三友继电器
® SANYOU RELAYS
Relays for advanced technology

High Voltage DC Relay

SEC250

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
- Auxiliary Contact:1 Form A

Contact Data

Item		Information		
Contact arrangement		Power Contact:1 Form A Auxiliary Contact:1 Form A		
Current rating		250A		
Auxiliary road		1A 30VDC/1A 125VAC		
Contact resistance		≤0.5mΩ（@6V 20A）		
Min.Switching load		12VDC 1A		
Max. Switching voltage		1000VDC		
Max. Breaking current		2500A（450VDC，1 cycle）		
Max. Switching power		250KW		
Electrical life(1)	Resistive load	500VDC	750VDC	1000VDC
		Refer to the switchover life line chart		
	Capacitive load	7.0×10⁴cycles 50VDC,τ=1ms inrush 180A		
Load current capacity(2)		Reference tolerance curve		

Parameters Table

Item		Information
Mechanical life		2×10⁵ cycles
Insulation resistance		1000MΩ(1000VDC)
Dielectric strength	Between open contacts	3000VAC 1min 1mA
	Between contact and coil	3000VAC 1min 1mA
0peration time (at rated coil voltage)		≤50ms
Release time (at rated coil voltage)		≤30ms
Shock resistance	Functional	196m/s² (20G)
	Destructive	490m/s² (50G)
Vibration resistance		10Hz~500Hz 49m/s² (5G)
Ambient temperature		-40℃~+85℃
Ambient humidity		5%~85% RH
Weight		440g
External dimension		77.8×66.5×73.3

Coil Data (3)

Rated voltage (VDC)	Operation voltage (VDC)	Max. voltage (VDC)	Pick-up voltage (VDC)	Drop-out voltage (VDC)	Coil resistance (±10%)(Ω)	Operating power (inrush, W)	Operating power (stable, W)
12	12~24	36	≤9	≥1.0	3.4	42	4

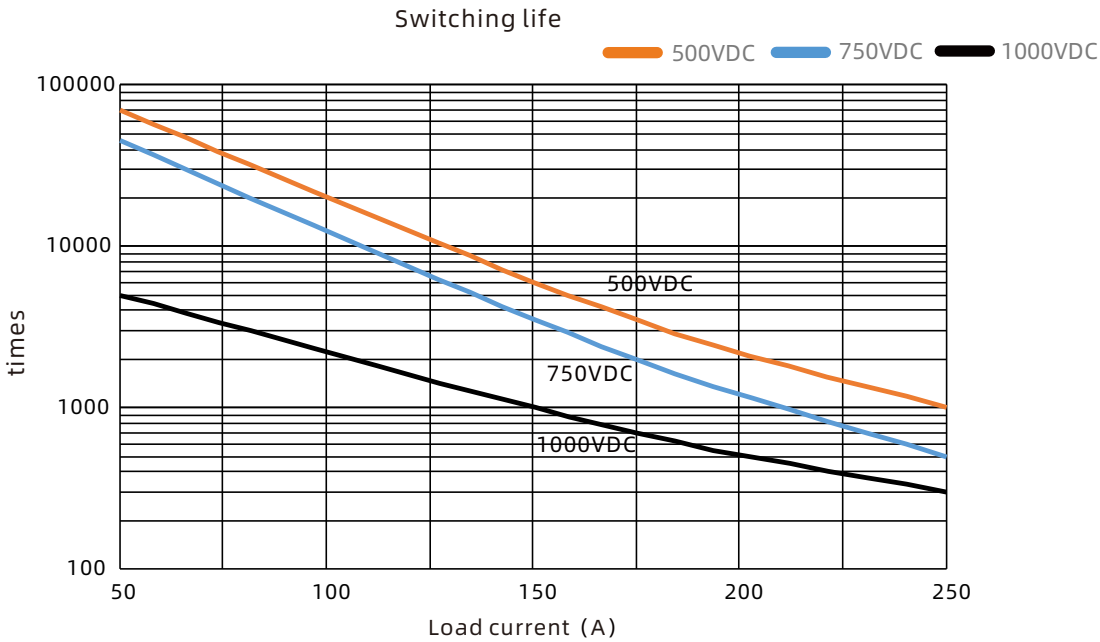
NOTES:

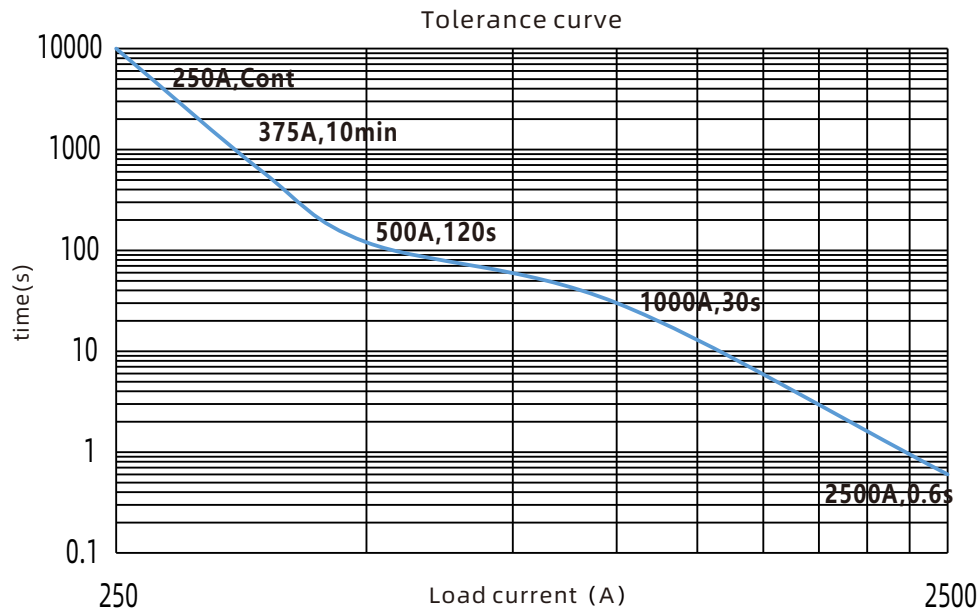
(1) Ambient temperature:23℃, L/R≤1ms., on:off/0.6s: 5.4s;

(2) Ambient temperature:23℃, 80mm^{2}conductor.

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

Reference date





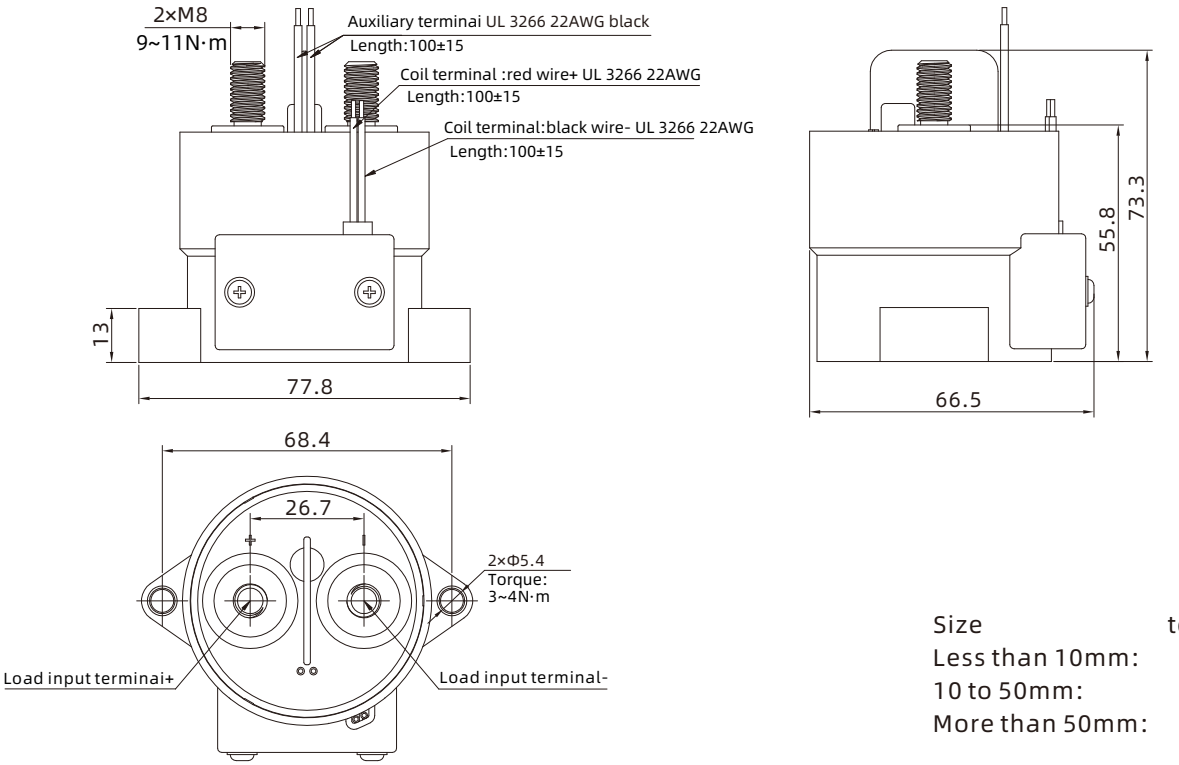
Ordering Information
Nomenclature

SEC 250 - □ M □ □ □ □ □ □□

Customer special code	Nil: No customer special requirement Numbers or Letters: Customer special requirement
Load connection type	3: external thread
Mounting height	S: 55.8mm
Coil connection type	Nil: outgoing line C: outgoing line+connector
Is energy saving PCB board built-in	Nil: External to housing Y : Built in housing
Coil voltage	L: 12~24VDC
Auxiliary contact arrangement	F: 1 Form A
Contact arrangement	M: 1 Form A
Voltage rating	1000: 12~1000VDC 750: 12~750VDC 500: 12~500VDC
Load current	250: 250A
Type designation	SEC

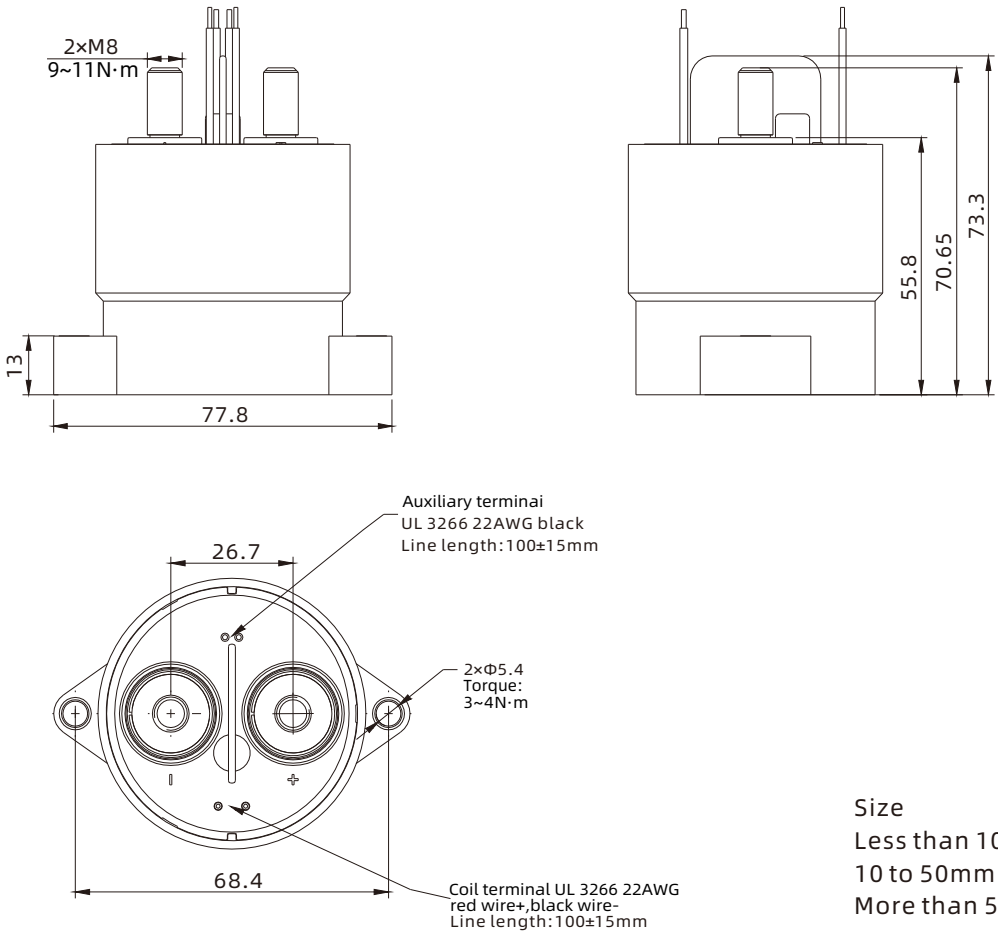
Packing style:30pcs / box

Outline Dimensions(External thread)



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

Built in dimensions of throttle PCB

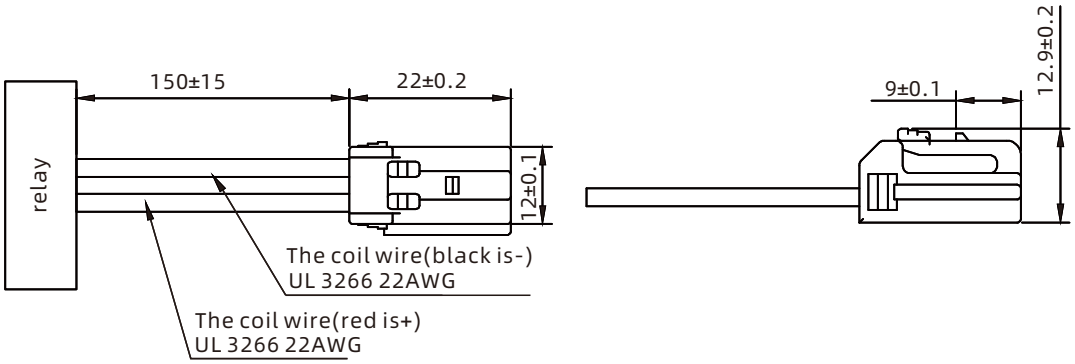


Size	tolerance
Less than 10mm:	±0.3
10 to 50mm:	±0.5
More than 50mm:	±0.8

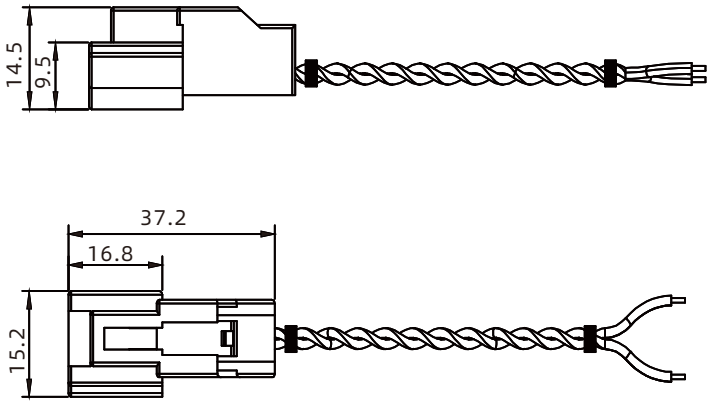
Coil Connection Type

C:Outgoing Line+Connector

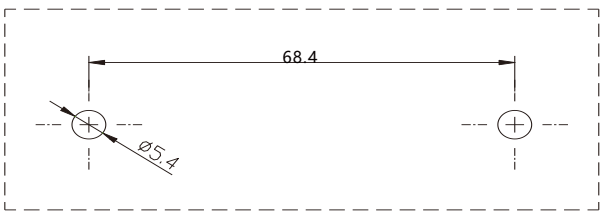
Connectors: Tian Hai :0435305 or Yazaki: 7283-1020



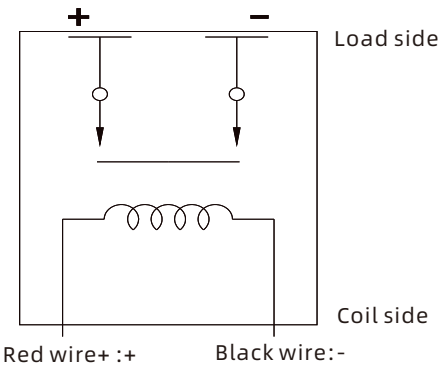
Connectors: Tian Hai :0464705 or Yazaki: 7282-1020(not included in the box)



Installation Size Chart



Schematic Diagram



NOTE:Contacts and coils are polarized

NOTES:

●Mounting Attention

1.In principle, please do not use it when the relay has fallen down.

2.The relay contacts are sealed and filled with gas. When the contact temperature changes, there is internal gas penetrating characteristic.SANYOU relays are forbidden to be used at the temperature beyond our suggestion -40 ℃ ~ 85 ℃ for long time.

3.When installing the relay, always use washers to prevent the screws from loosening.

4.Tighten each screw within the rated range given in the outline dimensions. Exceeding the maximum torque may result in breakage.

5.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.Please do not continuously load the maximum voltage on the coil.

4.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).

5.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 0.1seconds interval, as doing so may damage the relay.

Disclaimer:

1.This datasheet is for customer's reference only.Sanyou had tried its best toensure the information accuracy but impossible to be avoided all the incorrects.The product specification and parameter might be change due to the product improvement.All of specification are subject to change without notice, please refer to the specification and samples.

2.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.