EVC DC Contactors Spec	Product model	EVC-**-250**
	ECN	/
	Version	Rev. B

Update record

version	Update the content	Owner	Date
A	FIRST ISSUE	Zhang lei	1/25/2020
B	Delete "FX", Update outline drawings	Zhang lei	4/25/2022

EVC DC Contactors – 250A

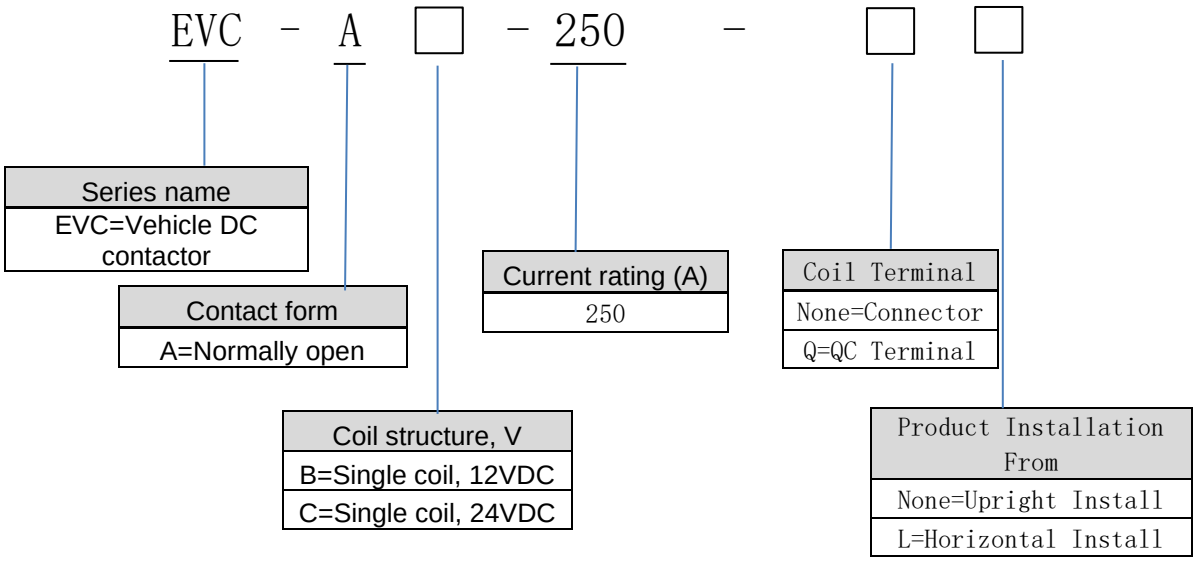
1. Basic information

EVC DC square contactor uses highly reliable ceramic sealing technology. Compared with traditional DC contactors, this product series has:

- Complete sealing – The contacts are in a sealed environment with low contact resistance and good stability, which can be used in harsh environments.
- Filling gas – Filling in the arc extinguishing gas to improve the arc extinguishing performance of the product and prevent the contacts from oxidation.
- Magnetic blow-out – Use permanent magnets to blow and pull the arc, increasing the capacity of arc extinguishing.
- Miniaturization – New technology increases the load capacity of same volume
- Fully RoHS compliant – More environmentally friendly

It is one of the most used electronic components in electrical vehicles and charging piles for switching and controlling the DC circuits and the equipment. It has long life, high reliability, small size, low power consumption, electromagnetic compatibility, flame retardancy and fast response.

2. Part number designation



3. Technical parameters

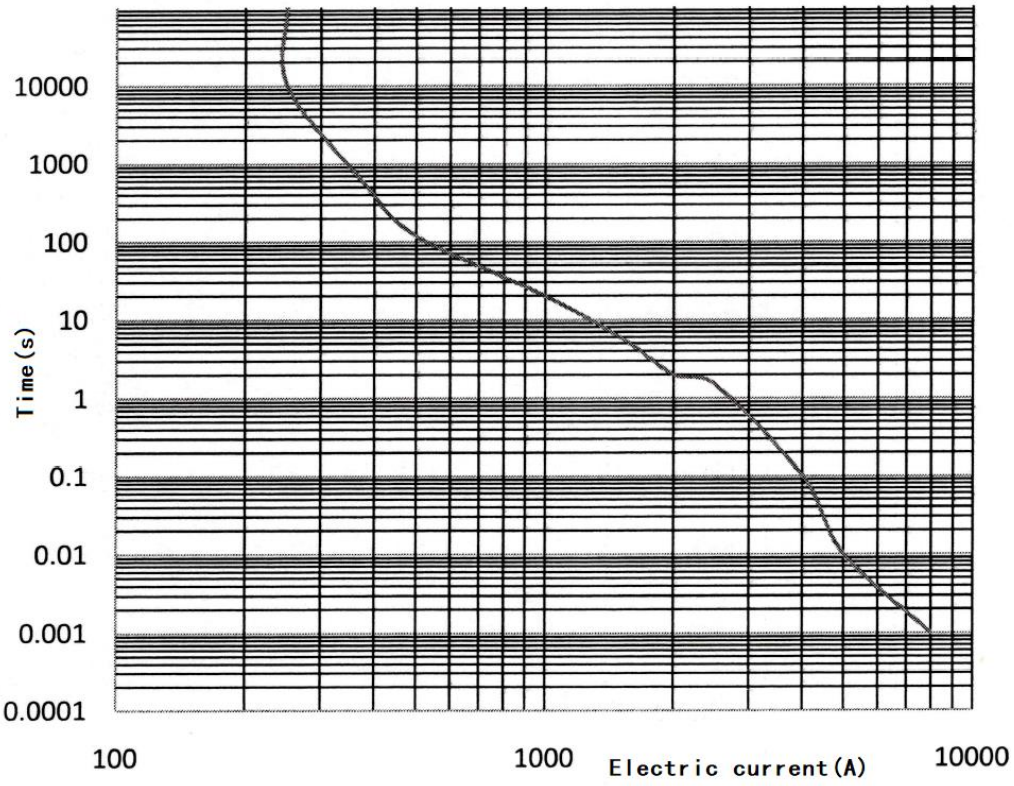
Parameters	EVC-A□ - 250
Main contact	
Contact form（main）	Single-pole single-throw – Normally Open
Operating voltage range	12-800VDC
Rated voltage	750
Rated current	250A
Short-time withstand current	250A continued,600 sec. 375A,120 sec. 500A， 30 sec.750A, 1 sec.2500A, 10ms 8000A (see 5, curve)
Operation time，23℃	
Closing time	≤50ms
Release time	≤10ms
Min. continuity load	1A 12VDC
Max breaking current	2,000A 450VDC 1 times
Contact resistance（Under rated current, initial value）	＜0.5mΩ
Electrical performance	
Electrical life	±250A 750VDC 100 times (make & break） ±250A 450VDC 1000 times (break only） ±2000A 450VDC 1 times (break only） ±1800A 500VDC 1 times (break only） ±140A 20VDC 75000 times (make only）
Short circuit current	8000A 5ms
Insulation resistance	＞1,000MΩ（1,000VDC） （After the life test: 50 MΩ）
Dielectric withstand voltage （ Between contacts, between contacts and coils）	Before 2600VAC，1 min. After 2000VAC, 1 min （leakage current ≤ 1mA）
Mechanical performance	
Shock resistance-Malfunction	Half sine wave，11ms，196m/s²
Shock resistance-Destruction	Half sine wave，6ms，490m/s²
Random vibration	10-2,000Hz，57.9m/s²
Mechanical life	200,000 times
Weight	About 400g
Standards Test Condition	
Temperature	23±5℃

Humidity	25%～75%RH
Direction of Measurement	Random
Operating Condition	
Temperature	-40℃～+85℃
Humidity	5%～95%RH
Mounting Direction	Random
Storage Condition	
Temperature	10℃～75℃
Humidity	5%～95%RH

4. Coil parameters

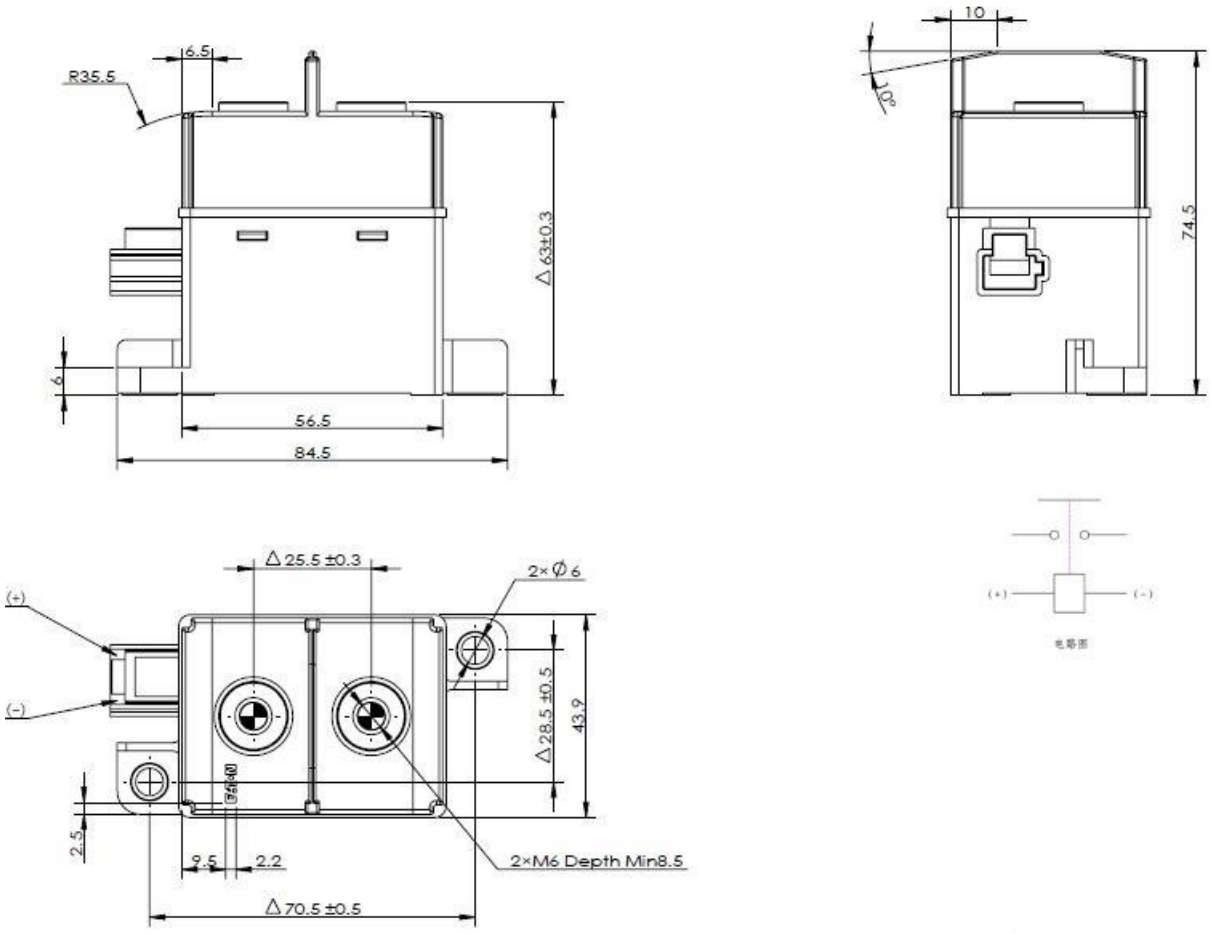
Parameter	EVC-AB-250	EVC-AC-250
Coil series number	**B**	C
Coil operating voltage	12VDC	24VDC
Coil voltage（Max.）	16VDC	32VDC
Operating voltage，(-40～85℃)	≤9VDC	≤18VDC
Release voltage，(-40～85℃)	≥1VDC	≥2VDC
Holding current (23℃)	24×（1±7%）Ω	96×（1±7%）Ω
Rated power	6W	6W

5. Carrying withstand current curve



6. Outline drawing

EVC-**-250



The load is nonpolar, the coil has polarity

Remark：

- △ sign is an importantly controlled size；
- The product is installed with M5 bolts and the locking torque is 3.5Nm-4.5Nm；
- Main contact terminal is installed with M6 bolts and the locking torque is 6Nm-8Nm.
- The product comes with connector socket, Match connector sheath model: YAZAKI 7283-1020 / THB 0435307, Connector terminal : YAZAKI 7116-402 / THB 01175.

Application considerations

- Warning - When more than one outgoing strip is used at the outgoing end of the power supply, make sure that the main power line is closest to the connector of the contactor, and the outgoing line with small current is at the top, followed by washer, elastic washer and nut. Improper connection sequence can cause severe overheating and lead to melting the insulation of the connecting cable;
- Please avoid attaching foreign matter, grease and corrosive liquid during installation, otherwise it will cause abnormal heating at contact end of contactor.
- Please avoid installation in strong magnetic field (around the transformers, the magnet) and the heating objects nearby.
- There is no polarity distinction at main contacts, the load can be connected in any direction.
- The coil of this contactor is polar, positive(+) and negative (-), please connect according to the wiring diagram label, the wrong connection may cause the contactor to fail to act.
- When the contactor is used in capacitive load circuit, please pay attention to pre charge and other measures. It is suggested that the closing pressure difference of contactor should be controlled within 20V. If no measures are taken, the contact may stick.
- When the contactor is used in inductive load circuit, it is suggested to install surge absorption measures for inductive load in parallel. If no measures are taken, the breaking capacity of contactor may be reduced.
- The relay contacts are sealed and filled with gas. When the contact temperature changes, there is internal gas penetrating characteristic. Contactor are forbidden to be used at the temperature beyond our suggestion -40℃～85℃ for long time.
- Please avoid collision or drop of contactor during use or transportation. In order to maintain the performance of the contactor, it is not recommended to use the contactor after impact or drop.