

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
Contact Arrangement	1 Form A
Contact Resistance	≤0.2mΩ @ 200A
Rated Load Current	50A(@30mm ² wire)
Rated Switching Voltage	1000Vdc
Max. Breaking Current	450A(1000Vdc), 1cycle
Aux Load	5V/100mA (Rated)
	5V/3mA (Min.)

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, 98m/s ²
Shock Resistance	Functional Open: 196m/s ²
	Functional Close: 490m/s ²
	Destructive: 490m/s ²
Ambient Temperature	-40°C~85°C
Humidity	5% RH~85% RH
Termination	M6 female screw
Mounting	M5 screw
Unit Weight	Approx.320g
Outline Dimensions	87.8mm X 39mm X 70mm

Coil

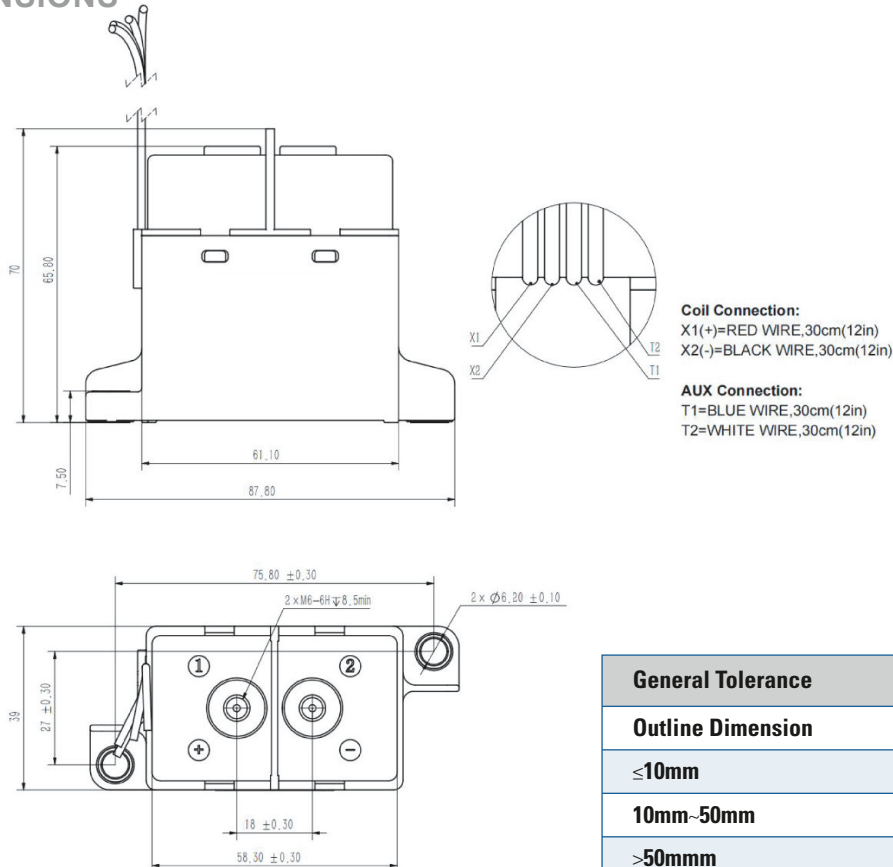
Specifications	Data
Coil Voltage, Nominal (Vdc)	24
Coil Type	Dual
Coil Voltage, Max (V)	32
Pick-Up Voltage, Max (V)	14
Drop-Out Voltage, Max (V)	11
Pick-Up Current, Max (A)(75 ms)	0.54
Coil Current (A)	0.125
Coil Power (w)	3
Internal Coil Suppression	TVS 

Specifications	Data	
Electrical Endurance	Capacitive load	Switch on: 2 x 10 ⁴ cycles (37.5Vdc, C=1100uF, inrush 400A, steady 150A)
	Resistive load	Switch: 1000cycles (1000Vdc, 150A) Switch: 6000 cycles (1000Vdc, 30A)
Short Circuit Current (no smoke, no fire)	4000A, 20ms, 1 cycle	
	6000A, 5ms, 1 cycle	
Mechanical Endurance	3.5x10 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



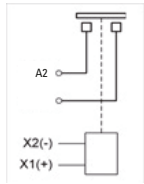
General Tolerance	
Outline Dimension	Tolerance
≤10mm	±0.3mm
10mm~50mm	±0.6mm
>50mm	±1.0mm



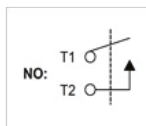
● INSTALLATION

① Wiring Diagram

Power Contacts



Auxiliary Contacts



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

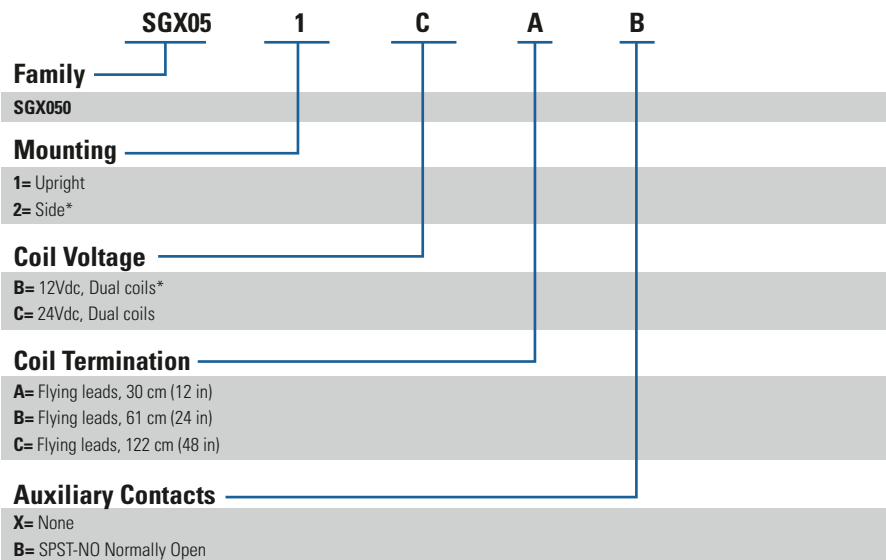
Contactor Installation	
Installation Mode	Torque
M5 Screw	3N·m~4N·m

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

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
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: +31743578000
Email: 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: +8621 2306 1500
Email: 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