**Character**

- ◇ 120A three sets of contacts switching simultaneously, auxiliary contact can be added
- ◇ Only impulse excitation needed, both for single and double coil.
- ◇ 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 UC compliant
- ◇ Outline dimensions: (110 x 52 x 24) mm

Contact Data

Contact Form		3B/3H(double contact)
Contact Material		AgSnO ₂
Contact Resistance		Max.1.0mΩ { 1A 6VDC }
Rated Load(Resistive)		100A 250VAC
Max. Switching Voltage		380VAC
Max. Switching Current		120A
Max. Switching Power		25000VA
Service Life	Mechanical Endurance	1×10 ⁵ OPS
	Electrical Endurance	1×10 ⁴ OPS(100A 250VAC)
		6×10 ³ OPS(120A 250VAC)
Max. Short-circuit Current		3000A/10ms
		6000A/10ms(no explosion)

Characteristics

Operate Time		60ms Max.
Release Time		60ms 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	4KV
Creepage Distance		8mm
Unit Weight		About 300g

Environmental Data

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



Coil Data (20°C)

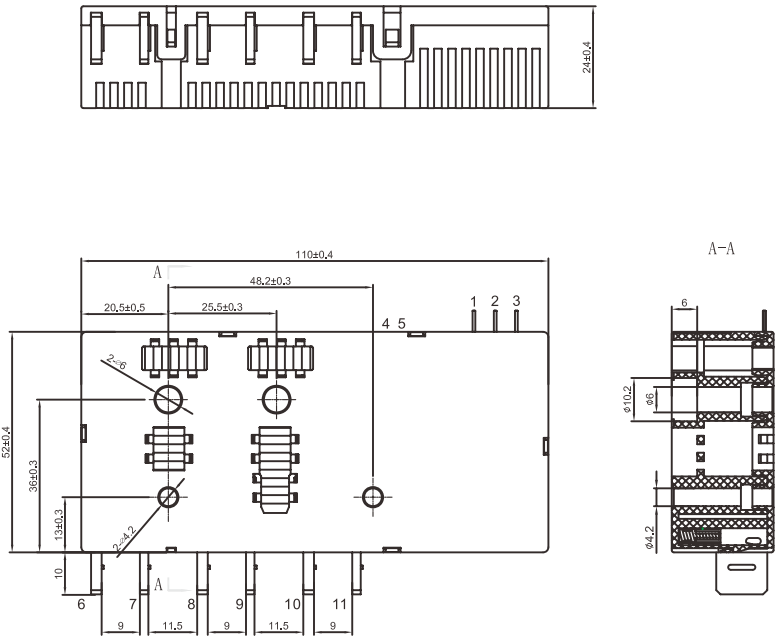
Coil Voltage (VDC)	Coil Resistance(Ω) $\pm 10\%$		Coil Power(w)		Operating Voltage (VDC)	Releasing Voltage (VDC)	Allowing voltage (VDC)	Pulse Duration (ms)
	Single	Double	Single	Double				
<input type="checkbox"/> 6	7.2	3.6/3.6	5.0	10.0	≤ 4.2	≤ 4.2	9	≥ 120
<input type="checkbox"/> 9	16.2	8.1/8.1			≤ 6.3	≤ 8.4	13.5	
<input type="checkbox"/> 12	28.8	14.4/14.4			≤ 8.4	≤ 16.8	18	
<input type="checkbox"/> 24	115.2	57.6/57.6			≤ 16.8	≤ 16.8	36	

Ordering information

GRT508M	120A	3B	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: 3B: three sets of contacts remain closed
						Contact current: 120A
						Relay Series: GRT508M

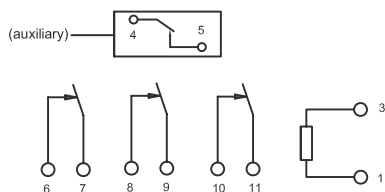
Dimensional Drawings/Wiring Diagrams(unit:mm)

VERSION:1



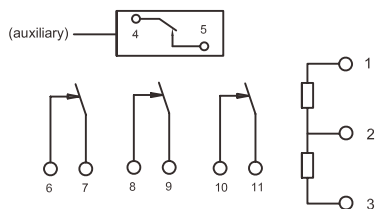
Note: No tolerance marked. If dimension $\leq 1\text{mm}$, the tolerance is $\pm 0.2\text{mm}$; if dimension 1-5mm, the tolerance is $\pm 0.3\text{mm}$; if dimension $\geq 5\text{mm}$, the tolerance is $\pm 0.5\text{mm}$.

Single coil



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

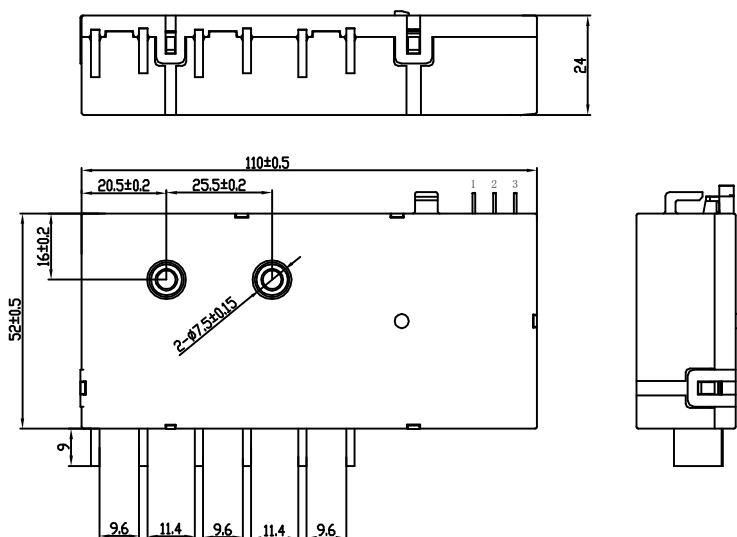
Double coil



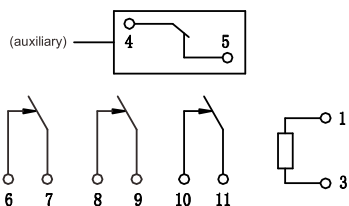
1 (+) 2 (-) 4-5, 6-7, 8-9, 10-11 Release(Open)
 3 (+) 2 (-) 4-5, 6-7, 8-9, 10-11 Operate(Close)
 4-5 auxiliary test contacts (optional choice)

Dimensional Drawings/Wiring Diagrams(unit:mm)

VERSION:2

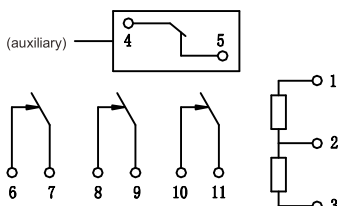


Single coil



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

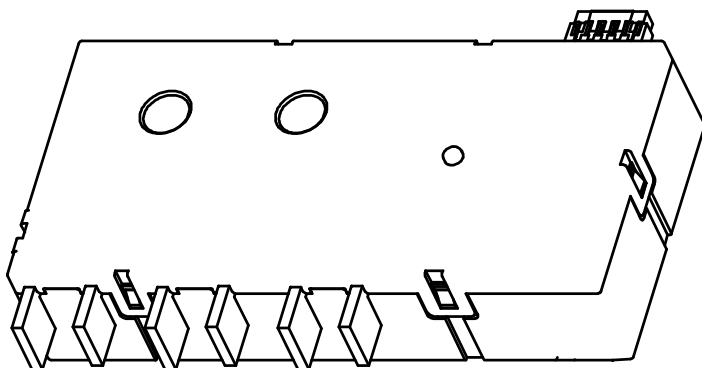
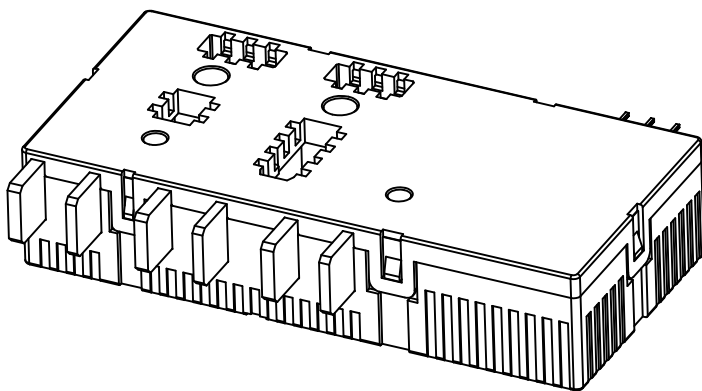
Double coil



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

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 $\pm 0.5\text{mm}$.

Typical Terminal Type



Typical application

- Smart Meter



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 $\leq 2\text{S}$.

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.