

# High Voltage DC Contactor

## GL250



### ✧ Product overview

Ceramic-Metal seal—uses highly reliable ceramic sealing technology and is filled with strong arc cooling ability of gas, which can rapidly cut off the DC load

Ceramic seal—to prevent the exposure of arc, contact in a sealed environment, contact resistance is low and stable, can work in harsh environment. The internal protection level of contact can reach IP67.

Fully RoHS Compliant—Be friendly to the environment.

Application—For electric vehicles, battery charging and discharging system, hybrid electric vehicles, charging piles etc.

### ✧ Contact data

Main contact Form	SPST-NO
operating voltage range	12-800VDC
Rated operating voltage	750VDC
Rated operating current	250A (with 150mm <sup>2</sup> wire)
short-time current	320A 10min
	480A 1min
	1600A 1s
	Figure1 Current carrying capacity
Min load	1A 12VDC
Max. break load	1600A 320VDC 1 cycle
Contact resistance (Initial at rated current)	<0.4mΩ
Electrical life-resistive load <sup>1</sup>	250A 450VDC 1000 cycles (make&break)
	250A 750VDC 400 cycles (make&break)
	300A 750VDC 50 cycles (break only)
	-250A 320VDC 12 cycles (break only)

Mechanical Life	300,000 cycle
Contact Form	SPST-N0
Rated load	2A 24VDC
Min load	0.1A 8VDC

Note1.unless particularly stated ,the test conditions is room temperature,operation frequency :0.6s on,5.4off.

## ✧ Performance Data

Insulation resistance(Initial) <sup>2</sup>	>1000MΩ (1000VDC)
Dielectric Strength Between open contacts	2500VAC, min (detection current≤1mA)
Dielectric Strength between contacts and coil	2500VAC, min (detection current≤1mA)
Pick-up time (normal coil voltage,at 23°C)	≤25ms
Drop-out time (normal coil voltage,at 23°C)	≤10ms
Shock resistance-functional	ON: half sine shock pulse, 11ms, 20G OFF: half sine shock pulse, 11ms, 10G
Shock resistance -destructive	half sine shock pulse, 6ms, 50G
Vibration resistance	10-2000 Hz, 4.5G
Weight	About 380g

Note 2:The insulation resistance is 50 MΩ after life test.

## ✧ Environment Data

Operating ambient temperature	-40°C ~ +85°C
Humidity	5%~95%RH

## ✧ Coil data

Coil code	A	S <sup>3</sup>	T <sup>3</sup>
Power saving mode	PWM	Double-Coils	Double-Coils
Rated coil voltage	12-36VDC	12VDC	24VDC
Max.allowable voltage	36VDC	16VDC	32VDC
Pick-up voltage, (23° C)	≤8.5VDC	≤7.5VDC	≤15VDC
Drop-out voltage, (23° C)	≥4.5VDC	≥0.6VDC	≥1.2VDC

Initial inrush value <sup>4</sup>	3.6A	4.3A	1.6A
Hold current	0.13A 12VDC 0.07A 24VDC	0.24A	0.09A
Start-up power <sup>4</sup>	27W	46W	37.6W
Holding power	2W	2.8W	2.2W

Note:3.the contactor has a built-in sigle-trigger pulse generator circuit,please drive the coil through the fast rising edge (pulsed power supply),otherwise the contactor may not work normally.

4.when the contactor is closed for 300ms,the current will be automatically switched.repeated switching operation less than 300ms may cause fault of the contactor .

### ✧ Current Carrying capacity

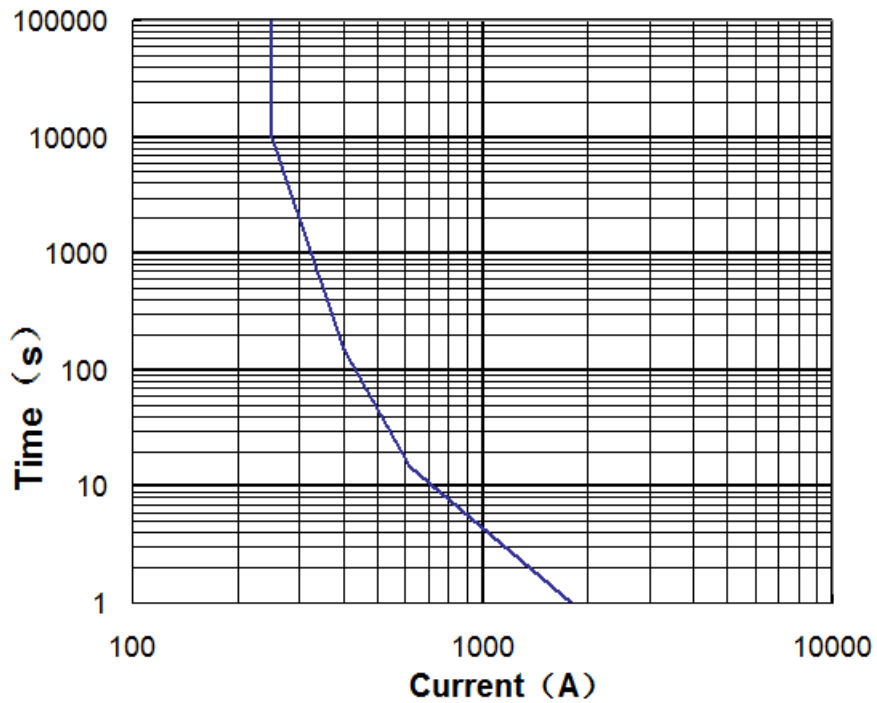


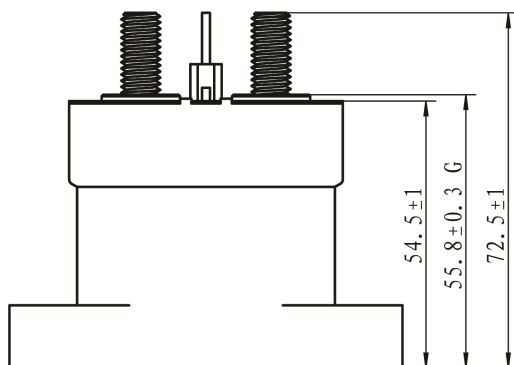
Figure 1 Current carrying capacity

### ✧ Product Code capacity

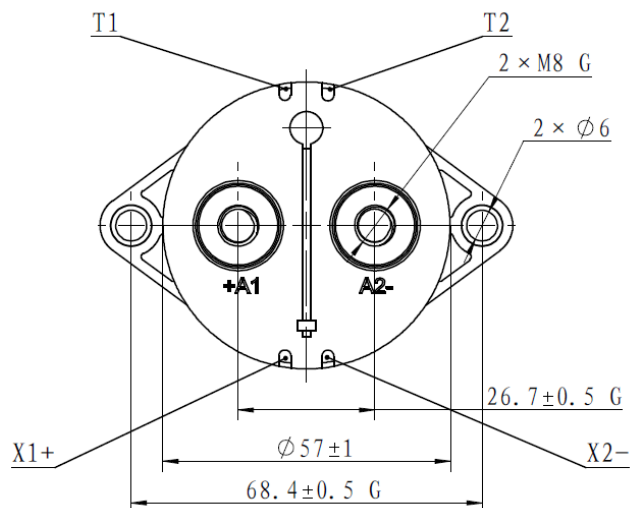
GL250	A	A	A	N	A	XXXXX
contact Form	A: normally open H: normally open auxiliary					
Coil Voltage	A: 12-36VDC S: 12VDC T: 24VDC					
Coil Wire Length			A: 390mm B: 150mm T: customer-specified N: none			
Coil Terminal Connector				K: with connector N: none		
Installation and high current connector					A: Flat installation, M5 screw extraction, P: matrix, screw extraction S: matrix, silicone shell, screw extraction matrix, internal thread Q: matrix, silicone shell, internal thread	
Customer code						XXXXX

### ✧ Dimensions

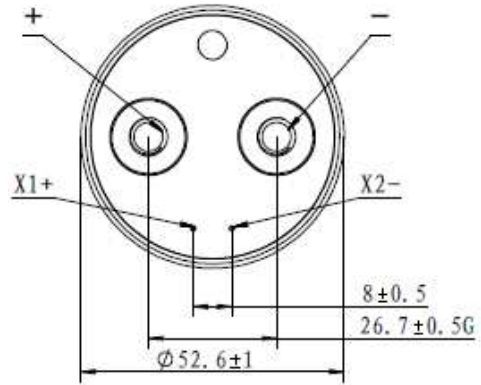
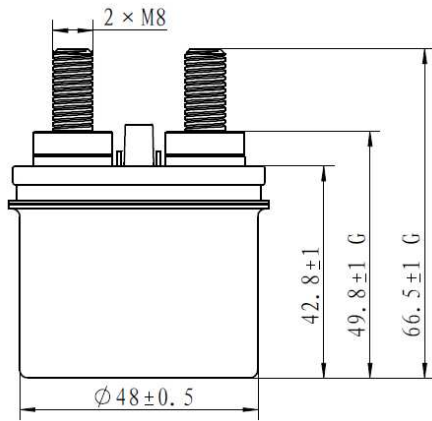
GL250XXXXA



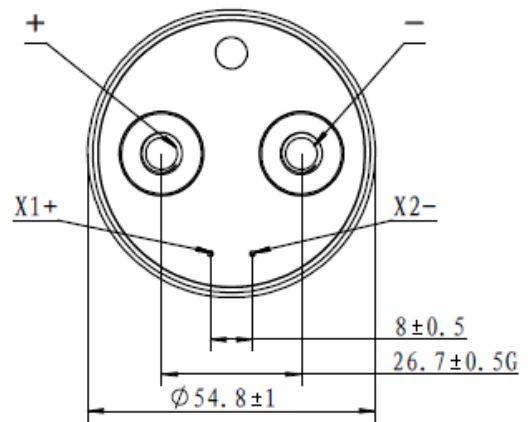
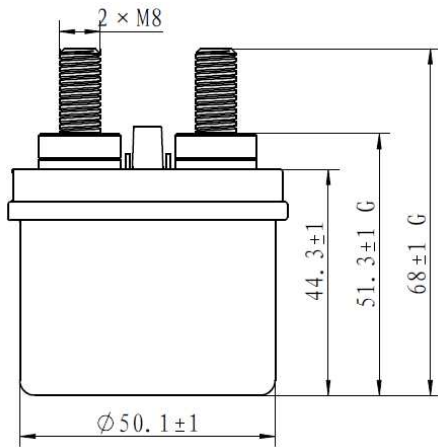
GL250 Product Specification



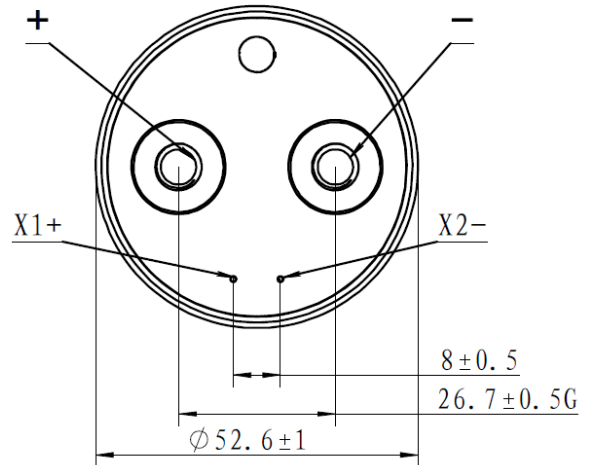
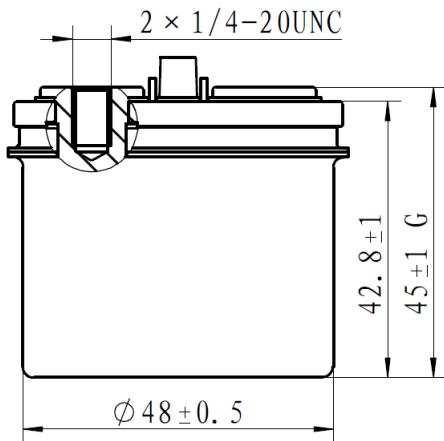
GL250XXXXP



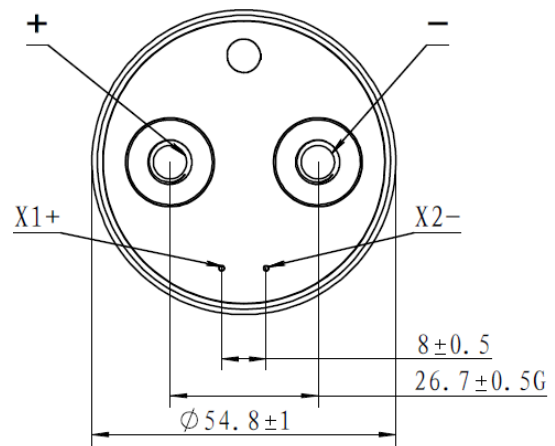
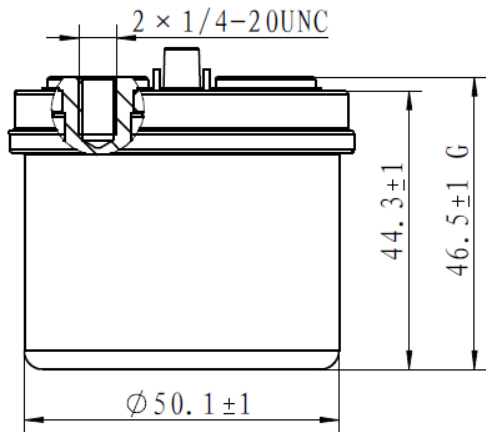
GL250XXXXS



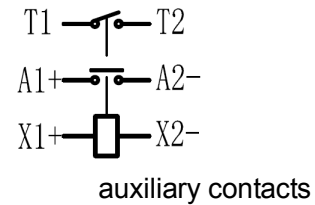
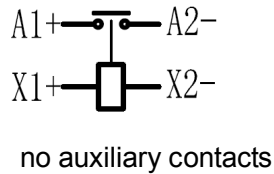
GL250XXXXT



GL250XXXXQ



**circuit diagram**



Note 1.G is marked as important luminal ruler.

2.Generally, unnoted tolerance referenee < 10: ±0.25, 10~50: ±0.5; > 50: ±0.8.

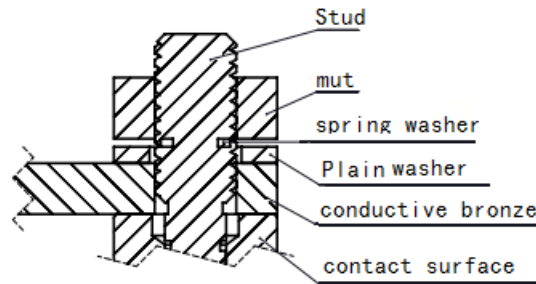
3.M8 nut mounting is attached to the external thread product for mounting the load end.

✧ **Application information**

- When the contactor is connected with one conductive copper bar, make sure that the conductive copper bar is tightly attached to the contact end face (multiple copper bars should make sure that the high-current conductive copper bar is closest to the contact end face, followed by the low-current conductive copper bar), followed by the flat ring, spring washer and nut. incorrect connection sequence can cause severe overheating.

The product type	Connection diagram
internal thread type	

Stud extraction type



2. Please avoid attaching foreign body grease and corrosive liquid during loading ,or it will cause abnormal heat at the contact .
3. The locking torque of contactor installation should be controlled within the specified in the following table .Exceeding the range may cause thread damage. detail in the follow chart.

type	Load end mounting section			Contact mounting section	
	Mounting	Torque	suggest	Mounting	Torque
screw extraction	M8nut	9-10Nm	Recommend thickness of bronz≤4mm	M5 screw	3-4Nm
internal thread	1/4 screw	6-8Nm	Recommend thread length≥7mm	/	/

4. The contacts of this contactor have polarity and are divided into“+”and“-” polarity,please mark the connection loading to the wiring diagram in the diagram .The contacts of this contactor have polarity and are divided into +” and -” pores, please connect it according to the wiring diagram.worng connection may cause the contactor not to move The internal coil drive end of the contactor has built-in voltage suppressor.
5. When the contactor is applied in the capacitive load lop,please pay attentionto percharge and other measures,and it is recommended that cantactors’ closing pressure differerce be controlled within 20V. otherwise,contact adhesion may be caused.
6. When the contact is used in inductive load loop ,it is recommende to install surge absorption measures for inductive load in parallel.if no action is taken ,the disconnecting ability of the contactor may be reduced
7. Please avoid contactor bumping or dropping during using or reloading .in order to maintain the performance of contactor,it is not recommended to continue using the contactor which has bumped or dropped.
8. Please refer to GL250XXXXXA-V2.0 or GL250XXXXXS-V2.0 or GL250XXXXXP-V2.0 GL250XXXXXQ-V2.0 or GL250XXXXXT-V2.0 for the product digital model
9. For further information and support, please contact our dealers.