

**Character**

- ◇ 90A three sets of contacts switching capability
- ◇ Apply to State Grid three-phase meter
- ◇ 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: (98 x 41 x 36) mm

**Contact Data**

Contact Form	3B	
Contact Material	AgSnO <sub>2</sub>	
Contact Resistance	Max.1.0mΩ (1A 6VDC)	
Rated Load(Resistive)	90A 250VAC	
Max. Switching Voltage	380VAC	
Max. Switching Current	90A	
Max. Switching Power	22500VAC	
Service Life	Mechanical Endurance	1×10 <sup>6</sup> OPS
	Electrical Endurance	6×10 <sup>5</sup> OPS
Max. Short-circuit Current	2500A/10ms	
	4500A/10ms(no explosion)	

**Characteristics**

Operate Time	40ms Max.	
Release Time	40ms Max.	
Insulation Resistance (500VDC)	1000MΩ Min.	
Dielectric Strength (50/60hz, 1min)	Contact to Coil	4000VAC
	Across Open Contacts	2000VAC
	Contact to contact	4000VAC
Surge Voltage (1.2/50 μ s)	Contact to Coil	20KVAC
Creepage Distance	8mm	
Unit Weight	About 245g	

**Environmental Data**

Ambient Temperature	-40°C ~ +70°C	Relative Humidity	5%-85% RH
Vibration	10-55Hz 1.5mm	Shock	98m/s <sup>2</sup>

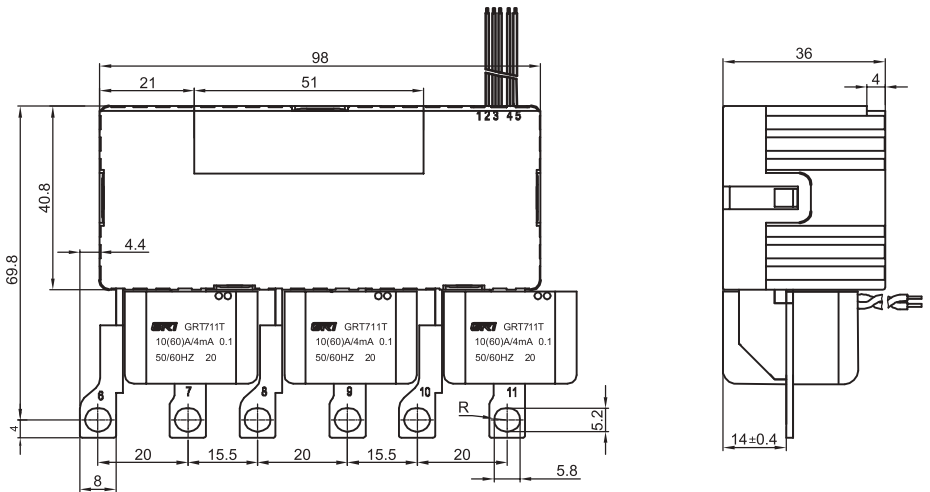
### Coil Data (20°C)

Coil Voltage (VDC)	Coil Resistance( $\Omega$ ) $\pm 10\%$		Coil Power(w)		Operating Voltage (VDC)	Releasing Voltage (VDC)	Allowing voltage (VDC)	Pulse Duration (ms)
	Single	Double	Single	Double				
<input type="checkbox"/> 9	27	13.5/13.5			$\leq 6.3$	$\leq 6.3$	13.5	
<input type="checkbox"/> 12	48	24/24	3.0	6.0	$\leq 8.4$	$\leq 8.4$	18	$\geq 100$
<input type="checkbox"/> 24	192	96/96			$\leq 16.8$	$\leq 16.8$	36	
<input type="checkbox"/> 48	768	384/384	$\leq 33.6$	$\leq 33.6$	72			

### Ordering information

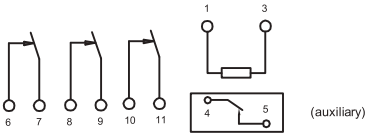
GRT508FA	90A	3B	12VDC	S	XX	
					Terminal type:	Custom design
					Coil type:	S: single coil D: double coil
					Coil voltage:	6, 9, 12, 24, 48V
					Contact form:	3B: three sets of contacts remain closed
					Contact current:	90A
					Relay Series:	GRT508FA

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



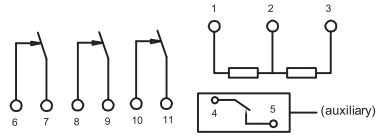
Note: No tolerance marked. If dimension  $\leq 1\text{mm}$ , the tolerance is  $\pm 0.2\text{mm}$ ; if dimension 1-5mm, the tolerance is  $\pm 0.3\text{mm}$ ; if dimension  $\geq 5\text{mm}$ , the tolerance is  $\pm 0.5\text{mm}$ .

single coil



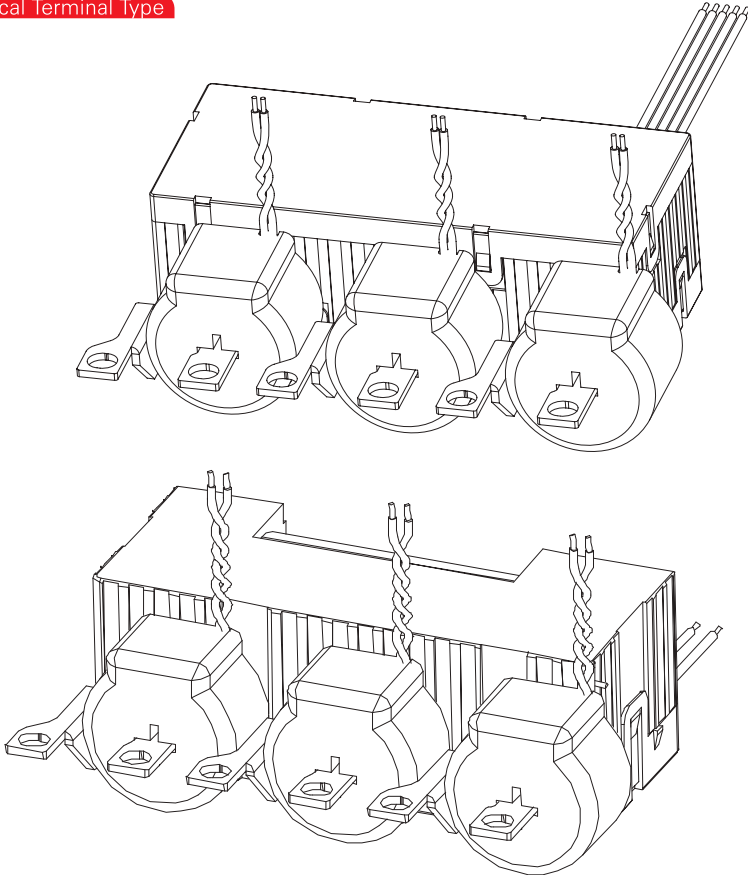
1(+)/3(-) 6-7 8-9 10-11 Release(Open)  
3(+)/1(-) 6-7 8-9 10-11 Operate(Close)  
4-5 auxiliary test contacts (optional choice)

Double coil



1(+)/2(-) 6-7 8-9 10-11 Release(Open)  
3(+)/2(-) 6-7 8-9 10-11 Operate(Close)  
4-5 auxiliary test contacts (optional choice)

### Typical Terminal Type



### Typical application

- Smart Meter
- Power Composite Switch



## 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°C-260°C, time is 2S-5S. Please do not adopt reflow soldering. Normally, the temperature for wave soldering is required 250°C 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.