



Feature

- 250 amps continuous carry, product miniaturization and lightweight
- Max. Load current capacity: 8000A
- 2000 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
- There is no polarity requirement for load wiring and no polarity requirement for coil drive

Contact Data

| Item                                | Specification                   |   |   |
|-------------------------------------|---------------------------------|---|---|
| Contact arrangement                 | 1 Form A                        |   |   |
| Rated current                       | 250A                            |   |   |
| Contact resistance                  | ≤0.5mΩ (@6V 20A)                |   |   |
| Min.Switching load                  | 12VDC 1A                        |   |   |
| Max. Switching voltage              | 1000VDC                         |   |   |
| Max. Breaking current               | 2000A, (800VDC, 1 time)         |   |   |
| Max. Short Circuit Current          | No smoke, no fire at 8000A(5ms) |   |   |
| Electrical endurance <sup>(1)</sup> | Resistive load                  | 500V type   | 800V type   |
|                                     |                                 | 500VDC, 250A<br>3000 cycles                               | 800VDC, 250A<br>1000cycles                                |
|                                     | Capacitive load                 | 7.0×10 <sup>4</sup> cycles<br>50VDC, τ=1ms<br>inrush 180A | 7.0×10 <sup>4</sup> cycles<br>50VDC, τ=1ms<br>inrush 180A |

Parameters

| Item                                   | Specification                      |   |
|--|------------------------------------|---|
| Mechanical endurance                   | 2×10 <sup>5</sup> cycle            |   |
| Insulation resistance                  | 1000MΩ(1000VDC)                    |   |
| Dielectric strength                    | Between open contacts              | 4000VAC 1min 1mA  |
|  | Between contact and coil           | 4000VAC 1min 1mA  |
| Operation time (at rated coil voltage) | ≤30ms                              |   |
| Release time (at rated coil voltage)   | ≤10ms                              |   |
| Shock resistance                       | Functional                         | Closed State: 490m/s <sup>2</sup> (50G)<br>Disconnected state: 98m/s <sup>2</sup> (10G) |
|  | Destructive                        | 490m/s <sup>2</sup> (50G)   |
| Vibration resistance                   | 10Hz~500Hz 49m/s <sup>2</sup> (5G) |   |
| Ambient temperature                    | -40°C~+85°C                        |   |
| Ambient humidity                       | 5%~85% RH                          |   |
| Weight                                 | 350g                               |   |
| External dimension                     | 86.05×42.5×74.5                    |   |

CoilData

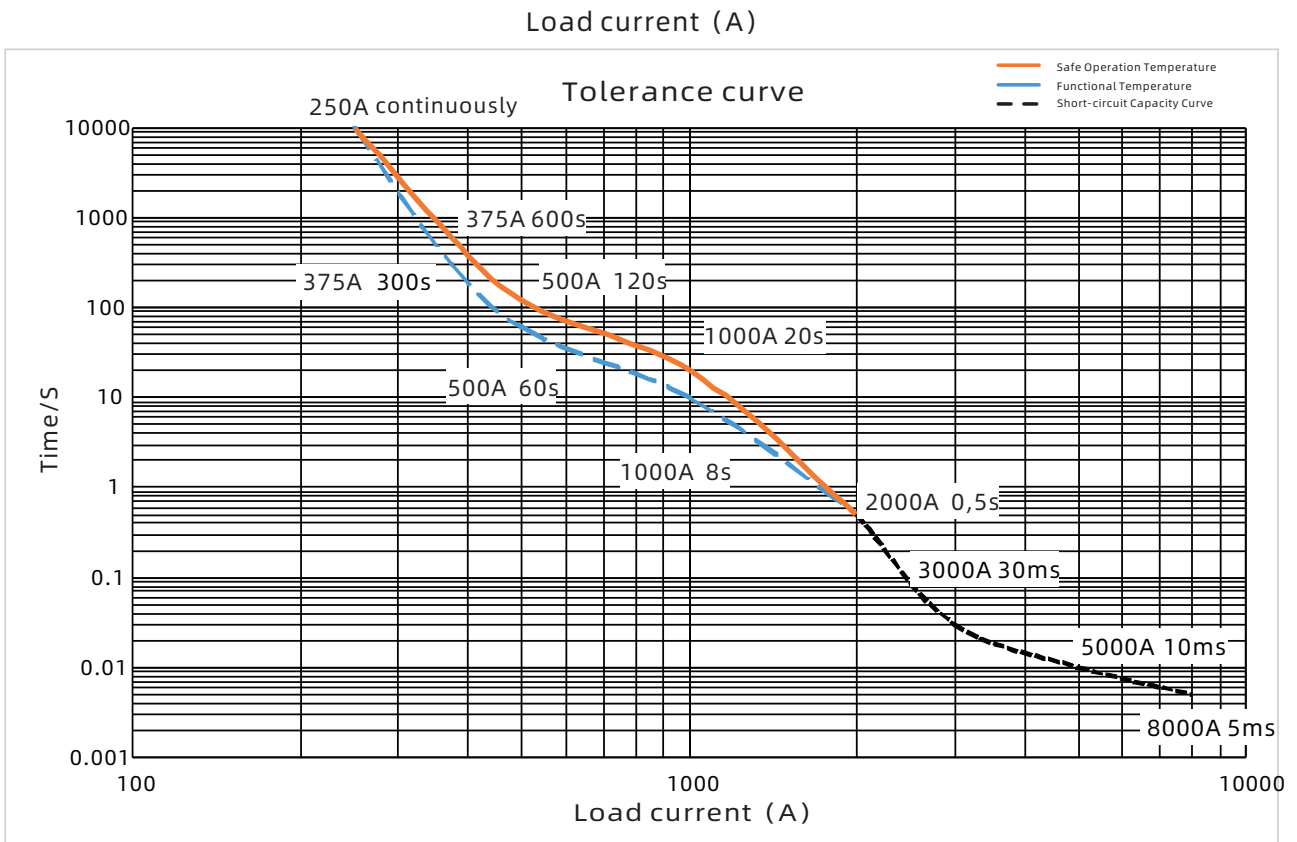
| Rated voltage (VDC) | Operation voltage (VDC) | Max. voltage (VDC) | Pick-up voltage (VDC) | Drop-out voltage (VDC) | Coil resistance (±10%)(Ω) | Operating power (inrush, W) | Operating power (stable, W) |
|---------------------|-------------------------|--------------------|-----------------------|------------------------|---------------------------|---------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

NOTES:

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

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

Reference date



NOTE:

- (1)The upper limit of safety temperature is 180°C , and the upper limit of functional temperature is 150°C;
- (2)If the product needs to work for a long time, it is recommended that the product temperature should not exceed 150°C. If the safety temperature exceeds 180°C, the relay may be ignited.
- (3)Ambient temperature is 85°C, wire cross sectional area ≥120mm<sup>2</sup>; (Test conditions for this curve)
- (4)Relay load current ovre 2000A is short circuit resistance performance. 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

SEL250 - V  M  2 

**Customer special code** Nil:  
No customer special requirement

**Numbers or Letters:**  
Customer special requirement

**Load connection type** 2: internal thread

**Coil voltage** 12: 12VDC  
24: 24VDC

**Contact arrangement** M: 1 Form A

**Voltage rating** 500: 500VDC  
800: 800VDC  
1000: 1000VDC

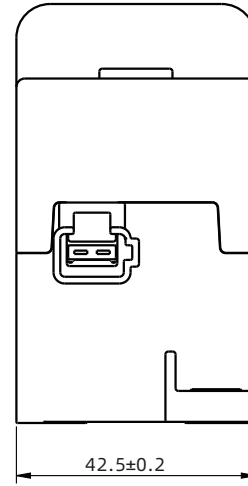
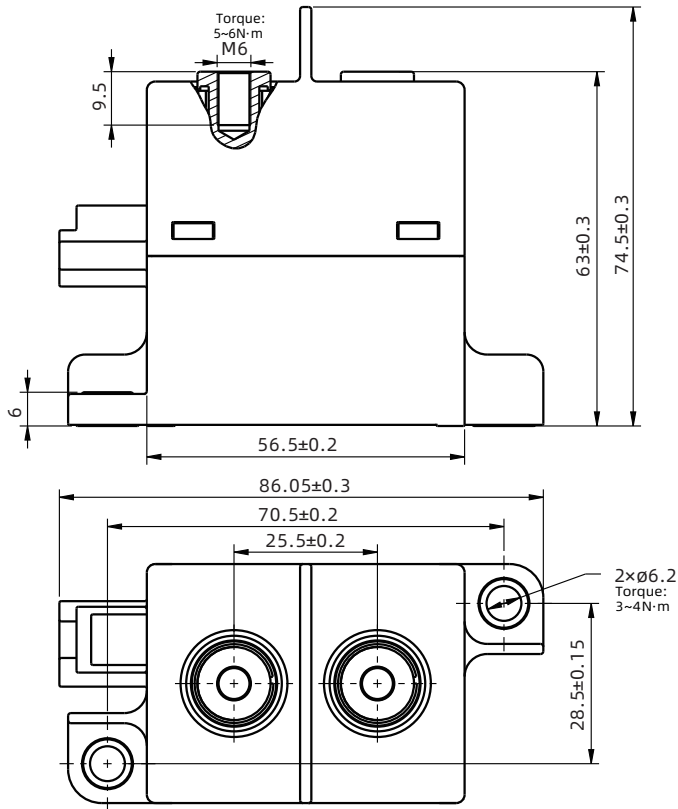
**Installation** V: vertical installation  
H: horizontally

**Load current** 250: 250A

**Type designation** SEL

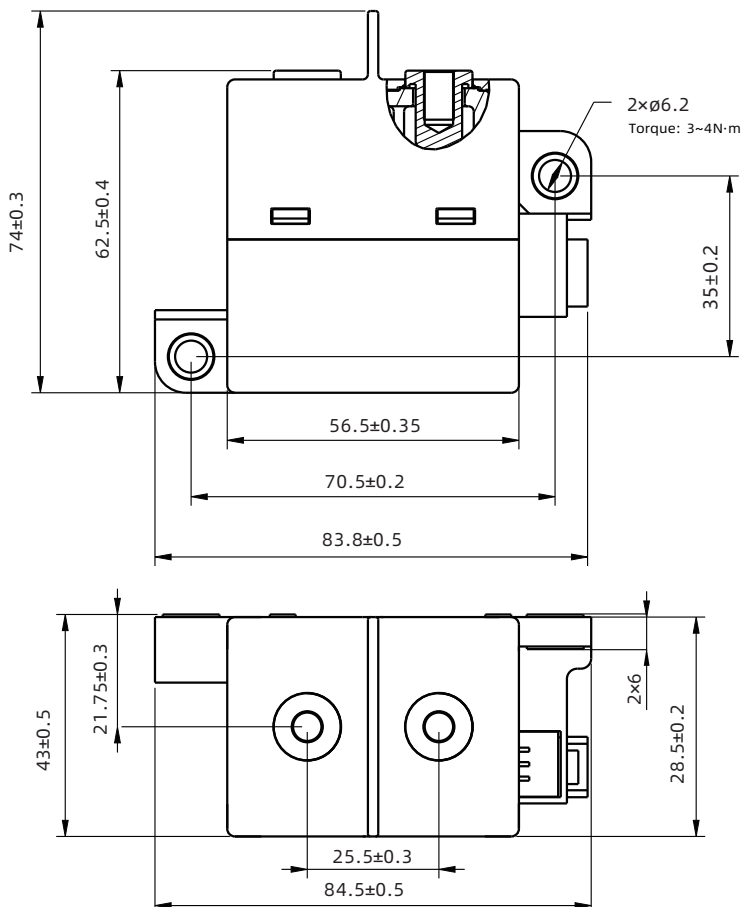
Packing style: 36 pcs / box

The type of vertical:



| Size            | tolerance |
|-----------------|-----------|
| Less than 10mm: | $\pm 0.3$ |
| 10 to 50mm:     | $\pm 0.5$ |
| More than 50mm: | $\pm 0.8$ |

The type of horizontally:

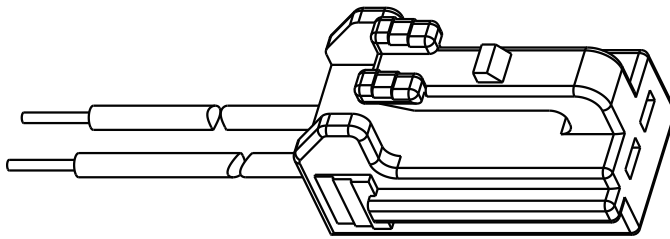


| Size            | tolerance |
|-----------------|-----------|
| Less than 10mm: | $\pm 0.3$ |
| 10 to 50mm:     | $\pm 0.5$ |
| More than 50mm: | $\pm 0.8$ |

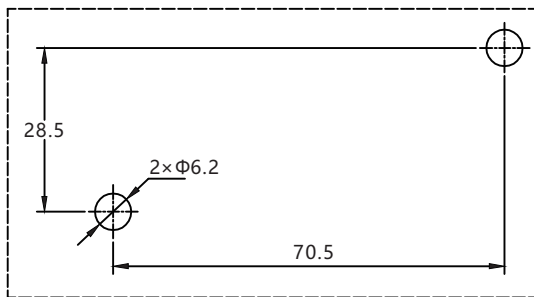
Coil Connection Type

Connectors: Yazaki: 7282-1020

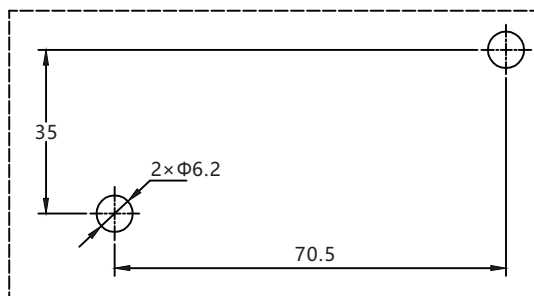
Connectors: Yazaki: 7283-1020(not included in the box)



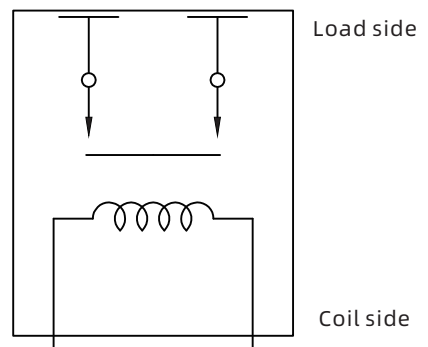
Installation Size Chart



Horizontal installation dimensions



Schematic Diagram



Note: No polarity on load side and coil side

**NOTES:****● Mounting Precautions**

1. By principle, please do not use it when the relay drops on the ground.
2. It's forbidden to use the product at the temperature beyond  $-40\text{ }^{\circ}\text{C} \sim 85\text{ }^{\circ}\text{C}$  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 performance of 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. $2\text{mm}^2$ nominal cross-sectional area   |
| 20A  | Min. $3\text{mm}^2$ nominal cross-sectional area   |
| 40A  | Min. $10\text{mm}^2$ nominal cross-sectional area  |
| 60A  | Min. $15\text{mm}^2$ nominal cross-sectional area  |
| 100A | Min. $35\text{mm}^2$ nominal cross-sectional area  |
| 150A | Min. $45\text{mm}^2$ nominal cross-sectional area  |
| 200A | Min. $60\text{mm}^2$ nominal cross-sectional area  |
| 250A | Min. $80\text{mm}^2$ nominal cross-sectional area  |
| 300A | Min. $100\text{mm}^2$ nominal cross-sectional area |
| 400A | Min. $200\text{mm}^2$ nominal cross-sectional area |

**● Precautions for connection of the coil**

1. Please note that when using a diode, the release time will increase and the switching capacity may decrease. 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 reliably. Don't exceed maximum coil voltage.
3. Please do not continuously apply maximum voltage on the coil.
4. The product with PWM, recommend using increase rapidly (phase step power supply mode) to drive the coil.
5. The product with PWM, after 0.1s the coil current automatic switch, please do not repeat switch the coil voltage at  $< 0.1\text{s}$ , otherwise the Product performance can be not guarantee.

**Disclaimer:**

1. This datasheet is for customer's reference only. Sanyou had tried its best to ensure 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.

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