

## Power Relay

## G6RN

### Heavy-duty Miniature Relay

- Incorporates environmentally-friendly, cadmium-free contacts
- Variety of contact forms: SPDT or SPST-NO (continuous current rating: 8 A)
- Low profile (0.39W X 1.12L X 0.59H inches)
- High dielectric strength of 4 kV with 8mm creepage/clearance
- Sealed plastic construction
- Ideal for switching contactors, solenoids and motors



### Ordering Information

| Classification | Structure      | Contact material    | Contact form |        |
|----------------|----------------|---------------------|--------------|--------|
|                |                |                     | SPST-NO      | SPDT   |
| Standard       | Plastic-sealed | AgNi + gold plating | G6RN-1A      | G6RN-1 |

Note: When ordering, add the rated coil voltage to the model number.

Example: G6RN-1A 24 VDC

Rated coil voltage

#### MODEL NUMBER LEGEND

G6RN-□□□□-□  
 1 2 3 4 5 6

##### 1. Number of Poles

1: 1 pole

##### 2. Contact Form

None: SPDT

A: SPST-NO

##### 3. Contact Type

None: Single contact

##### 4. Enclosure Ratings

None: Plastic-sealed

##### 5. Terminals

None: Standard PCB

##### 6. Contact Material

None: AgNi + gold plating

ACD: AgCdO + gold plating

# Specifications

## ■ COIL RATINGS

|                      |                           |              |              |                |                |
|----------------------|---------------------------|--------------|--------------|----------------|----------------|
| Rated voltage        | 5 VDC                     | 6 VDC        | 12 VDC       | 24 VDC         | 48 VDC         |
| Rated current        | 44 mA                     | 36.7 mA      | 18.3 mA      | 9.2 mA         | 5.2 mA         |
| Coil resistance      | 114 $\Omega$              | 164 $\Omega$ | 655 $\Omega$ | 2,620 $\Omega$ | 9,210 $\Omega$ |
| Must operate voltage | 70% max. of rated voltage |              |              |                |                |
| Must release voltage | 10% min. of rated voltage |              |              |                |                |
| Max. voltage         | 110% of rated voltage     |              |              |                |                |
| Power consumption    | Approx. 220 mW            |              |              |                | Approx. 250 mW |

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of  $\pm 10\%$ .  
 2. Operating characteristics are measured at a coil temperature of 23°C.

## ■ CONTACT RATINGS

|                         |                                 |
|-------------------------|---------------------------------|
| Contact type            | Single contact                  |
| Configuration           | SPDT, SPST-NO                   |
| Contact material        | AgNi + gold plating (standard)  |
| Max. switching voltage  | 250 VAC, 125 VDC                |
| Rated switching current | 8 A at 250 VAC<br>5 A at 30 VDC |
| Max. switching capacity | 2,000 VA, 150W                  |
| Min. permissible load   | 10 mA, 5 VDC                    |

Note: Current value for switching 125 VDC is 0.15 A resistive and 0.1 A inductive (L/R = 7 ms)

## ■ CHARACTERISTICS

|                          |                                      |  |
|--------------------------|--------------------------------------|--|
| Contact resistance       | 100 m $\Omega$ max.                  |  |
| Operate time             | 15 ms max.                           |  |
| Release time             | 5 ms max.                            |  |
| Max. operating frequency | Mechanical                           | 36,000 operations/hr   |
|                          | Electrical                           | 360 operations/hr (under rated load)   |
| Insulation resistance    | 1,000 M $\Omega$ min.                |  |
| Dielectric strength      | 4,000 VAC: between coil and contacts |  |
|                          | 1,000 VAC: between contacts          |  |
| Creepage/clearance       | 8 mm min. between coil and contacts  |  |
| Vibration resistance     | Malfunction                          | NO: 10 to 55 Hz, 1.5-mm double amplitude<br>NC: 10 to 55 Hz, 0.8-mm double amplitude |
|                          |                                      |  |
| Shock resistance         | Destruction                          | 1,000 m/s <sup>2</sup> (approx. 100G)  |
|                          | Malfunction                          | 100 m/s <sup>2</sup> (approx. 10G)   |
| Life expectancy          | Mechanical                           | 10,000,000 operations min.   |
| Life expectancy          | Electrical                           | Approx. 100,000 operations (see note)  |
| Ambient temperature      | Operating                            | -40°C to 85°C  |
|                          | Storage                              | -40°C to 85°C  |
| Ambient humidity         | Operating                            | 35% to 85%   |
| Weight                   | Approx. 9 g                          |  |
| Protection class         | II according to VDE0106 Part 1       |  |
| Insulation class         | C/250 according to VDE0110           |  |

Note: Resistive load test at 250 VAC, 8 A, room temperature with diode.  
 Continuous monitoring must be performed to detect contact sticking and short circuit.  
 Dielectric strength measured at 500 V for 1 minute with the same polarity.

## APPROVED STANDARDS

IEC255 (Includes Reinforced Insulation and Spacing Requirements According to IEC65, 335-1, 950, EN60335-1, 60950)

| Standard                   | Contact form    | Coil ratings            | Contact ratings                                 | Conditions  |
|----------------------------|-----------------|-------------------------|---|---|
| IEC255-1-00<br>IEC255-0-20 | SPDT<br>SPST-NO | 5, 6, 12, 24,<br>48 VDC | 8 A at 250 VAC ( $\cos\phi = 1$ )<br>(see note) | Pollution degree: 3<br>Overvoltage category: II<br>Operating range: class 1<br>Pick-up class: class C<br>Ambient temperature: -40°C to 85°C |

Note: VAC according to IEC417.

## VDE

| Standard                           | Contact form    | Coil ratings            | Contact ratings                   | Conditions  |
|------------------------------------|-----------------|-------------------------|-----------------------------------|---|
| VDE0435 Part201<br>VDE0435 Part120 | SPDT<br>SPST-NO | 5, 6, 12, 24,<br>48 VDC | 8 A at 250 VAC ( $\cos\phi = 1$ ) | Insulation group according to VDE0110 C/250<br>Operating range: class 1<br>Pick-up class: class C<br>Ambient temperature: -40°C to 85°C |

UL (File No. E41515)

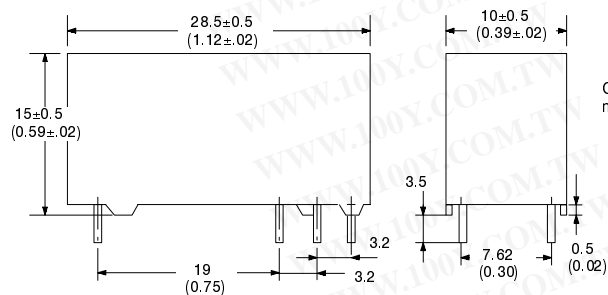
CSA (File No. LR31928)

| Standard | Contact form    | Coil ratings         | Contact ratings  |
|----------|-----------------|----------------------|--|
| UL508    | SPDT<br>SPST-NO | 5, 6, 12, 24, 48 VDC | 250 VAC, 10 A resistive<br>250 VAC, 8 A resistive, 85°C<br>30 VDC, 5 A |

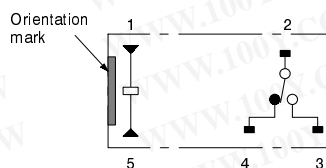
## Dimensions

Unit: mm (inch)

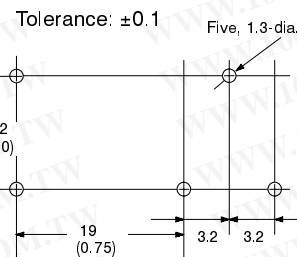
### SPDT TYPE



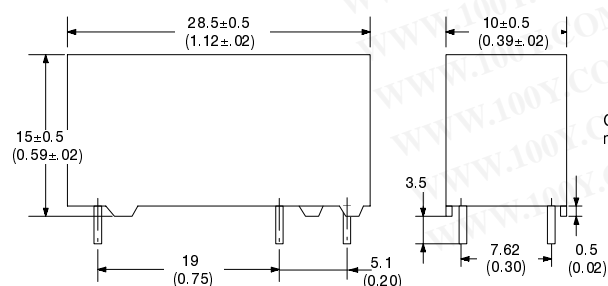
### Terminal Arrangement/ Internal Connections (Bottom View)



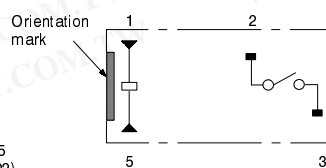
### Mounting Holes (Bottom View)



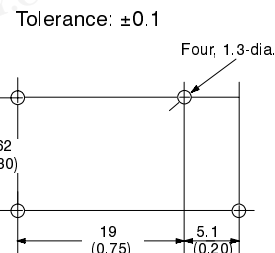
### SPST-NO TYPE



### Terminal Arrangement/ Internal Connections (Bottom View)



### Mounting Holes (Bottom View)



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勝特力电子(上海) 86-21-54151736  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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