

High Voltage DC Relay

SEC100



Feature

- 100 amps continuous carry, 1000 amps interrupt 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	Power Contact:1 Form A Auxiliary Contact:1 Form A		
Current rating	100A		
Auxiliary road	2A 30VDC/3A 125VAC		
Contact resistance	≤1.5mΩ (@6V 20A)		
Min.Switching load	12VDC 1A		
Max. Switching voltage	750VDC		
Max. Breaking current	1000A (320VDC, 1 cycle)		
Max. Switching power	75KW		
Electrical life ⁽¹⁾		500V type	750V type
	Resistive load	500VDC,100A 3000cycles	750VDC,100A 1000cycles
		500VDC,-100A 1500 cycles	750VDC,-100A 500cycles
Capacitive load	2.5×10 ⁴ cycles 22.5VDC,τ=1ms inrush 400A steady 100A	2.5×10 ⁴ cycles 37.5VDC,τ=1ms inrush 400A steady 100A	
Load current capacity ⁽²⁾	100A: continuity		
	120A: 2h		
	200A: 10min		
	400A: 2min		
	600A: 30s		
	1000A: 0.6s		

NOTES:

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

(2) Ambient temperature:23°C, 35mm² conductor.

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

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)	≤30ms	
Release time (at rated coil voltage)	≤10ms	
Shock resistance	Functional	196m/s ² (20G)
	Destructive	490m/s ² (50G)
Vibration resistance	10Hz~500Hz 49m/s ² (5G)	
Ambient temperature	-40°C~85°C	
Ambient humidity	5%~95% RH	
Weight	Approx.285g	
External dimension	68mm×50.6mm×60.1mm	

Coil Data ⁽³⁾

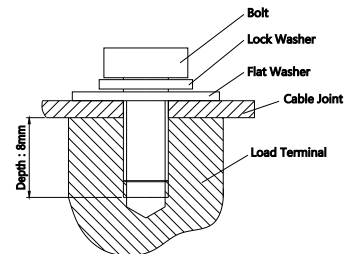
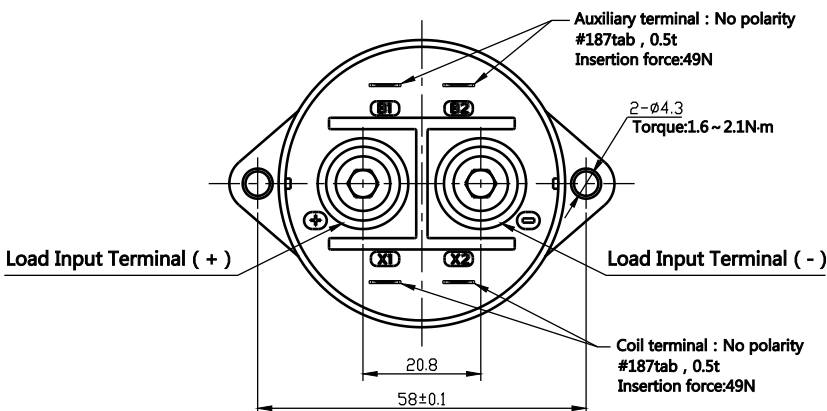
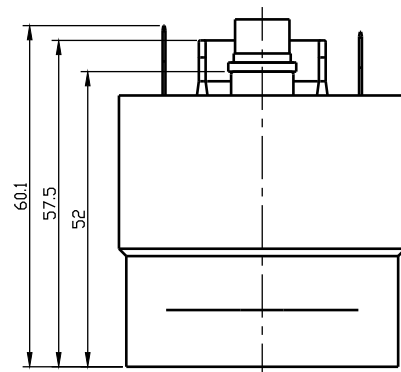
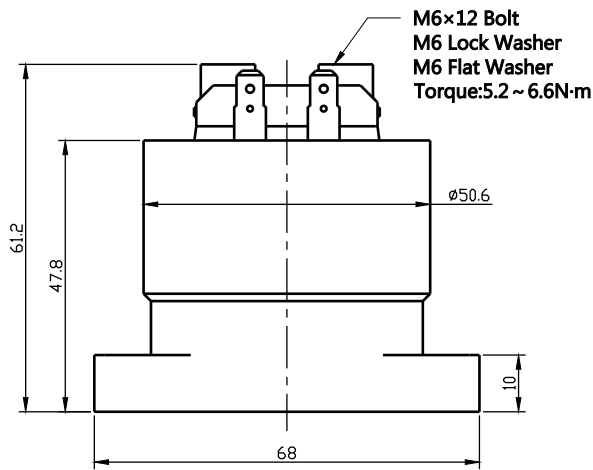
Rated voltage (VDC)	12	24	48
Operation voltage (VDC)	12	24	48
Max. voltage (VDC)	16	32	64
Pick-up voltage (VDC)	≤9	≤18	≤36
Drop-out voltage (VDC)	≥1.0	≥2.0	≥4.0
Coil resistance(±10%)(Ω)	24	96	384
Operating power (inrush, W)	6	6	6
Operating power (stable, W)	6	6	6

Ordering Information

Nomenclature	
SEC 100 - □ M □ □ □ □ □ □	
Customer special code	Nil: No customer special requirement Numbers or Letters: Customer special requirement
Auxiliary load connection type	Nil: Quick insertion terminal
Load connection type	2: internal thread
Coil connection type	Nil: Quick insertion terminal
Coil voltage	12: 12VDC 24: 24VDC 48: 48VDC
Auxiliary contact arrangement	F: 1 Form A
Contact arrangement	M: 1 Form A
Voltage rating	750: 12~750VDC 500: 12~500VDC
Load current	100: 100A
Type designation	SEC

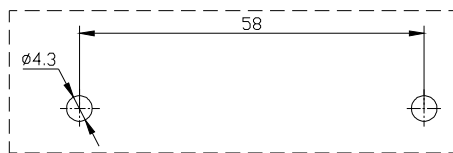
Packing quantity:1pcs inner carton, 20pcs outer carton

Outline Dimensions

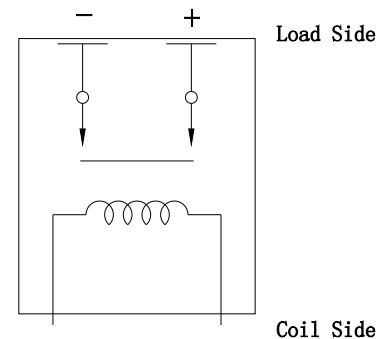


Size	tolerance
Less than 10mm:	±0.3
10 to 50mm:	±0.5
More than 50mm:	±0.8

Installation Size Chart



Schematic Diagram



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.

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