



Feature

- 250 amps continuous carry,2500 amps interrupte under extreme condition.
- Hermetically sealed with hydrogen gas,the arc is not exposed. Be able to use in explosive & harsh environments without oxidation or contamination of contacts.Contacts' part meet IP42 protection degree.
- Not position sensitive- can be mounted in any position for ease of installation.
- RoHS compliant.

Contact Data

| Item | Information | | |
|--------------------------------------|----------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Contact arrangement | 1 Form A contact | | |
| Current rating | 250A | | |
| Contact resistance | ≤0.5mΩ (@6V 20A) | | |
| Min.Switching load | 12VDC 1A | | |
| Max. Switching voltage | 750VDC | | |
| Max. Breaking current | 2000A (500VDC , 1 cycle) | | |
| Max. Switching power | 187.5KW | | |
| Electrical life ⁽¹⁾ | | 500V type | 750V type |
| | Resistive load | 500VDC,250A 1×10 ³ cycles | 750VDC,250A 500 cycles |
| | | 500VDC,-250A 100 cycles | 750VDC,250A 10 cycles |
| | Capacitive load | 2.5×10 ⁴ cycles 22.5VDC,τ=1ms inrush 400A steady 250A | 2.5×10 ⁴ cycles 37.5VDC,τ=1ms inrush 400A steady 250A |
| Load current capacity ⁽²⁾ | 250A : continuity | | |
| | 375A : 10min | | |
| | 500A : 2min | | |
| | 1000A : 30s | | |
| | 2500A : 0.6s | | |

Parameters Table

| Item | Information | |
|--------------------------------------|--------------------------------------|-----------------------------|
| Mechanical life | 5×10 ⁵ cycles | |
| Insulation resistance | 1000MΩ(500VDC) | |
| Dielectric strength | Between open contacts | 3000VAC 1min 10mA |
| | Between contact and coil | 4000VAC 1min 10mA |
| Operate time (at rated coil voltage) | ≤50ms | |
| Release time (at rated coil voltage) | ≤30ms | |
| Shock resistance | Functional | 98m/s ² (10G) |
| | Destructive | 490m/s ² (50G) |
| Vibration resistance | 10Hz~500Hz 49m/s ² (5G) | |
| Ambient temperature | -40°C~85°C | |
| Ambient humidity | 5%~85% RH | |
| Weight | Approx.570g | |
| External dimension | 95mm×45mm×85mm | |

Coil Data⁽³⁾

| Rated voltage (VDC) | 12 | 24 | 48 |
|--------------------------------|------|------|------|
| Operation voltage (VDC) | 12 | 24 | 48 |
| Max. voltage (VDC) | 16 | 32 | 64 |
| Pick-up voltage (VDC) | ≤9 | ≤18 | ≤36 |
| Drop-out voltage (VDC) | ≥1.0 | ≥2.0 | ≥4.0 |
| Coil vesistance(±10%)(Ω) | 24 | 96 | 384 |
| Operating power (inrush , W) | 6 | 6 | 6 |
| Operating power (stable , W) | 6 | 6 | 6 |

NOTES :

(1) Ambient temperature:23°C , L/R≤1ms.

(2) Ambient temperature:85°C , 100mm² conductor.

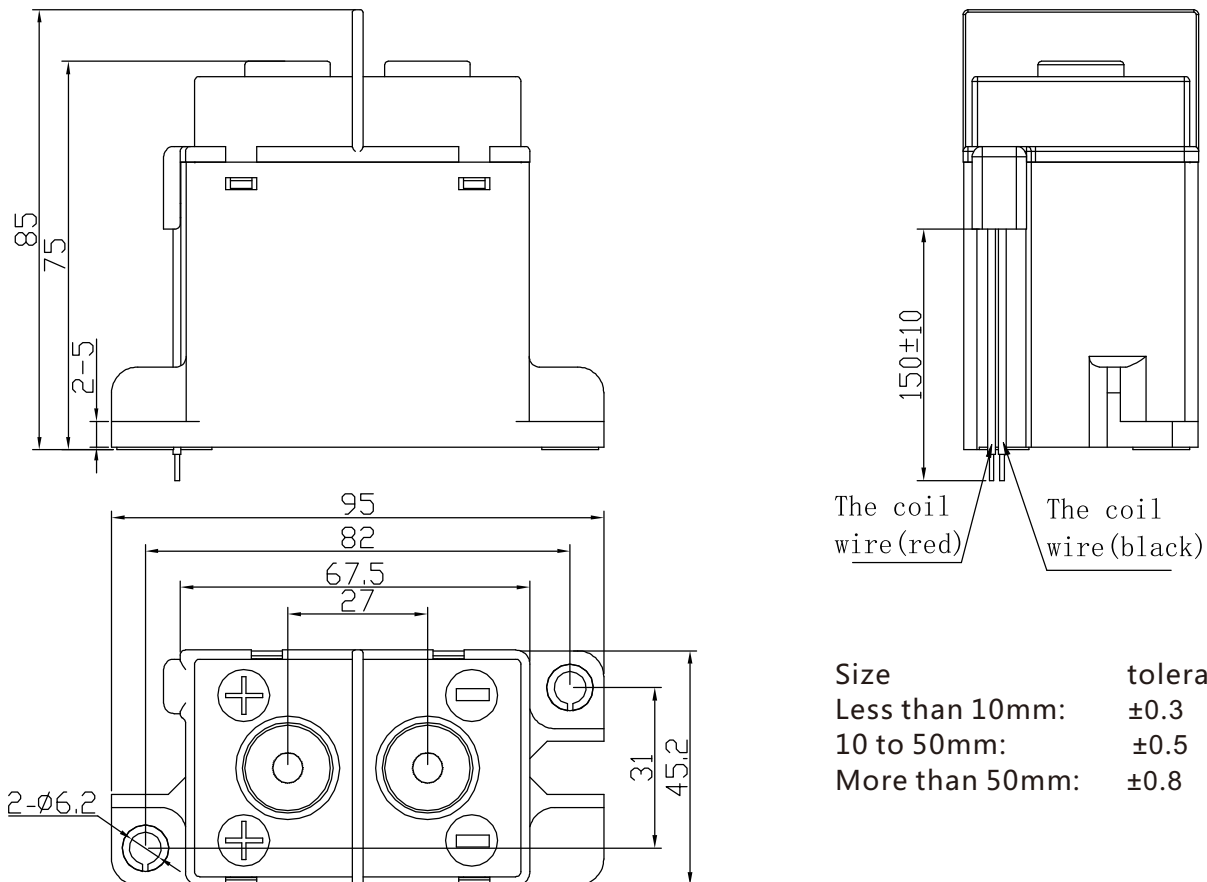
(3) Other types of rated voltage,please contact us.

Ordering Information
Nomenclature

| | | | | | | | |
|---------------------------------------------------|---|---|----------|---|---|---|---|
| SES 250- | □ | □ | M | □ | □ | □ | □ |
| Customer special code | | | | | | | |
| Nil : No customer special requirement | | | | | | | |
| Numbers or Letters : Customer special requirement | | | | | | | |
| Load connection type | | | | | | | |
| 2 : internal thread | | | | | | | |
| Coil connection type | | | | | | | |
| Nil : outgoing line | | | | | | | |
| C : outgoing line+connector | | | | | | | |
| Coil voltage | | | | | | | |
| 12 : 12VDC | | | | | | | |
| 24 : 24VDC | | | | | | | |
| 48 : 48VDC | | | | | | | |
| Contact arrangement | | | | | | | |
| M : 1 Form A | | | | | | | |
| Voltage rating | | | | | | | |
| 750 : 12~750VDC | | | | | | | |
| 500 : 12~500VDC | | | | | | | |
| The type of install | | | | | | | |
| H:horizontally | | | | | | | |
| V:vertical | | | | | | | |
| Load current | | | | | | | |
| 250 : 250A | | | | | | | |
| Type designation | | | | | | | |
| SES | | | | | | | |

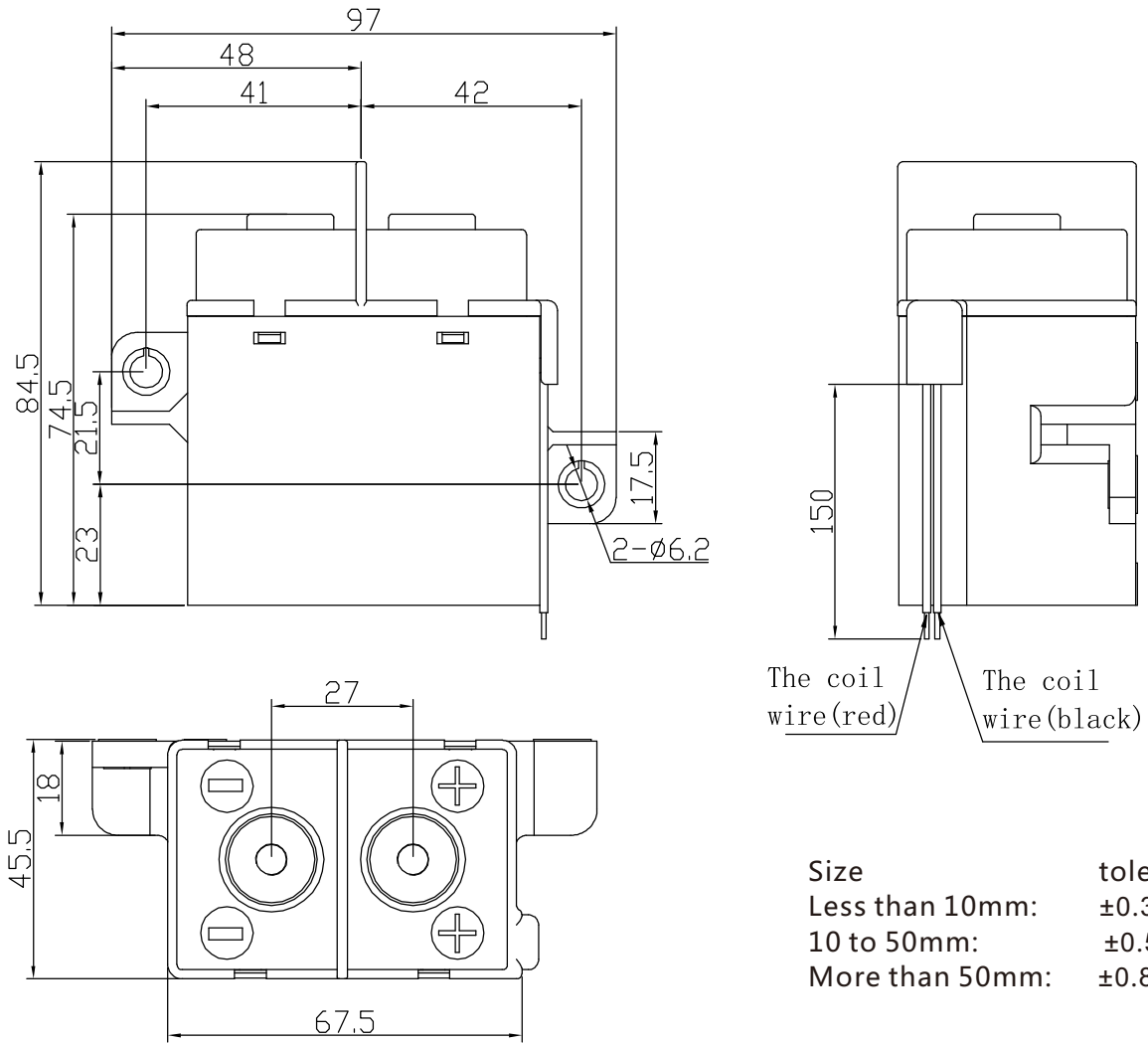
Packing quantity:1pcs inner carton, 12pcs outer carton

The type of vertical:



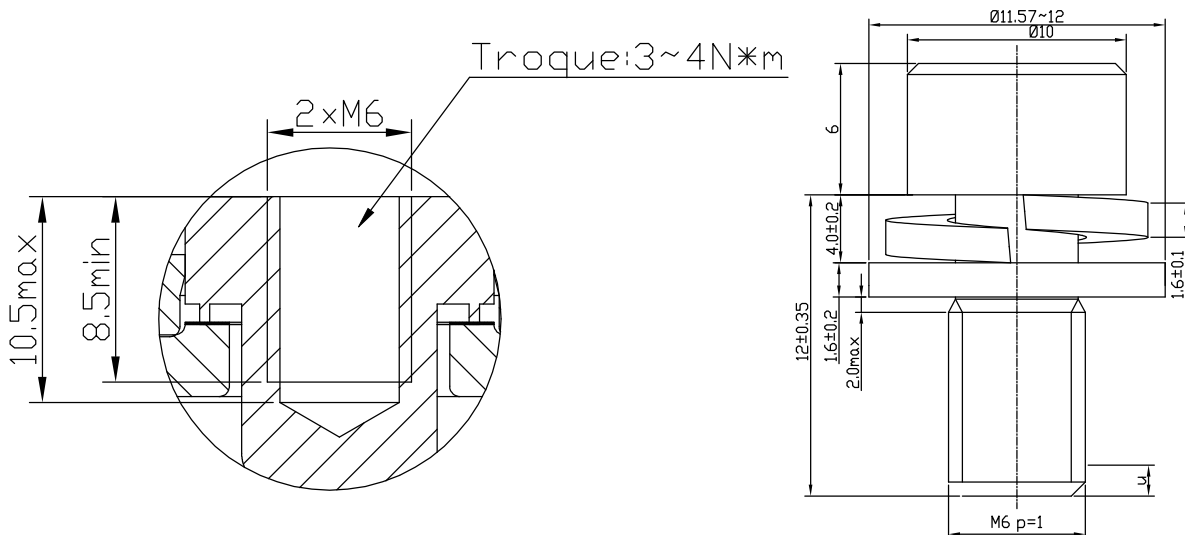
| Size | tolerance |
|-----------------|-----------|
| Less than 10mm: | ±0.3 |
| 10 to 50mm: | ±0.5 |
| More than 50mm: | ±0.8 |

The type of horizontally:



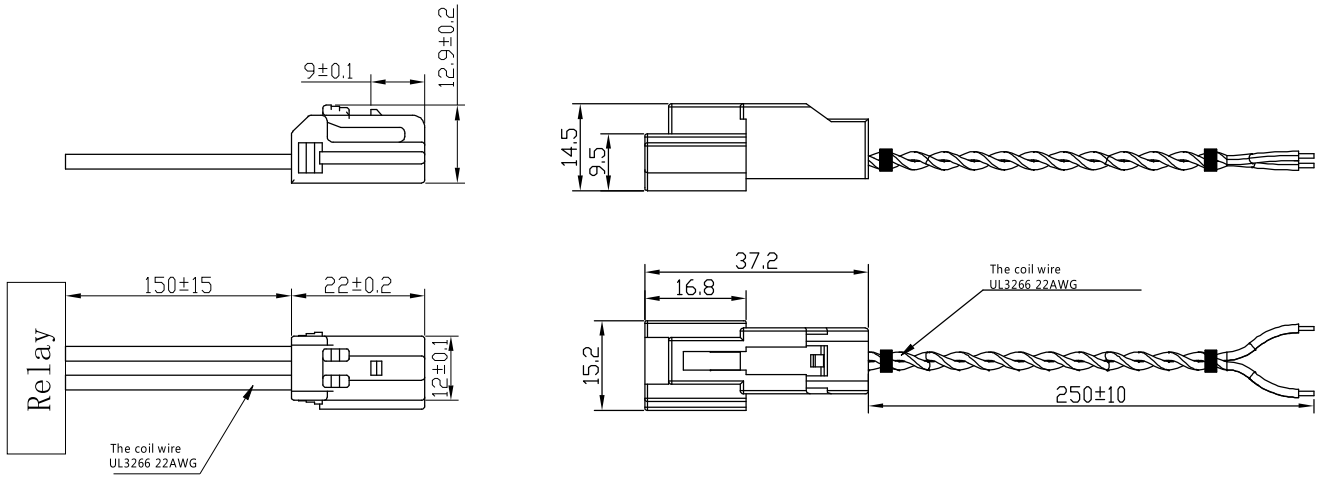
| Size | tolerance |
|-----------------|-----------|
| Less than 10mm: | ± 0.3 |
| 10 to 50mm: | ± 0.5 |
| More than 50mm: | ± 0.8 |

Bolt:



Coil Connection Type

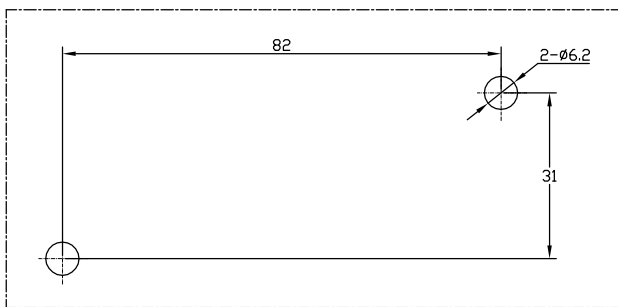
C : Outgoing Line+Connector (Accessories)



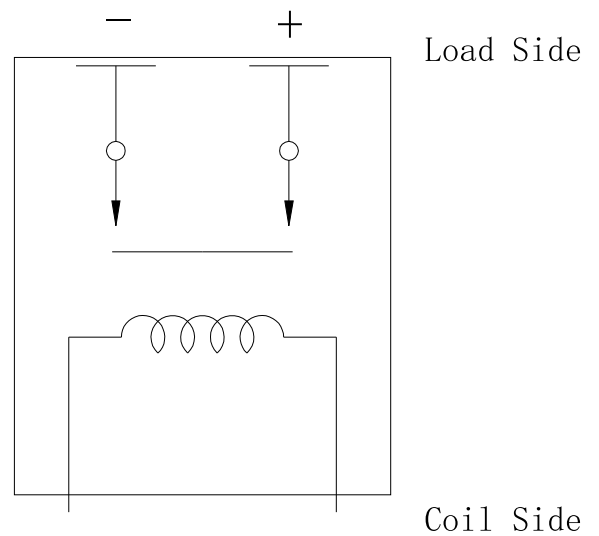
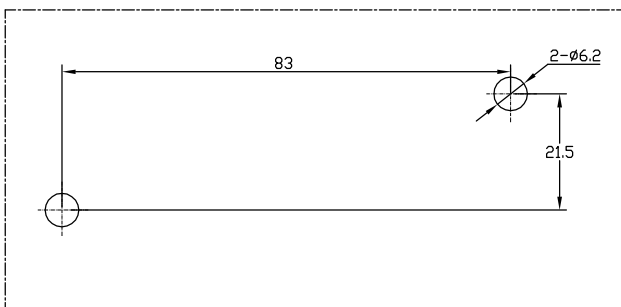
Installation Size Chart

Schematic Diagram

The type of vertical:



The type of horizontally:



NOTE: The contacts are polarized

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