

Small Relay W11

1 changeover contact

V23101

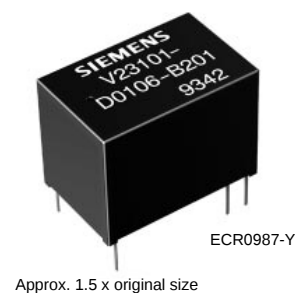
PCB relay for DC operation, non-polarized, monostable

Features

- General-application relay
- Small size permitting high packing density
- High vibration resistance
(10 to 38 Hz: 3.3 mm double amplitude
38 to 200 Hz: 10 g)
- High shock resistance
30 g for sensitive and standard version
- Sensitive version usable up to an ambient temperature of
85 °C

Typical applications

- Security devices
- Electric door openers
- Duplex intercommunication systems
- Measurement and control

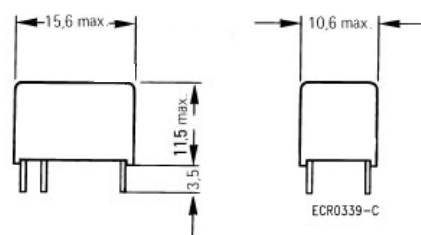


Version

- Monostable, 1 winding
or
bistable, 1 winding, on request
- Terminal assignments symmetrical
or asymmetrical
and
5- or 6-pin version
- For 1 A or 3 A continuous current
- Standard or sensitive
- For printed circuit assembling
- Plastic case
- Immersion cleanable

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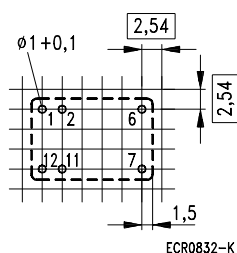
Dimension drawing (in mm)



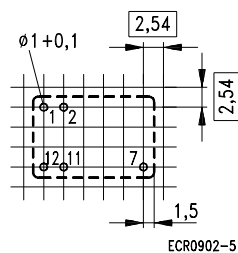
Mounting hole layout

View on the terminals

Version: 6 pins



Version: 5 pins (without pin no. 6)



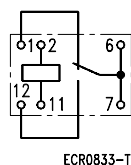
Basic grid 2.54 mm according to EN 60097 and DIN 40803, average

Terminal assignment

View on the terminals

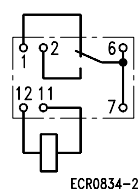
Terminal assignment A symmetrical

Version: 6 pins

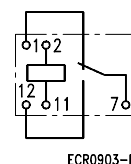


Terminal assignment B asymmetrical

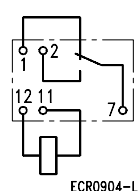
Version: 6 pins



Version: 5 Pins



Version: 5 Pins



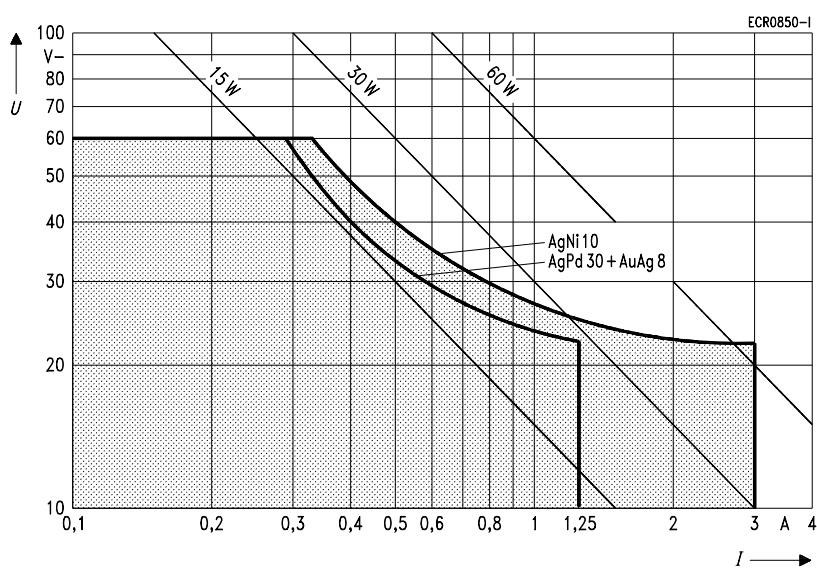
Small Relay W11

1 changeover contact

Contact data		
Ordering code block 3	A201 or B201	A301 or B301
Contact material	AgPd, gold-plated	AgNi 10
Max. continuous current at max. ambient temperature	1 A	3 A
Maximum switching voltage	60 V~ 125 V~	
Maximum switching capacity		
DC voltage *)	30 W	72 W
AC voltage	60 VA	360 VA
Recommended for load voltages greater than	1 V	5 V
Contact resistance (initial value) / measuring current / driver voltage	100 mΩ / 10 mA / 20 mV	100 mΩ / 100 mA / 6 V

*) see also load limit curve

Load limit curve



I = switching current
 U = switching voltage
 ■ = recommended application field

Load limit curve: Quenching of the arc before the transit time

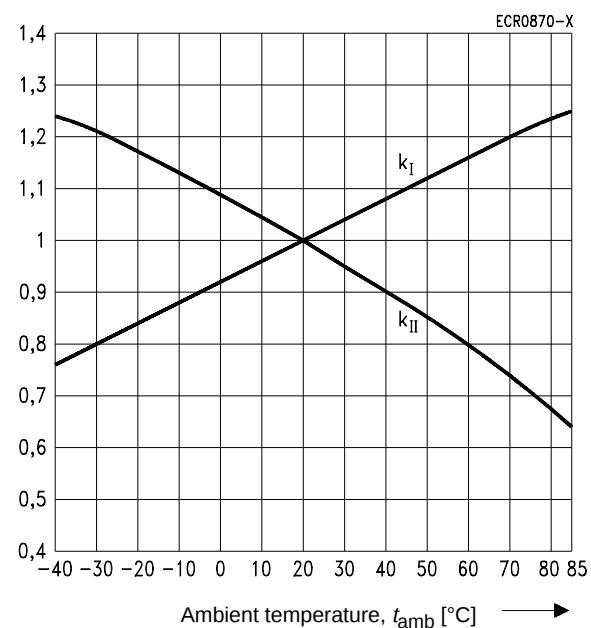
Small Relay W11

1 changeover contact

Coil data	
Nominal voltages	From 5 V– to 24 V–
Typical nominal power consumption standard version sensitive version	450 mW 200 mW
Operative range/pickup class according to IEC 255-1-00 and VDE 0435 Part 201	1/a
Maximum operating voltage standard version sensitive version	70% of the nominal voltage 75% of the nominal voltage
Minimum release voltage	10% of the nominal voltage

U_I = Minimum voltage at 20 °C after pre-energizing with nominal voltage without contact current
 U_{II} = Maximum continuous voltage at 20 °C
 The operating voltage limits U_I and U_{II} are dependent on the temperature according to the formulae:

$U_{I\text{ t amb}} = k_I \cdot U_{I\text{ 20 °C}}$
 and
 $U_{II\text{ t amb}} = k_{II} \cdot U_{II\text{ 20 °C}}$
 t_{amb} = Ambient temperature
 $U_{I\text{ t amb}}$ = Minimum voltage at ambient temperature, t_{amb}
 $U_{II\text{ t amb}}$ = Maximum voltage at ambient temperature, t_{amb}
 k_I a. k_{II} = Factors (temperature dependent), see diagram



Small Relay W11

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Coil versions

Nominal voltage U_{nom} V—	Operating voltage range at 20 °C		Resistance at 20 °C Ω	Coil number Ordering code block 2
	Minimum voltage, U_{I} V—	Maximum voltage, U_{II} V—		
Standard version				
1.5	1.25	2.6	6 ± 0.6	001
3	2.1	4.7	20 ± 2	002
5	3.5	7.9	56 ± 5.6	003
6	4.2	9.5	80 ± 8	004
9	6.3	14.2	180 ± 18	005
12	8.4	19.0	320 ± 32	006
24	16.8	38.0	1280 ± 128	007
Sensitive version				
1.5	1.13	3.6	12 ± 1.2	101
3	2.25	7.1	45 ± 4.5	102
5	3.75	11.6	120 ± 12	103
6	4.5	14.2	180 ± 18	104
9	6.75	21.2	400 ± 40	105
12	9.0	28.0	700 ± 70	106
24	18.0	56.0	2800 ± 280	107

Small Relay W11

1 changeover contact

General data

Version	standard	sensitive
Operate time at U_{nom} and 20 °C, typ.	5 ms	
Release time without/with parallel diode, typ.	3/10 ms	
Maximum switching rate without load	20 operations/s	
Ambient temperature according to IEC 255-1-00 or VDE 0435 Part 201	-40 °C ... +70 °C	-40 °C ... +85 °C
Thermal resistance	125 K/W	
Maximum permissible coil temperature	130 °C	
Vibration resistance (function), Frequency range according to IEC 68-2-6	10 to 38 Hz: 3.3 mm double amplitude 38 to 200 Hz: 10 g	
Shock resistance, half sinus, 11 ms according to IEC 68-2-27	30 g (function), 100 g (damage)	
Degree of protection according to IEC 529 / VDE 0470 Part 1	immersion cleanable, IP 67	
Mechanical endurance	approx. 10^7 operations	
Mounting position	any	
Processing information	Ultrasonic cleaning is not recommended	
Weight	approx. 4 g	

Electrical endurance

Coil version	Switching voltage	Switching current A	Operations (approx.)	Load type	Endurance determined by operations/s
Contact material: AgPd, gold-plated					
standard	24 V~	1	3×10^5	resistive	0.1
	120 V~	0.5	1.5×10^5	resistive	0.1
sensitive	24 V~	1	2×10^5	resistive	0.1
	120 V~	0.5	1×10^5	resistive	0.1
Contact material: AgNi 10					
standard	24 V~	2.5	2×10^5	resistive	0.1
	120 V~	1	4×10^5	resistive	0.1
sensitive	24 V~	2.5	1×10^5	resistive	0.1
	120 V~	1	3×10^5	resistive	0.1

Insulation

Insulation resistance at 500 V	$\geq 10^9 \Omega$
Dielectric test voltage (1 min) Contact / winding at open contact	1000 V~ _{rms} 750 V~ _{rms}

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1 changeover contact

Ordering code

	Block 1						Block 2					Block 3			
Data position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	V	2	3	1	0	1									
Identification of the Small Relay W11 - 1 changeover contact															
Pin version															
D0 = Standard 6 pins D1 = 5-pin version (without pin no. 6)															
Coil number															
Standard version 001 = 1.5 V nominal voltage 002 = 3 V 003 = 5 V 004 = 6 V 005 = 9 V 006 = 12 V 007 = 24 V															
Sensitive version 101 = 1.5 V nominal voltage 102 = 3 V 103 = 5 V 104 = 6 V 105 = 9 V 106 = 12 V 107 = 24 V															
Contact assembly / material A201 = Terminal assignment A, AgPd, gold-plated B201 = Terminal assignment B, AgPd, gold-plated A301 = Terminal assignment A, AgNi 10 B301 = Terminal assignment B, AgNi 10															

Ordering example: V23101-D0104-B201

Small relay W11 - 1 changeover contact, standard pin version (6 pins), sensitive version, coil 6 V nominal voltage, terminal assignment B, contact material AgPd, gold-plated

Note:

Special designs can be carried out to customer specifications. Please contact your local representative. The addresses are given below.