

| High Voltage DC Contactor

SGX250 250A CERAMIC BI-DIRECTIONAL CONTACTOR



The SGX250 Aux series utilizes ceramic to metal weld technology and offers optimal breaking capability for applications up to 1000V and 250A 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 SGX250 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

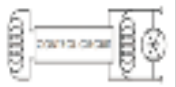
Specifications	Data
Contact Arrangement	1 Form A
Contact Resistance	$\leq 0.2\text{m}\Omega$ @ 200A
Rated Load Current	250A(@60mm ² wire)
Rated Switching Voltage	1000Vdc
Max. Breaking Current	1200A(1000Vdc), 1cycle
Aux Load	5V/100mA (Rated)
	5V/3mA (Min.)

Characteristics

Specifications		Data
Dielectric Strength	Between Open contacts	4300Vac, 1min
	Between Coil&Contacts	4300Vac, 1min
Insulation Resistance		1000M Ω 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, 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.370g
Outline Dimensions		Refer to the drawings



Coil

Specifications	Data
Coil Voltage, Nominal (Vdc)	24
Coil Type	Dual
Coil Voltage, Max (V)	32
Pick-Up Voltage, Max (V)	15
Drop-Out Voltage, Min (V)	3
Pick-Up Current, Max (A)(75 ms)	0.88
Coil Current (A)	0.125
Coil Power (w)	3
Internal Coil Suppression	TVS 

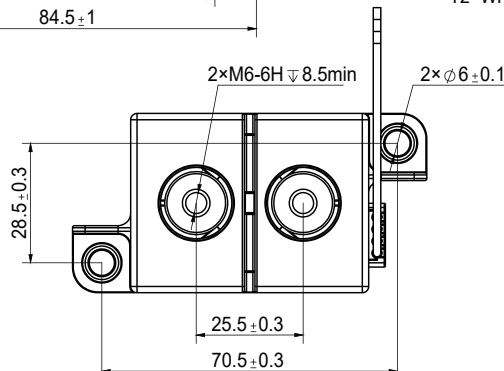
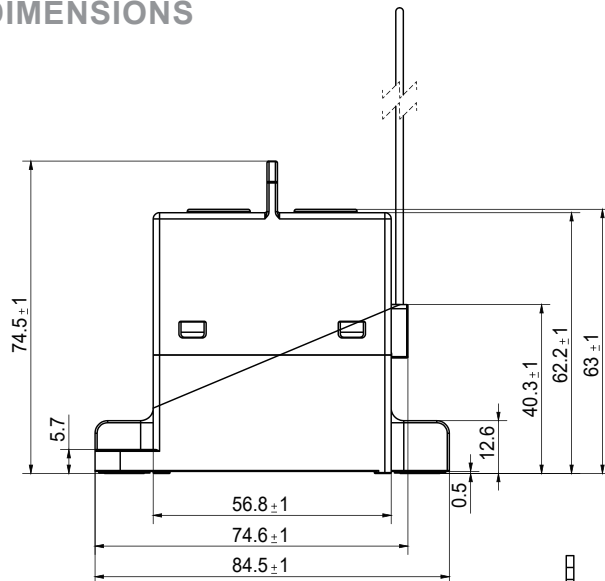
Endurance

Specifications	Data
Electrical Endurance	Switch on : 1×10^5 cycles (24Vdc, 160A)
	Switch off : 1000cycles (1000Vdc, 250A)
	Switch off : 0.6s on 1cycle (1000Vdc, 1200A)
Short Circuit Current	500Vdc, 8000A $t \leq 5$ ms, 1cycle (no smoke, no fire)
Current Endurance	250A, Cont.
	350A, 8min
	500A, 2min
	900A, 25s
	1000A, 20s
Mechanical endurance	3.5×10^5 cycles, on-off ratio: 0.5s : 0.5s

Notes:

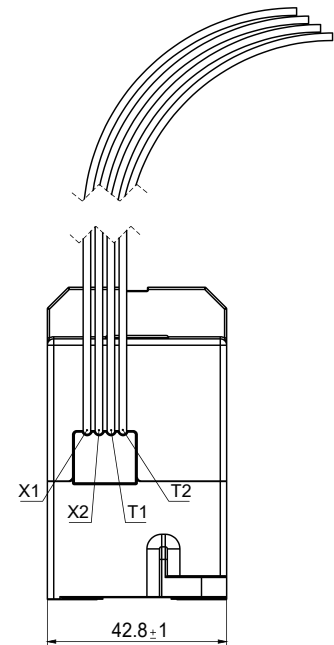
- (1) Until special statement, the temperature of electrical endurance is at 23°C and the on-off ratio is 0.6s: 5.4s.
 (2) Coil is not connected to surge suppressor during tests. Attention: If the coil is used in parallel with the diode, the release time of the contactor will be prolonged and the service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

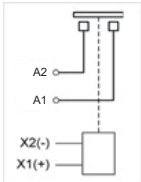
Outline Dimension	Tolerance
≤10mm	±0.3mm
10mm~50mm	±0.6mm
>50mm	±1.0mm



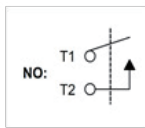
INSTALLATION

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 $\geq 60\text{mm}^2$, 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 SGX251CAB

	SGX25	1	C	A	B
Family	SGX250				
Mounting	1= Upright 2= Side*				
Coil Voltage	B= 12Vdc, Dual coils* C= 24Vdc, Dual coils				
Coil Termination	A= Flying leads, 30 cm (12 in) B= Flying leads, 61 cm (24 in) C= Flying leads, 122 cm (48 in)				
Auxiliary Contacts	X= None B= SPST-NO Normally Open				

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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