

# CHAC

High voltage DC contactor

## SELECTION MANUAL

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### Zhejiang CHAC Electric Co., Ltd.

SELECTION MANUAL FOR  
HIGH VOLTAGE DC CONTACTORS

# Serving Our Customers Is The Only Reason We Exist Customer Demand Is The Driving Force Of Our Development

We adhere to customer-centered, rapid response to customer needs, continue to create long-term value for customers and help to achieve customer success. To provide effective service for customers is the direction of our work and the yardstick of value evaluation. To achieve customers is to achieve ourselves.

## MISSION

Making Green Travel Safer

## VISION

To become a world-class supplier of safe electronic control parts for new energy vehicles

## VALUES

Survival by quality, development by innovation

## QUALITY POLICY

Our goal is to exceed our customers' expectations



# Zhejiang CHAC Electric Co., Ltd.

(Abbreviated as CHAC Electric)

Zhejiang CHAC Electric Co., Ltd. was founded in 1998 and is an excellent enterprise in the global low-voltage electrical field. It is a low-voltage electrical lean intelligent manufacturing expert that integrates research and development, production and marketing, and comprehensive services. CHAC Electric has been rooted in China for more than 20 years, always adhering to the development concept of "lean intelligent manufacturing" and always surpassing customer expectations with professional strength. Currently, CHAC Electric is a "Zhejiang Province High tech Enterprise", "Zhejiang Manufacturing Certification Enterprise", "Zhejiang Province High tech Enterprise R&D Center", "Zhejiang Province Science and Technology Small and Medium sized Enterprise", "Zhejiang Province Famous Brand Product", and "Zhejiang Province Green Enterprise"



30

Industry sedimentation in the past 30

2 MAJOR

Jiaxing, Wenzhou 2 production bases

BILLION LEVEL

Reaching a sales scale of billions

## Sternele is a brand new independent brand established by Zhejiang CHAC Electric Co., Ltd.

The main products involve the new energy vehicle industry, including high-voltage DC contactors, PDUs, BDUs, etc. Sternele is the beginning of CHAC Electric's strategic layout in the new energy vehicle industry, focusing on the automotive contactor market in the new energy vehicle industry. As a breakthrough and new growth point for the transformation and upgrading of the group's entry into the new energy vehicle industry, Sternele will allocate the best resources and make every effort to promote development.





## Electric and hybrid vehicles

High voltage DC contactors are one of the important components of new energy vehicles, and their main applications in new energy vehicles are as follows

### ◆ Main Contactor

Rated current from 100A to 600A, used for circuit protection and safety control between battery and driver

### ◆ Quick charging contactor

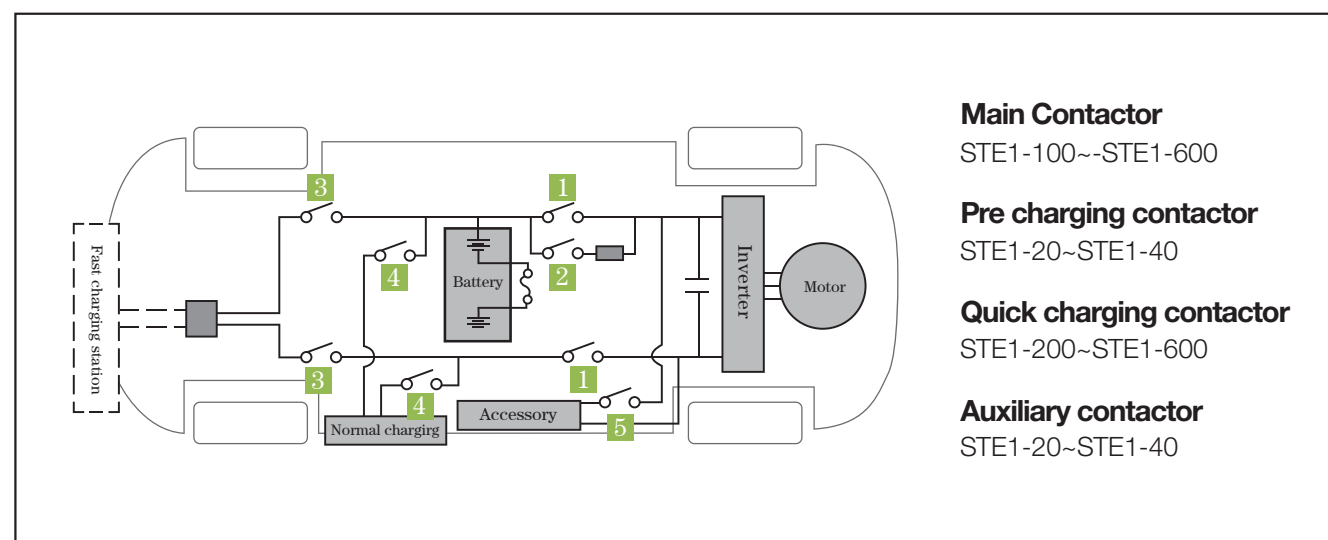
Rated current ranges from 100A to 600A used to control the fast charging process

### ◆ Pre charging contactor

Rated current ranging from 10A to 50A used to control the pre charging circuit process

### ◆ Auxiliary contactor

Rated current ranging from 10A to 50A, used to control air conditioning heating systems, DC/AC converters, etc

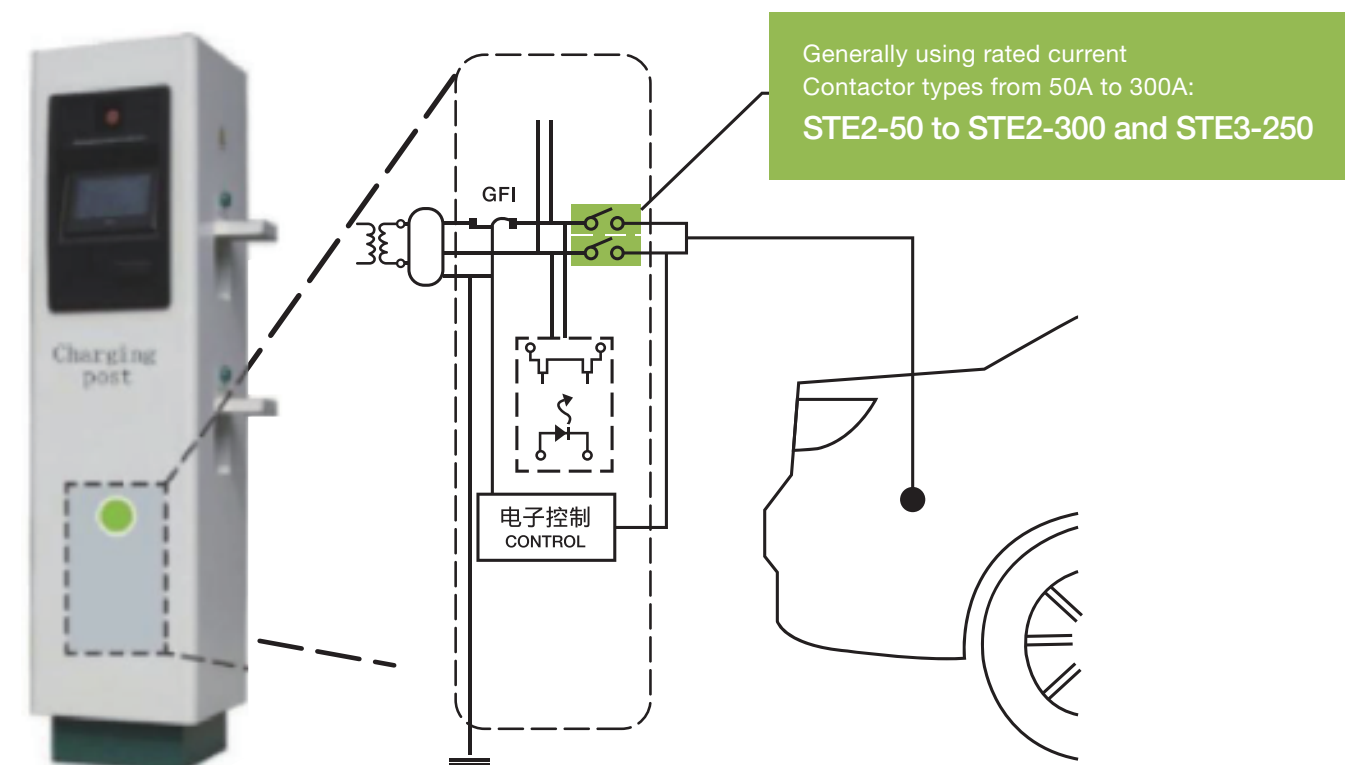


## Charging Pile

As a charging device for new energy vehicles, charging piles can be analogically understood as the oil and gas refueling machines of conventional fuel vehicles. Charging piles are usually installed in public construction sites, parking lots in residential communities, or beside roads. Charging is divided into AC charging piles and DC charging piles according to the output current method.

The function of high-voltage DC contactors in charging devices is achieved by switching DC power sources. These devices typically use the STE2 series circular epoxy encapsulated contactors with rated currents ranging from 50A to 600A.

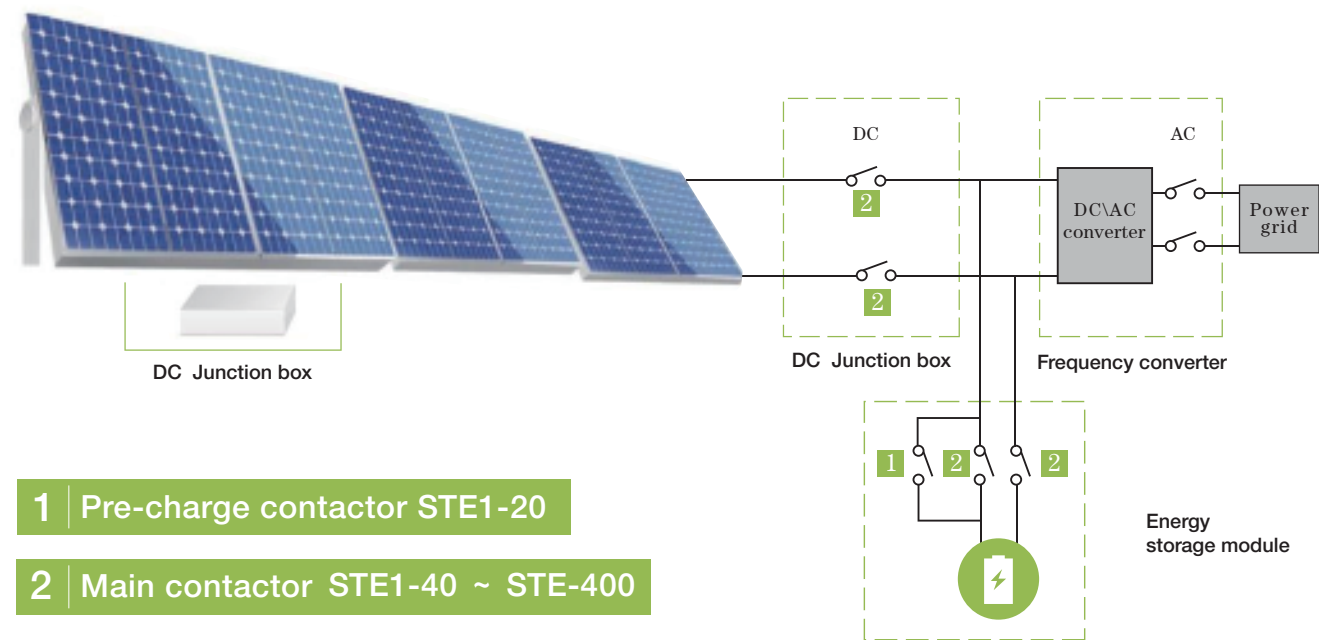
Under special environmental requirements, the STE3 series circular ceramic encapsulated contactor can be used, with a voltage of up to 1000VDC.



# Photovoltaic and energy storage solutions

Energy storage is a forward-looking technology for promoting the development of the new energy industry. It has developed into various types of technologies such as physical energy storage, electrochemical energy storage, thermal energy storage, hydrogen energy storage, etc.

High voltage DC contactors can be used for different energy storage applications, such as new energy grid connection, electric vehicles, smart grids, microgrids, distributed energy systems, household energy storage systems, and power supply projects in areas without electricity. It can solve the intermittent and unstable problems caused by the integration of energy storage and power generation into the grid, ensure the reliability of microgrid system power supply, achieve high-power dynamic regulation, and reduce the impact on the grid.



# Container based energy storage solution

The high-voltage DC contactor is installed in the high-voltage control box and is mainly used to control battery charging and discharging. Capable of meeting 1000VDC-1500VDC and rated current between 50A-600A

**The main contactor can be selected**

STE1-250—STE1-600

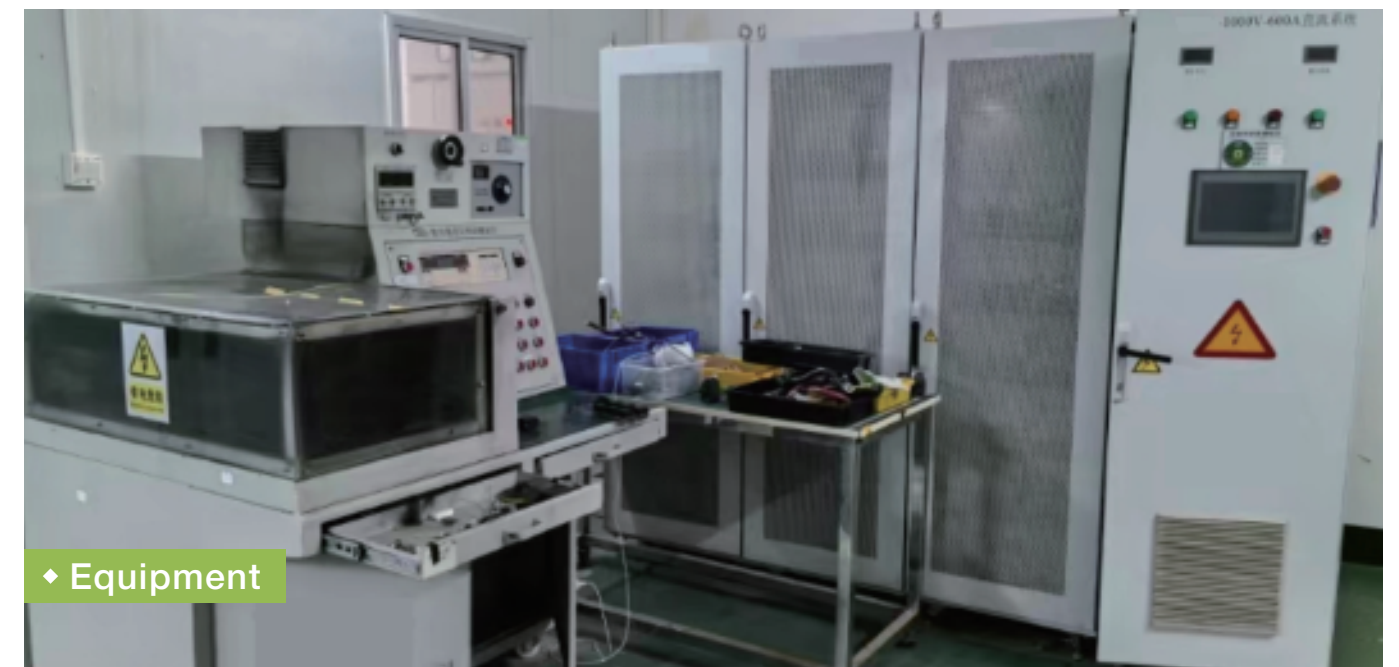
**Pre-charging contactors can be selected**

STE1-50—STE1-100





## Production and testing equipment



Selection Guide

PRODUCT SERIES

◆ STE1 SQUARE CERAMIC SEALING SERIES



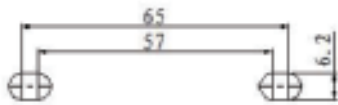
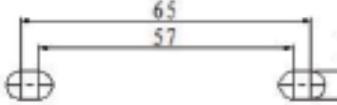
Product model	working voltage	Working current	Load polarity	Coil polarity	Auxiliary contact
STE1-40	1500	40	Non-polarity	Non-polarity	/
STE1-60	1000	60	Non-polarity	Non-polarity	/
STE1-100	1000	100	Having polarity	Non-polarity	/
STE1-150	750	150	Non-polarity	Non-polarity	/
STE1-200	750	200	Having polarity	Non-polarity	/
STE1-L200	1000	200	Non-polarity	Non-polarity	1NO
STE1-L300	1000	300	Non-polarity	Non-polarity	1NO
STE1-X300	1000	300	Non-polarity	Non-polarity	/
STE1-300	1000	300	Having polarity	Having polarity	/
STE1-300D	1500	300	Non-polarity	Non-polarity	1NO
STE1-350	1500	350	Non-polarity	Having polarity	1NO
STE1-400	1500	400	Non-polarity	Non-polarity	1NO
STE1-600	1000	600	Having polarity	Having polarity	/

◆ STE2 CIRCULAR EPOXY SEALING SERIES

Product model	working voltage	Working current	Load polarity	Coil polarity	Auxiliary contact
STE2-50	1500	50	Non-polarity	Non-polarity	/
STE2-100	1500	100	Non-polarity	Non-polarity	/
STE2-150	1500	150	Non-polarity	Non-polarity	/
STE2-200	1500	200	Non-polarity	Non-polarity	1NO
STE2-250	1500	250	Non-polarity	Non-polarity	1NO
STE2-300	1500	300	Non-polarity	Non-polarity	1NO
STE2-400	1500	400	Non-polarity	Non-polarity	1NO
STE2-500	1500	500	Non-polarity	Non-polarity	1NO
STE2-600	1500	600	Non-polarity	Non-polarity	1NO
STE2-800	1000	800	Non-polarity	Non-polarity	1NO

◆ STE3 CIRCULAR CERAMIC SEALING SERIES


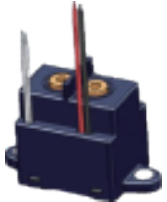
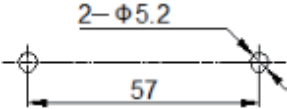
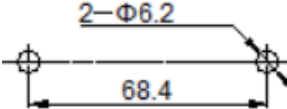
Product model	working voltage	Working current	Load polarity	Coil polarity	Auxiliary contact
STE3-50	1000	50	Having polarity	Non-polarity	/
STE3-100	1000	100	Having polarity	Non-polarity	/
STE3-150	1000	150	Non-polarity	Non-polarity	1NO
STE3-200	1000	200	Non-polarity	Non-polarity	1NO
STE3-250	1000	250	Non-polarity	Non-polarity	1NO
STE3-300	1000	300	Non-polarity	Non-polarity	1NO
STE3-350	750	350	Non-polarity	Non-polarity	1NO

Product model		STE1-40	STE1-60
Photo of contactor			
Contact form		1H	1H
Auxiliary contact		/	/
Contact polarit		Non-polarity	Non-polarity
Contact resistance		≤5mΩ(at 40A)	≤5mΩ(at 60A)
Operating voltage		≤75% Un	≤75% Un
Maximum breaking current		40A	60A
Electrical endurance		10~1500V	10~1000V
Maximum breaking current		400A(300VDC)	600A(300VDC)
Electrical endurance		≥300 times (40A/1500VDC)	≥1×10 <sup>4</sup> times (60A/750VDC) ≥5×10 <sup>3</sup> times (60A/1000VDC)
Current carrying		40A:Continuous for 60A:60min 160A:10s	60A:Continuous for 80A:20min 160A:40s
Dielectric withstand voltage	Between open contacts	3000VAC	3000VAC
	Between contact coils	4000VAC	4000VAC
Mechanical Endurance		2X10 <sup>5</sup> times	2X10 <sup>5</sup> times
Coil Voltage		12V,24V	12V,24V
Coil power consumption		3W	3W
Load extraction method		Internal thread	Internal thread
Coil lead out method		Connector	Connector
Weight		About 180g	About 180g
Vibrate		10Hz~500Hz 49m/s <sup>2</sup>	10Hz~500Hz 49m/s <sup>2</sup>
Humidity		5%~85%RH	5%~85%RH
Humidity range		- 40℃~ + 85℃	- 40℃~ + 85℃
External dimensions/mm		79.2×36.7×48	79.2×36.7×48
Installation hole size/mm			

Note: (1) The above parameters are all initial values, measured at room temperature of 23℃.  
(2) Unless otherwise specified, the electrical durability tests are conducted on resistive loads with a on/off ratio of 0.6s :5.4s.

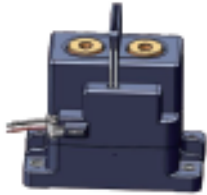
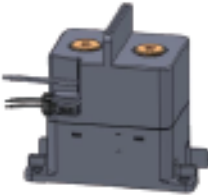
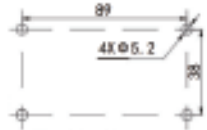
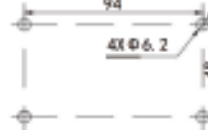
STE1-100	STE1-150	STE1-200
		
1H	1H	1H
/	/	/
Having polarity	Non-polarity	Having polarity
≤1mΩ(at 100A)	≤5mΩ(at 150A)	≤0.5mΩ(at 200A)
≤75% Un	≤75% Un	≤75% Un
100A	150A	200A
10~1000V	10~750V	10~750V
1000A(300VDC)	1500A(300VDC)	2000A(300VDC)
≥6×10 <sup>3</sup> times (100A/750VDC) ≥5×10 <sup>3</sup> times (100A/1000VDC)	≥1.5×10 <sup>3</sup> times (150A/450VDC) ≥500 times (150A/750VDC)	≥1×10 <sup>3</sup> times (200A/450VDC) ≥500 times (200A/750VDC)
100A:Continuous for 120A:2h 200A:10min	150A:Continuous for 180A:2h 225A:15min	200A:Continuous for 250A:15min 320A:5min
3000VAC	3000VAC	3000VAC
4000VAC	4000VAC	4000VAC
2X10 <sup>5</sup> times	2X10 <sup>5</sup> times	2X10 <sup>5</sup> times
12V,24V	12V,24V	12V,24V
4.5W	3W	6W
Copper bar connection	Internal thread	Internal thread
Connector	Connector	Connector
About 400g	About 180g	About 350g
10Hz~500Hz 49m/s <sup>2</sup>	10Hz~500Hz 49m/s <sup>2</sup>	10Hz~500Hz 49m/s <sup>2</sup>
5%~85%RH	5%~85%RH	5%~85%RH
- 40℃~ + 85℃	- 40℃~ + 85℃	- 40℃~ + 85℃
81.5×40×78.3	79.2×36.7×48	81×39×70
		



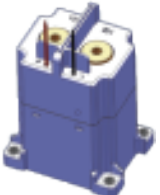

Product model		STE1-L200	STE1-L300
Photo of contactor			
Contact form		1H	1H
Auxiliary contact		1NO	1NO
Contact polarit		Non-polarity	Non-polarity
Contact resistance		≤0.5mΩ(at 200A)	≤0.3mΩ(at 300A)
Operating voltage		≤75% Un	≤75% Un
Maximum breaking current		200A	300A
Electrical endurance		10~1000V	10~1000V
Maximum breaking current		1000A(300VDC)	2000A(300VDC)
Electrical endurance		≥5×10³ times (200A/450VDC) ≥1×10³ times (200A/750VDC) ≥300 times (200A/1000VDC)	≥2×10³ times (300A/450VDC) ≥700 times (300A/750VDC) ≥300 times (300A/1000VDC)
Current carrying		200A:Continuous for 300A:30min 400A:5min	300A:Continuous for 450A:5min 600A:1min
Dielectric withstand voltage	Between open contacts	4000VAC	4000VAC
	Between contact coils	4000VAC	4000VAC
Mechanical Endurance		2X10⁵ times	2X10⁵ times
Coil Voltage		12V,24V	12V,24V
Coil power consumption		3w	4.5W
Load extraction method		Internal thread	Internal thread
Coil lead out method		lead wire	lead wire
Weight		About 185g	About 320g
Vibrate		10Hz~500Hz 49m/s²	10Hz~500Hz 49m/s²
Humidity		5%~85%RH	5%~85%RH
Humidity range		- 40℃~ + 85℃	- 40℃~ + 85℃
External dimensions/mm		71.8×36×51	83.4×48×63.5
Installation hole size/mm			





Note: (1) The above parameters are all initial values, measured at room temperature of 23℃.  
(2) Unless otherwise specified, the electrical durability tests are conducted on resistive loads with a on/off ratio of 0.6s :5.4s.

STE1-X300	STE1-300	STE1-300D
		
1H	1H	1H
/	/	1NO
Non-polarity	Having polarity	Non-polarity
≤0.5mΩ(at 300A)	≤0.2mΩ(at 300A)	≤0.3mΩ(at 300A)
≤75% Un	≤75% Un	≤75% Un
300A	300A	300A
10~1000V	10~1000V	10~1500V
2000A(300VDC)	2500A(300VDC)	2000A(300VDC)
≥1×10³ times (300A/450VDC) ≥500 times (300A/750VDC) ≥100 times (300A/1000VDC)	≥6×10³ times (300A/750VDC) ≥3×10³ times (300A/1000VDC)	≥1.4×10³ times (250A / 800VDC) ≥1×10³ times (400A / 1000VDC) ≥500 times (400A / 1500VDC)
300A:Continuous for 450A:5min 600A:2min	300A:Continuous for 600A:1min 900A:10s	400A:Continuous for 600A:1h 800A:10min
3000VAC	3000VAC	4000VAC
3000VAC	4000VAC	4000VAC
2X10⁵ times	2X10⁵ times	2X10⁵ times
12V,24V	12V,24V	12V,24V
6W	Connect 46W and maintain 4.5W	10W
Internal thread	Copper bar connection	Internal thread
Connector	Connector	Connector
About 370g	About 850g	About 700g
10Hz~500Hz 49m/s²	10Hz~500Hz 49m/s²	10Hz~500Hz 49m/s²
5%~85%RH	5%~85%RH	5%~85%RH
- 40℃~ + 85℃	- 40℃~ + 85℃	- 40℃~ + 85℃
88.3×42.5×74.5	112.6×64.7×83.9	98.4×45×91.5
		

Product model		STE1-350	STE1-400
Photo of contactor			
Contact form		1H	1H
Auxiliary contact		1NO	1NO
Contact polarit		The coil has polarity while the contacts have no polarity	Non-polarity
Contact resistance		≤0.3mΩ(at 350A)	≤0.2mΩ(at 400A)
Operating voltage		≤75% Un	≤75% Un
Maximum breaking current		400A	400A
Electrical endurance		10~1500V	10~1800V
Maximum breaking current		2000A(300VDC)	2500A(300VDC)
Electrical endurance		≥100 times (150A / 1800VDC) ≥1×10³ times (400A / 1000VDC) ≥500 times (400A / 1500VDC)	≥100 times (150A / 1800VDC) ≥1×10³ times (400A / 1000VDC) ≥500 times (400A / 1500VDC)
Current carrying		400A:Continuous for 450A:60min 600A:2min	400A:Continuous for 450A:10min 600A:90s
Dielectric withstand voltage	Between open contacts	4000VAC	4000VAC
	Between contact coils	4000VAC	4000VAC
Mechanical Endurance		2X10⁵ times	2X10⁵ times
Coil Voltage		12V,24V	12V,24V
Coil power consumption		Connect 46W and maintain4.5W	10W
Load extraction method		Internal thread	Internal thread
Coil lead out method		Connector	Connector
Weight		About 730g	About 850g
Vibrate		10Hz~500Hz 49m/s²	10Hz~500Hz 49m/s²
Humidity		5%~85%RH	5%~85%RH
Humidity range		- 40°C~ + 85°C	- 40°C~ + 85°C
External dimensions/mm		104×65×97.4	108×67×101.6
Installation hole size/mm			

Note: (1) The above parameters are all initial values, measured at room temperature of 23°C.  
(2) Unless otherwise specified, the electrical durability tests are conducted on resistive loads with a on/off ratio of 0.6s :5.4s.



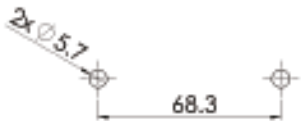

STE1-600

1H
/
Having polarity
≤0.2mΩ(at 600A)
≤75% Un
600A
10~1500V
2500A(300VDC)
≥1×10³ times (600A / 750VDC) ≥500 times (600A / 1000VDC) ≥100 times (600A / 1500VDC)
600A:Continuous for 800A:20min 1000A:5min
3000VAC
4000VAC
2X10⁵ times
12V,24V
Connect 50W and maintain 10W
Internal thread
lead wire
About 1020g
10Hz~500Hz 49m/s²
5%~85%RH
- 40°C~ + 85°C
194.4×66.8×121.5


Product model		STE2-50	STE2-100
Photo of contactor			
Contact form		1H	1H
Auxiliary contact		/	NO
Contact polarit		Non-polarity	Non-polarity
Contact resistance		≤1mΩ(at 50A)	≤1mΩ(at 100A)
Operating voltage		≤75% Un	≤75% Un
Maximum breaking current		50A	100A
Electrical endurance		12~1500V	12~1500V
Maximum breaking current		500A(320V DC)	1000A(320V DC)
Electrical endurance		≥1×10 <sup>3</sup> times (50A / 750VDC) ≥400 times (20A / 1000VDC) ≥150 times (10A / 1500VDC)	≥2×10 <sup>3</sup> times (100A / 750VDC) ≥1×10 <sup>3</sup> times (100A / 1000VDC) ≥600 times (15A / 1500VDC)
Current carrying		50A:Continuous for 100A:10min 200A:50s	100A:Continuous for 150A:10min 300A:50s
Dielectric withstand voltage	Between open contacts	3500VAC	3500VAC
	Between contact coils	3500VAC	3500VAC
Mechanical Endurance		2X10 <sup>5</sup> times	2X10 <sup>5</sup> times
Coil Voltage		12V,24V	12V,24V,48V
Coil power consumption		12V:5.5w 24:6w	12V:5.5w 24V:6.0w
Load extraction method		Internal thread	Internal thread
Coil lead out method		lead wire	lead wire
Weight		About 115g	About 160g
Vibrate		80Hz~2000Hz 49/s <sup>2</sup>	80Hz~2000Hz 49/s <sup>2</sup>
Humidity		5%~95%RH	5%~95%RH
Humidity range		- 45°C~ + 85°C	- 45°C~ + 85°C
External dimensions/mm		51.6X35.6X43.2	53.8X35.6X58.5
Installation hole size/mm			

Note: (1) The above parameters are all initial values, measured at room temperature of 23°C.  
(2) Unless otherwise specified, the electrical durability tests are conducted on resistive loads with a on/off ratio of 0.6s :5.4s.



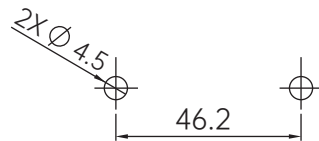
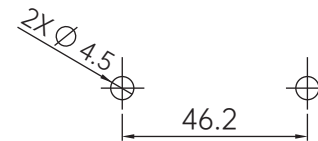
STE2-150		STE2-200	STE2-250
			
1H		1H	1H
NO		NO	NO
Non-polarity		Non-polarity	Non-polarity
≤1mΩ(at 150A)		≤1mΩ(at 200A)	≤1mΩ(at 250A)
≤75% Un		≤75% Un	≤75% Un
150A		200A	250A
12~1500V		12~1500V	12~1500V
1000A(320V DC)		2000A(320V DC)	2000A(320V DC)
≥2×10 <sup>3</sup> times (100A / 750VDC) ≥1×10 <sup>3</sup> times (150A / 1000VDC) ≥600 times (30A / 1500VDC)		≥2×10 <sup>3</sup> times (200A / 750VDC) ≥1×10 <sup>3</sup> times (200A / 1000VDC) ≥1×10 <sup>3</sup> times (50A / 1500VDC)	≥2×10 <sup>3</sup> times (250A / 750VDC) ≥1×10 <sup>3</sup> times (250A / 1000VDC) ≥1×10 <sup>3</sup> times (50A / 1500VDC)
150A:Continuous for 180A:10min 300A:50s		200A:Continuous for 300A:10min 400A:180s	250A:Continuous for 300A:10min 400A:180s
3500VAC		3500VAC	3500VAC
3500VAC		3500VAC	3500VAC
2X10 <sup>5</sup> times		2X10 <sup>5</sup> times	2X10 <sup>5</sup> times
12V,24V,36V,48V		12V,24V,36V,48V	12V,24V,36V,48V
12V,24,48V:5.76w 36V:2.5w		6w	6w
External thread		External thread	External thread
lead wire		lead wire	lead wire
About 430g		About 430g	About 430g
80Hz~2000Hz 49/s <sup>2</sup>		80Hz~2000Hz 49/s <sup>2</sup>	80Hz~2000Hz 49/s <sup>2</sup>
5%~95%RH		5%~95%RH	5%~95%RH
- 45°C~ + 85°C		- 45°C~ + 85°C	- 45°C~ + 85°C
53.8X35.2X59.5		80.5X63.6X73.8	80.5X63.6X73.8
			



Product model		STE2-300	STE2-400
Photo of contactor			
Contact form		1H	1H
Auxiliary contact		NO	NO
Contact polarit		Non-polarity	Non-polarity
Contact resistance		≤1mΩ(at 300A)	≤1mΩ(at 400A)
Operating voltage		≤75% Un	≤75% Un
Maximum breaking current		300A	400A
Electrical endurance		12~1500V	12~1500V
Maximum breaking current		2000A(320V DC)	2500A(320V DC)
Electrical endurance		≥2×10³ times (300A / 750VDC) ≥1×10³ times (300A / 1000VDC) ≥1×10³ times (80A / 1500VDC)	≥3×10³ times (400A / 750VDC) ≥1×10³ times (400A / 1000VDC) ≥1×10³ times (200A / 1500VDC)
Current carrying		300A:Continuous for 350A:10min 400A:180s	400A:Continuous for 500A:10min 600A:180s
Dielectric withstand voltage	Between open contacts	3500VAC	3500VAC
	Between contact coils	3500VAC	3500VAC
Mechanical Endurance		2X10⁵ times	2X10⁵ times
Coil Voltage		12V,24V,36V,48V	12V,24V,36V
Coil power consumption		6w	3w
Load extraction method		External thread	External thread
Coil lead out method		lead wire	lead wire
Weight		About 430g	About 990g
Vibrate		80Hz~2000Hz 49/s²	80Hz~2000Hz 49/s²
Humidity		5%~95%RH	5%~95%RH
Humidity range		- 45℃~ + 85℃	- 45℃~ + 85℃
External dimensions/mm		80.5X63.6X73.8	66.6X78.1X104.5
Installation hole size/mm			



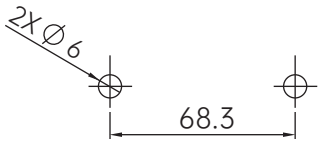
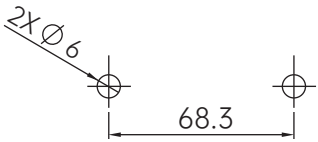
Note: (1) The above parameters are all initial values, measured at room temperature of 23℃.  
(2) Unless otherwise specified, the electrical durability tests are conducted on resistive loads with a on/off ratio of 0.6s :5.4s.

STE2-500	STE2-600	STE2-800
		
1H	1H	1H
NO	NO	NO
Non-polarity	Non-polarity	Non-polarity
≤1mΩ(at 500A)	≤1mΩ(at 600A)	≤1mΩ(at 800A)
≤75% Un	≤75% Un	≤75% Un
500A	600A	800A
12~1500V	12~1500V	12~1500V
2500A(320V DC)	2500A(320V DC)	2500A(320V DC)
≥2×10³ times (500A / 750VDC) ≥1×10³ times (500A / 1000VDC) ≥1×10³ times (250A / 1500VDC)	≥2×10³ times (600A / 750VDC) ≥1×10³ times (600A / 1000VDC) ≥1×10³ times (300A / 1500VDC)	≥600 times (800A / 750VDC) ≥1×10³ times (450A / 1000VDC) ≥200 times (350A / 1500VDC)
500A:Continuous for 550A:10min 600A:180s	600A:Continuous for 650A:10min 700A:180s	800A:Continuous for 900A:10min 1000A:120s
3500VAC	3500VAC	3500VAC
3500VAC	3500VAC	3500VAC
2X10⁵ times	2X10⁵ times	2X10⁵ times
12V,24V,36V	12V,24V,36V	12V,24V,36V
3w	3w	3w
External thread	External thread	External thread
lead wire	lead wire	lead wire
About 990g	About 990g	About 990g
80Hz~2000Hz 49/s²	80Hz~2000Hz 49/s²	80Hz~2000Hz 49/s²
5%~95%RH	5%~95%RH	5%~95%RH
- 45℃~ + 85℃	- 45℃~ + 85℃	- 45℃~ + 85℃
66.6X78.1X104.5	66.6X78.1X104.5	66.6X78.1X104.5
		

Product model		STE3-50	STE3-100
Photo of contactor			
Contact form		1H	1H
Auxiliary contact		/	/
Contact polarit		Having polarity	Having polarity
Contact resistance		≤3mΩ(at 50A)	≤3mΩ(at 100A)
Operating voltage		≤75% Un	≤75% Un
Maximum breaking current		50A	100A
Electrical endurance		10~1000V	10~1000V
Maximum breaking current		1000A(300VDC)	1000A(300VDC)
Electrical endurance		600 times (1000V, 50A)	500 times (1000V, 100A)
Current carrying		50A:Continuous for 200A:10min 300A:10s	100A:Continuous for 200A:10min 300A:10s
Dielectric withstand voltage	Between open contacts	2500VAC	2500VAC
	Between contact coils	2500VAC	2500VAC
Mechanical Endurance		2X10 <sup>5</sup> times	2X10 <sup>5</sup> times
Coil Voltage		12V,24V	12V,24V
Coil power consumption		5.5w	5.5w
Load extraction method		Internal thread	Internal thread and screw
Coil lead out method		lead wire	lead wire
Weight		About 180g	About 180g
Vibrate		10Hz~500Hz 49m/s <sup>2</sup>	10Hz~500Hz 49m/s <sup>2</sup>
Humidity		5%~85%RH	5%~85%RH
Humidity range		- 40℃~ + 85℃	- 40℃~ + 85℃
External dimensions/mm		55.2X39.6X57.8	55.2X39.6X57.8
Installation hole size/mm			

Note: (1) The above parameters are all initial values, measured at room temperature of 23℃.  
(2) Unless otherwise specified, the electrical durability tests are conducted on resistive loads with a on/off ratio of 0.6s :5.4s.

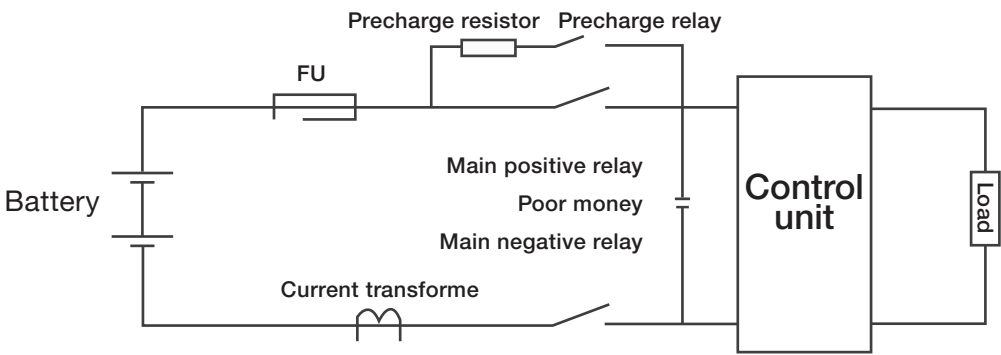
STE3-150	STE3-200	STE3-250
		
1H	1H	1H
NO	NO	NO,
Having polarity	Having polarity	Having polarity
≤1.5mΩ(at 150A)	≤1.5mΩ(at 200A)	≤1.5mΩ(at 250A)
≤75% Un	≤75% Un	≤75% Un
150A	200A	200A
10~1000V	10~1000V	10~1000V
1600A(300VDC)	2000A(300VDC)	2000A(300VDC)
50 times (1000V, 150A)	30 times (1000V, 200A)	15 times (1000V, 250A)
150A:Continuous for 400A:10min 800A:10s	200A:Continuous for 400A:10min 800A:10s	250A:Continuous for 400A:10min 800A:10s
4000VAC	4000VAC	4000VAC
4000VAC	4000VAC	4000VAC
2X10 <sup>5</sup> times	2X10 <sup>5</sup> times	2X10 <sup>5</sup> times
12V,24V	12V,24V	12V,24V
Start 45w, maintain 2.8W	Start 45w, maintain 2.8W	Start 45w, maintain 2.8W
External thread	External thread	External thread
lead wire	lead wire	lead wire
440g	440g	440g
10Hz ~ 500Hz 49m/s <sup>2</sup>	10Hz ~ 500Hz 49m/s <sup>2</sup>	10Hz ~ 500Hz 49m/s <sup>2</sup>
5% ~ 85% RH	5% ~ 85% RH	5% ~ 85% RH
-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃
80.3×66×64.3	80.3×66×64.3	80.3×66×64.3
		

Product model		STE3-300	STE3-350
Photo of contactor			
Contact form		1H	1H
Auxiliary contact		NO	NO
Contact polarit		Having polarity	Having polarity
Contact resistance		≤1.5mΩ(at 300A)	≤1.5mΩ(at 350A)
Operating voltage		≤75% Un	≤75% Un
Maximum breaking current		300A	350A
Electrical endurance		10~1000V	10~1000V
Maximum breaking current		2000A(300VDC)	2000A(300VDC)
Electrical endurance		10 times (1000V, 300A)	50 times (750V, 350A)
Current carrying		300A:Continuous for 400A:10min 600A:30s	350A:Continuous for 400A:10min 800A:10s
Dielectric withstand voltage	Between open contacts	3300VAC	3300VAC
	Between contact coils	3300VAC	3300VAC
Mechanical Endurance		2X10 <sup>5</sup> times	2X10 <sup>5</sup> times
Coil Voltage		12V,24V	12V,24V
Coil power consumption		Start 45w, maintain 2.8W	Start 45w, maintain 2.8W
Load extraction method		External thread	External thread
Coil lead out method		lead wire	lead wire
Weight		440g	440g
Vibrate		10Hz ~ 500Hz 49m/s2	10Hz ~ 500Hz 49m/s2
Humidity		5% ~ 85% RH	5% ~ 85% RH
Humidity range		-40℃ ~ 85℃	-40℃ ~ 85℃
External dimensions/mm		80.3×66×64.3	80.3×66×64.3
Installation hole size/mm			

Note: (1) The above parameters are all initial values, measured at room temperature of 23℃.  
(2) Unless otherwise specified, the electrical durability tests are conducted on resistive loads with a on/off ratio of 0.6s :5.4s.

Precautions for use

- ◆ When the contactor is used in the charging circuit, a pre charging circuit should be added to keep the impulse current below the rated load current.
- ◆ As shown in the figure, first close the main negative contactor, then close the pre charging contactor, and finally close the main positive contactor. If there is no pre charging circuit, transient high current will be generated at the moment of the main contactor closing, which may cause the main positive contactor to stick. Please be careful.



- ◆ The rated values in the contact parameters are all values for resistive loads. When using an inductive load (L load) with L/R>1ms, please install surge absorbing elements in parallel at both ends of the inductive load. Without taking measures, it may cause a decrease in electrical lifespan and result in poor continuity.
- ◆ The on/off reliability of the product may change under small loads due to environmental conditions and on/off frequency, so it needs to be confirmed under actual loads.
- ◆ This contactor is a DC high-voltage opening and closing device. In the final fault state, there may be a situation where it cannot be turned on or off. Therefore, please do not use it beyond the capacity and frequency range specified in this manual. If it has reached the point where it cannot be connected or disconnected, it may lead to burning. A circuit structure that can cut off the current load in emergency situations should be adopted. To ensure safety, components should be replaced regularly.
- ◆ For products that do not use coil drive boards or energy-saving versions, it is recommended to install nonlinear resistors (variable resistors are recommended) to suppress the reverse electromotive force of contactor coils. If diodes are used, the release time of the contactor will be greatly prolonged, which may lead to a decrease in cutting performance. Please be careful.
- ◆ When conducting action voltage tests on products that use coil drive boards and energy-saving versions, the voltage should not slowly rise. Please use a fast rising edge (step power supply method) to drive the coil of the product, otherwise the contactor will not operate. At the same time, this type of product will automatically switch coil current after about 0.3 seconds of connection, and repeated on/off operations within 0.3 seconds will cause contactor failure. Please be aware.
- ◆ It is strictly prohibited to place the contactor in an environment that exceeds the product temperature range (-40 ° C~+85 ° C) for a long time.
- ◆ Please avoid installing near strong magnetic fields (transformers, magnets) and heating objects.
- ◆ Ensure that the main power cord is closest to the outlet of the contactor. Then install and tighten in the order of flat washers, spring washers, and nuts. Incorrect connection sequence may cause severe overheating and lead to melting of the insulation layer of the connecting cable.
- ◆ Please control the tightening torque of screws in each part within the specified range below. Beyond the range, it may cause damage to the ceramic sealing chamber and thread damage. In addition, the installation direction is not restricted.



- ◆ Please control the tightening torque of screws in each part within the specified range below. Beyond the range, it may cause damage to the ceramic sealing chamber and thread damage. In addition, the installation direction is not restricted.

Load outlet end	Product shell installation part
M4 screws: 2Nm ~ 3Nm	M4 screws: 2Nm ~ 3Nm
M5 screws: 3Nm ~ 4Nm	M5 screws: 3Nm ~ 4Nm
M6 screws: 6Nm ~ 8Nm	M6 screws: 6Nm ~ 8Nm
M8 screws: 8Nm ~ 10Nm	

- ◆ Please avoid sticking foreign objects such as grease on the lead out end; Please use the following specifications of connecting wires, otherwise it may cause abnormal heating of the lead out section

Current/A	Nominal cross-sectional area of conducto/mm^2
10	≥1.5
20	≥4
30	≥6
40	≥10
50	≥16
60	≥16
100	≥35
150	≥70
200	≥95
250	≥150
300	≥185
350	≥240
400	≥300
500	≥370
600	≥480
800	≥600

- ◆ The suction voltage and release voltage will change with the ambient temperature and usage conditions, so please pay attention!
- ◆ If the coil and contacts are continuously energized using the rated voltage (current) and then cut off, and immediately re energized, this contactor will experience an increase in coil resistance due to the temperature rise of the coil, resulting in an increase in the suction voltage and exceeding the rated suction voltage. At this time, please take the following measures to reduce the load current, limit the power on time, and apply a coil voltage that exceeds the rated voltage of the coil (quick start).
- ◆ When opening and closing without load, the contact resistance may increase, so please be careful!

- ◆ This product contains resin, so please do not use it in places or environments where gasoline, diluents, alcohol lamps, organic solvents, and strong alkaline substances such as ammonia and sodium hydroxide may be attached.
- ◆ Please be careful not to attach grease or foreign objects to the load terminals, otherwise it may cause abnormal heating of the load terminals.

## Declaration

This product selection manual is for customer's reference only, if there are changes and not timely notice, please understand. Chuangqi Electric can not assess all the performance parameters of the contactor in each specific application field, so customers must choose the product according to the specific conditions of use when purchasing products, if you have any questions, please contact Chuangqi Electric for more technical support, Chuangqi Electric does not assume the responsibility for product selection. The statement of this manual and its right to modify, update and final interpretation are owned by Zhejiang Chuangqi Electric Co., LTD.

**Radiation to the Yangtze River Delta, North and South China regions**

Yangtze River Delta: Hangzhou, Ningbo, Shanghai, Suzhou, Nanjing  
North China: Beijing, Tianjin, Shijiazhuang  
South China: Guangzhou, Shenzhen, Dongguan, Zhuhai



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