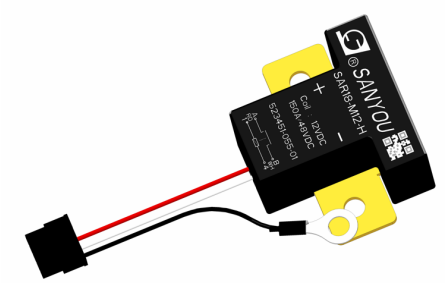
三友继电器
® SANYOU RELAYS
Relays for advanced technology

Start Stop Relay SAR18



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.

Typical Application

- 48V battery pack start stop

Contact Data

Item	Information	
Contact arrangement	Power Contact:1 Form A	
Current rating	150A	
Contact resistance	≤0.75mΩ（@12V 150A）	
Max. Switching voltage	70VDC	
Electrica life (1)	Load current	Switching times
	80A	25K times
	100A	15k times
	150A	5k times
	200A	200 times
Breaking Current	500A	45 times
	700A	35 times
	1000A	20 times
	1500A	12 times
	2000A	6 times
	2500A	4 times
	3300A	1 times
Load current capacity (2)	Load current	time
	150A	48hr
	175A	15min
	350A	30sec
	750A	7sec
	1500A	1.5sec
	2000A	0.5sec
	2500A	10ms

NOTES:(1) Unless otherwise specified, the ambient temperature of electrical durability test is The on-off ratio is 0.6 s: 5.4 s at 65 ℃.
(2) The ambient temperature is 65 ℃, and the cross-sectional area of conductor is more than or equal to 25 mm.

Coil Data (at 23℃)

Rated voltage (VDC)	Rated current ±10%(A)	Coil resistance ± 10% (Ω)	Operate voltage (Max.VDC)	Release voltage (Min.VDC)	Rated power
12	0.25	48	10v	1.2v	3W

Parameters Data

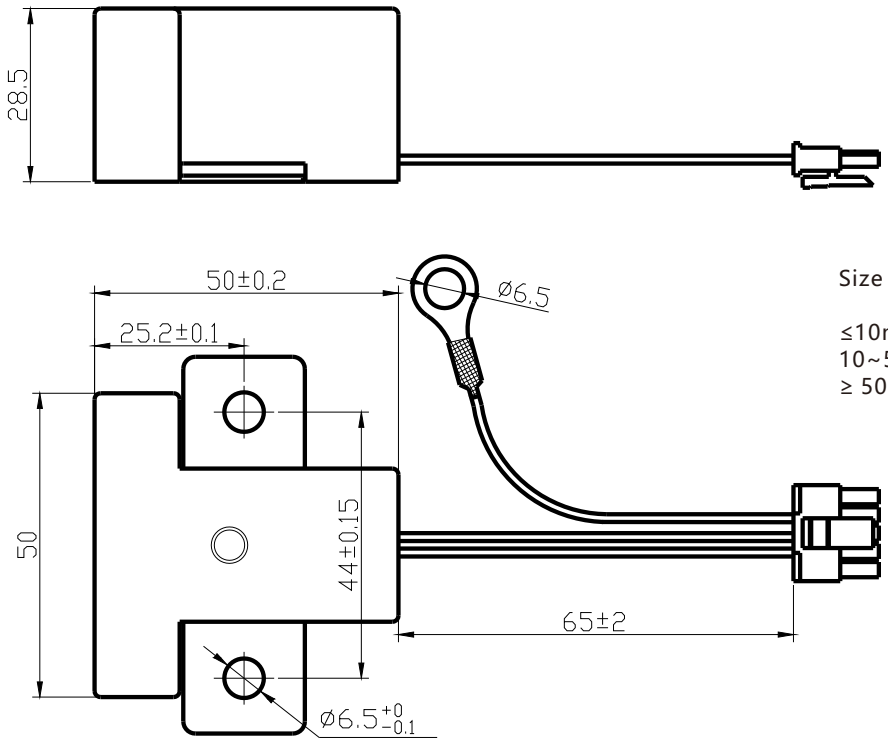
Item	Information	
Mechanical life	5×10^5 times	
Insulation resistance	100MΩ(500VDC)	
Dielectric strength	Between open contacts	1000VAC 1min. 10mA
	Between contact and coil	1000VAC 1min. 10mA
Operate time	≤20ms	
Release time	≤10ms	
Shock resistance	Functional	50GMin
	Destructive	100GMin
Vibration resistance	±X、±Y、±Z，LV124-M04	
Ambient temperature	-40℃~105℃	
Ambient humidity	5%~95% RH	
Weight	110g±5g	
Noise	60dB (40cm)	
Protection level	IP64	

Ordering Information

SAR18 -M -12 -H X

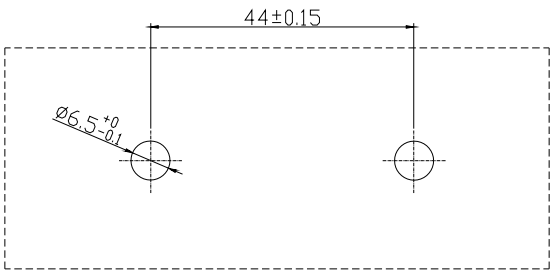
- X: Special parameter: Nil-Standard,X-Customer requirements.
- H: Coil Power: H-3W
- 12: Coil Voltage(VDC): 12-12V
- M: Number of contact groups: M: 1 Form A
- SAR18: Type Designation:SAR18

Outline Dimensions (unit:mm)

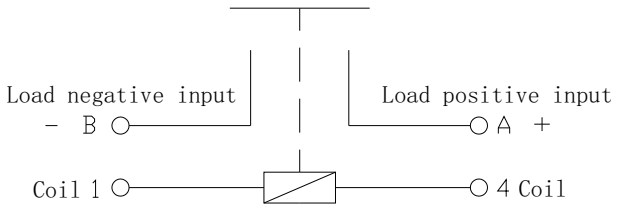


Size	tolerance
≤10mm:	±0.3
10~50mm :	±0.5
≥ 50mm:	±0.8

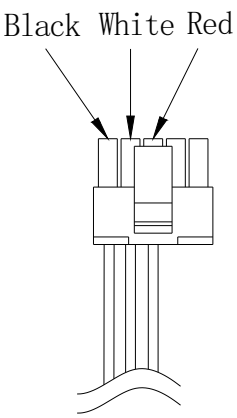
Installation Size Chart (unit:mm)



Schematic Diagram



Coil wire description



Wiring instructions:

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

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

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

Statement:

This product specification is for reference only, subject to change without prior notice.We could not evaluate all test conditions for every possible application, thus customers should be in a right position to choose suitable products for their own application. If in doubt, please contact Sanyou for more technical support. However,it's the customer's responsibility to determine which product should be used.