

### Character

- ◇ 100A contact switching capability
- ◇ Only impulse excitation needed, both for single and double coil.
- ◇ Low power consumption, small in size
- ◇ Custom assemblies available with flexible wire and/or copper straps, and/or with integrated shunt
- ◇ 4KV dielectric strength between coil and contacts
- ◇ RoHS compliant
- ◇ IEC62055-31 UC2 compliant
- ◇ Outline dimensions: (39 × 30 × 16.8) (mm)

### Contac Data

|                            |                      |                                    |
|----------------------------|----------------------|------------------------------------|
| Contact Form               |                      | 1B/1H (double contact)             |
| Contact Material           |                      | AgSnO <sub>2</sub>                 |
| Contact Resistance         |                      | Max.1.0mΩ (1A 6VDC)                |
| Rated Load(Resistive)      |                      | 100A 250VAC                        |
| Max. Switching Voltage     |                      | 250VAC                             |
| Max. Switching Current     |                      | 100A                               |
| Max. Switching Power       |                      | 25000VAC                           |
| Service Life               | Mechanical Endurance | 1×10 <sup>5</sup> OPS              |
|                            | Electrical Endurance | 5×10 <sup>5</sup> OPS(100A 250VAC) |
|                            |                      | 1×10 <sup>4</sup> OPS(80A 250VAC)  |
| Max. Short-circuit Current |                      | 2500A/10ms                         |
|                            |                      | 4500A/10ms(no explosion)           |

Note: 1H represents double contact

### Characteristics

|   |                      |             |
|---|----------------------|-------------|
| Operate Time                              |                      | 20ms Max.   |
| Release Time                              |                      | 20ms Max.   |
| Insulation Resistance (500VDC)            |                      | 1000MΩ Min. |
| Dielectric Strength<br>(50/60Hz,<br>1Min) | Contact to Coil      | 4000VAC     |
|   | Across Open Contacts | 2000VAC     |
|   | Contact to contact   |             |
| Surge Voltage<br>(1.2/50 μ s)             | Contact to Coil      | 10KV        |
| Creepage Distance                         |                      | 8mm         |
| Unit Weight                               |                      | About 45g   |

### Environmental Data

|                     |               |                   |                               |
|---------------------|---------------|-------------------|-------------------------------|
| Ambient Temperature | -40℃ ~ +85℃   | Relative Humidity | 5%-85% RH                     |
| Vibration           | 10-55Hz 1.5mm | Shock             | Functional 98m/s <sup>2</sup> |
|                     |               | Survival          | 980m/s <sup>2</sup>           |

## Coil Data (20°C)

### conventional version

| Coil Voltage<br>(VDC)       | Coil Resistance( $\Omega$ ) $\pm 10\%$ |           | Coil Power(w) |        | Operating<br>Voltage<br>(VDC) | Releasing<br>Voltage<br>(VDC) | Allowing<br>voltage<br>(VDC) | Pulse<br>Duration<br>(ms) |
|-----------------------------|--|-----------|---------------|--------|-------------------------------|-------------------------------|------------------------------|---------------------------|
|                             | Single                                 | Double    | Single        | Double |                               |                               |                              |                           |
| <input type="checkbox"/> 6  | 18                                     | 9/9       | 2.0           | 4.0    | $\leq 4.2$                    | $\leq 4.2$                    | 12                           | $\geq 50$                 |
| <input type="checkbox"/> 9  | 40.5                                   | 20.3/20.3 |               |        | $\leq 6.3$                    | $\leq 6.3$                    | 18                           |                           |
| <input type="checkbox"/> 12 | 72                                     | 36/36     |               |        | $\leq 8.4$                    | $\leq 8.4$                    | 24                           |                           |
| <input type="checkbox"/> 24 | 288                                    | 144/144   |               |        | $\leq 16.8$                   | $\leq 16.8$                   | 48                           |                           |

### low power version

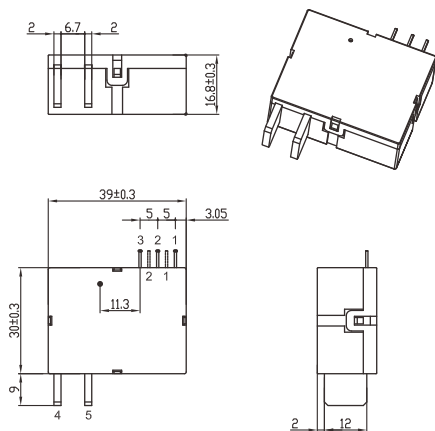
| Coil Voltage<br>(VDC)       | Coil Resistance( $\Omega$ ) $\pm 10\%$ |         | Coil Power(w) |        | Operating<br>Voltage<br>(VDC) | Releasing<br>Voltage<br>(VDC) | Allowing<br>voltage<br>(VDC) | Pulse<br>Duration<br>(ms) |
|-----------------------------|--|---------|---------------|--------|-------------------------------|-------------------------------|------------------------------|---------------------------|
|                             | Single                                 | Double  | Single        | Double |                               |                               |                              |                           |
| <input type="checkbox"/> 6  | 24                                     | 12/12   | 1.5           | 3.0    | $\leq 4.2$                    | $\leq 4.2$                    | 12                           | $\geq 50$                 |
| <input type="checkbox"/> 9  | 54                                     | 27/27   |               |        | $\leq 6.3$                    | $\leq 6.3$                    | 18                           |                           |
| <input type="checkbox"/> 12 | 96                                     | 48/48   |               |        | $\leq 8.4$                    | $\leq 8.4$                    | 24                           |                           |
| <input type="checkbox"/> 24 | 384                                    | 192/192 |               |        | $\leq 16.8$                   | $\leq 16.8$                   | 48                           |                           |

## Ordering information

|         |      |    |       |   |    |  |
|---------|------|----|-------|---|----|--|
| GRT508B | 100A | 1B | 12VDC | S | XX |  |
|         |      |    |       |   |    | Terminal type: Custom design                     |
|         |      |    |       |   |    | Coil type: S:single coil D:double coil           |
|         |      |    |       |   |    | Coil voltage: 5, 6, 9, 12, 24, 48V               |
|         |      |    |       |   |    | Contact form: 1B:a set of contacts remain closed |
|         |      |    |       |   |    | Contact current: 100A                            |
|         |      |    |       |   |    | Relay Series: GRT508B                            |

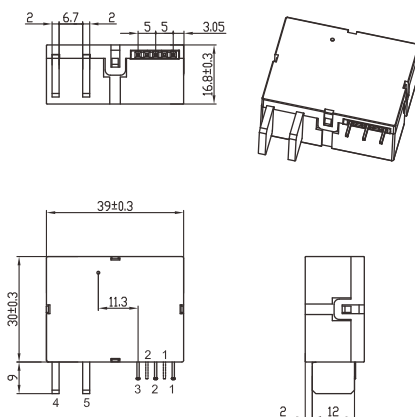
## Dimensional Drawings/Wiring Diagrams(unit:mm)

### VERSION:A



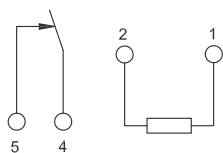
Note: The broken line stands for the pins of single coil

### VERSION:B



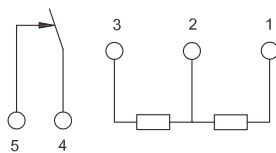
Note: The broken line stands for the pins of single coil

### Single coil



1 (+) 2 (-) 4-5 Release(Open)  
2 (+) 1 (-) 4-5 Operate(Close)

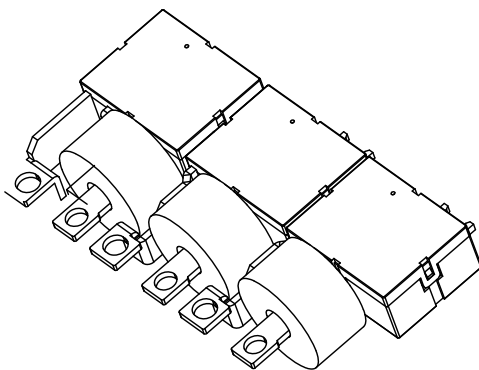
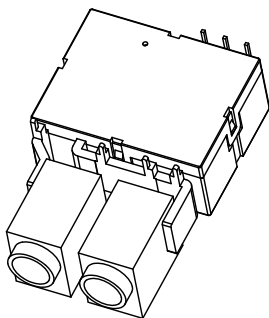
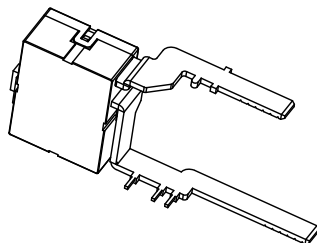
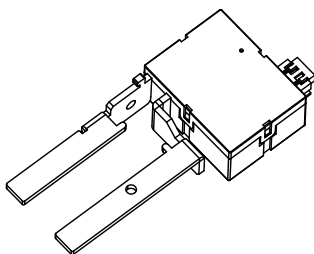
### Double coil



1 (+) 2 (-) 4-5 Release(Open)  
3 (+) 2 (-) 4-5 Operate(Close)

Note: No tolerance marked. If dimension  $\leq 1\text{mm}$ , the tolerance is  $\pm 0.2\text{mm}$ ; if dimension  $1\text{-}5\text{mm}$ , the tolerance is  $\pm 0.3\text{mm}$ ; if dimension  $\geq 5\text{mm}$ , the tolerance is  $\pm 0.5\text{mm}$ .

### Typical Terminal Type



### Typical application

- Smart Meter
- Electric Remote Control
- Electrical eaae Protector



## Notes:

1.The factory defaults of relay contacts is set to be closed (reset state), however, due to the transportation or installation, contacts may be impacted, and change its state, so it is necessary to take action to reset before usage (access to power)

2.To be sure latching relay operating reliably, the excitation voltage to coil is to be attained rating, the setting of pulse width should be more than rating, long time (more than 1 min) applied voltage to coil is not acceptable

3.PCB type latching relay, suggested welding temperature is 240℃-260℃, time is 2S-5S. Please do not adopt reflow soldering. Normally, the temperature for wave soldering is required 250℃ and time is  $\leq 2S$ .

4.Latching relay which is without copper braided wires, the load leading pin can neither be tin soldered nor be wrenched. Don't do any extra force to load

5.When screws or bolt is used for load leading terminal of latching relay, please be sure to connect tightly, in case of any damage or the other safety accident causing by over temperature rise.

6.Due to limited signal wire strength of coil or shunts, do not twist or pull the signal wire, it is easy to get it broken.

7.Please handle gently when doing coming inspection and usage, preventing falling to impact the parameters. Distinguish the product which needs destructive inspection with normal products when entering to the factory, forbidding using it.

## Statement:

Product specification brochure is for reference only. GRT can't ensure relays meet all performance parameters in each specific application field.

Customers should choose the right products as per according to specific using conditions.