三友继电器
® SANYOU RELAYS
Relays for advanced technology

High Voltage DC Relay | SEP400

Feature

- 400 amps continuous carry
- 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 protection degree
- Not position sensitive- can be mounted in any position for ease of installation
- RoHS compliant
- Auxiliary Contact:1 Form A

Feature

- UL/CUL File No：E179745-1-36
- CE File No：N8A 124740 0002

Contact Data

Item	Specification
Contact arrangement	Power Contact:1 Form A Auxiliary Contact:1 Form A
Rated current	400A
Contact resistance	≤0.25mΩ（@400A）
Min.Switching load	12VDC 1A
Max. Switching voltage	1500VDC
Max. Breaking current	2000A（10000VDC，1 cycle）
Max. Short Circuit Current	No smoke,no fire at 8000A(5ms)
Electrical endurance	Breaking:1500VDC, 100A 5000 cycles
	Breaking:1500VDC, 150A 3000 cycles
	Breaking:1000VDC, 400A 1000 cycles
	Breaking:1500VDC, 400A 50 cycles
	Breaking:1000VDC, 2000A 1 cycles
	Breaking:1500VDC, 1000A 1 cycles

Parameters Table

Item		Information
Mechanical life		2×10^5 cycles
Insulation resistance		1000MΩ(1000VDC)
Dielectric strength	Between open contacts	4000VAC 1min 1mA
	Between contact and coil	4000VAC 1min 1mA
	Between main and auxiliary contactsl	4000VAC 1min 1mA
Absorption time (at rated coil voltage)		≤50ms
Release time (at rated coil voltage)		≤30ms
Shock resistance	Functional	98m/s² (10G)
	Destructive	490m/s² (50G)
Vibration resistance		10Hz~55Hz 49m/s² (5G)
Ambient temperature		-40℃~+85℃
Ambient humidity		5%~85% RH
Weight		1150g
External dimension		104.0×70.0×107.9

Coil Data

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	16	≤9	≥1.0	Starting coil:3.2 Holding coil:28.8	50.0	5.0
24	24	32	≤18	≥2.0	Starting coil:12.8 Holding coil:115.2	50.0	5.0

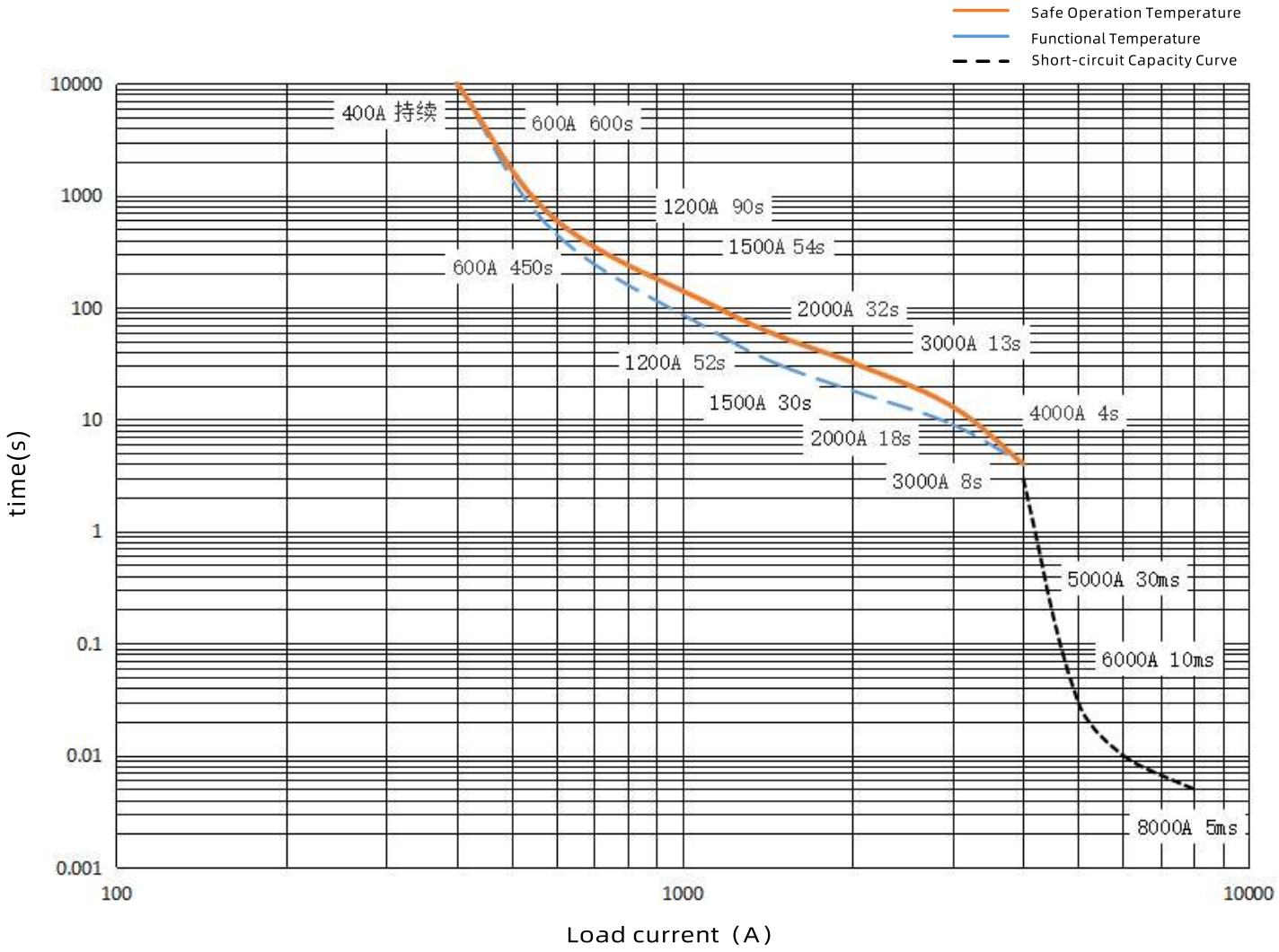
NOTES:

(1) Unless specified otherwise, ambient temperature:23℃, on:off /0.6s: 5.4s.

(2) If other types of rated coil voltage is needed, please contact us.

Reference date

Tolerance curve



NOTE:

(1) The upper limit of safety temperature is 180℃, upper limit of functional temperature is 130℃ ;

(2) Ambient temperature is 85℃, wire cross sectional area ≥100mm²; (Test conditions for this curve)

(3) The data greater than 4000A is the data of short circuit resistance of relay. The relay can guarantee no fire or explosion within this curve.When the current is greater than 8000A, the relay contact may be repulsed by a large current.

Ordering Information

Nomenclature

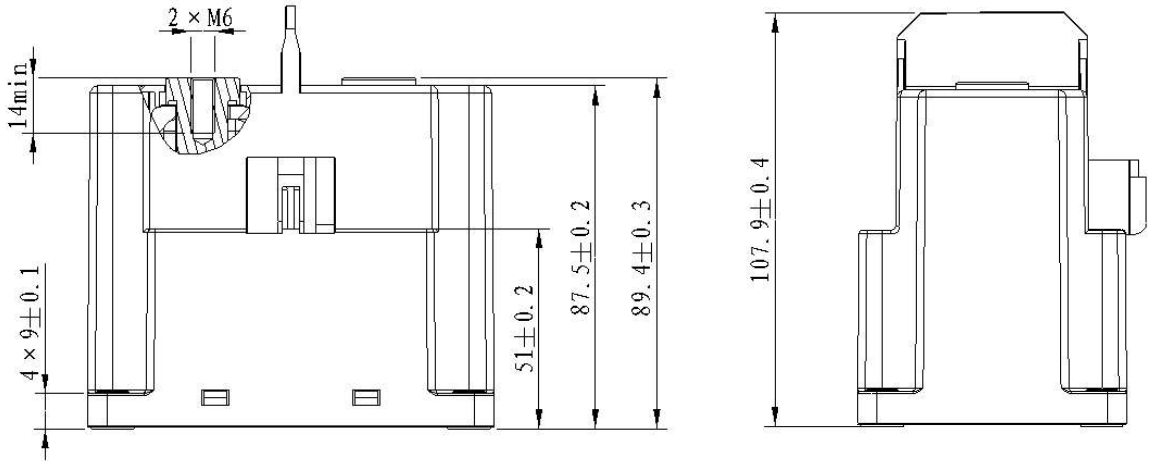
SEP 400 - □ □ M F □ 2 □

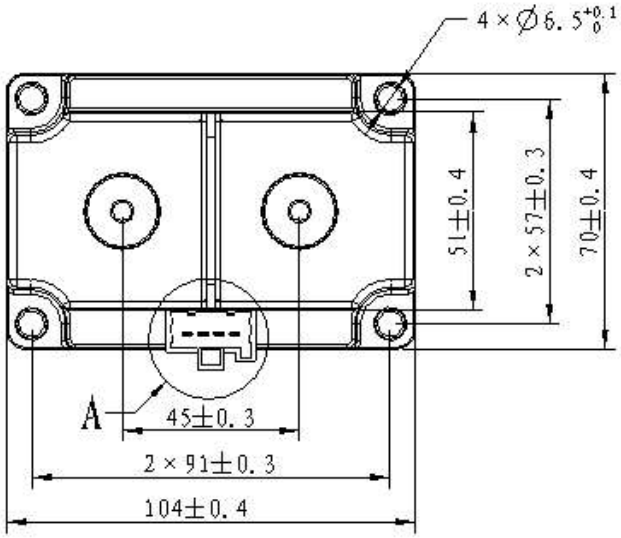
Customer special code	Nil: No customer special requirement Numbers or Letters: Customer special requirement
Load connection type	2: internai thread
Coil voltage	12: 12VDC 24: 24VDC
Auxiliary contact	F: 1 Form A
Contact arrangement	M: 1 Form A
Voltage rating	1000: 1000VDC 1500: 1500VDC
Installation	V: Vertical installation
Load current	400: 400A
Type designation	SEP

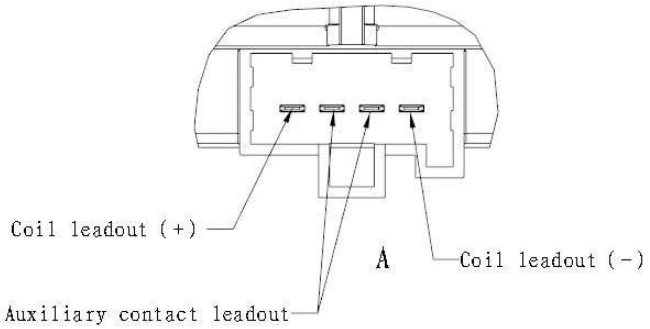
Packing style: 12/box

Outline Dimensions

SEP400-XXXXMFXX2

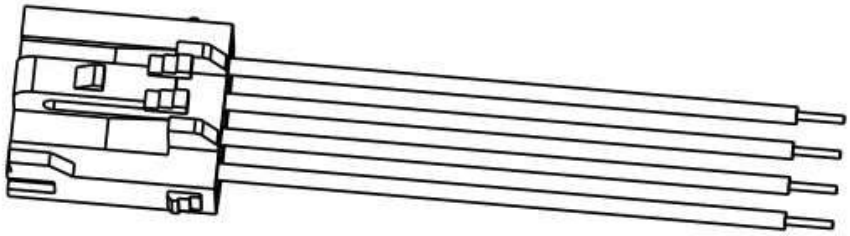




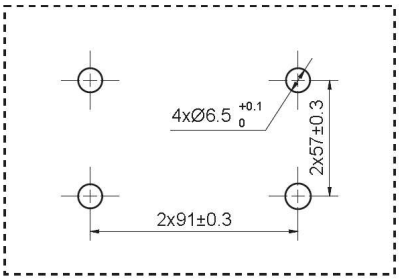


Coil Connection Type

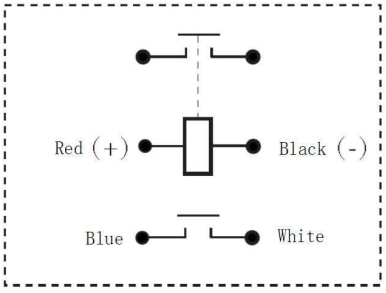
Connectors: Yazaki: 7283-1044 or Tianhai:0488701(Customer self configuration)



Installation Size Chart



Schematic Diagram



Note: No polarity at the load end,polarity at the coil end

NOTES:

●Mounting Precautions

1.By principle, please do not use it when the relay drops on the ground.

2.It's forbidden use the product at the temperature beyond -40 ℃ ~ 85 ℃ for a long time as the relay contacts are sealed and filled with gas and when the contact temperature changes, the gas will break the ceramic sealed chamber .

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

4.Tighten each screw with given torque as suggested. Exceeding the maximum torque may result in screw loose, breakage, etc. When using screws, please make sure the washers are strong enough to prevent the case from deformation.

5.Avoid mounting the relay near strong magnetic fields or a heat generator .

● Precautions for connection of the load terminals

1.Please avoid excessive load applied to the product. If the product exceeds the rated range, the performanceof the product cannot be guaranteed.

2.Please treat the relay as a product with limited life and replace it when necessary.

3.Be careful that foreign particles or oil attach on the terminals, which will lead to abnormal heating on terminals. And below connectors or conductors with sizes are suggested.

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
400A	Min. 200mm^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:

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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