



## Feature

- Rated 150A contact switching capacity
- Not position sensitive- can be mounted in any position for ease of installation.
- It can meet the requirements of abnormal conditions and can switch 10 times of over-current

## Contact Data

Item	Information	
Contact arrangement	Power Contact:1 Form A	
Current rating	150A	
Contact resistance	≤0.75mΩ ( @12V 100A )	
Max. Switching voltage	70VDC	
Electrical life <sup>(1)</sup>	Load current	Switching times
	80A	25K times
	100A	15k times
	150A	5k times
	200A	200 times
	500A	45 times(breaking)
	700A	35 times(breaking)
	1000A	20 times(breaking)
	1500A	12 times(breaking)
2000A	6 times(breaking)	
Load current capacity <sup>(2)</sup>	150A : Continued	
	175A : 15min	
	250A : 5min	
	350A : 30sec	
	450A : 15sec	
	750A : 7 sec	
	1500A : 1.5sec	

### NOTES :

( 1 ) .Unless otherwise specified, the ambient temperature of electrical durability test is

The on-off ratio is 1 s : 9 s at 65 °C ;

( 2 ) .The ambient temperature is 65 °C, and the cross-sectional area of conductor is more than or equal to 25 mm ;

## Parameters Table

Item	Information	
Mechanical life	5×10 <sup>5</sup> times	
Insulation resistance	100MΩ(500VDC)	
Dielectric strength	Between open contacts	1000VAC 1min. 10mA
	Between contact and coil	1000VAC 1min. 10mA
Operate time (at rated coil voltage)	≤20ms	
Release time (at rated coil voltage)	≤10ms	
Shock resistance	Functional	100GMin
	Destructive	50GMin
Vibration resistance	10 ~ 55Hz , Double amplitude 1.5 mm	
Ambient temperature	-40°C~105°C	
Ambient humidity	5%~95% RH	
Weight	110g	
External dimension	62×50×28.5	
Noise	60dB (40cm)	
Protection level	IP64	
Coil temperature rise	≤155°C	
Terminal temperature rise	≤125°C	

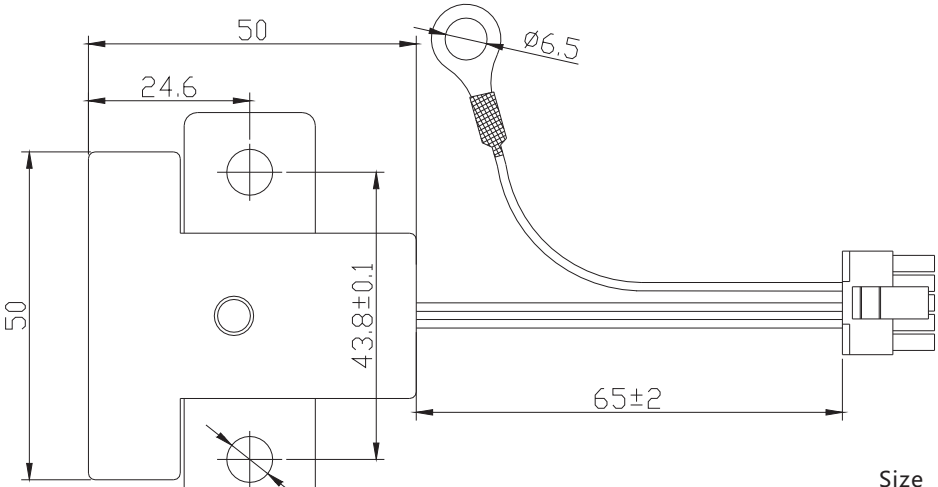
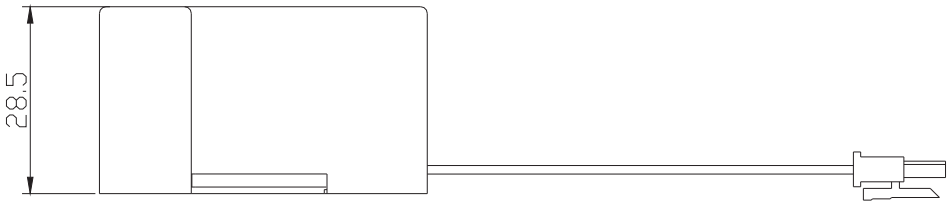
## CoilData<sup>(3)</sup> (at 23°C)

Rated voltage (VDC)	Rated current ±10% ( A )	Coil resistance ± 10% ( Ω )	Pick-up voltage (Max.VDC)	Drop-out voltage (Min.VDC)	Rated power
12	0.25	48	8V	1.2V	3W

Ordering Information

Model naming rules			
<b>SAR18</b>	<b>-M</b>	<b>12</b>	<b>-H</b> □
<b>Customer charachteristics number</b> Nil : Customer without request Digital or letter : Structure independent requirements			
<b>Coil Power</b> : H : 3W			
<b>Coil Voltage(VDV)</b> 12 : 12VDC			
<b>Number of Poles</b> M : 1 Form A			
<b>Type Designation</b> SAR18			

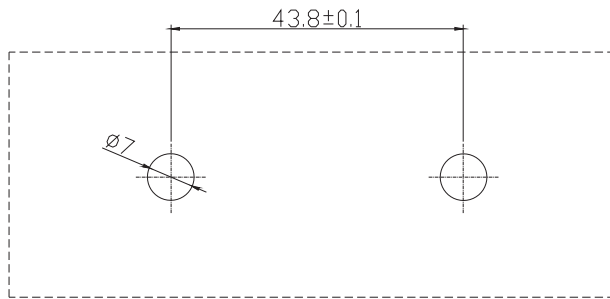
Outline Dimensions



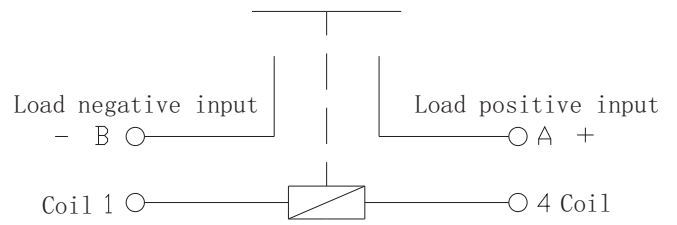
Ø7 (M6螺钉固定, 扭矩范围5~6N.M)  
Fixed with M6 screw, Torque range 5~6N.M

Size	tolerance
Less than 10mm:	±0.3
10 to 50mm:	±0.5
More than 50mm:	±0.8

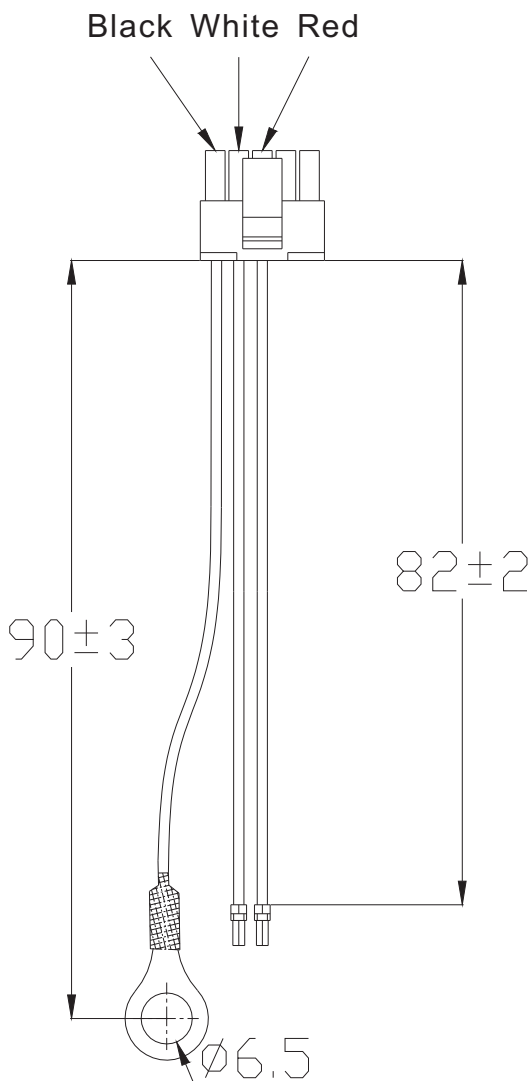
Installation Size Chart



Schematic Diagram



Coil Connection Type



Wiring instructions:

- Cable color black "Terminal signal detection"
- Cable color white "Coil lead-"
- Cable color red "Coil lead+"

**NOTES****●Mounting Attention**

1. When installing the relay, always use washers to prevent the screws from loosening.
2. Tighten each screw within the rated range given in the outline dimensions. Exceeding the maximum torque may result in breakage.
3. Avoid mounting the relay in strong magnetic fields (near a transformer or magnet) or close to an object that radiates heat.

**●Electrical Life Attention**

1. This relay is a DC high-voltage switch. In its final breakdown mode, it may lose the ability to provide the proper cut-off. Therefore, do not exceed the indicated switching capacity and life.
2. Please treat the relay as a product with limited life and replace it when necessary.
3. The contacts of the relay are polarized. Please follow instructions in the connection schematic when connecting the contacts.
4. Be careful that foreign matter and oils and fats kind, don't stick to the main terminal parts because it is likely to cause terminal parts to give off unusual heat. Also, please use the following specifications of conductor.

10A	Min. 2mm <sup>2</sup> nominal cross-sectional area
20A	Min. 3mm <sup>2</sup> nominal cross-sectional area
40A	Min. 10mm <sup>2</sup> nominal cross-sectional area
60A	Min. 15mm <sup>2</sup> nominal cross-sectional area
100A	Min. 35mm <sup>2</sup> nominal cross-sectional area
150A	Min. 45mm <sup>2</sup> nominal cross-sectional area
200A	Min. 60mm <sup>2</sup> nominal cross-sectional area
250A	Min. 80mm <sup>2</sup> nominal cross-sectional area
300A	Min. 100mm <sup>2</sup> nominal cross-sectional area
350A	Min. 120mm <sup>2</sup> nominal cross-sectional area

**●Coil Attention**

1. Please note that when using a diode, the switching speed may decrease and cause a reduction in cut-off performance, we recommend installing a surge protector varistor.
2. The pick-up voltage and drop-out voltage will change with ambient temperature, please use rated voltage to make sure the relay operate reliable. Don't exceed maximum coil voltage.
3. The 250A and 300A types have built-in dedicated drive circuit, please drive the coil with a quick startup (Built-in one-shot pulse generator circuit).
4. After the ON signal enters the 250A and 300A types, automatic coil current switching occurs after approximately 0.1 seconds. Do not repeatedly turn it OFF within that 0.1 seconds interval, as doing so may damage the relay.

**Disclaimer :**

This datasheet is the customers' reference. All the specification are subject to change without notice.

We could not evaluate all the performance and parameters for every possible application. Thus the users should be in a right position to choose the suitable product for their own application. If there is any query, please contact Sanyou for technical service. However it is the users' responsibility to determine which product should be used only.

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