

# High Voltage DC Contactor

## SGX050 50A CERAMIC BI-DIRECTIONAL CONTACTOR



The SGX050 Aux series utilizes ceramic to metal weld technology and offers optimal breaking capability for applications up to 1000V 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 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

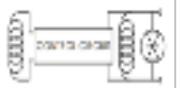
### Contact data

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>	50A(@30mm <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>	$\leq 30\text{ms}$
<b>Release Time (at nomi. volt.)</b>	$\leq 10\text{ms}$
<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

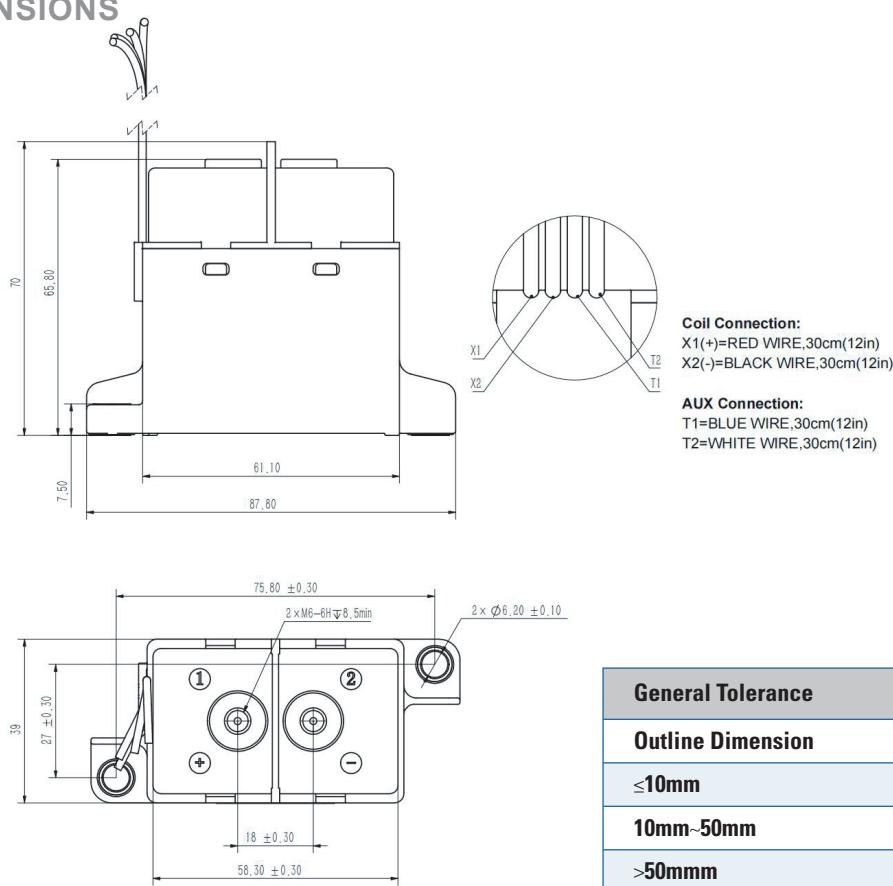
Specifications	Data
<b>Coil Voltage, Nominal (VDC)</b>	24
<b>Coil Type</b>	Dual
<b>Coil Voltage, Max (V)</b>	32
<b>Pick-Up Voltage, Max (V)</b>	14
<b>Drop-Out Voltage, Max (V)</b>	11
<b>Pick-Up Current, Max (A)(75 ms)</b>	0.54
<b>Coil Current (A)</b>	0.125
<b>Coil Power (w)</b>	3
<b>Internal Coil Suppression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

Specifications	Data
<b>Electrical Endurance</b>	<b>Capacitive load</b> Switch on: 2 x $10^4$ cycles (37.5Vdc, C=1100uF, inrush 400A, steady 150A)
	<b>Resistive load</b> Switch: 1000cycles (1000Vdc, 150A) Switch: 6000 cycles (1000Vdc, 30A)
<b>Short Circuit Current (no smoke, no fire)</b>	4000A, 20ms, 1 cycle
	6000A, 5ms, 1 cycle
<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

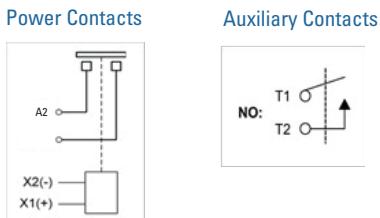


### General Tolerance

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

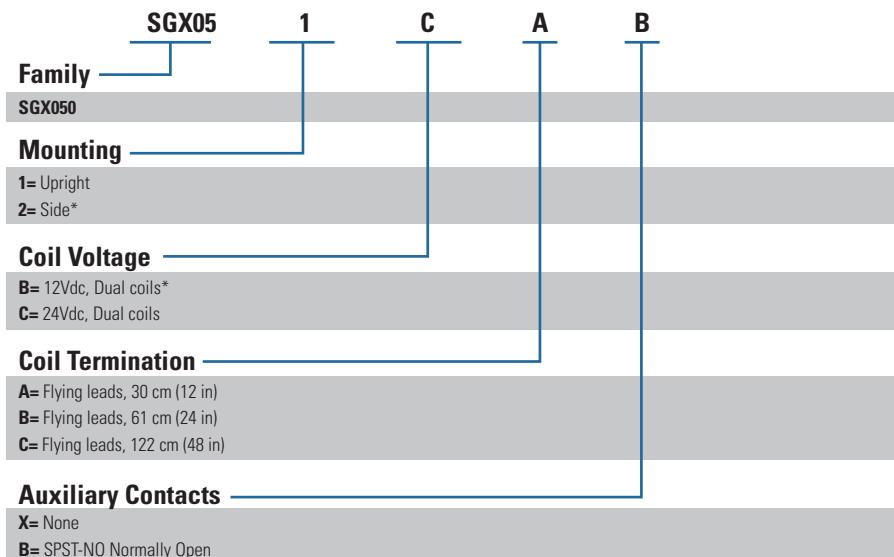
Contactor Installation	
Installation Mode	Torque
M5 Screw	3N·m~4N·m

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  $\geq 30\text{mm}^2$ , 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 SGX051CAB



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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Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA

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## CONTACT US

### Americas

Sensata GIGAVAC  
Contactor Center of Excellence  
6382 Rose Lane  
Carpinteria, CA 93013  
USA  
Tel: +1(805) 684 8401  
Email: [gigavac@sensata.com](mailto:gigavac@sensata.com)  
Sensata Global Headquarters  
Sensata Technologies  
529 Pleasant Street  
Attleboro, MA 02703  
USA

**Europe, Middle East & Africa**  
Sensata Technologies Holland B.V.  
Jan Tinbergenstraat 80  
7559 SP Hengelo  
The Netherlands  
Tel: +31 43 578000  
Email: [gigavac-info-eu@list.sensata.com](mailto:gigavac-info-eu@list.sensata.com)

### Asia Pacific

China  
Sensata Technologies China Co.,Ltd.  
BM Intercontinental Business Center  
30th Floor  
100 Yu Tong Road  
Shanghai 200070  
People's Republic of China  
Tel: +86 21 2306 1500  
Email: [contactorasia@list.sensata.com](mailto:contactorasia@list.sensata.com)  
Japan  
Sensata Technologies Japan Ltd.  
Shin Yokohama Square Bldg.7F  
2-3-12 Shin-yokohama  
Kohoku-ku, Yokohama-shi,  
Kanagawa 222-0033  
Tel: +81 45 277 7001  
Email: [contactorasia@list.sensata.com](mailto:contactorasia@list.sensata.com)