

# High Voltage DC Contactor

## SGX150 150A CERAMIC BI-DIRECTIONAL CONTACTOR



The SGX150 Aux series utilizes ceramic to metal weld technology and offers optimal breaking capability for applications up to 1000V and 150A 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 SGX150 Aux 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

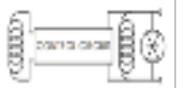
### Contact data

Specifications	Data
<b>Contact Arrangement</b>	1 Form A
<b>Contact Resistance</b>	$\leq 0.2\text{m}\Omega$ @ 200A
<b>Rated Load Current</b>	150A(@50mm <sup>2</sup> wire)
<b>Rated Switching Voltage</b>	1000Vdc
<b>Max. Breaking Current</b>	450A(1000Vdc),1cycle
<b>Aux Load</b>	5V/100mA (Rated) 5V/3mA (Min.)

### Characteristics

Specifications	Data
<b>Dielectric Strength</b>	<b>Between Open contacts</b> 4300Vac, 1min
	<b>Between Coil&amp;Contacts</b> 4300Vac, 1min
<b>Insulation Resistance</b>	1000M $\Omega$ at 1000Vdc
<b>Operate Time (at nomi. volt.)</b>	$\leq$ 30ms
<b>Release Time (at nomi. volt.)</b>	$\leq$ 10ms
<b>Vibration Resistance (sine)</b>	10Hz~500Hz, 98m/s <sup>2</sup>
<b>Shock Resistance</b>	Functional Open: 196m/s <sup>2</sup>
	Functional Close: 490m/s <sup>2</sup>
	Destructive: 490m/s <sup>2</sup>
<b>Ambient Temperature</b>	-40°C~85°C
<b>Humidity</b>	5% RH~85% RH
<b>Termination</b>	M6 female screw
<b>Mounting</b>	M5 screw
<b>Unit Weight</b>	Approx.320g
<b>Outline Dimensions</b>	87.8mm X 39mm X 70mm

## Coil

Specifications	Data
<b>Coil Voltage, Nominal (VDC)</b>	24
<b>Coil Type</b>	Dual
<b>Coil Voltage, Max (V)</b>	32
<b>Pick-Up Voltage, Max (V)</b>	14
<b>Drop-Out Voltage, Max (V)</b>	11
<b>Pick-Up Current, Max (A)(75 ms)</b>	0.54
<b>Coil Current (A)</b>	0.125
<b>Coil Power (w)</b>	3
<b>Internal Coil Suppression</b>	TVS 

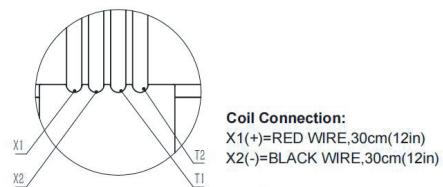
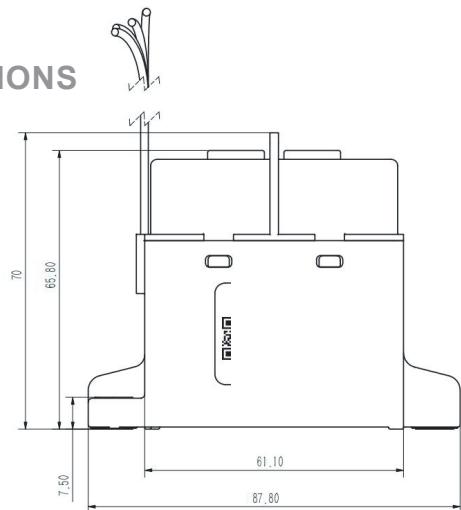
## Endurance

Specifications	Data
<b>Electrical Endurance</b>	<b>Capacitive load</b> Switch on: $2 \times 10^4$ cycles (37.5Vdc, C=1100μF, inrush 400A, steady 150A)
	<b>Resistive load</b> Switch: 1000cycles (1000Vdc, 150A) Switch: 6000 cycles (1000Vdc, 30A)
	150A, cont.
	250A, 15min
	320A, 5min
	600A, 20s
<b>Current Endurance</b>	900A, 5s
	1500A, 1s
	4000A, 20ms, 1 cycle
	6000A, 5ms, 1 cycle (no smoke, no fire)
	<b>Mechanical Endurance</b> $3.5 \times 10^5$ cycles, on-off ratio: 0.5s : 0.5s

### Notes:

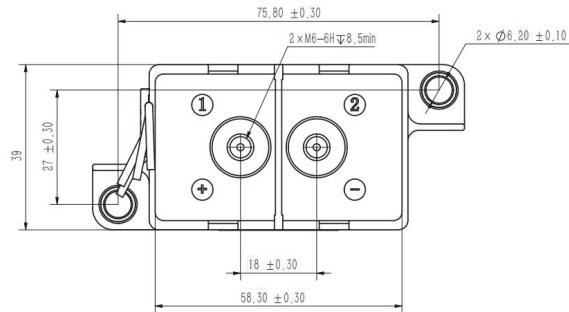
- (1) Until special statement, the temperature of electrical endurance is at 23°C and the on-off ratio is 0.6s: 5.4s.  
(2) Coil is not connected to surge suppressor during tests. Attention: If the coil is used in parallel with the diode, the release time of the contactor will be prolonged and the service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

## DIMENSIONS



**Coil Connection:**  
X1(+)=RED WIRE,30cm(12in)  
X2(-)=BLACK WIRE,30cm(12in)

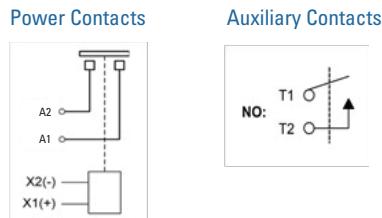
**AUX Connection:**  
T1=BLUE WIRE,30cm(12in)  
T2=WHITE WIRE,30cm(12in)



General Tolerance	
Outline Dimension	Tolerance
<b>≤10mm</b>	±0.3mm
<b>10mm~50mm</b>	±0.6mm
<b>&gt;50mm</b>	±1.0mm

## ● INSTALLATION

### ① Wiring Diagram



### ② 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

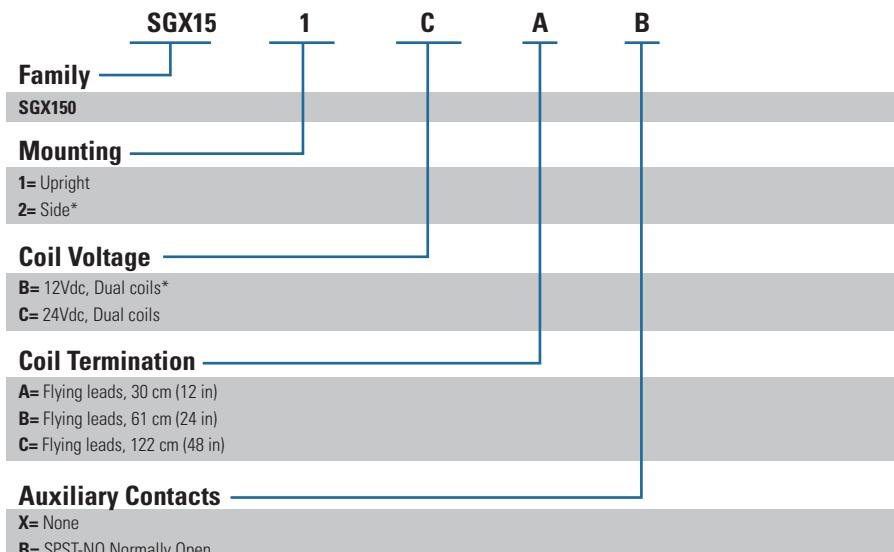
Contactor Installation	
Installation Mode	Torque
M5 Screw	3N·m~4N·m

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 SGX151CAB



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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