

# EVC1000 DC CONTACTOR



## FEATURE

- With ceramic seal structure, the contact chamber filled with hydrogen mixed educing gas, combined with magnetic blow-out. Voltage contactor can cut off load voltage of 1000VDC.
- The model with auxiliary contact can monitor the position of the main contact in real time, and is suitable for the charging product field where the main contact is required to be monitored in real time.
- The main / auxiliary contacts in a sealed, hydrogen mixed reduced gas environment are not easily contaminated or oxidized even in the harshest environments.

## COIL SPECIFICATION

NOMINAL VOLTAGE ITEM		MAX. STARTING CURRENT (A)	MAX. IMPACT TIME (ms)	NOMINAL OPERATING CURRENT (A)	PULL-IN VOLTAGE (V)	DROP-OUT VOLTAGE (V)	COIL POWER (W)	MAX. ALLOWABLE VOLTAGE (V)
DC	9-36	4.2A	120ms	0.54A@12VDC 0.24A@24VDC	≤9VDC	≥3VDC	50.4W (0.12s) Keep 6W	36VDC
	12	5.2A	120ms	0.68A	≤9VDC	≥1VDC	61.2W (0.12s) Keep 8W	16VDC
	24	2.6A	120ms	0.34A	≤18VDC	≥2VDC	61.2W (0.12s) Keep 8W	32VDC

## PART NUMBERING RULE



Series	Rated Current	Auxiliary contact	Contact Type	Coil Voltage	Coil lead
EVC=Circular type	10001000 A	Null:No auxiliary contact	1: 1a Normally Open	12: 12 VDC	D=Direct wire without connection plug
		A:With auxiliary contact		24: 24 VDC	
				A: 9-36 VDC	E=Direct wire with connector plug

## CONTACT RATINGS

ITEM MODEL	Unipolar resistive load(L/R≤1ms)	
	EVC1000	
Maximum Continuous Current	1000A	
Maximum Cut Off	V	1000 VDC
	A	3500A (300 VDC) 1 Ops
Overload cut off	500A 750VDC 10 Ops	
Reverse cut off	-400A 200VDC 1000 Ops	
Min. Switching Capacity(Resistive Load)	1A 12VDC	
Short Term Current	3000A 90s, 5000A 10s, 6000A 1s	
Contact Resistance	≤0.4mΩ (DC 1000A)	
Contact Material	Alloy Cu	
Contact Arrangement	1A (SPST-NO.)	
General Auxiliary Contacts Current Range	2A 30VDC / 3A 125VAC	
General Minimum Current Auxiliary Contacts	100mA 8VDC	

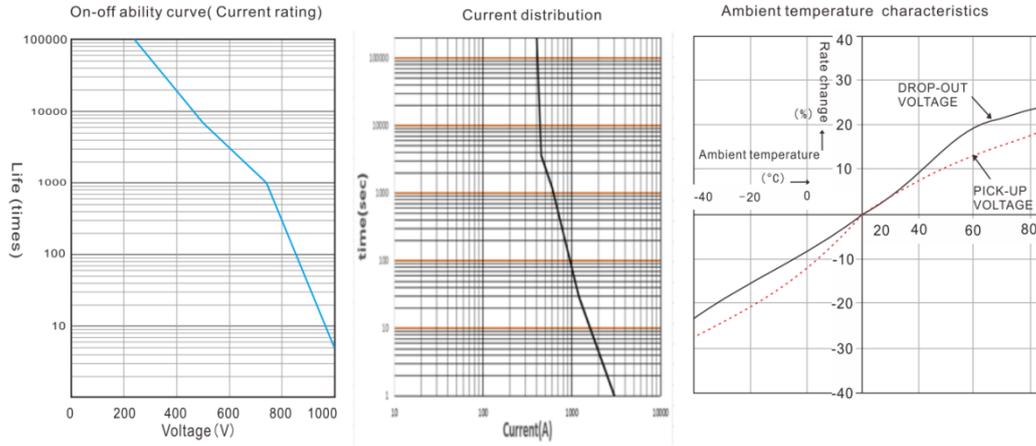
## INSULATION PERFORMANCE

Insulation Resistance		Min.1000MΩ 1000V DC
Dielectric Strength	Between Open Contacts	2500V AC 60 Sec.1mA
	Between Contact And Coil	2500V AC 60 Sec.1mA
Operate Time(at 20 °C)		≤30ms
Release Time(at 20 °C)		≤10ms

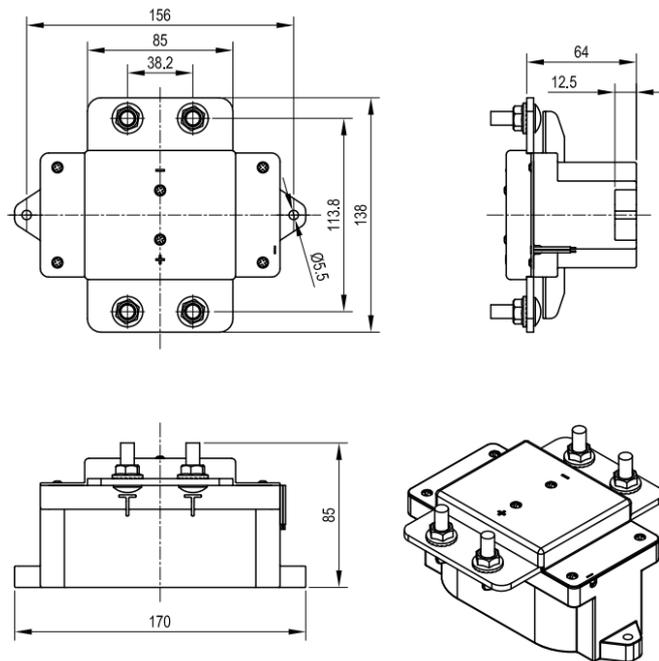
## MECHANICAL PARAMETERS

Life	Mechanical Life		2x10 <sup>5</sup> Ops
	Electrical Life (Resistive Load) (L/R≤1ms)	450 VDC 400 A	3,000 Ops
		450 VDC 1000 A	50 Ops
		750 VDC 400 A	1,000 Ops
Shock Resistance	Functional		Min 196 m/s <sup>2</sup> [20G] 11ms , (10 μs)
	Destructive		Min 490 m/s <sup>2</sup> [50G] 6ms
Vibration Resistance	Functional		49 m/s <sup>2</sup> [5G] 10 to 500Hz , (10 μs)
	Destructive		49 m/s <sup>2</sup> [5G] 10 to 500Hz 4h
Conditions For Operation, Transport And Storage	Ambient Temperature		-40°C to +85°C
	Humidity		5% to 85% R.H.
Weight			1100g

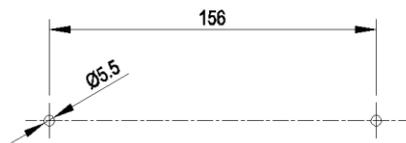
## ENGINEERING DATA



## DIMENSIONAL DRAWING

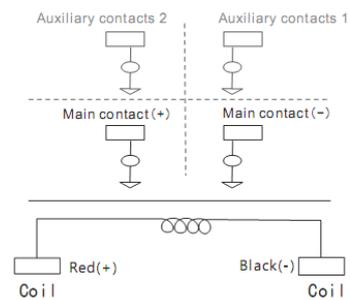


## MOUNTING DIMENSIONS



一般公差:  
尺寸 < 10mm:  $\pm 0.3$   
尺寸 = 10 ~ 50mm:  $\pm 0.6$   
尺寸 > 50mm:  $\pm 1.0$

## SCHEMATIC



Coil extraction mode: UL3266 、 20AWG 、 320±20mm (Connectors can be configured by the customer)

## CONTACTOR APPLICATION PRECAUTIONS

EV series high voltage DC contactor with higher arc cooling capacity hydrogen medium, have the ability of DC high voltage cutting and adopt ceramic sealing explosion-proof structure. Contact part have waterproof, anti oxidation and other functions.

It can be widely used in electric vehicles, hybrid vehicles, fuel cell vehicles, construction machinery, photovoltaic power generation, wind power generation, battery charging and discharging system, DC voltage power control and other DC high voltage fields.

### Notes:

- 1.All types of contactor terminals have polarity difference. Please use correctly according to the mark on each surface of the product. When the connection polarity is reversed, the electrical characteristics promised in the specification will not be guaranteed.
- 2.The rated value of contact parameters are the value of resistive load. Without measures, there may be a decline in electrical life and the occurrence of cut off. If using diodes, it may lead to a decline in cutting performance
- 3.During the action voltage test of double coil contactor, voltage can not be risen slowly. Please drive the product coil through the fast rising (step type power supply mode) , otherwise the contactor will not act.
- 4.Don't put the contactor in the environment that over normal operating temperature (-40 degrees C to 85 C) for a long time.
- 5.Please avoid installing near in strong magnetic field (around transformer and magnet ) and hot objects.
- 6.Make sure the main power line is closest to the contactor leading-out terminal, then installed tightly according to the order of the flat washer, spring washer and nut. Incorrect connection order may cause serious overheating, and lead to the insulation layer melting of connecting cable .
- 7.Screw locking torque of every part should be accordant with following chart in case of breakage.

### ➤ Part I Leading-out terminal installation:

CREWS MODEL	EVC050	EVC150	EVC300	EVC600
	EVC100	EVC200	EVC350	EVC1000
	EVC135	EVC250	EVC400	/
	/	EVC300	EVC500	/
M5	6N.m~8N.m	/	/	/
M6	/	10N.m~12N.m	10N.m~12N.m	/
M8	/	10N.m~12N.m	10N.m~12N.m	10N.m~12N.m
M12	/	/	/	10N.m~12N.m

Remarks: EVC050、 EVC100、 EVC135 use screws M5x10.

➤ Part II contactor installation:

CREWS MODEL	EVC050	EVC150	EVC300	EVC600
	EVC100	EVC200	EVC350	EVC1000
	EVC135	EVC250	EVC400	/
	/	EVC300	EVC500	/
M4	3N.m~4N.m	/	/	/
M5	/	6N.m~8N.m	6N.m~8N.m	6N.m~8N.m
M6	/	10N.m~12N.m	/	6N.m~8N.m

Remarks: a. Screw strength must be in compliance with the requirements of grade 8.8 or above (GB/T70.1) ;

b. The effective locking thread length must be greater than 5mm.

8.Packing specification

Each box MODEL	EVC050	EVC150	EVC300	EVC600	EVC1000
	EVC100	EVC200	EVC350	/	/
	EVC135	EVC250	EVC400	/	/
	/	EVC300	EVC500	/	/
Specifications (D*W*H)	412*407*146 mm	382*302*196 mm	382*302*196 mm	382*302*196 mm	382*302*196 mm
Number	60 PCS	24 PCS	24 PCS	12PCS	8PCS
Net weight	10.8 kg	9.12 kg	13.2 kg	10.8 kg	8.8 kg
Monomer	0.18 kg	0.38 kg	0.55 kg	0.90 kg	1.10 kg

Remarks: there is a shockproof bubble bag in the packing box, and there is shockproof foam inside the box.

9.Please avoid adhering grease and other foreign material on the leading-out terminal; Please use the following specifications of the connection wire, otherwise it may cause abnormal heat of the terminal part.

MODEL	EVC050	EVC100	EVC135	EVC150	EVC200	EVC250	EVC300	EVC350	EVC500	EVC1000
								EVC400	EVC600	
Area (mm <sup>2</sup> )	16	35	50	70	95	150	185	240	185*2	240*2

10.In the case of accidental fall of the contactor, see intended not to use.

11.Attentions and product technical data should be updated termly, and copyright by Ebusbar all.