

## Small Relay W11

### 1 changeover contact

## V23101

---

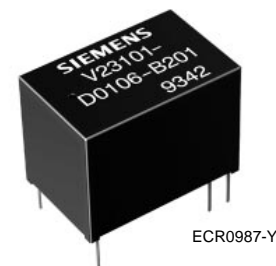
### PCB relay for DC operation, non-polarized, monostable

#### 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



Approx. 1.5 x original size

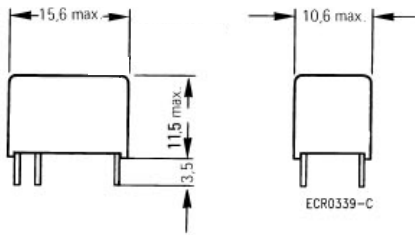
#### Version

- 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

# Small Relay W11

## 1 changeover contact

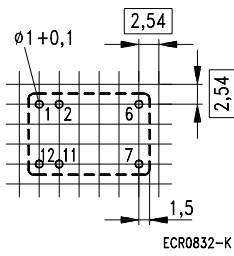
### Dimension drawing (in mm)



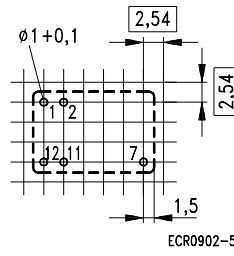
### Mounting hole layout

View on the terminals

Version: 6 pins



Version: 5 pins (without pin no. 6)



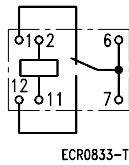
Basic grid 2.54 mm according to EN 60097 and DIN 40803, average

### Terminal assignment

View on the terminals

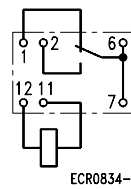
Terminal assignment A symmetrical

Version: 6 pins

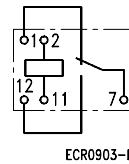


Terminal assignment B asymmetrical

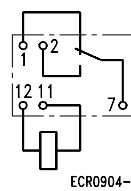
Version: 6 pins



Version: 5 Pins



Version: 5 Pins



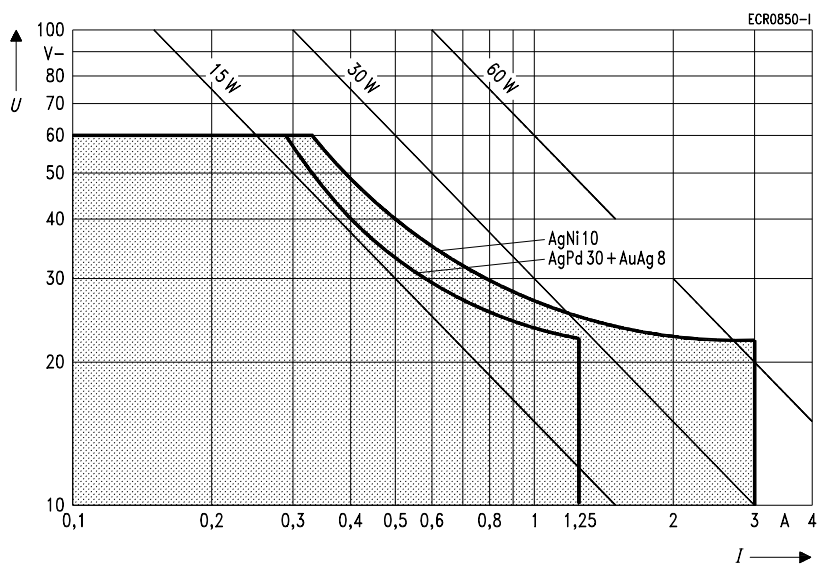
# Small Relay W11

## 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

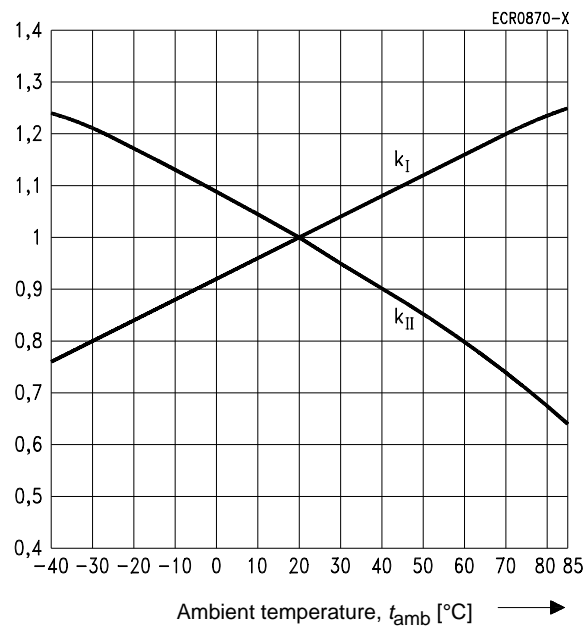
$$U_{II \text{ t amb}} = k_{II} \cdot U_{II \text{ 20 °C}}$$

$t_{\text{amb}}$  = Ambient temperature

$U_{I \text{ t amb}}$  = Minimum voltage at ambient temperature,  $t_{\text{amb}}$

$U_{II \text{ t amb}}$  = Maximum voltage at ambient temperature,  $t_{\text{amb}}$

$k_I$  a.  $k_{II}$  = Factors (temperature dependent), see diagram



## Small Relay W11

### 1 changeover contact

<b>Coil versions</b>				
Nominal voltage $U_{\text{nom}}$  V-	Operating voltage range at 20 °C		Resistance at 20 °C  $\Omega$	Coil number Ordering code block 2
	Minimum voltage, $U_{\text{I}}$ V-	Maximum voltage, $U_{\text{II}}$ V-		
<b>Standard version</b>				
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
<b>Sensitive version</b>				
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	

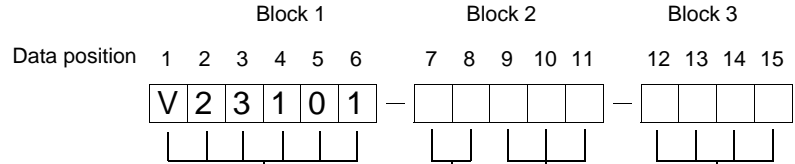
Electrical endurance					
Coil version	Switching voltage	Switching current A	Operations (approx.)	Load type	Endurance determined by operations/s
Contact material: AgPd, gold-plated					
standard	24 V–	1	$3 \times 10^5$	resistive	0.1
	120 V~	0.5	$1.5 \times 10^5$	resistive	0.1
sensitive	24 V–	1	$2 \times 10^5$	resistive	0.1
	120 V~	0.5	$1 \times 10^5$	resistive	0.1
Contact material: AgNi 10					
standard	24 V–	2.5	$2 \times 10^5$	resistive	0.1
	120 V~	1	$4 \times 10^5$	resistive	0.1
sensitive	24 V–	2.5	$1 \times 10^5$	resistive	0.1
	120 V~	1	$3 \times 10^5$	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~ <sub>rms</sub> 750 V~ <sub>rms</sub>

# Small Relay W11

## 1 changeover contact

### Ordering code



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.