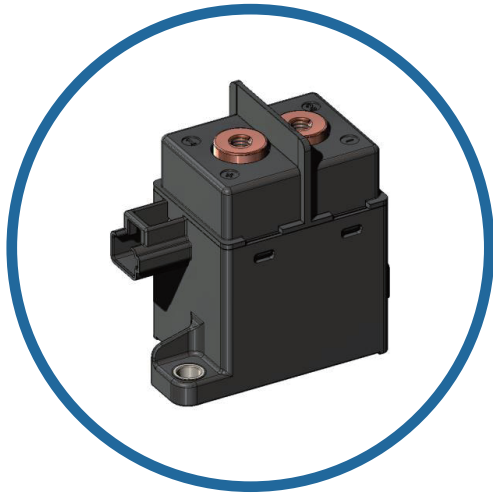




# High Voltage DC Contactor

SGX050 50A CERAMIC CONTACTOR



## Feature

- Hermetically seal rated to 175°C – Reduced risk of fire or meltdown in over current conditions.
- Backfilled with gas (primarily hydrogen) to effectively inhibit oxidation, resulting in low and stable contact resistance.
- The insulation resistance stands at 1000MΩ (1000Vdc), while the dielectric strength between the coil and contacts reaches 4.0kV.
- Continuous current carry 50A at 85°C,
- Comply with IEC 60664-1 and RoHS standards.

## Applications

- Material Handling
- Residential ESS
- DC Fast Charging

## SPECIFICATIONS

### Contact data

Specifications	Data
Contact Arrangement	1 Form A
Contact Resistance	≤0.5mΩ @ 200A
Rated Load Current	50A
Rated Switching Voltage	1000Vdc
Rated Switching Power	112.5kW
Min. Applicable Load	6Vdc, 1A
Max. Switching Voltage	1000Vdc
Max. Switching Power	112.5kW(750Vdc)
Max. Breaking Current	1500A(750Vdc),1cycle

### Characteristics

Specifications	Data	
Dielectric Strength	Between Open contacts	4300Vac, 1min
	Between Coil&Contacts	4300Vac, 1min
Insulation Resistance	1000MΩ at 1000Vdc	
Operate Time (at nomi. volt.)	≤30ms	
Release Time (at nomi. volt.)	≤10ms	
Vibration Resistance (sine)	10Hz~500Hz, 49m/s <sup>2</sup>	
Shock Resistance	Functional Open:	196m/s <sup>2</sup>
	Functional Close:	490m/s <sup>2</sup>
	Destructive:	490m/s <sup>2</sup>
Ambient Temperature	-40°C~85°C	
Humidity	5% RH~85% RH	
Termination	M6 female screw	
Mounting	M5 screw	
Unit Weight	Approx.270g	
Outline Dimensions	76.5mm X 39mm X 70mm	



## Coil

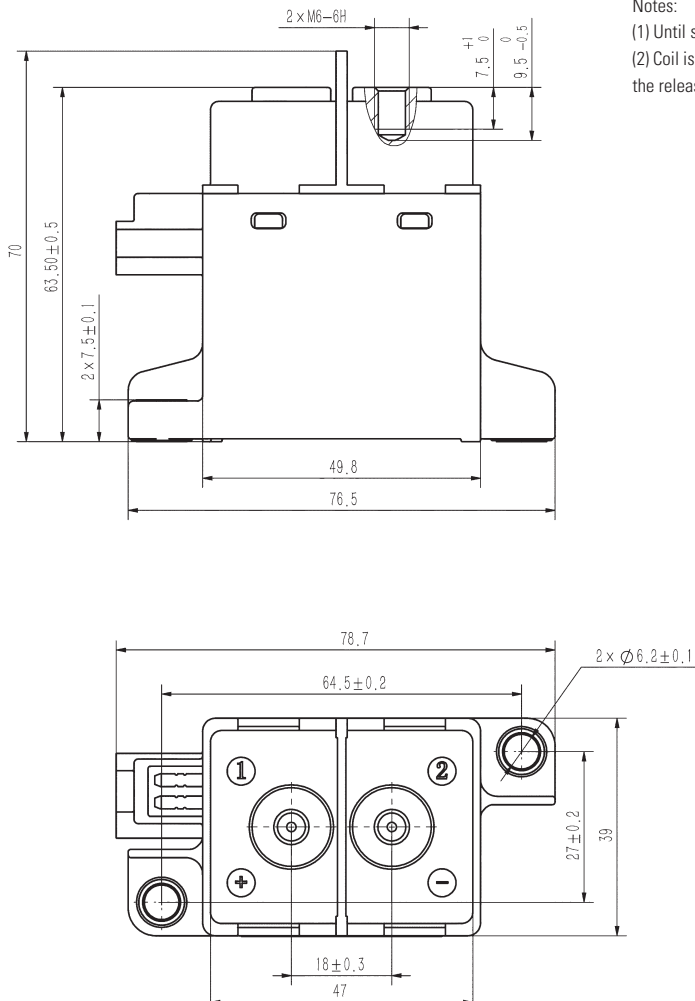
Nominal Voltage Vdc	Pick-up Voltage Vdc	Drop-out Voltage Vdc	Coil Power W
12	≤9	≥1	~6.0 @23°C
24	≤18	≥2	

Notes: The values above are conservative values within the temperature range (-40°C to 85°C).

## Endurance

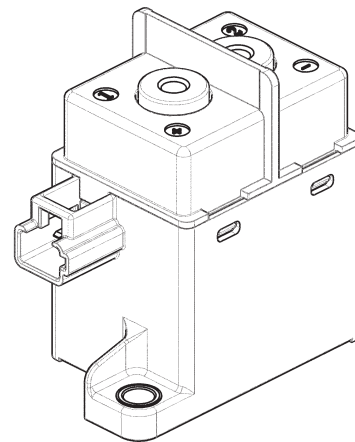
Specifications		Data
Electrical Endurance	Capacitive load	Switch on: $2 \times 10^4$ cycles (37.5Vdc, C=1100uF, inrush 400A, steady 150A)
	Resistive load	Switch: 500cycles (750Vdc, 50A) Switch: 6000 cycles (1000Vdc, 20A)
Current Endurance		50A, cont.
		180A, 2h
		225A, 15min
		320A, 2min
		400A, 1min
		600A, 20s
	900A, 8s	
Mechanical Endurance		$2 \times 10^5$ cycles, on-off ratio: 0.5s : 0.5s

## DIMENSIONS



### Notes:

- Until special statement, the temperature of electrical endurance is at 23°C and the on-off ratio is 0.6s : 5.4s.
- Coil is not connected to surge suppressor during tests. Attention: If the coil is used in parallel with the diode, the release time of the contactor will be prolonged and the service life will be reduced.

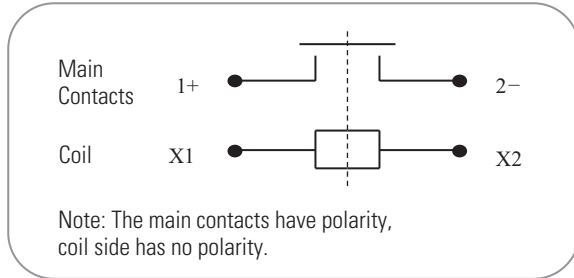


General Tolerance	
Outline Dimension	Tolerance
≤10mm	+0.3mm
10mm-50mm	+0.6mm
>50mm	+1.0mm

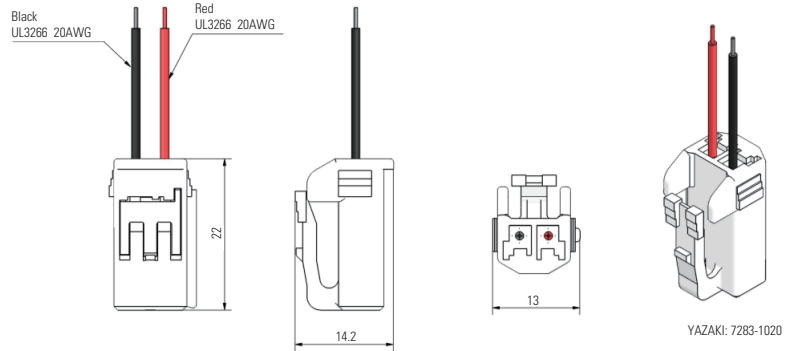


## ● INSTALLATION

### ① Wiring Diagram



### ② Recommended connector



### ③ Installation Torque

Load Terminal Installation				
Installation Mode	Screw Installation Depth	Torque	Copper Busbar Diameter	Copper Busbar Thickness
M6 Screw	7.0mm~8.5mm	6N·m~8N·m	6.0mm~6.5mm	2.0mm~3.0mm

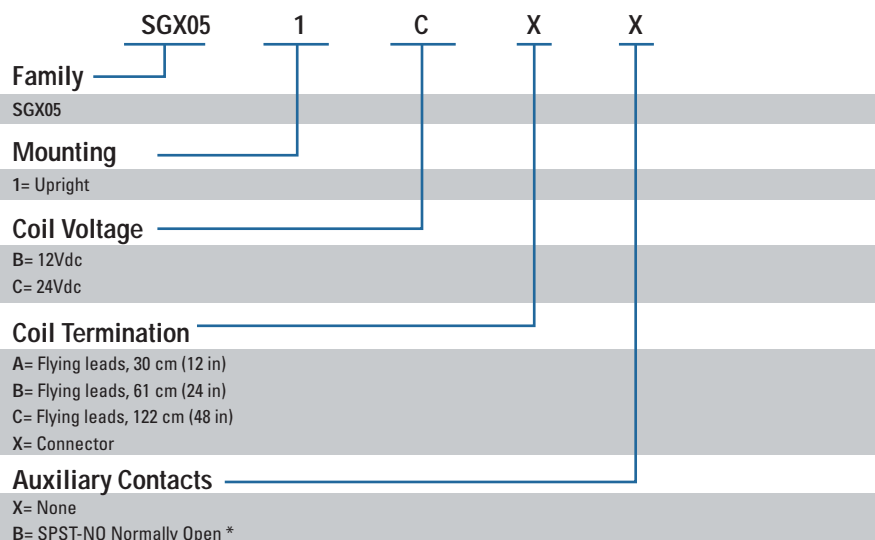
Contactor Installation	
Installation Mode	Torque
M5 Screw	3N·m~4N·m

Note:

- In order to prevent loosening, please use extra washer when installing relay: spring washer + flat washer.
- Please avoid grease and other foreign matter in the terminal, please use the connecting wire with a cross section area  $\geq 50\text{mm}^2$ , otherwise they may cause abnormal heating in the terminal part.
- When installing the contactor at the load using an electric screwdriver, it is recommended to use a three stage step speed mode: the first stage 35rpm, the second stage (100-150) rpm, and the third stage 35rpm.

## ● ORDERING OPTIONS

Example SGX051CXX



Note\*:  
in development



## WARNINGS



### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

**Failure to follow these instructions can result in serious injury, or equipment damage.**



### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

**Failure to follow these instructions will result in death or serious injury.**

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