



产品特点 Feature

- 额定400A, 产品小型化、轻量化
400 amps continuous carry, product miniaturization and lightweight
- 8000A短路耐受能力
Max. Load current capacity:8000A
- 2000A 800VDC异常电流分断能力
2000 amps interrupte under extreme condition
- 陶瓷钎焊密封技术,电弧无泄漏, 产品不起火, 不爆炸
Hermetically sealed with hydrogen gas, the arc is not exposed. Be able to use in explosive & harsh environments without oxidation or contamination of contacts
- 负载接线无极性要求, 线圈驱动无极性要求
There is no polarity requirement for load wiring and no polarity requirement for coil drive

触点参数表 Contact Data

项目 Item	说明 Information		
触点形式 Contact arrangement	1组常开触点 Power Contact:1 Form A		
额定负载电流 Current rating	400A		
接触电阻 Contact resistance	≤0.5mΩ (@6V 20A)		
最小适用负载 Min.Switching load	12VDC 1A		
最大切换电压 Max. Switching voltage	1000VDC		
最大分断电流 Max. Breaking current	2000A, (800VDC, 1次以上) 2000A (800VDC, 1 cycle)		
短时耐受电流 Load current capacity	在8000A(5ms) 的条件下,不会有冒烟着火情况 No smoke, no fire at 8000A(5ms)		
电耐久性 (1) Electrical life ⁽¹⁾	阻性负载 Resistive load	500VDC 500V type	800VDC 800V type
		切换: 500次 (400A, 500VDC)	切换: 100次 (400A, 800VDC)
	容性负载 Capacitive load	500VDC,400A 500 cycles	800VDC,400A 100cycles
		70,000次 50VDC, T=1ms 冲击180A)	70,000次 50VDC, T=1ms 冲击180A)
		7.0×10 ⁴ cycles 50VDC, τ=1ms inrush 180A	7.0×10 ⁴ cycles 50VDC, τ=1ms inrush 180A

性能参数表 Parameters Table

项目 Item	说明 Information	
机械耐久性 Mechanical life	2×10 ⁵ 次 2×10 ⁵ cycles	
绝缘电阻 Insulation resistance	1000MΩ(1000VDC)	
介质耐压 Dielectric strength	触点间 Between open contacts	4000VAC 1min 1mA
	触点与线圈 Between contact and coil	4000VAC 1min 1mA
动作时间 (额定电压下) Operating time (at rated coil voltage)	≤30ms	
释放时间 (额定电压下) Release time (at rated coil voltage)	≤10ms	
冲击 Shock resistance	稳定性 Functional	闭合状态: 588m/s ² (60G) 断开状态: 98m/s ² (10G) Closed State: 588m/s ² (60G) Disconnected state: 98m/s ² (10G)
	强度 Destructive	588m/s ² (60G)
振动 Vibration resistance	10Hz~500Hz 49m/s ² (5G)	
工作环境温度 Ambient temperature	-40°C~ +85°C	
工作环境湿度 Ambient humidity	5%~85%RH	
重量 Weight	350g	
长×宽×高 (mm) External dimension	86.05×42.5×74.5	

线圈规格表 CoilData⁽³⁾

额定电压 (VDC) Rated voltage (VDC)	工作电压 (VDC) Operation voltage (VDC)	最大电压 (VDC) Max. voltage (VDC)	动作电压 (VDC) Pick-up voltage (VDC)	释放电压 (VDC) Drop-out voltage (VDC)	线圈电阻 (Ω) ±10% Coil resistance (±10%)(Ω)	启动功率 (W) Operating power (inrush, W)	稳态功率 (W) Operating power (stable, W)
12	12	16	≤9	≥1.0	24	6	6
24	24	32	≤18	≥2.0	96	6	6

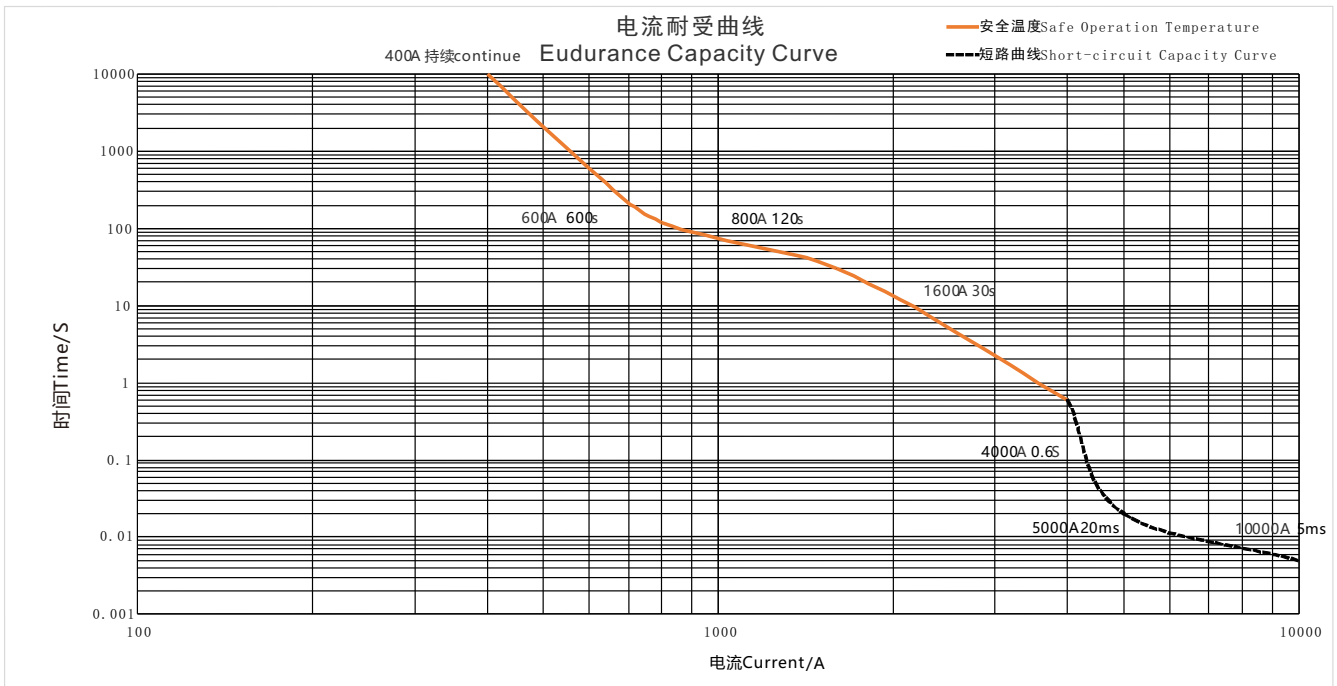
备注:

NOTES:

- (1) 除特别标明外, 电耐久性测试环境温度均为23°C, 通断比(on:off) 为0.6s: 5.4s;
Ambient temperature: 23°C, L/R≤1ms.
- (2) 如需其他额定电压, 可特殊订货。
Other types of rated voltage, please contact us.

参考数据 Reference data

负载电流(A) Load current (A)



备注:

NOTE:

- (1) 该曲线设定的安全温度上限为180°C;
The upper limit of safety temperature is 180°C;
- (2) 环境温度为85°C、导线截面积≥200mm²; (该曲线测试条件)
Ambient temperature is 85°C, wire cross sectional area ≥200mm²; (Test conditions for this curve)
- (3) 大于4000A后的数据为继电器的抗短路能力数据, 继电器在此曲线内可以保证不起火不爆炸, 电流大于8000A后, 继电器触头可能会被大电流斥开。
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.

订货标记 Ordering Information

型号命名规则 Nomenclature

SEL 400B - V □ M □ 2 □

客户特性号 **无:** 无客户特殊要求
Customer special code **Nil:** No customer special requirement
数字或字母: 客户特殊要求, 与结构无关
Numbers or Letters: Customer special requirement

负载连接方式 **2:** 内螺纹
Load connection type **2:** internal thread

线圈电压 **12:** 12VDC
Coil voltage **24:** 24VDC

触点组数 **M:** 1组常开触点
Contact arrangement **M:** 1 Form A

负载电压 **800:** 12~800VDC
Voltage rating **500:** 12~500VDC

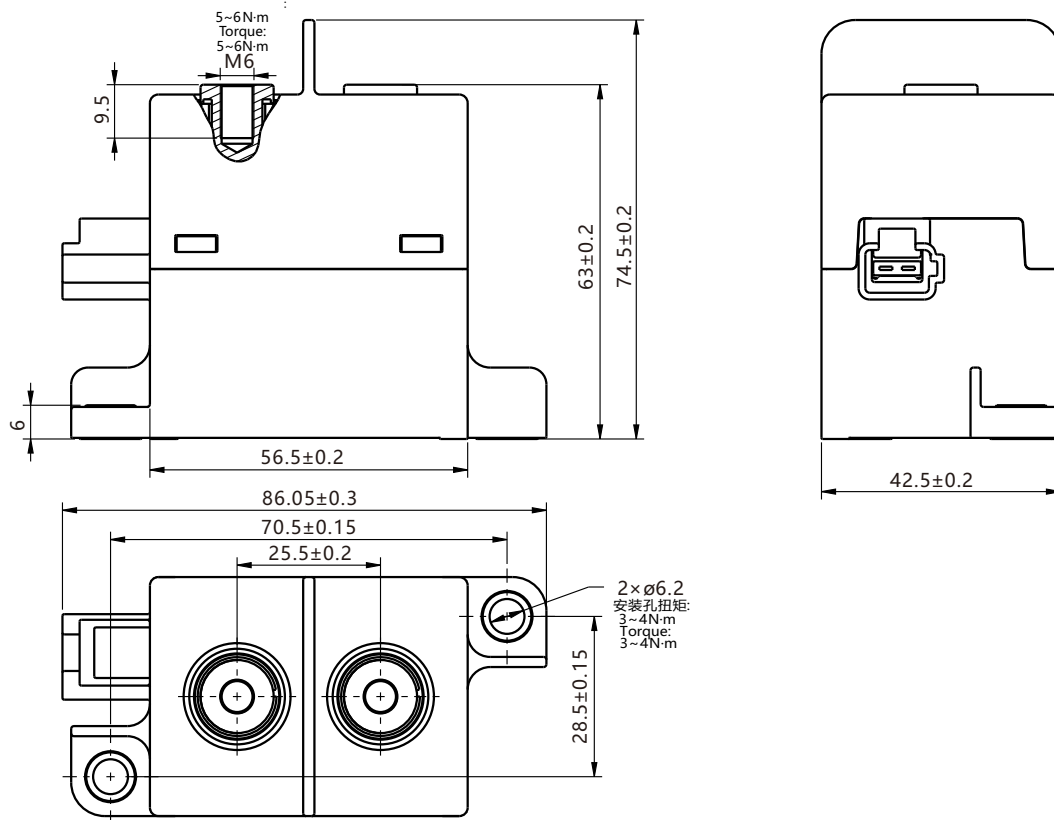
安装方式 **V:** 立式安装
Installation **v:** Vertical installation

负载电流 **400B:** 400A
Load current

基本型号 **SEL**
Type designation

包装式样: 36PCS/箱
Packing style: 36pcs / box

外形尺寸 Outline Dimensions



未注尺寸公差:
 ≤10mm时, 公差为±0.3mm
 10~50mm时, 公差为±0.5mm
 ≥50mm时, 公差为±0.8mm

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

线圈端连接方式

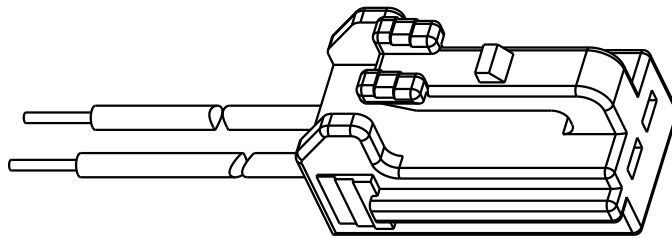
Coil Connection Type

产品本体连接器产品号:7282-1020 (矢崎)

Connectors: Yazaki: 7282-1020

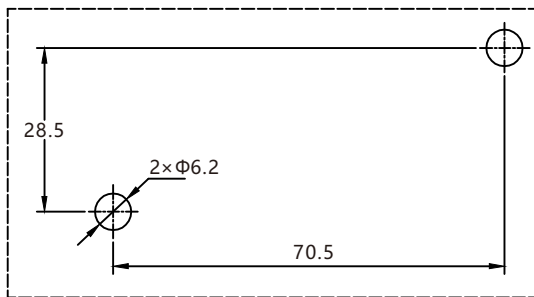
配线侧母头连接器产品号:7283-1020 (矢崎) (不在产品中附带)

Connectors: Yazaki: 7283-1020(not included in the box)



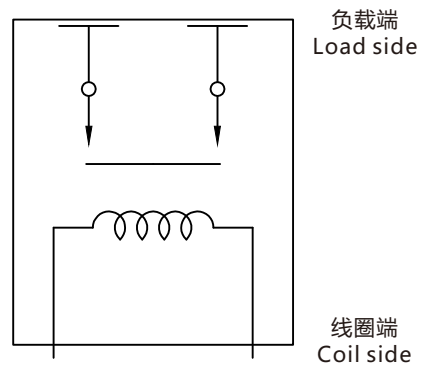
安装尺寸

Installation Size Chart



原理图

Schematic Diagram



备注:负载端无极性,线圈端子无极性
Note: No polarity on load side and coil side

说明:**NOTES:****●继电器安装注意事项****●Mounting Attention**

- 1.在继电器坠落的情况下，原则上请不要再使用；
In principle, please do not use it when the relay has fallen down.
- 2.本继电器的内部触点使用了气体保护，伴随着触点温度变化（环境温度+通电致使温度上升）而存在内部气体穿透，严禁将继电器长时间置于超过产品温度使用范围（-40℃~85℃）环境中；
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.在安装继电器时，一定要使用垫圈以防止螺丝松动；
When installing the relay, always use washers to prevent the screws from loosening.
- 4.在安装继电器时，锁紧继电器负载端扭力矩与安装孔扭力矩请控制在建议范围内，在超过范围的情况下，可能会造成端子滑牙或外壳破损，使用螺钉时，确保垫圈强度足够，否则会变形撑坏外壳；
Tighten each screw within the rated range given in the outline dimensions. Exceeding the maximum torque may result in breakage.
- 5.在安装继电器时，请不要靠近强磁场和发热源。
Avoid mounting the relay in strong magnetic fields (near a transformer or magnet) or close to an object that radiates heat.

●继电器负载端连接注意事项**●Electrical Life Attention**

- 1.请避免过度负载应用到产品上，如果超出额定范围，产品的性能无法保证；
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.请将继电器看做是有截止寿命的产品，不要超过开关的容量和使用寿命，为确保安全，应及时替换；
Please treat the relay as a product with limited life and replace it when necessary.
- 3.继电器的负载端子是有极性的，请按产品外表标示极性要求连接负载，否则产品性能无法保证；
The contacts of the relay are polarized. Please follow instructions in the connection schematic when connecting the contacts.
- 4.小心异物或油粘着在负载端子部分，这样可能导致负载端子散热异常，同时请按下表公称面积的连接导线或铜排。
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	公称截面积	≥2mm ²	Min. 2mm ² nominal cross-sectional area
20A	公称截面积	≥3mm ²	Min. 3mm ² nominal cross-sectional area
40A	公称截面积	≥10mm ²	Min. 10mm ² nominal cross-sectional area
60A	公称截面积	≥15mm ²	Min. 15mm ² nominal cross-sectional area
100A	公称截面积	≥35mm ²	Min. 35mm ² nominal cross-sectional area
150A	公称截面积	≥45mm ²	Min. 45mm ² nominal cross-sectional area
200A	公称截面积	≥60mm ²	Min. 60mm ² nominal cross-sectional area
250A	公称截面积	≥80mm ²	Min. 80mm ² nominal cross-sectional area
300A	公称截面积	≥100mm ²	Min. 100mm ² nominal cross-sectional area

●继电器线圈端连接注意事项**●Coil Attention**

1.使用二极管吸收线圈反向电压时，会导致继电器释放时间延长，继电器负载切换性能下降，推荐使用可变电阻方式；

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.在继电器使用时，考虑到使用环境温度条件和条件，继电器动作及释放电压将会变化，推荐使用额定电压给线圈供电以保证继电器正常工作；

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.请勿持续在线圈上加最大电压；

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

4.带节能板的产品（200A及200A以上产品），推荐使用快速上升（阶跃供电方式）进行线圈驱动；

The 200A and 200A types have built-in dedicated drive circuit, please drive the coil with a quick startup (Built-in one-shot pulse generator circuit).

5.带节能板的产品（200A及200A以上产品），在0.1s后产品进行线圈电流的自动切换，请不要在 < 0.1s 内重复切换线圈电压，否则产品性能不能保证。

After the ON signal enters the 200A and 200A 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.

声明：

本产品规格书仅供客户使用时参考，若有更改，恕不另行通知。

对三友而言，不可能评定继电器在每个具体应用领域的所有性能参数要求，因而客户应该根据具体的使用条件选择与之相匹配的产品，若有疑问，请与三友联系获取更多的技术支持。但产品选型责任仅由客户负责。

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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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