Rated Switching Capacity	250VAC 6A AC1 1'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	30A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	5mA to 6A
Switching Capacity Range*	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	3.5	≥0.5	133	37.5 ± 10%
9	6.3	≥0.9	73.7	122 ± 10%
12	8.4	≥1.2	55.8	215 ± 10%
18	12.6	≥1.8	37.1	485 ± 10%
24	16.8	≥2.4	29.7	860 ± 10%
48	33.6	≥4.8	13.9	3'450 ± 10%
60	42.0	≥6.0	11.1	5'400 ± 13%
110	77.0	≥11.0	6.0	18'300 ± 15%

Circuit Diagram (Topview)



Insulation Data

- Basic Insulation	at 250VAC
- Air and Creepage Distance	>4mm
- Test Voltage	2'500V/50Hz/1min
- Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>5.5mm
- Test Voltage	4'000V/50Hz/1min
- Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>8mm
- Test Voltage	4'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 175
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>10 MΩ

Weitere Daten

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 15ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 2ms
Bounce Time of NC Contact	typ. 15ms
Shock Resistance 16ms	NO > 10g NC > 9g
Vibration Resistance (10-200Hz)	NO > 10g NC > 3g
Resistance to short circuiting output contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C bis +70°C
Themal Resistance	45 K/W
Temperature Limit for Coil	120°C
Weight	approx.35g
Mounting Position	any
Type of Protection	RT III
Solder bath Temperature	270°C/5s

*without spark suppression

Tests, Regulations

Approvals

UL File E188953	Sec. 5
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

Options, Accessories

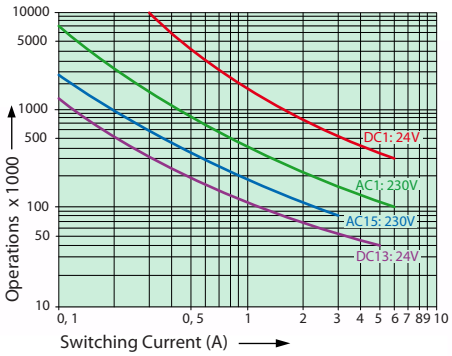
None

Product Key

SIS 4 2 2 24VDC

- 24VDC: Coil Voltage
- 2: Soldering Tags
- 2: Number of NC Contacts
- 4: Number of NO Contacts
- SIS: Typ Designation

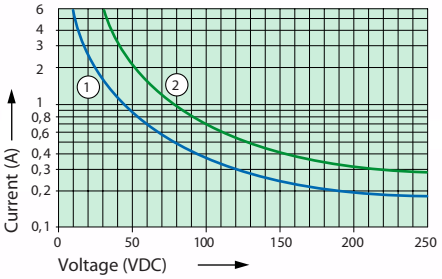
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1 / EN 60947-5-1):
AC1: 250V / 6A
AC 15: 230V / 3A
DC1: 24V / 6A
DC 13: 24V / 5A / 0.1Hz
UL 508: B300/ R300

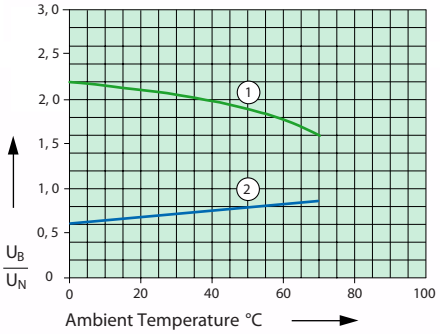
Max. Contact Load at AC1 with 230V:
2 Contacts with 6A each
3 Contacts with 4A each
4 Contacts with 3A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <4A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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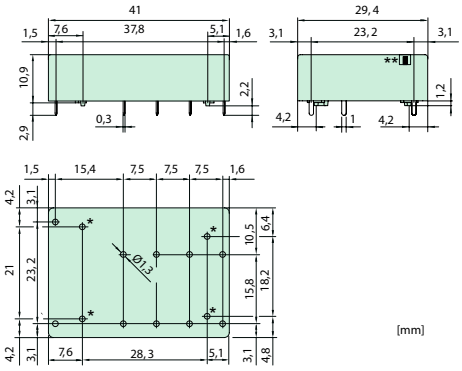
SIF 4 Series

Relay Key Data

- PCB Relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (>5.5mm) as well as Contacts side by side (>5.5mm)
- EN50205 Type A
- Double and Reinforced Insulation
- SMD arrangement below relay possible
- Kontakt Mounting: SIF422 4NO / 2NC
- Small Dimensions: just 10.9mm
- Mean Coil Power 0.70W
- Holding Power 0.21W
- For Railway Application EN 50 155 on request

Dimensions



* bei SMD-Bestückung nicht bohren
** offener Entlüftungskamin

Contact Data

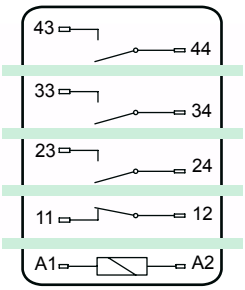
Contact Material	AgCuNi+0.2µm Au
Type of Contact	Single contact with notched crown
Rated Switching Capacity	250VAC 8A AC1 2'000VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	30A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	5mA to 8A
Switching Capacity Range*	60mW to 2'000W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	Resistace in Ohm at 20 °C
5	≤3.5	≥0.5	140.0	35.7 ± 10%
12	≤8.4	≥1.2	58.5	205 ± 10%
18	≤12.6	≥1.8	39.1	460 ± 10%
20	≤14.0	≥2.0	35.0	570 ± 10%
24	≤16.8	≥2.4	29.2	820 ± 10%
48	≤33.6	≥4.8	14.6	3'280 ± 10%
60	≤42.0	≥6.0	11.7	5'100 ± 13%
110	≤77.0	≥11.0	6.3	17'250 ± 17%

Circuit Diagram (Topview)



Insulation Data

- Double or Reinforced Insulation at 250VAC
- Air and Creepage Distance >5.5mm
- Test Voltage 4'000V/50Hz/1min

Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 175
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10 ^{6} operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 12ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 1.5ms
Bounce Time of NC Contact	typ. 15ms
Shock Resistance 16ms	NO > 15g NC > 6g
Vibration Resistance (10-200Hz)	NO > 10g NC > 2g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Resistance to short circuiting control contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	60 K/W
Temperature Limit for Coil	120°C
Weight	approx. 20g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

Approvals

UL File E188953	Sec. 6
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

Options, Accessories

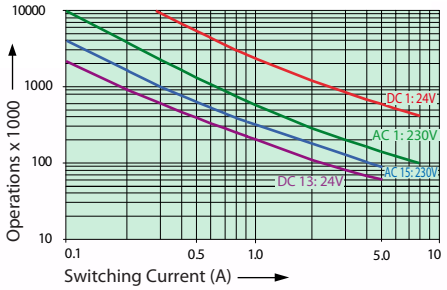
None

Product Key

SIF 3 1 2 24VDC

- 24VDC: Coil Voltage
- 2: Soldering Tags
- 1: Number of NC Contacts
- 3: Number of NO Contacts
- SIF: Typ Designation

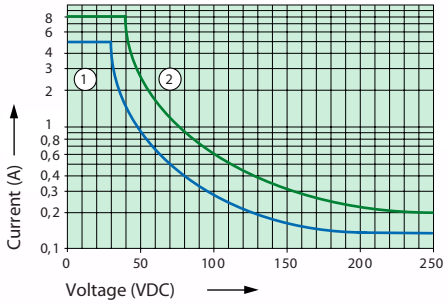
Contact Lifetime



Max. Switching Characteristics (DIN EN 60947-5-1):
AC1: 250V / 8A
AC 15: 230V / 5A
DC1: 24V / 8A
DC 13: 24V / 5A / 0.1Hz
UL 508: B300/ R300

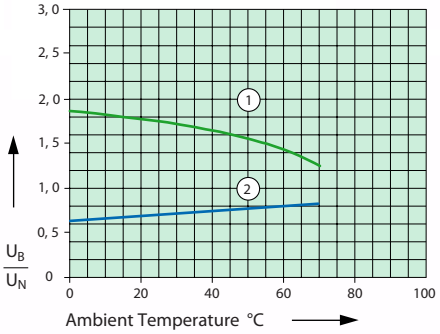
Max. Contact Load at AC1 with 230V:
2 Contacts with 8A each
3 Contacts with 6A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <5A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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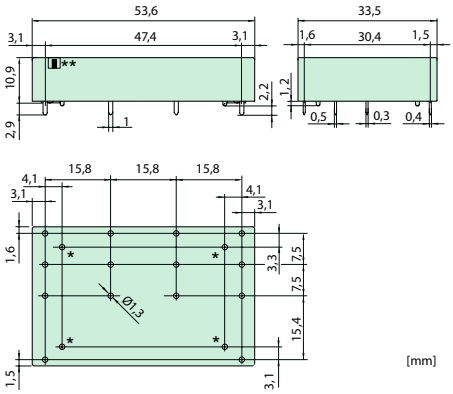
SIF 6 Series

Relay Key Data

- PCB Relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (>5.5mm) as well as Contacts side by side (>5.5mm)
- EN50205 Type A
- Double and Reinforced Insulation
- SMD arrangement below relay possible
- Kontakt Mounting: SIF422 4NO / 2NC
- Small Dimensions: just 10.9mm
- Mean Coil Power 0.66W
- Holding Power 0.20W
- For Railway Application EN50155 on request

Dimensions



* Do nit Drill when SMD arrangement
** Open breathing hole

Contact Data

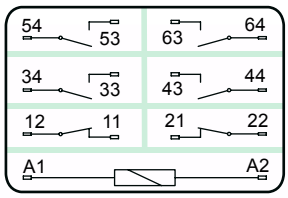
Contact Material	AgCuNi+0.2µm Au
Type of Contact	Single Contact with notched crown
Rated Switching Capacity	250VAC 8A AC1 2'000VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	30A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	5mA to 8A
Switching Capacity Range*	60mW to 2'000W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	≤3.5	≥0.5	133.3	37.5 ± 10%
12	≤8.4	≥1.2	55.8	215 ± 10%
18	≤12.6	≥1.8	38.9	462 ± 10%
20	≤14.0	≥2.0	33.3	600 ± 10%
24	≤16.8	≥2.4	27.5	870 ± 10%
48	≤33.6	≥4.8	13.8	3'460 ± 10%
60	≤42.0	≥6.0	11.1	5'400 ± 13%
110	≤77.0	≥11.0	6.0	18'300 ± 15%

Circuit Diagram (Topview)



SIF-422

Insulation Data

- Double or Reinforced Insulation at 250VAC
- Air and Creepage Distance >5.5mm
- Test Voltage 4'000V/50Hz/1min

Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 175
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 20ms
Drop-Out Time** (all NC closed)	typ. 8ms
Bounce Time of NO Contact	typ. 1.5ms
Bounce Time of NC Contact	typ. 15ms
Shock Resistance 16ms	NO > 10g NC > 6g
Vibration Resistance (10-200Hz)	NO > 10g NC > 2g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Resistance to short circuiting control contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	47 K/W
Temperature Limit for Coil	120°C
Weight	approx.35g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

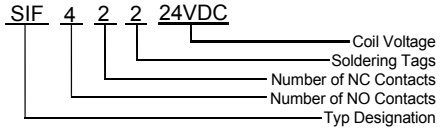
Approvals

UL File E188953	Sec. 6
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

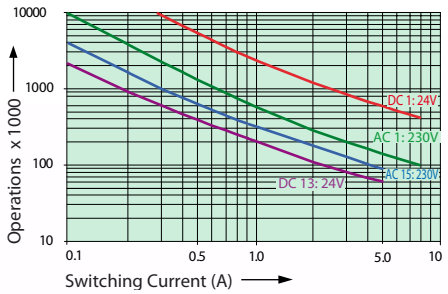
Options, Accessories

None

Product Key



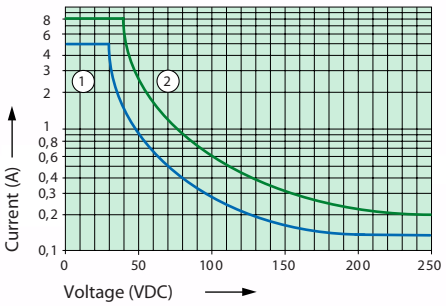
Contact Lifetime



Max. Switching Characteristics
(DIN EN 60947-5-1):
AC1: 250V / 8A
AC 15: 230V / 5A
DC1: 24V / 8A
DC 13: 24V / 5A / 0.1Hz
UL 508: B300/ R300

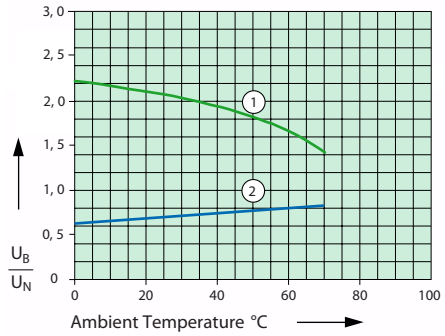
Max. Contact Load at AC1 with 230V:
2 Contacts with 8A each
3 Contacts with 6A each
4 Contacts with 4.5A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <5A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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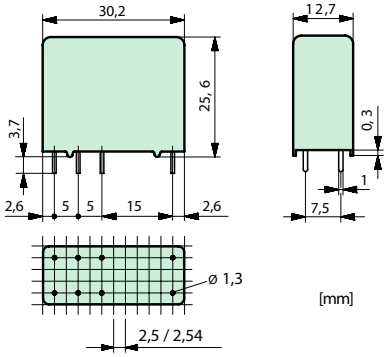
SIR282 Series

Relay Key Data

- PCB relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (Air and Creepage Distance >14mm); Protective seperation between left and right Contact Side (Air and Creepage Distance >5.5mm)
- EN50205 Type B
- 2 Change-Over Contacts
- Mean Coil Power 1W
- Holding Power 0.31W

Dimensions



Contact Data

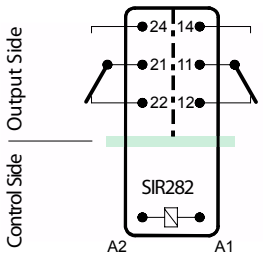
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Single Contact
Rated Switching Capacity	250VAC 8A AC1 2'000VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	15A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 8A
Switching Capacity Range*	120mW to 2'000W(VA)
Contact resistance (as delivered)	≤100mΩ/28V/100mA

*Guided Values

Stadard 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	181.0	27.5 ± 10%
6	4.5	≥0.6	166.0	36 ± 10%
12	9.0	≥1.2	85.7	140 ± 10%
18	13.5	≥1.8	66.6	270 ± 10%
24	18.0	≥2.4	33.3	720 ± 10%
48	36.0	≥4.8	20.8	2'300 ± 10%
60	45.0	≥6.0	13.6	4'400 ± 13%
110	82.5	≥11.0	11.0	10'000 ± 15%

Curcuit Diagram (Topview)



Insulation Data

- Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>5.5mm
- TEst Voltage	4'000V/50Hz/1min
– Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>14mm
- Test Voltage	5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 550
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 12ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 4ms
Bounce Time of NC Contact	typ. 8ms
Shock Resistance 16ms	NO > 10g
	NC > 2.5g
Vibration Resistance	NO > 10g
(10-200Hz)	NC > 1g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	50 K/W
Temperature Limit for Coil	120°C
Weight	approx.20g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

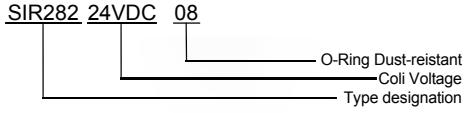
Approvals

UL File E188953	Sec. 1
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V1

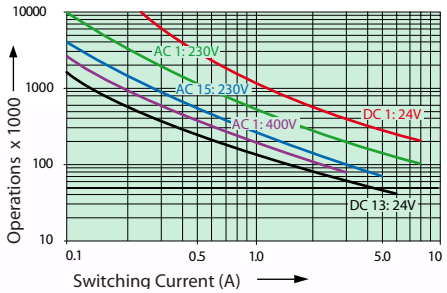
Optionen, Accessories

PCB Socket, DIN Rail Socket	see Page 27
Sealed RT III	on request
Dust-restistant with O-Ring	

Product Key



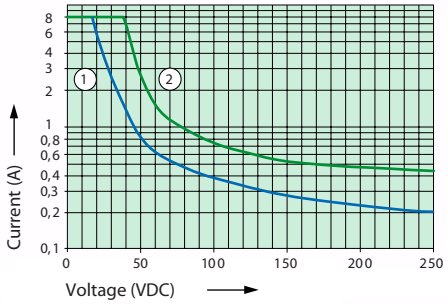
Contact Lifetime for NO Contact



Max. Switching Characteristics (DIN EN 60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 6A,
UL508: C300

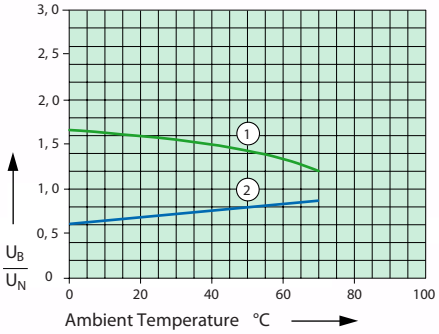
Max. Contact Load at AC1 with 230V:
2 Contacts with 8A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <5A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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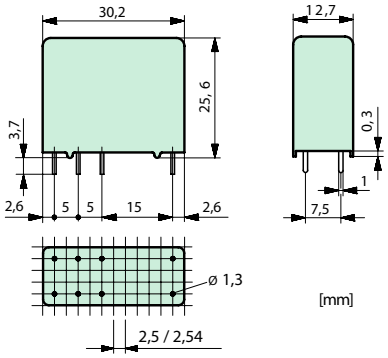
SIR282 sensitive Series

Relay Key Data

- PCB relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (Air and Creepage Distance >14mm); Protective seperation between left and right Contact Side (Air and Creepage Distance >5.5mm)
- EN50205 Type B
- 2 Change-Over Contacts
- Mean Coil Power approx. 0.7W
- Holding Power 0.21W

DImensions



Contact Data

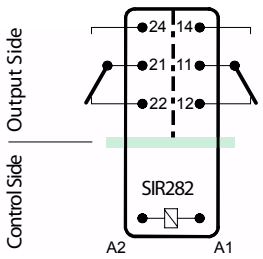
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Single Contact
Rated Switching Capacity	250VAC 8A AC1 2'000VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	15A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 8A
Switching Capacity Range*	120mW to 2'000W(VA)
Contact resistance (as delivered)	≤100mΩ/28V/100mA

*Guided Values

Stadard 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	144.0	34.7 ± 10%
6	4.5	≥0.6	120.0	50 ± 10%
12	9.0	≥1.2	60.0	200 ± 10%
18	13.5	≥1.8	40.0	450 ± 10%
24	18.0	≥2.4	30.0	800 ± 10%
48	36.0	≥4.8	15.0	3'200 ± 10%
60	45.0	≥6.0	12.0	5'000 ± 13%
110	82.5	≥11.0	6.5	16'800 ± 15%

Circuit Diagram (Topview)



Insulation Data

- - - - - -	- Double or Reinforced Insulation at 250VAC
	- Air and Creepage Distance >5.5mm
	- Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC
	- Air and Creepage Distance >14mm
	- Test Voltage 5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 12ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 4ms
Bounce Time of NC Contact	typ. 8ms
Shock Resistance 16ms	NO > 10g NC > 2.5g
Vibration Resistance (10-200Hz)	NO > 10g NC > 1g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	50 K/W
Temperature Limit for Coil	120°C
Weight	approx.20g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

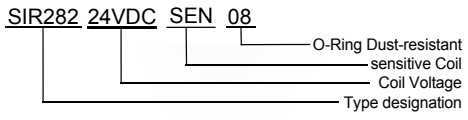
Approvals

UL File E188953	Sec. 1
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V1

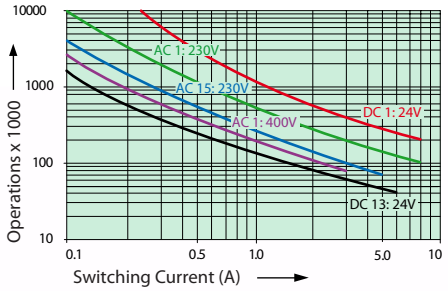
Optionen, Accessories

PCB Socket, DIN Rail Socket	see Page 27
Sealed RT III	on request
Dust-restistant with O-Ring	

Product Key



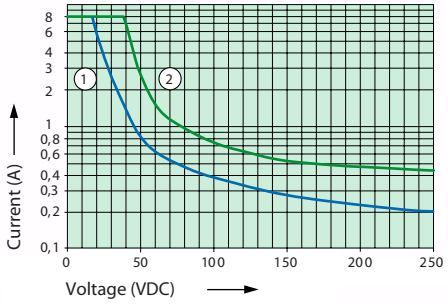
Contact Lifetime for NO Contact



Max. Switching Characteristics
(DIN EN 60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 6A,
UL508: C300

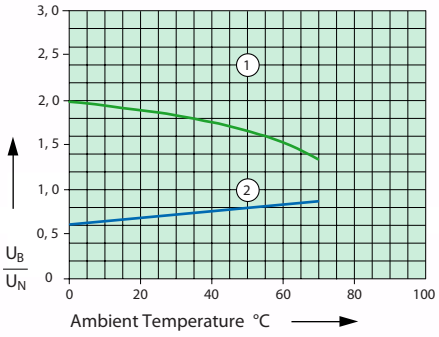
Max. Contact Load at AC1 with 230V:
2 Contacts with 8A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <5A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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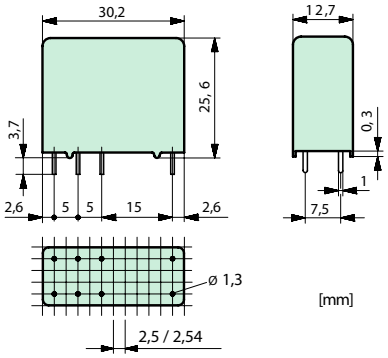
SGR282Z Series

Relay Key Data

- PCB relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (Air and Creepage Distance >14mm); Protective seperation between left and right Contact Side (Air and Creepage Distance >5.5mm)
- EN50205 Type B
- 2 Change-Over Contacts
- Mean Coil Power 1W
- Holding Power 0.31W

Dimensions



Contact Data

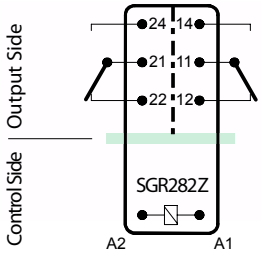
Contact Material	AgCuNi
Type of Contact	Single Contact
Rated Switching Capacity	250VAC 6A AC1 1'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	15A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	20mA to 6A
Schaltstrombereich**	10mA to 6A
Switching Capacity Range*	120mW to 1'500W(VA)
Switching Capacity Range**	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/28V/100mA

*Guided Values
**Values for AgCuNi+4-6µm Au

Stadard 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	181.8	27.5 ± 10%
6	4.5	≥0.6	166.6	36 ± 10%
12	9.0	≥1.2	85.7	140 ± 10%
18	13.5	≥1.8	66.6	270 ± 10%
24	18.0	≥2.4	33.3	720 ± 10%
48	36.0	≥4.8	20.8	2'300 ± 10%
60	45.0	≥6.0	13.6	4'400 ± 13%
110	82.5	≥11.0	11.0	10'000 ± 15%

Curcuit Diagram (Topview)



Insulation Data

- - - - - -	- Double or Reinforced Insulation at 250VAC
	- Air and Creepage Distance >5.5mm
	- Test Voltage 4'000V/50Hz/1min
~	~ Double or Reinforced Insulation at 250VAC
	- Air and Creepage Distance >14mm
	- Test Voltage 5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 550
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Data

Mechanical life	>50x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 12ms
Drop-Out Time*** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 4ms
Bounce Time of NC Contact	typ. 8ms
Shock Resistance 16ms	NO > 10g NC > 2.5g
Vibration Resistance (10-200Hz)	NO > 10g NC > 1g
Resistance to short circuiting output contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	50 K/W
Temperature Limit for Coil	120°C
Weight	approx.20g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

***without spark suppression

Tests, Regulations

Approvals

UL File E188953	Sec. 1
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V1

Optionen, Accessories

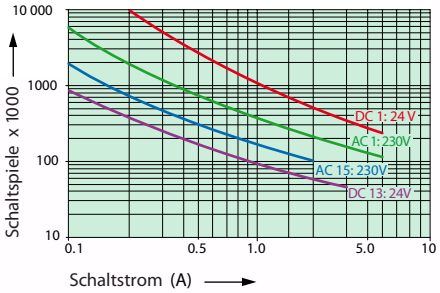
PCB Socket, DIN Rail Socket	see Page 27
Sealed RT III	on request
Dust-resistant with O-Ring	
Contact Material with 4-6µm AU	

Product Key

SGR282Z 24VDC AU6 08

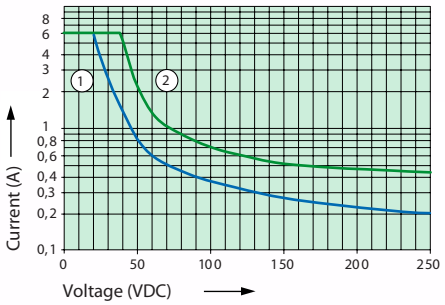
- 08 — O-Ring Dust-resistant
- AU6 — Gold plating4-6µm
- 24VDC — Coil Voltage
- SGR282Z — Type designation

Contact Lifetime for AgCuNi



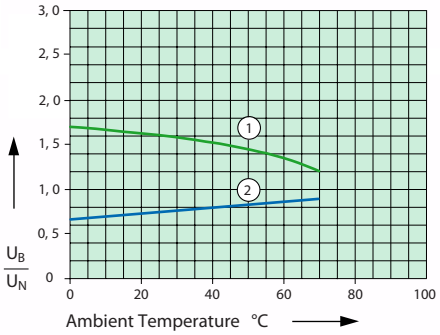
Max. Switching Characteristics (DIN EN 60947-5-1, Tab.C2):
AC 15: 230V / 3A
DC 13: 24V / 4A
UL508: C300
Max. Contact Load at AC1 with 230V:
2 Contacts with 6A each
Gold contacts with 4-6µm layer thickness. When high voltages and currents are switched, the layer of gold is destroyed already after a few switching operations. Once the gold layer is damaged due to the swithcing of high loads, such a contacts must not be used any more for signal and control current circuts. Safe contact making is then possible at high loads with the formation of sparks.

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <4A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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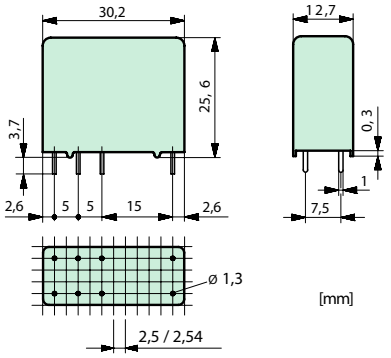
SGR282Z sensitive Series

Relay Key Data

- PCB relay with forcibly guided Contacts
- Protective separation between Coil and Contacts (Air and Creepage Distance >14mm); Protective seperation between left and right Contact Side (Air and Creepage Distance >5.5mm)
- EN50205 Type B
- 2 Change-Over Contacts
- Mean Coil Power 0.7W
- Holding Power 0.21W

Dimensions



Contact Data

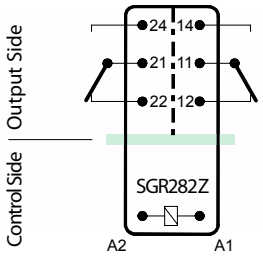
Contact Material	AgCuNi
Type of Contact	Single Contact
Rated Switching Capacity	250VAC 6A AC1 1'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	15A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	20mA to 6A
Schaltstrombereich**	10mA to 6A
Switching Capacity Range*	120mW to 1'500W(VA)
Switching Capacity Range**	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/28V/100mA

*Guided Values
**Values for AgCuNi+4-6µm Au

Stadard Coils for direct current (other voltages on request)

Nominal Voltage VDC	Min. Pick-Up Voltag at 20°C	Drop-Out Voltage at 20 °C	Nominal Current in mA	Resistance in Ohm at 20 °C
5	3.75	≥0.5	144.0	34.7 ± 10%
6	4.5	≥0.6	120.0	50 ± 10%
12	9.0	≥1.2	60.0	200 ± 10%
18	13.5	≥1.8	40.0	450 ± 10%
24	18.0	≥2.4	30.0	800 ± 10%
48	36.0	≥4.8	15.0	3'200 ± 10%
60	45.0	≥6.0	12.0	5'000 ± 13%
110	82.5	≥11.0	6.5	16'800 ± 15%

Circuit Diagram (Topview)



Insulation Data

- Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>5.5mm
- Test Voltage	4'000V/50Hz/1min
– Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>14mm
- Test Voltage	5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 550
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 12ms
Drop-Out Time*** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 4ms
Bounce Time of NC Contact	typ. 8ms
Shock Resistance 16ms	NO > 10g NC > 2.5g
Vibration Resistance (10-200Hz)	NO > 10g NC > 1g
Resistance to short circuiting output contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	50 K/W
Temperature Limit for Coil	120°C
Weight	approx.20g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

***without spark suppression

Tests, Regulations
Approvals

UL File E188953	Sec. 1
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V1

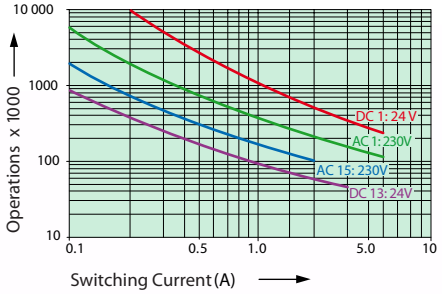
Optionen, Accessories

PCB Socket, DIN Rail Socket	see Page 27
Sealed RT III	on request
Dust-resistant with O-Ring	
Contact Material with 4-6µm AU	

Product Key

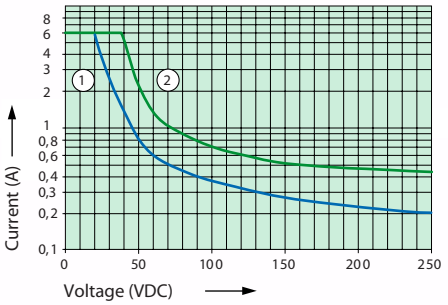
SGR282Z 24VDC SEN AU6 08
- 08 — Type designation
- 24VDC — Coil Voltage
- SEN — Sensetive Coil
- AU6 — Gold plating4-6µm
- O-Ring Dust-resistant

Contact Lifetime for AgCuNi



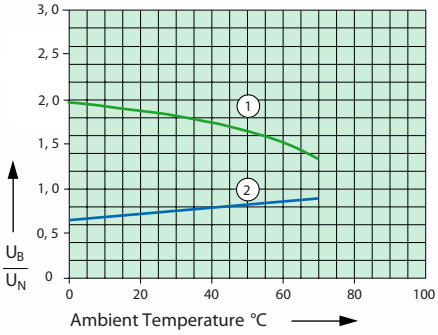
Max. Switching Characteristics
(DIN EN 60947-5-1, Tab.C2):
AC 15: 230V / 3A
DC 13: 24V / 4A
UL508: C300
Max. Contact Load at AC1 with 230V:
2 Contacts with 6A each
Gold contacts with 4-6µm layer thickness. When high voltages and currents are switched, the layer of gold is destroyed already after a few switching operations. Once the gold layer is damaged due to the swithcing of high loads, such a contacts must not be used any more for signal and control current circuits. Safe contact making is then possible at high loads with the formation of sparks.

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <4A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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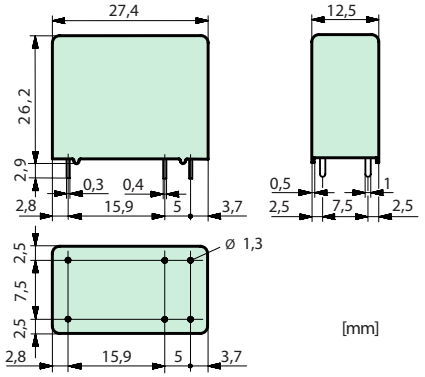
SIM 2 Series

Relay Key Data

- PCB Relay with forcibly guided Conatcts
- Protective separation between Coil and Contacts (Air and Creepage Distance >14mm); Protective seperation between left and right Contact Side (Air and Creepage Distance >5.5mm)
- EN50205 Type A
- Contact Mounting: SIM112 1NO / 1NC
- Small extenal Dimensions
- Mean Coil Power 0.5W
- Holding Power 0.15W

Dimensions



Contact Data

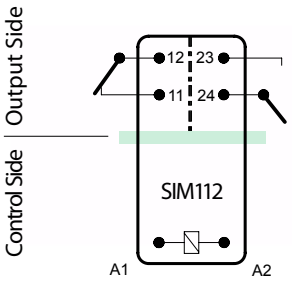
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 8A AC1 2'000VA
Electr. life AC1(360 cycles/h)	ca.100'000
Inrush Current max.	20A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 8A
Switching Capacity Range*	60mW to 2'000W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	3.5	≥0.5	111.0	45 ± 10%
6	4.2	≥0.6	85.7	70 ± 10%
12	8.4	≥1.2	44.4	270 ± 10%
21	14.7	≥2.1	23.8	880 ± 10%
24	16.8	≥2.4	21.8	1'100 ± 10%
48	33.6	≥4.8	10.9	4'400 ± 13%
60	42.0	≥6.0	8.7	6'850 ± 15%
110	77.0	≥11.0	5.5	20'000 ± 15%

Curcuit Diagram (Topview)



Insulation Data

- Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>5.5mm
- Test Voltage	4'000V/50Hz/1min
– Double or Reinforced Insulation	at 250VAC
- Air and Creepage Distance	>14mm
- Test Voltage	5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	$>10x10^6$ operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 10ms
Drop-Out Time** (all NC closed)	typ. 3ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ. 12ms
Shock Resistance 16ms	NO > 10g NC > 2.5g
Vibration Resistance (10-200Hz)	NO > 10g NC > 1g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.20g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

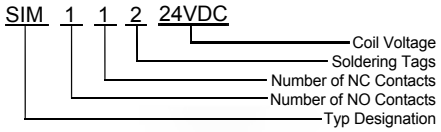
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

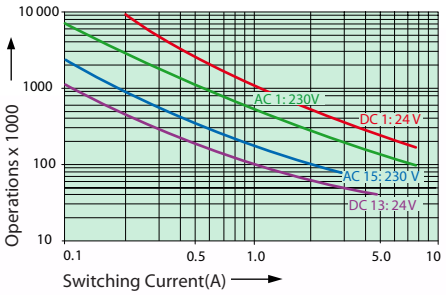
Optionen, Accessories

None

Product Key



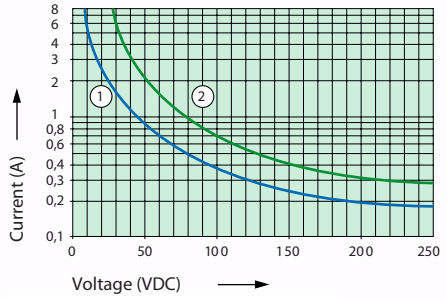
Contact Lifetime



Max. Switching Characteristics (DIN EN60947-5-1, Tab.C2):

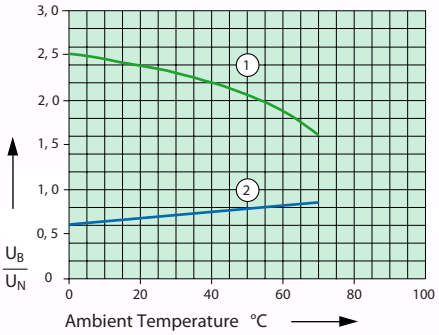
AC1: 250V / 8A
AC 15: 230V / 3A
DC1: 24V / 8A
DC 13: 24V / 6A / 0.1Hz
UL 508: C150 / R300

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <6A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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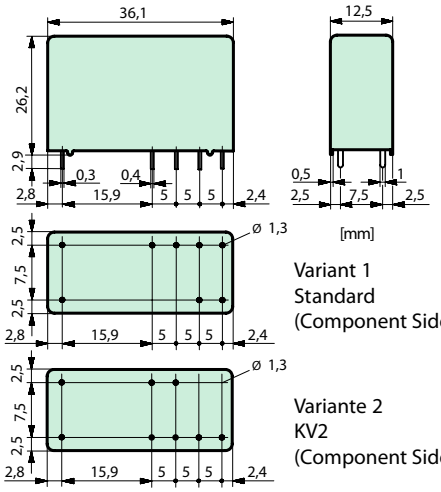
SIM 3 Series

Relay Key Data

- PCB Relay with forcibly guided Conatcts
- Protective separation between Coil and Contacts (Air and Creepage Distance >14mm); Protective seperation between left and right Contact Side (Air and Creepage Distance >5.5mm)
- EN50205 Type A
- Contact Mounting: SIM212 2NO / 1NC
- Small extenal Dimensions
- Mean Coil Power 0.75W
- Holding Power 0.21W

Dimensions



Contact Data

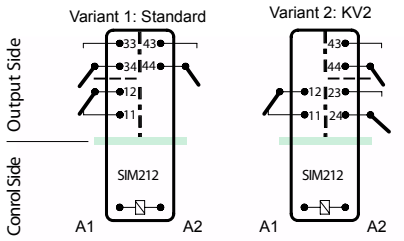
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 8A AC1 2'000VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	20A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 8A
Switching Capacity Range*	60mW to 2'000W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	3'100 ± 10%
60	45.0	≥6.0	12.5	4'800 ± 13%
110	82.5	≥11.0	6.8	16'000 ± 15%

Curcuit Diagram (Topview)



Insulation Data

- - - -	- Basic Insulation at 250 VAC - Air and Creepage Dis. >4mm - Test Voltage 2'500V/50Hz/1min
------	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >5.5mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >14mm - Test Voltage 5'000V/50Hz/1min

Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 10ms
Drop-Out Time** (all NC closed)	typ. 4ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ. 12ms
Shock Resistance 16ms	NO > 10g NC > 2.5g
Vibration Resistance (10-200Hz)	NO > 10g NC > 1g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	50 K/W
Temperature Limit for Coil	120°C
Weight	approx.25g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

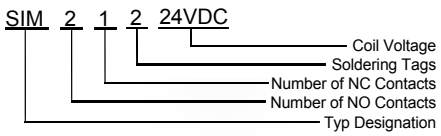
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

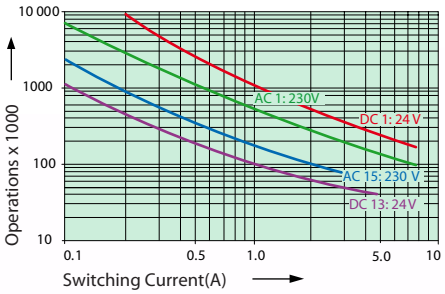
Options, Accessories

PCB Socket, DIN Rail Socket	see Page 28

Product Key



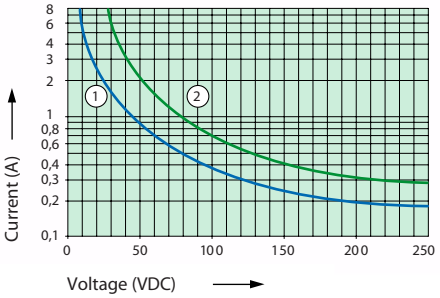
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1, Tab.C2):
AC1: 250V / 8A
AC 15: 230V / 3A
DC1: 24V / 8A
DC 13: 24V / 6A / 0.1Hz
UL 508: C150 / R300

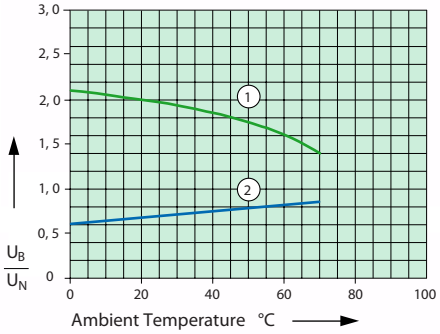
Max. Contact Load at AC1 with 230V:
2 Contacts with 8A each

Load Limit Curve Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <6A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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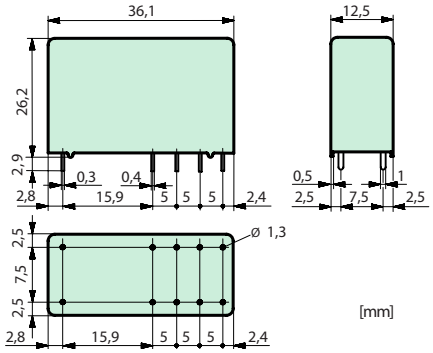
SIM 4 Series

Relais Key Data

- PCB Relay with forcibly guided Conatcts
- Protective separation between Coil and Contacts (Air and Creepage Distance >14mm); Protective seperation between left and right Contact Side (Air and Creepage Distance >5.5mm)
- EN50205 Type A
- Contact Mounting: SIM312 3NO / 1NC
  SIM222 2NO / 2NC
- Small external Dimensions
- Mean Coil Power 1W
- Holding Power 0.29W

Dimensions



Contact Data

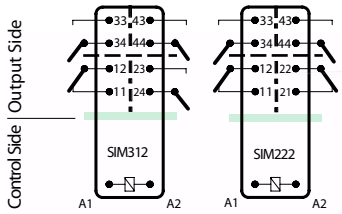
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 8A AC1 2'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	20A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 8A
Switching Capacity Range*	60mW to 2'000W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	181.8	27.5 ± 10%
6	4.5	≥0.6	166.0	36 ± 10%
12	9.0	≥1.2	85.7	140 ± 10%
21	15.75	≥2.1	46.6	450 ± 10%
24	18.0	≥2.4	40.0	600 ± 10%
48	36.0	≥4.8	20.8	2'300 ± 10%
60	45.0	≥6.0	16.6	3'600 ± 13%
110	82.5	≥11.0	9.6	12'000 ± 15%

Curcuit Diagram (Topview)



Insulation Data

- - - -	- Basic Insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
-·-·-·-	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >5.5mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >14mm - Test Voltage 5'000V/50Hz/1min

Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>$10x10^6$ operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 8ms
Drop-Out Time** (all NC closed)	typ. 4ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ. 12ms
Shock Resistance 16ms	NO > 10g NC > 2.5g
Vibration Resistance (10-200Hz)	NO > 10g NC > 1g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	50 K/W
Temperature Limit for Coil	120°C
Weight	approx.25g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

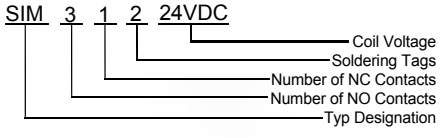
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

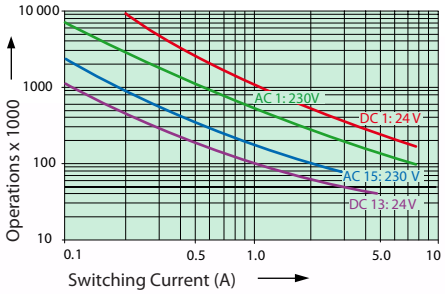
Options, Accesssories

PCB Socket, DIN Rail Socket see Page 28

Product Key



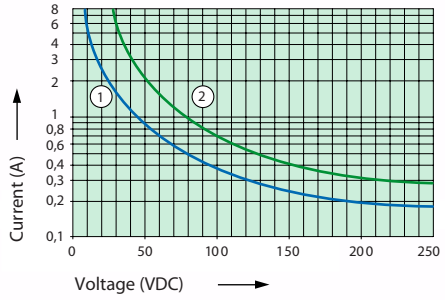
Contact Lifetime



Max. Switching Characteristics (DIN EN60947-5-1, Tab.C2):
AC1: 250V / 8A
AC 15: 230V / 3A
DC1: 24V / 8A
DC 13: 24V / 6A / 0.1Hz
UL 508: C150 / R300

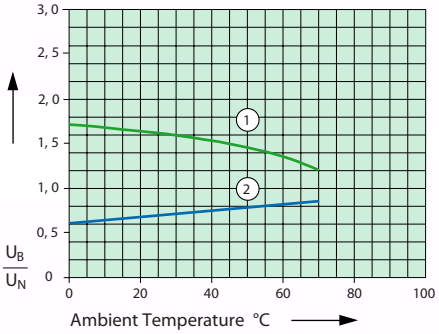
Max. Contact Load at AC1 with 230V:
2 Contacts with 8A each
3 Contacts with 6A each

Load Limit Curve with Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: <6A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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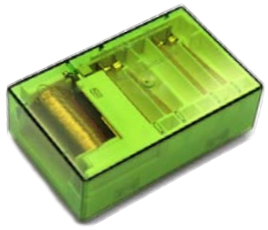
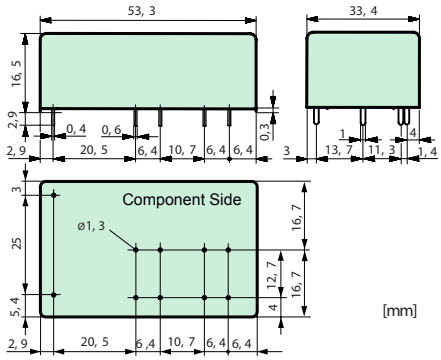
SLR 4 Series



Relay Key Data

- PCB Relay with forcibly guided Contacts
- Protective separation between Coil / Control Contacts and Output Contacts (>8mm), as well as protective seperation between the Output Contacts themselves (>10mm)
- EN50205 Type A
- Contact Mounting: SLR312 3NO / 1NC
  SLR222 2NO / 2NC
- Small external Dimensions
- Mean Coil Power 0.6W
- Holding Power 0.18W
- For Railway Application (EN 50155) on request

Dimensions



Contact Data

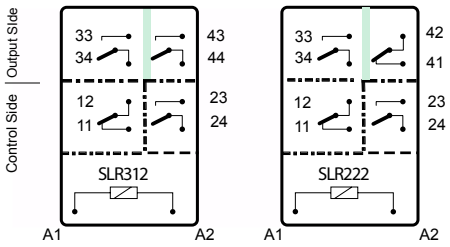
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 10A AC1 2'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	25A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 10A
Switching Capacity Range*	60mW to 2'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard Coils for direct current (other voltages on request)

Nennspannung VDC	Min. Anzugs-spannung bei 20°C	Abfallspannung bei 20 °C	Nennstrom in mA	Widerstand in Ohm bei 20 °C
5	3.5	≥0.5	121.0	41 ± 10%
6	4.2	≥0.6	100.0	60 ± 10%
12	8.4	≥1.2	50.0	240 ± 10%
18	12.6	≥1.8	33.3	540 ± 10%
24	16.8	≥2.4	25.2	950 ± 10%
48	33.6	≥4.8	12.6	3'800 ± 10%
60	42.0	≥6.0	10.0	6'000 ± 13%
110	77.0	≥11.0	5.5	20'000 ± 15%

Curcuit Diagram (Topview)



Insulation Data

- - - -	- Basic Insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
-·-·-·-	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - - Test Voltage 4'000V/50Hz/1min
~	~ Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >10mm - Test Voltage 5'000V/50Hz/1min

Additional Relay Data

Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ
Mechanical life	$>10x10^6$ operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 15ms
Drop-Out Time** (all NC closed)	typ. 4ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ. 12ms
Shock Resistance 16ms	NO > 10g NC > 6g
Vibration Resistance (10-200Hz)	NO > 5g NC > 1.5g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.30g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

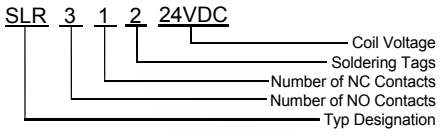
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

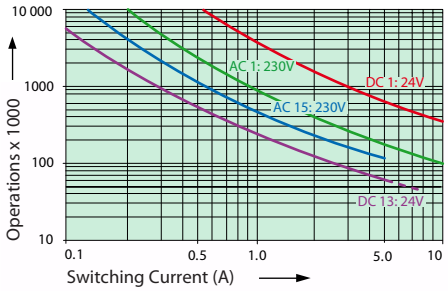
Options, Accesssories

None

Product Key



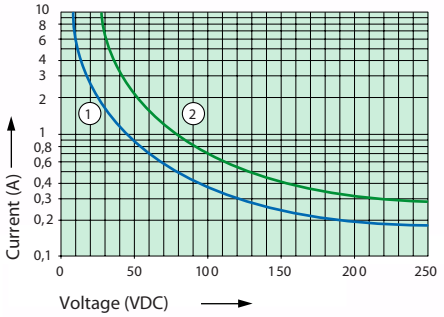
Kontaktlebensdauer



Max. Switching Characteristics
(DIN EN60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 7.5A / 0.1Hz
UL 508: C600 / R300

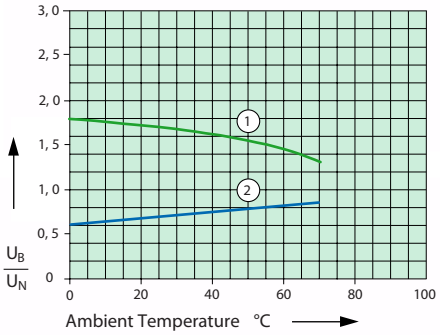
Max. Contact Load at AC1 with 230V:
2 Contacts with 10A each
3 Contacts with 8.4A each

Load Limit Curve with Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: ≤6A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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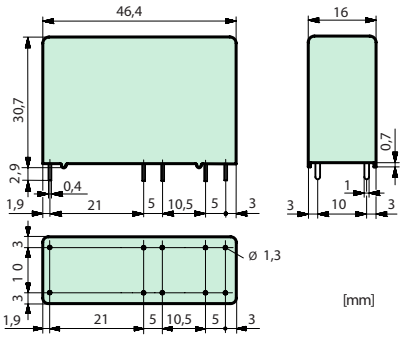
SIR 4 Series

Relay Key Data

- PCB Relay with forcibly guided Conatcts
- Protective separation between Coil / Control Contacts (>10mm), as well as protective seperation between the Output Contacts themselves (>8mm)
- EN50205 Type A
- Contact Mounting:
  SIR312 3NO / 1NC
  SIR222 2NO / 2NC
- Small external Dimensions
- Mean Coil Power 0.6 W
- Holding Power 0.18 W
- For Railway Application (EN50155) on request

Dimensions



Contact Data

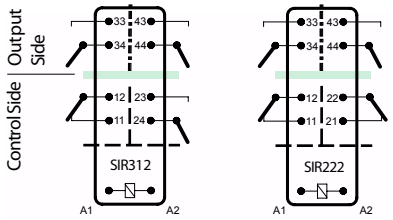
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 10A AC1 2'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	25A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 10A
Switching Capacity Range*	60mW to 2'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	3.5	≥0.5	121.0	41 ± 10%
6	4.2	≥0.6	100.0	60 ± 10%
12	8.4	≥1.2	50.0	240 ± 10%
18	12.6	≥1.8	33.3	540 ± 10%
24	16.8	≥2.4	25.2	950 ± 10%
48	33.6	≥4.8	12.6	3'800 ± 10%
60	42.0	≥6.0	10.0	6'000 ± 13%
110	77.0	≥11.0	5.5	20'000 ± 15%

Circuit Diagram (Topview)



Insulation Data

– – – –	- Basic Insulation bei 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
-.-.-.-	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation bei 250VAC - Air and Creepage Distance >10mm - Test Voltage 5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 15ms
Drop-Out Time** (all NC closed)	typ. 4ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ.12ms
Shock Resistance 16ms	NO > 10g NC > 6g
Vibration Resistance (10-200Hz)	NO > 5g NC > 1.5g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.30g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

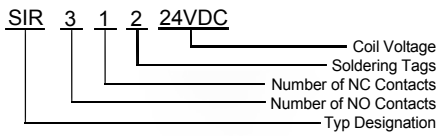
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

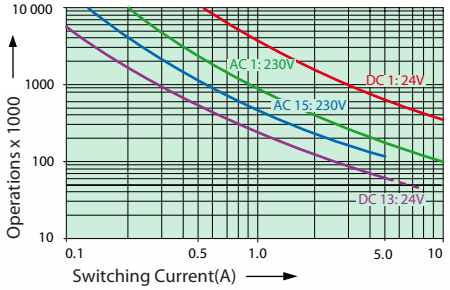
Options, Accesssories

PCB Socket	see Page 29

Product Key



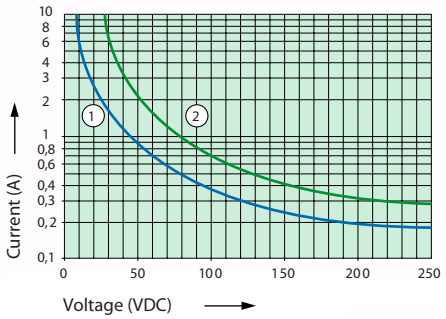
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 7.5A / 0.1Hz
UL 508: C600 / R300

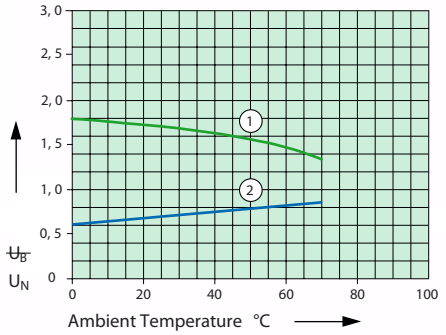
Max. Contact Load at AC1 with 230V:
2 Contacts with 10A each
3 Contacts with 8.4A each

Load Loamit Curve with Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: ≤6A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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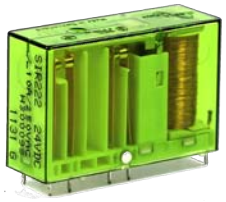
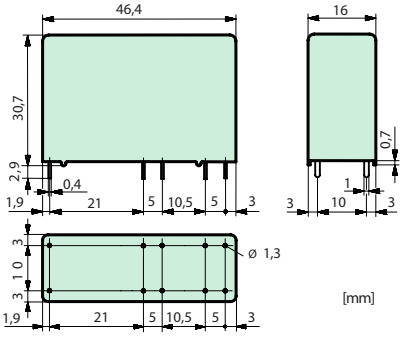
SIR 4 sensitve Series



Relay Key Data

- PCB Relay with forcibly guided Conatcts
- Protective separation between Coil / Control Contacts (>10mm), as well as protective seperation between the Output Contacts themselves (>8mm)
- EN50205 Type A
- Contact Mounting:
  SIR312 3NO / 1NC
  SIR222 2NO / 2NC
- Small external Dimensions
- Mean Coil Power 0.36 W
- Holding Power 0.12 W
- For Railway Application (EN50155) on request

Dimensions



Contact Data

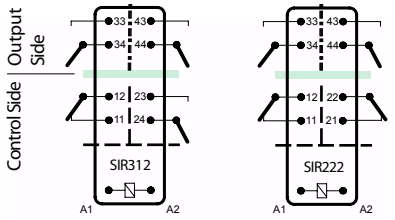
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 10A AC1 2'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	25A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 10A
Switching Capacity Range*	60mW to 2'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	72.0	69.4 ± 10%
6	4.5	≥0.6	60.0	100 ± 10%
9	6.75	≥0.9	40.0	225 ± 10%
12	9.0	≥1.2	30.0	400 ± 10%
18	13.5	≥1.8	20.0	900 ± 10%
24	18.0	≥2.4	15.0	1'600 ± 10%
48	36.0	≥3.6	7.5	6'400 ± 13%
60	45.0	≥4.5	6.0	10'000 ± 15%

Circuit Diagram (Topview)



Insulation Data

– – – –	- Basic Insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
-.-.-.-	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >10mm - Test Voltage 5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Weitere Daten

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 18ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ. 12ms
Shock Resistance 16ms	NO > 10g NC > 6g
Vibration Resistance (10-200Hz)	NO > 5g NC > 1.5g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.30g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

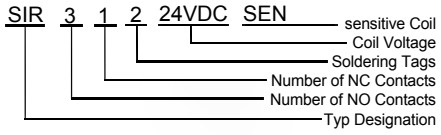
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

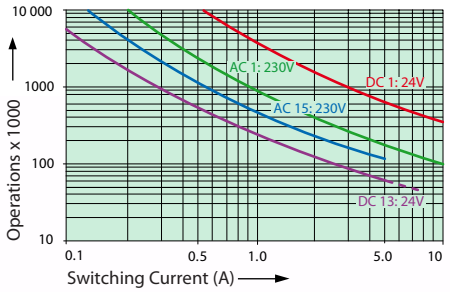
Options, Accessories

PCB Socket	see Page 29

Product Key



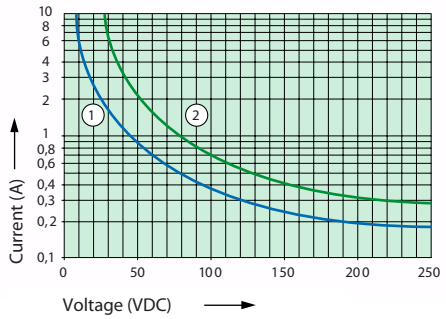
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 7.5A / 0.1Hz
UL 508: C600 / R300

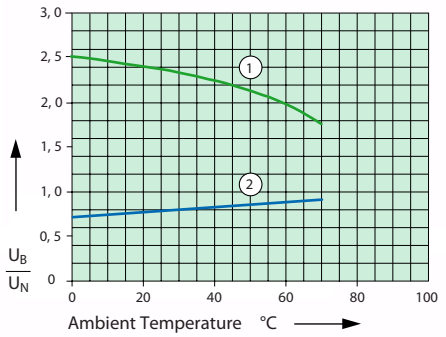
Max. Contact Load at AC1 with 230V:
2 Contacts with 10A each
3 Contacts with 8.4A each

Load Limit Curve wit Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact Load: ≤6A (2 Contacts)
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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Fax: +41 (0)81 303 54 00

SIR 4 Power Series

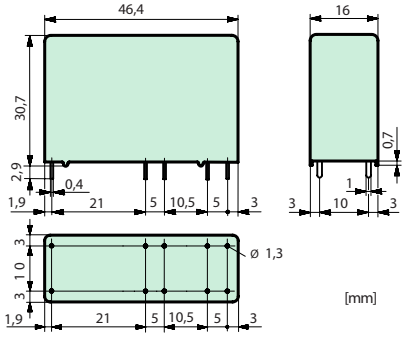
Relay Key Data

- PCB Relay with forcibly guided Conatcts
- Protective separation between Coil / Control Contacts (>10mm), as well as protective seperation between the Output Contacts themselves (>8mm)
- EN50205 Type A
- Contact Mounting:

SIR312 P	Control Contacts	1NO / 1NC
	Output Contacts	2NO
SIR222 P	Control Contacts	2NO
	Output Contacts	2NC

- Inrush Current 60A / Continuous Current 12A
- Mean Coil Power 0.75 W
- Holding Power 0.23 W
- For Railway Application (EN50155) on request

Dimensions



Control Contact Data

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*	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

Output Contact Data

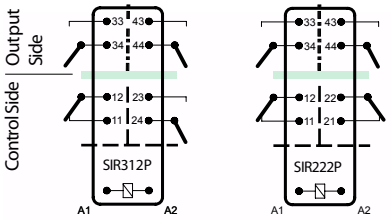
Contact Material	$AgSnO_2$
Rated Switching Capacity	250VAC (440VAC) 12A AC1 3'000VA
Electr. life AC1(360 cycles/h)	ca.250'000
Inrush Current max.	60A for 20ms
Switching Voltage Range	5 to 250VDC (480VAC)
Switching Current Range*	10mA to 12A
Switching Capacity Range*	120mW to 3'000W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*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	≤3.5	≥0.5	151.0	33 ± 10%
12	≤8.4	≥1.2	63.1	190 ± 10%
18	≤12.6	≥1.8	41.6	432 ± 10%
20	≤14.0	≥2.0	37.7	530 ± 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%

Circuit Diagram (Topview)



Insulation Data

– – – –	- Basic Insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
–·–·–·–	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >10mm - Test Voltage 5'000V/50Hz/1min

Test Voltage (contact open)	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Weitere Daten

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 15ms
Drop-Out Time** (all NC closed)	typ. 4ms
Bounce Time of NO Contacts	typ. 6ms
Bounce Time of NC Contacts	typ.12ms
Shock Resistance 16ms	NO > 17g NC > 7g
Vibration Resistance (10-200Hz)	NO > 10g NC > 4.5g
Resistance to short circuting control contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Resistance to short cuircuiting output contacts	1'000A SCDP 16A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Thermal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.32g
Mounting Position	any
Type of Protection	RT II
Solder bath temperature	270°C/5s

**ohne Beschaltung der Spule

Tests, Regulation

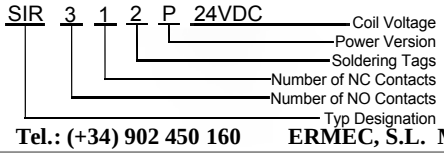
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection Class II	VDE 0106
Fire protection requirements	UL 94 / V0

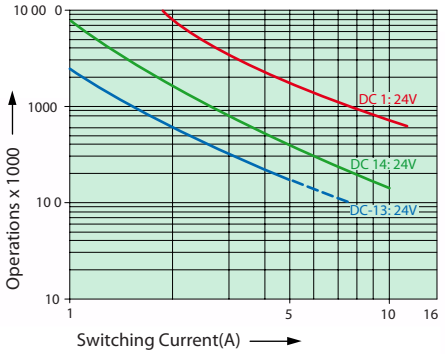
Options, Accessories

PCB Socket	see Page 29

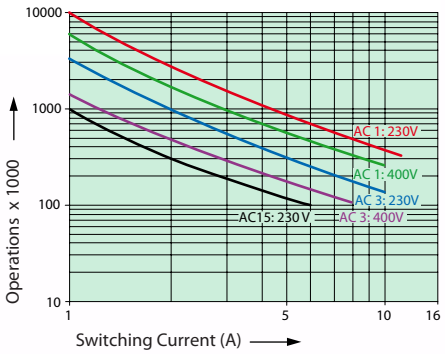
Product Key



Contact Lifetime (Output Contacts) DC

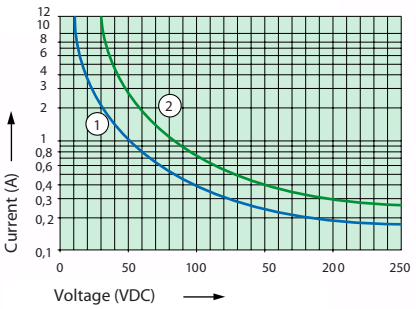


Contact Lifetime (Output Contacts) AC



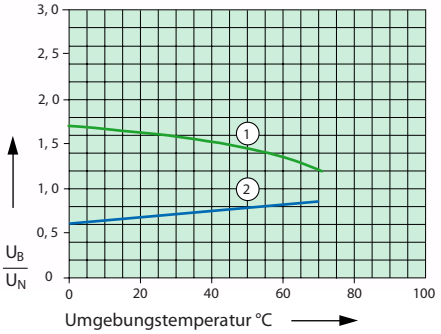
Maximal Contact Load at AC 1 with 230V :
2 Contacts with 12A each

Load Limit Curve with direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitaton voltage with Contact load:
Control Contacts ≤ 2A, Output Contacts ≤ 10A
2) Min. excitation voltage (garanteed Values) without previous operations.

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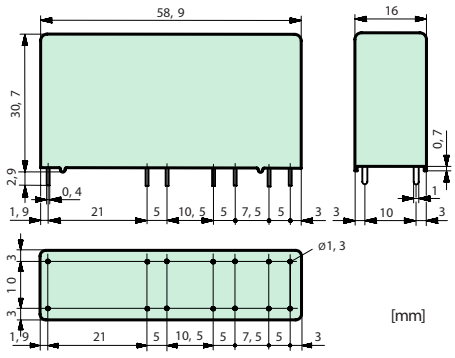
SIR 6 Series

Relay Key Data

- PCB relays with forcibly guided contacts
- Protective separation between Coil / Control Contacts (>10mm), as well as protective seperation between the Output Contacts themselves (>8mm)
- EN50205 Type A
- Contact Mounting:
  SIR332 3NO / 3NC
  SIR422 4NO / 2NC
  SIR512 5NO / 1NC
- Small external dimensions
- Mean Coil Power 0.75 W
- Holding Power 0.22 W
- For Railway Applications (EN 50155) on request

Dimensions



Contact Data

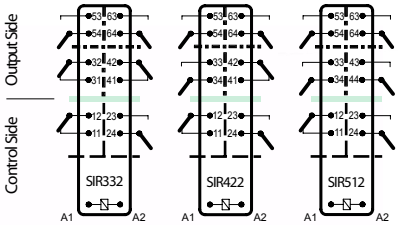
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 10A AC1 2‘500VA
Electr. life AC1(360 cycles/h)	approx.100‘000
Inrush Current max.	25A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 10A
Switching Capacity Range*	60mW to 2‘500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	3.5	≥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%

Circuit Diagram (Topview)



Insulation Data

– – – –	- Basic Insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2‘500V/50Hz/1min
-----	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4‘000V/50Hz/1min
	- Double or Reinforced Insulation at250VAC - Air and Creepage Distance >10mm - Test Voltage 5‘000V/50Hz/1min
Test Voltage contacts open	1‘500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10⁶ operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 15ms
Drop-Out Time** (all NC closed)	typ. 4ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ.12ms
Shock Resistance 16ms	NO > 10g NC > 6g
Vibration Resistance (10-200Hz)	NO > 5g NC > 2g
Resistance to short circuiting output contacts	1‘000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.35g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

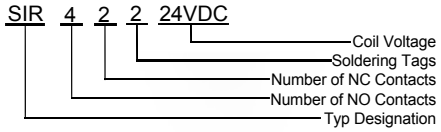
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

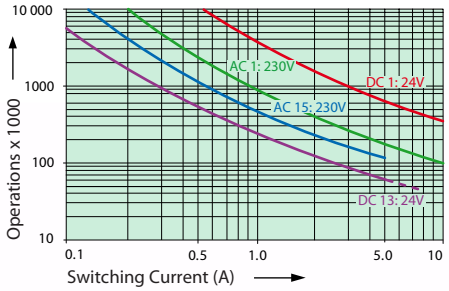
Options, Accessories

PCB socket	see Page 29

Product Key



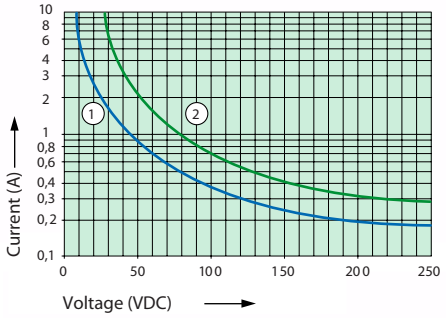
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 7.5A / 0.1Hz
UL 508: C600 / R300

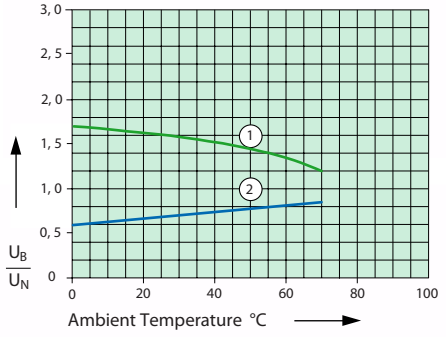
Max. Contact Load at AC1 with 230V:
2 Contacts with 10A each
3 Contacts with 8.4A each
4 Contacts with 7.3A each
5 Contacts with 6A each

Load Limit Curve with Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact load: ≤6A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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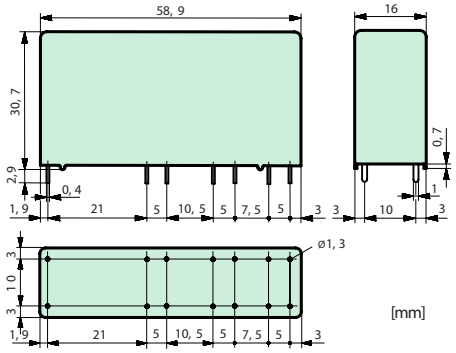
SIR 6 sensitive Series

Relay Key Data

- PCB relays with forcibly guided contacts
- Protective separation between Coil / Control Contacts (>10mm), as well as protective seperation between the Output Contacts themselves (>8mm)
- EN50205 Type A
- Contact Mounting:
  SIR332 3NO / 3NC
  SIR422 4NO / 2NC
  SIR512 5NO / 1NC
- Small external dimensions
- Mean Coil Power0.5W
- Holding Power 0.18W
- For Railway Applications (EN 50155) on request

Dimensions



Contact Data

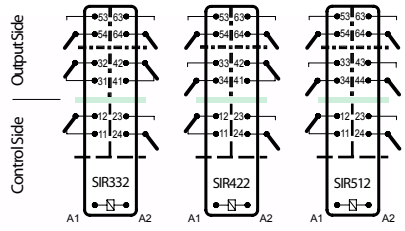
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 10A AC1 2'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	25A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 10A
Switching Capacity Range*	60mW to 2'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard 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	100.0	50 ± 10%
6	4.5	≥0.6	83.3	72 ± 10%
9	6.75	≥0.9	56.2	160 ± 10%
12	9.0	≥1.2	41.6	288 ± 10%
18	13.5	≥1.8	27.7	648 ± 10%
24	18.0	≥2.4	20.8	1'150 ± 10%
48	36.0	≥3.6	10.4	4'600 ± 13%
60	45.0	≥4.5	8.3	7'200 ± 15%

Circuit Diagram (Topview)



Insulation Data

– – – –	- Basic Insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
-----	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >10mm - Test Voltage 5'000V/50Hz/1min

Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	$>10x10^6$ operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 18ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ. 12ms
Shock Resistance 16ms	NO > 10g NC > 6g
Vibration Resistance (10-200Hz)	NO > 5g NC > 2g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	55 K/W
Temperature Limit for Coil	120°C
Weight	approx.35g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

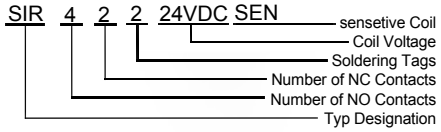
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire Protection requirements	UL 94 / V0

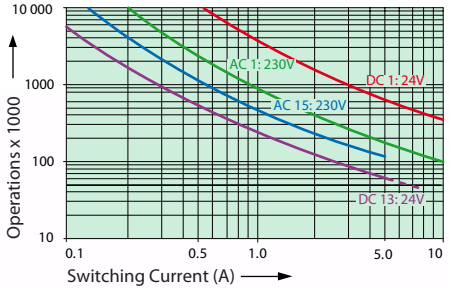
Options, Accessories

PCB socket	see Page 29

Produktschlüssel



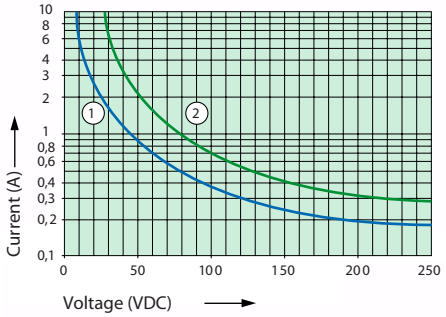
Contact Lifetime



Max. Switching Characteristics
(DIN EN60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 7.5A / 0.1Hz
UL 508: C600 / R300

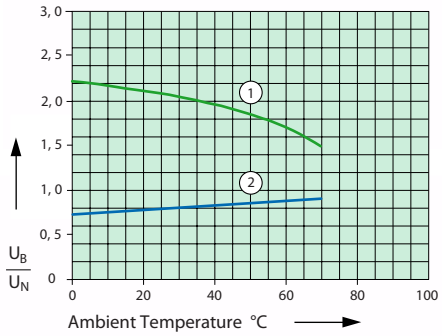
Max. Contact Load at AC1 with 230V:
2 Contacts with 10A each
3 Contacts with 8.4A each
4 Contacts with 7.3A each
5 Contacts with 6A each

Load Limit Curve with Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact load: ≤6A
2) Min. excitation Voltage (guranteed Values) without previous operation.

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

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SIR 8 Series

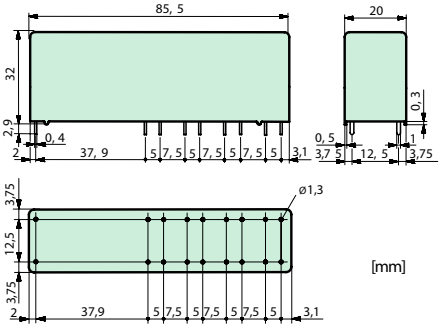
Relay Key Data

- PCB relay with forcibly guided Contatcs
- Protective separation between coil and output contacts (>10mm) and contacts in a row (>8mm) and as left to right contact side (>10mm)
- EN50205 Type A
- Contact Mounting:

SIR262	2NO / 6NC	SIR352	3NO / 5NC
SIR442	4NO / 4NC	SIR532	5NO / 3NC
SIR622	6NO / 2NC	SIR712	7NO / 1NC

- Small external dimensions
- Mean Coil Power 1.3 W
- Holding Power 0.39 W
- For Railway Applications EN 50155 on request

Dimensions



Contact Data

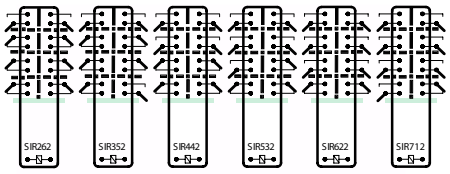
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 10A AC1 2'500VA
Electr. life AC1(360 cycles/h)	approx.100'000
Inrush Current max.	25A for 20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	10mA to 10A
Switching Capacity Range*	60mW to 2'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard Coils for direct current (other voltages on request)

Nominal Voltage VDC	Min. Pick-Up Voltage at 20°C	Drop-Out Voltage at20 °C	Nominal Current in mA	Resistance in Ohm at 20 °C
6	4.2	≥0.6	218	27.5 ± 10%
12	8.4	≥1.2	109	110 ± 10%
18	12.6	≥1.8	72	250 ± 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%

Circuit Diagram (Topview)



Insulation Data

- - - - - -	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >10mm - Test Voltage 5'000V/50Hz/1min
Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 15ms
Drop-Out Time** (all NC closed)	typ. 4ms
Bounce Time of NO Contact	typ. 6ms
Bounce Time of NC Contact	typ. 12ms
Shock Resistance 16ms	NO > 10g NC > 6g
Vibration Resistance (10-200Hz)	NO > 5g NC > 2g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	40 K/W
Temperature Limit for Coil	125°C
Weight	apprx.60g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

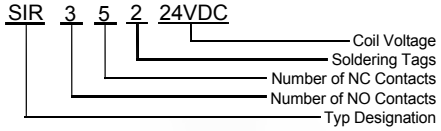
Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection Class II	VDE 0106
Fire Protection requirements	UL 94 / V0

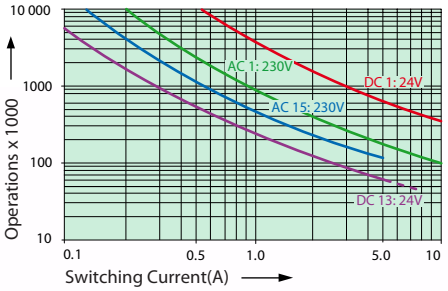
Options, Accessories

None

Product Key



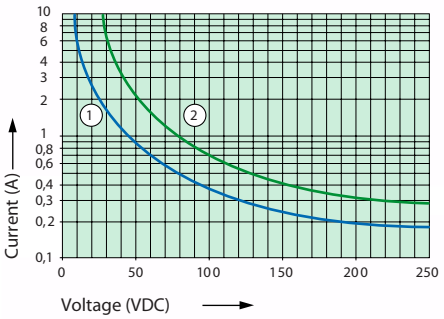
Contact Lifetime



Max. Switching Characteristics (DIN EN60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 7.5A / 0.1Hz
UL 508: C600 / R300

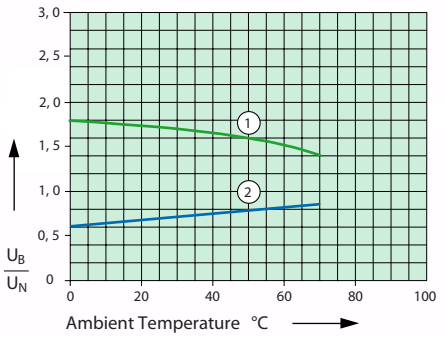
Max. Contact Load at AC1 with 230V:
2 Contacts with 10A each
3 Contacts with 8.4A each
4 Contacts with 7.3A each
5 Contacts with 6.5A each
6 Contacts with 6A each

Load Limit Curve with Direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation Voltage with Contact load ≤ 6A
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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SIR 10 Series

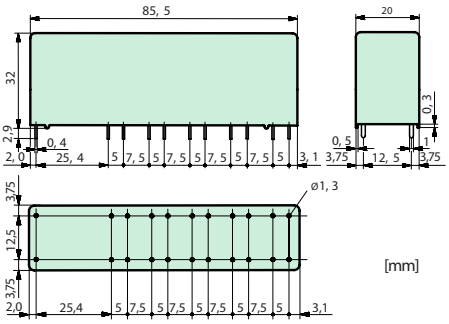
Relay Key Data

- PCB relay with forcibly guided Contacts
- Protective separation between Coil / Control Contacts and Output Contacts (>8mm) and Output Contacts in a row (>8mm) and as left to right contact side (>10mm)
- EN50205 Type A
- Contact Mounting:

SIR372	3NO / 7NC	SIR732	7NO / 3NC
SIR462	4NO / 6NC	SIR822	8NO / 2NC
SIR552	5NO / 5NC	SIR912	9NO / 1NC
SIR642	6NO / 4NC		

- Mean Coil Power1.3W
- Holding Power 0.39W
- For Railway Application EN 50155 on requeste

Dimensions



Contact Data

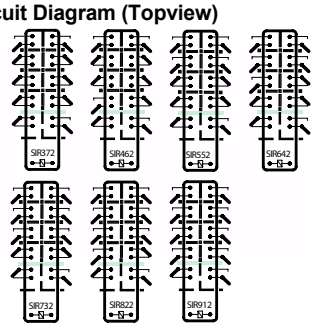
Contact Material	$AgSnO_2$+0.2µm Au
Type of Contact	Crest Contact
Rated Switching Capacity	250VAC 10A AC1 2'500VA
Electr. life AC1(360 cycles/h)	ca.100'000
Inrush Current max.	25A für 20ms
Switching Voltage Range	5 bis 250 VDC/VAC
Switching Current Range*	10mA bis 10A
Switching Capacity Range*	60mW bis 2'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*Guided Values

Stadard Coils for direct current (other voltages on request)

Nominal Voltages VDC	Min. Pick-Up Voltage at 20°C	Drop-Out Voltage at 20 °C	Nominal Current in mA	Resistance in Ohm at 20 °C
6	4.2	≥0.6	218	27.5 ± 10%
12	8.4	≥1.2	109	110 ± 10%
18	12.6	≥1.8	72	250 ± 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%

Circuit Diagram (Topview)



Insulation Data

– – – –	- Basic insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
-·-·-·-	- Double or Reinforced insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced insulation at 250VAC - Air and Creepage Distance >10mm - Test Voltage 5'000V/50Hz/1min

Test Voltage contacts open	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	>10x10^6 operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 18ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contact	typ. 8ms
Bounce Time of NC Contact	typ.12ms
Shock Resistance 16ms	NO > 10g NC > 8g
Vibration Resistance (10-200Hz)	NO > 10g NC > 5g
Resistance to short circuiting output contacts	1'000A SCPD 10A gG/gL (pre-fuse)
Ambient Temperature	-40°C to +70°C
Themal Resistance	40 K/W
Temperature Limit for Coil	125°C
Weight	approx.60g
Mounting Position	any
Type of Protection	RT II
Solder bath Temperature	270°C/5s

**without spark suppression

Tests, Regulations

Approvals

UL File E188953	Sec. 3
Insulation class (IEC 60664-1)	250VAC
Protection class II	VDE 0106
Fire protection requirements	UL 94 / V0

Options, Accessories

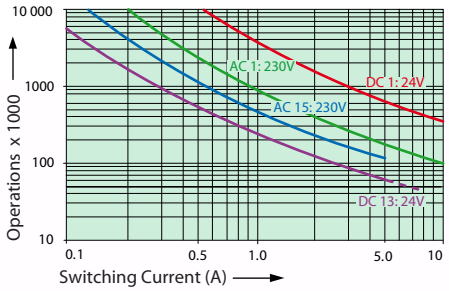
None

Product Key

SIR 5 5 2 24VDC

- 24VDC: Coil Voltage
- 2: Soldering Tags
- 5: Number of NC Contacts
- 5: Number of NO Contacts
- SIR: Typ Designation

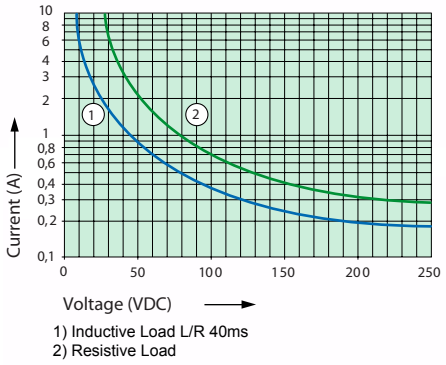
Contact Lifetime



Max. switching Characteristics
(DIN EN60947-5-1, Tab.C2):
AC 15: 230V / 5A
DC 13: 24V / 7.5A / 0.1Hz
UL 508: C600 / R300

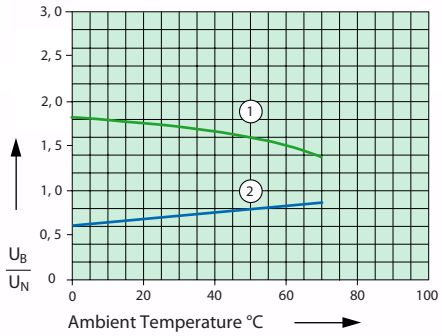
Max. contact load at AC1 with 230V:
2 Contacts with 10A each
3 Contacts with 8.4A each
4 Contacts with 7.3A each
5 Contacts with 6.5A each
6 Contacts with 6A each
8 Contacts with 5A each
9 Contacts with 4.2A each

Load Limit Curve with direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitation voltage with contact load: ≤6A
2) Min. excitation voltage (guaranteed Values) without previous operations

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

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SIP 6 Series

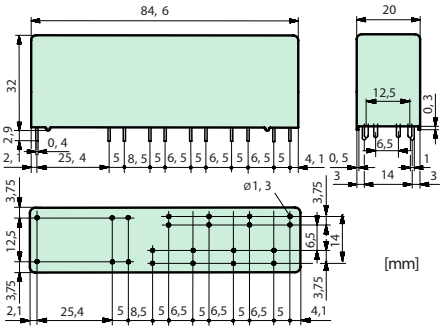
Relay Key Data

- PCB relay with forcibly guided Contacts
- Protective separation between coil / Control Contacts and Output Contacts (>8mm) and Output Contacts in a row (>8mm)
- EN50205 type A
- Contact Mounting:

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

- High Switching Power
- Mean Coil Power1.3 W
- Holding Power 0.39 W
- For Railway Application EN 50155 on request

Dimensions



Control Contact Data

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 for20ms
Switching Voltage Range	5 to 250 VDC/VAC
Switching Current Range*	5mA to 6A
Switching Capacity Range*	60mW to 1'500W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

Output Contact Data

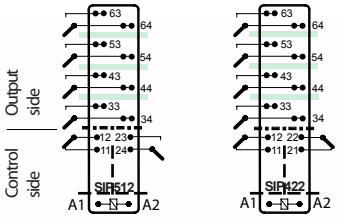
Contact Material	$AgSnO_2$
Rated Switching Capacity	250VAC (440VAC) 16A AC1 4'000VA
Electr. life AC1(360 cycles/h)	approx.250'000
Inrush Current max.	60A to 20ms
Switching Voltage Range	5 to 250VDC (480VAC)
Switching Current Range*	10mA to 16A
Switching Capacity Range*	120mW to 4'000W(VA)
Contact resistance (as delivered)	≤100mΩ/6V/100mA

*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
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	21.8	2'750 ± 10%
110	77.0	≥11.0	11.8	9'250 ± 13%
220	154.0	≥22.0	5.9	37'000± 15%

Circuit Diagram (Top View)



Insulation Data

– – – –	- Basic Insulation at 250VAC - Air and Creepage Distance >4mm - Test Voltage 2'500V/50Hz/1min
– · – · –	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >8mm - Test Voltage 4'000V/50Hz/1min
	- Double or Reinforced Insulation at 250VAC - Air and Creepage Distance >10mm - Test Voltage 5'000V/50Hz/1min

Test Voltage (contact open)	1'500V/50Hz/1min
Creepage Resistance	CTI 250
Pollution Degree	2
Overvoltage Category	III
Insulation Resistance at Up 500VDC	>100 MΩ

Additional Relay Data

Mechanical life	$>10x10^6$ operations
Switching frequency, mechanical	15Hz
Response Time (all NO closed)	typ. 18ms
Drop-Out Time** (all NC closed)	typ. 5ms
Bounce Time of NO Contacts	typ. 8ms
Bounce Time of NC Contacts	typ.12ms
Shock Resistance 16ms	NO > 10g NC > 8g
Vibration Resistance (10-200Hz)	NO > 10g NC > 5g
Resistance to short circuting control contacts	1'000A SCPD 6A gG/gL (pre-fuse)
Resistance to short cuircuiting output contacts	1'000A SCDP 16A gG/gL (pre-fuse)
Ambient Temperature	-40°C bis +70°C
Thermal Resistance	40 K/W
Temperature Limit for Coil	125°C
Weight	approx.60g
Mounting Position	any
Type of Protection	RT II
Solder bath temperature	270°C/5s

**without spark suppression

Tests, Regulation

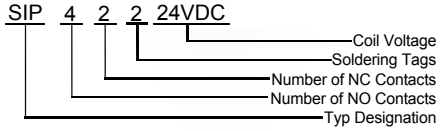
Approvals

UL File E188953	Sec. 4
Insulation class (IEC 60664-1)	250VAC
Protection Class II	VDE 0106
Fire protection requirements	UL 94 / V0

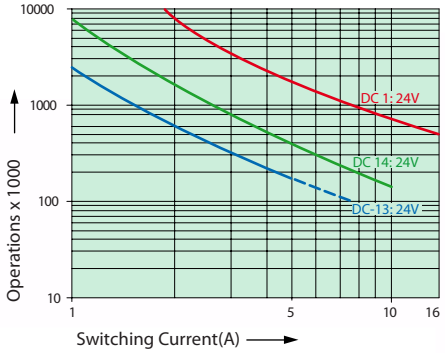
Options, Accessories

None

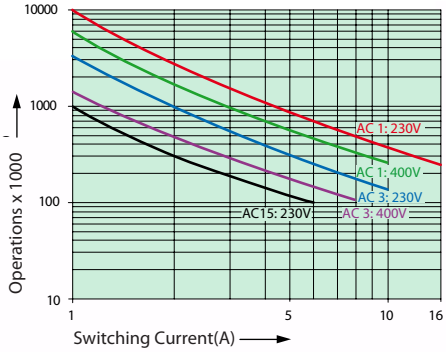
Product Key



Contact Lifetime (Output Contacts) DC

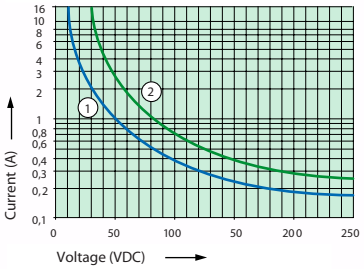


Contact Lifetime (Output Contacts) AC



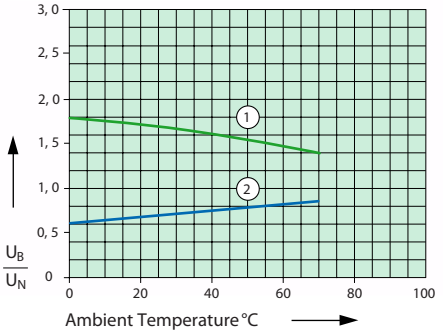
UL508: A600 / R150
Max. Contact load at AC 1 with 230V:
2 Contacts with 16A each
3 Contacts with 12A each
4 Contacts with 10A each

Load Limit Curve with direct Current



1) Inductive Load L/R 40ms
2) Resistive Load

Excitation Voltage Range



1) Max. excitaton voltage with Contact load: Control Contacts ≤4A, Output Contacts ≤12A
2) Min. excitation voltage (garanteed Values) without previous operations.

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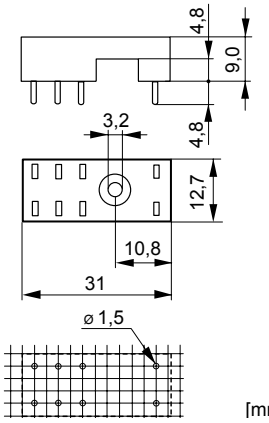
Relays Accessories

PCB Socket SRP-SGR2

Socket Key Data

- PCB Socket for SGR282Z and SIR282
- With plastic retaining bracket
- Soldering tags for PCB
- Pinning 2.5mm grid

Dimensions



[mm]

Technical Data

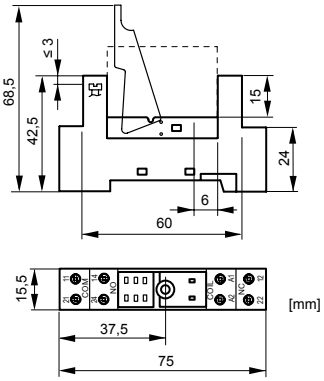
Rated Current	2x8A
Rated Voltage	300VAC
Test Voltage Coil/Contacts	5'000Veff
Isolation class (IEC 60664-1)	250VAC
Creepage Resistance	CTI 250
Weight	approx. 4 g
Ambient Temperature	-40°C bis +80°C
Packing Unit	100 pcs
Approvals	UL, cUL
UL File E113714	

DIN Rail Socket SRD-SGR2

Socket Key data

- DIN Rail Socket for SGR282Z and SIR282
- With plastic grip and marking tag (1 pc)
- Screw terminal
- Pinning 2.5mm
- Montage on DIN Rail 35mm or single-hole mounting with M3 screw

Dimensions



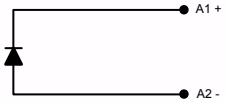
[mm]

Technical Data

Rated Currnet	2x8A
Rated Voltage	300VAC
Test Voltage Coil/Contacts	4'000Veff
Isolation class (IEC 60664-1)	250VAC
Creepage Resistance	CTI250
Weight	approx.40g
Ambient Temperature	-25°C bis +80°C
Cross Sections for connection with	
- Wires	2x2.5mm²
- end sleeves for strands	2x1.5mm²
Torque max.	0.8Nm
Packing Unit	20 pcs
Approvals	UL, cUL
UL File E113714	

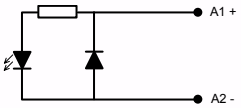
Modules for SRD-SGR2

Module SRD-SGR2-M01
- For DIN Rail Socket SRD-SGR2
- Diode 6VDC to 230VDC
  (+on terminal A1)



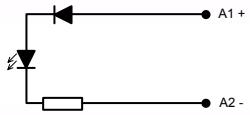
Module SRD-SGR2-M02
- For DIN Rail Socket SRD-SGR2
- Diode with red LED,
  6VDC to 24VDC (+on terminal A1)

Module SRD-SGR2-M03
- For DIN Rail Socket SRD-SGR2
- Diode with green LED,
  6VDC to 24VDC (on terminal A1)



Module SRD-SGR2-M04
- For DIN Rail Socket SRD-SGR2
- Red LED, 6VDC to 24VDC
  (+on terminal A1)

Module SRD-SGR2-M05
- For DIN Rail Socket SRD-SGR2
- Green LED, 6VDC to 24VDC
  (+on terminal A1)



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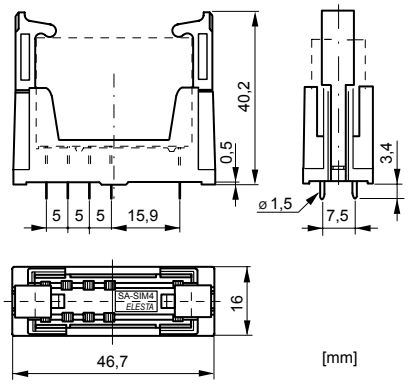
Relay Accessories

PCB Socket SRP-SIM4

Socket Key Data

- PCB Socket for SIM3 and SIM4 Series
- With integrated retaining / ejector handles
- Soldering tags for PCB

Dimensions



Technical Data

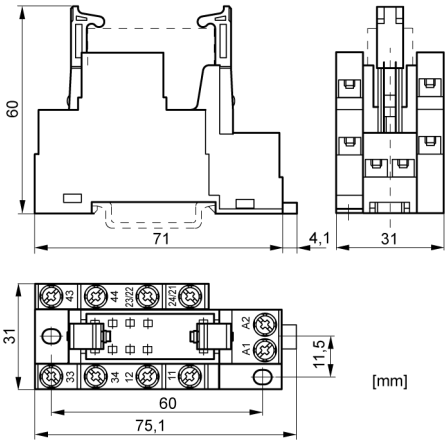
Rated Current	8A
Rated Voltage	250VAC
Test Voltage Coil / Contact	4'000Veff
Insulation class (IEC 60664-1)	250VAC
Creepage Resistance	CTI250
Weight	approx.11g
Ambient Temperature	-25°C to +70°C
Packing Unit	20 pcs
Approvals	UL,cUL
UL File E301947	

DIN Rail Socket SRD-SIM4

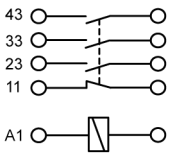
Socket Key Data

- DIN Rail Socket for SIM3 and SIM4 Series
- With integrated retaining / ejector handles
- Screw Terminals
- Assembly on DIN Rail 25mm or with 2xM3 screws

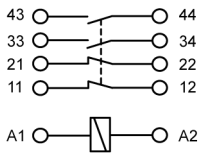
Dimensions



SRD-SIM4 (SIM312...)



SRD-SIM4 (SIM222...)



Technical Data

Rated Current	8A
Rated Voltage	250VAC
Test Voltage Coil / Contact	2'500Veff
Isulation class (IEC 60664-1)	250VAC
Creepage Resistance	CTI250
Weight	ca.65g
Ambient Temperature	-25°C bis +70°C
Cross sections for connection with	
- wires	2x2.5mm²
- end sleeves for strands	2x1.5mm²
Torque max.	0.8Nm
Packing Unit	10 Stück
Approvals	UL, cUL
UL File E301947	

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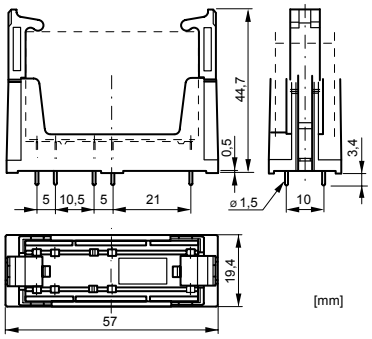
Relays Accessories

PCB Socket SRP-SIR4

Socket Key Data

- PCB Socket for SIR 4 Series
- With integrated retaining / ejector handles
- Soldering tags for PCB

Dimensions



Technical Data

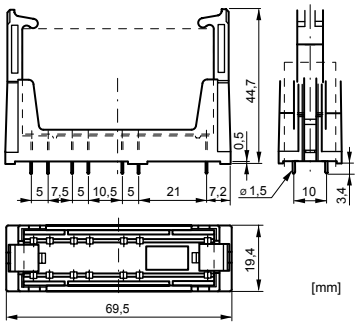
Rated Current	8A
Rated Voltage	250VAC
Test Voltage Coil / Contacts	4'000Veff
Insulation class (IEC 60664-1)	250VAC
Creepage Resistance	CTI250
Weigt	approx.15g
Ambient Temperature	-25°C to +70°C
Packing Unit	20 pcs
Approvals	UL,cUL
UL File E301947	

PCB Socket SRP-SIR6

Socket Key Data

- PCB Socket for SIR6 Series
- With integrated retaining / ejector handles.
- Soldering tags for PCB

Dimensions



Abmessungen

Rated Current	8A
Rated Voltage	250VAC
Test Voltage Coil / Conatcts	4'000Veff
Insulation class (IEC 60664-1)	250VAC
Creepage Resistance	CTI250
Weight	approx.17g
Ambient Temperature	-25°C to +70°C
Packing Unit	20 pcs
Approvals	UL,cUL
UL File E301947	

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Notes

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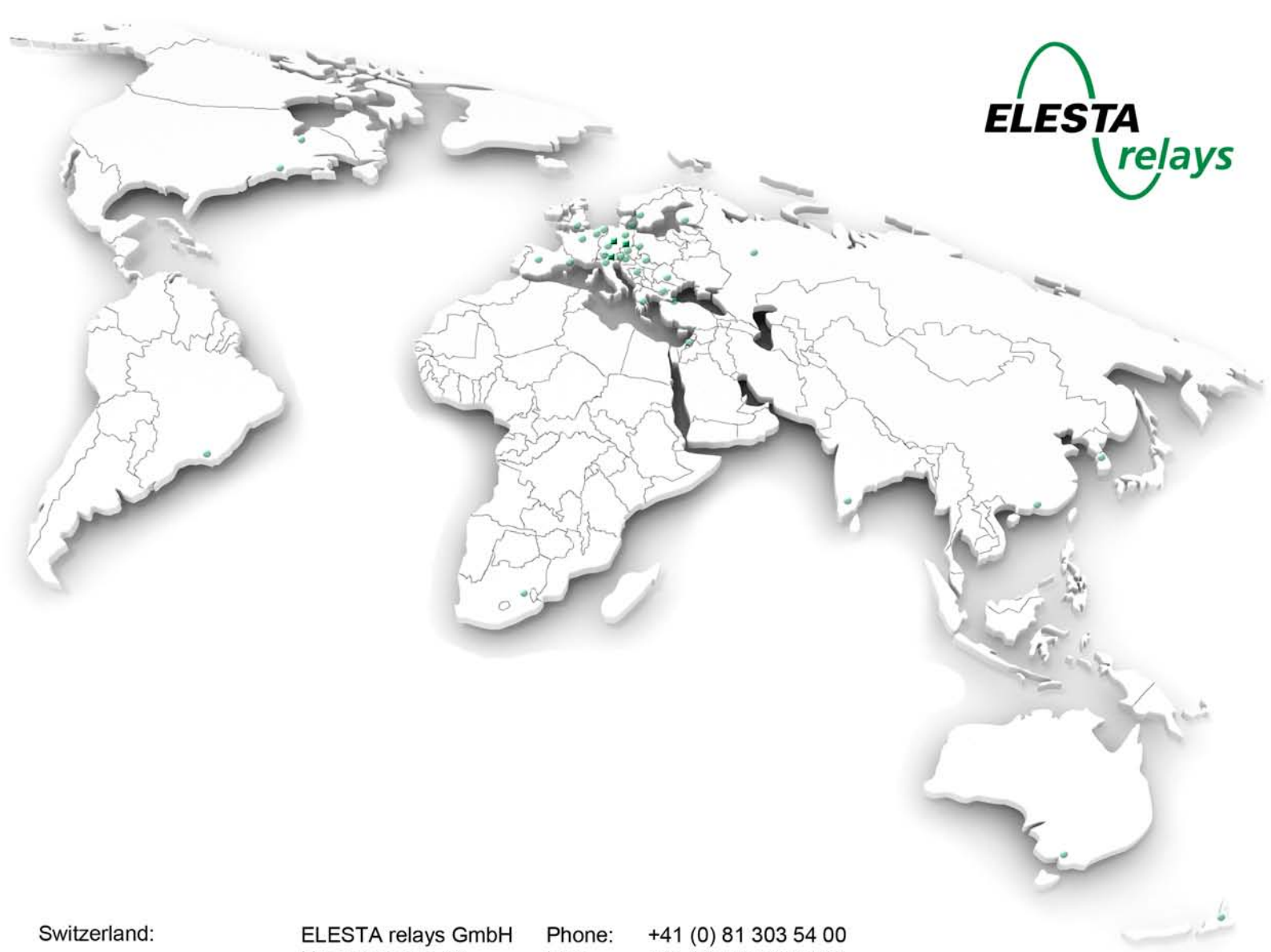

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ELESTA relays GmbH en / 08_2012