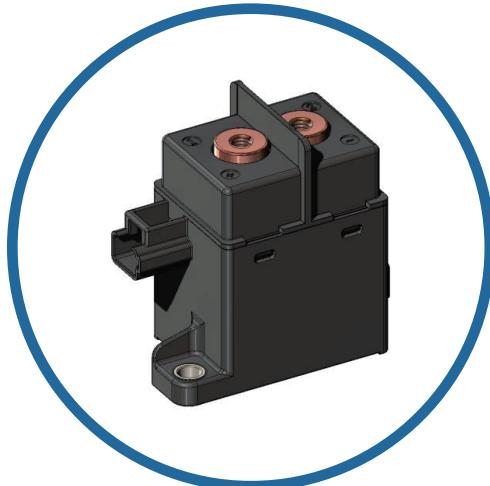


# High Voltage DC Contactor

SGX050 50A CERAMIC CONTACTOR



The SGX050 series utilizes ceramic to metal weld technology and offers optimal breaking capability for applications up to 750V and 50A continuous current carry, with an efficient design, effective and reliable switching, longevity, and a square form-factor.

With a strong performance-to-cost ratio, the SGX050 series is ideal for a wide range of applications like residential energy storage systems, DC fast charging stations, and industrial applications such as electric forklifts and Automated Guided Vehicles (AGV).

## SPECIFICATIONS

### Contact data

Specifications	Data
Contact Arrangement	1 Form A
Contact Resistance	$\leq 0.2\text{m}\Omega$ @ 200A
Rated Load Current	50A(@50mm <sup>2</sup> wire)
Rated Switching Voltage	750Vdc
Max. Breaking Current	1500A(750Vdc), 1cycle

### Characteristics

Specifications	Data
Dielectric Strength	Between Open contacts: 3000Vac, 1min Between Coil&Contacts: 4000Vac, 1min
Insulation Resistance	1000M $\Omega$ at 1000Vdc
Operate Time (at nomi. volt.)	$\leq 30\text{ms}$
Release Time (at nomi. volt.)	$\leq 10\text{ms}$
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	$\leq 9$	$\geq 1$	$\sim 6.0 @ 23^{\circ}\text{C}$
24	$\leq 18$	$\geq 2$	

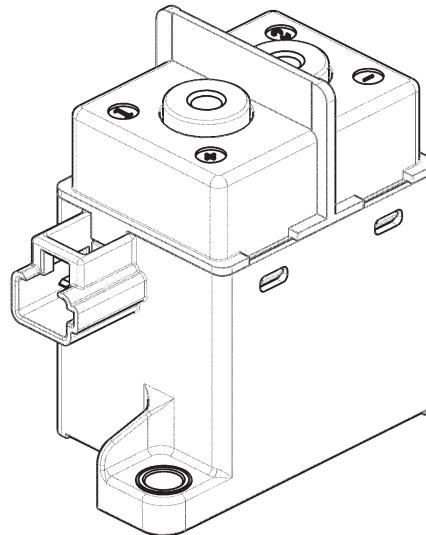
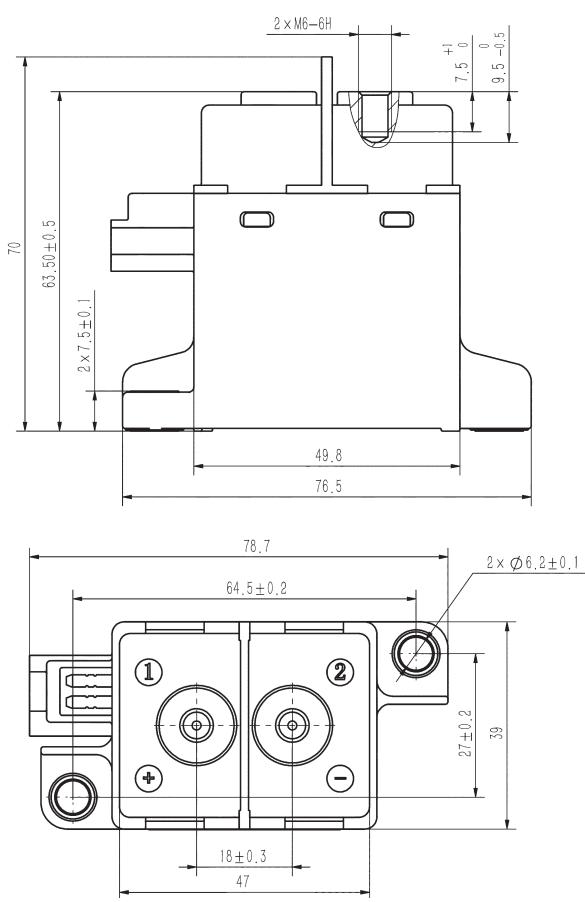
## Endurance

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, 150A) Switch: 1000cycles (450Vdc, 150A) Switch: 6000 cycles (1000Vdc, 50A)
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

### Notes:

(1) Until special statement, the temperature of electrical endurance is at  $23^{\circ}\text{C}$  and the on-off ratio is 0.6s: 5.4s.  
(2) 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.

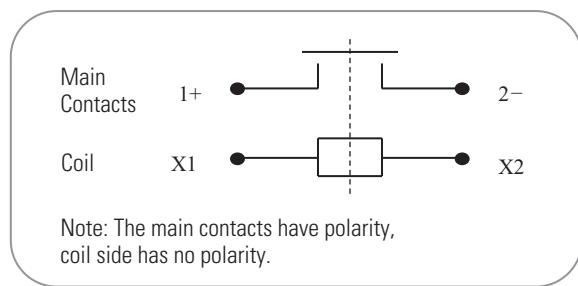
## DIMENSIONS



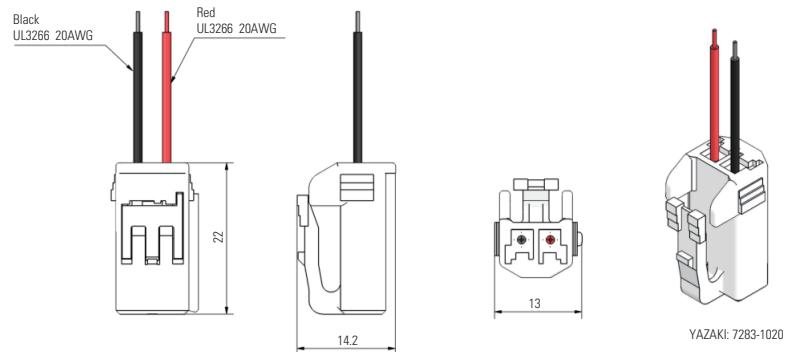
General Tolerance	
Outline Dimension	Tolerance
$\leq 10\text{mm}$	$\pm 0.3\text{mm}$
$10\text{mm} \sim 50\text{mm}$	$\pm 0.6\text{mm}$
$> 50\text{mm}$	$\pm 1.0\text{mm}$

## 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

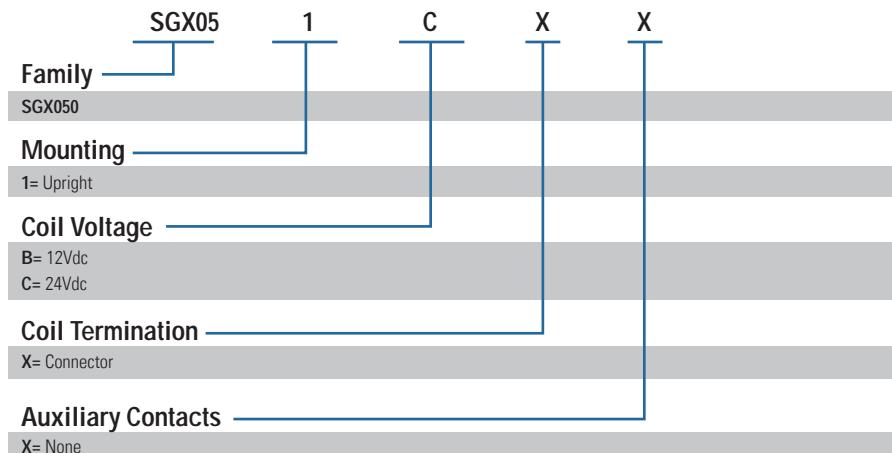
Contactor Installation	
Installation Mode	Torque
M5 Screw	3N·m~4N·m

Note:

1. In order to prevent loosening, please use extra washer when installing relay: spring washer + flat washer.
2. 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.
3. 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





## 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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