

# EVR1000 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)
12	4.2A	200ms	0.84A	≤9VDC	≥1VDC	50W (0.2s) Keep 10W	16VDC
24	2.1A	200ms	0.42A	≤18VDC	≥2VDC	50W (0.2s) Keep 10W	32VDC

## PART NUMBERING RULE



Series	Rated Current	Auxiliary contact	Contact Type	Coil Voltage	Coil lead
EVR=Square type	1000:1000 A	Null:No auxiliary contact	1: 1a Normally Open	12: 12 VDC	D=Direct wire without connection plug
				24: 24 VDC	E=Direct wire with connector plug

## CONTACT RATINGS

ITEM MODEL	Unipolar resistive load(L/R≤1ms)	
	EVR1000	
Maximum Continuous Current	1000A	
Maximum Cut Off	V	1000 VDC
	A	2000A (1000 VDC) 1 Ops
Overload cut off	800A 1500VDC 50 Ops	
Reverse cut off	-1000A 1000VDC 50 Ops	
Min. Switching Capacity(Resistive Load)	1A 12VDC	
Short Term Current	1500A 140s, 2000A 82s, 3000A 30s, 4000A 18s, 10000A 5ms, 12000 2ms	
Contact Resistance	≤0.2mΩ (DC 1000A)	
Contact Material	Alloy Cu	
Contact Arrangement	1A (SPST-NO.)	

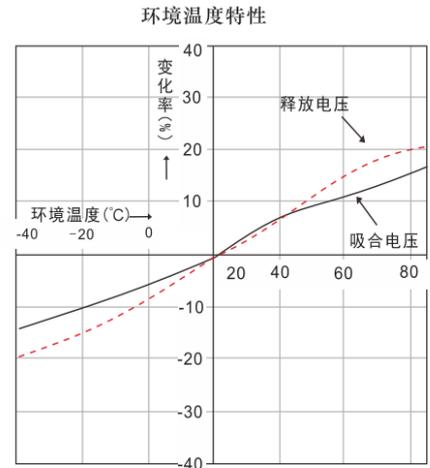
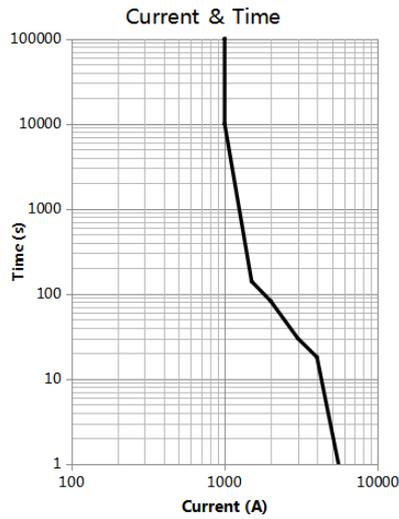
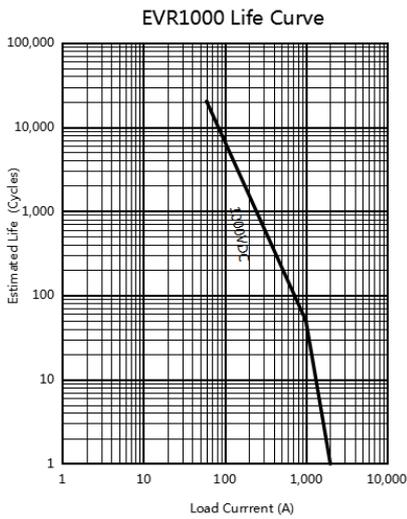
## INSULATION PERFORMANCE

Insulation Resistance		Min.1000MΩ 1000V DC
Dielectric Strength	Between Open Contacts	5000V AC 60 Sec.1mA
	Between Contact And Coil	5000V AC 60 Sec.1mA
Operate Time(at 20 °C)		≤100ms
Release Time(at 20 °C)		≤30ms

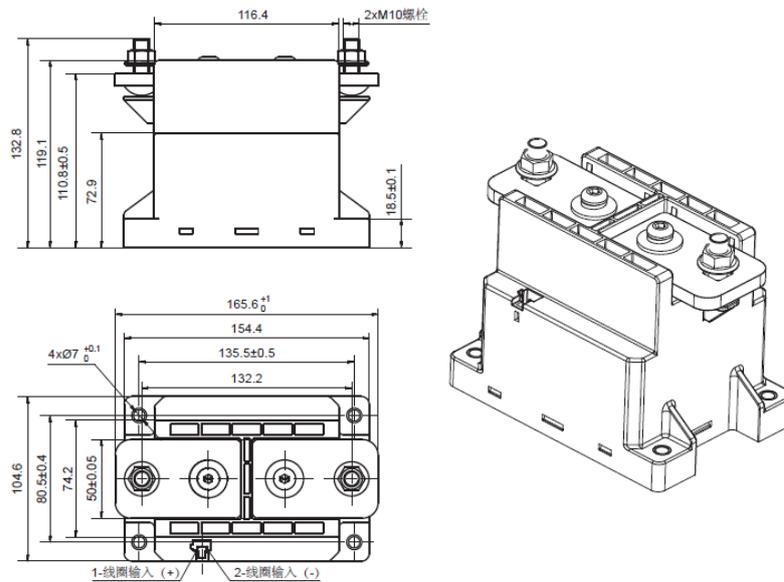
## MECHANICAL PARAMETERS

Life	Mechanical Life		2x10 <sup>5</sup> Ops
	Electrical Life (Resistive Load) (L/R≤1ms)	1000 VDC 1000 A	50 Ops
		1500 VDC 800 A	50 Ops
		1000 VDC 60 A	20,000 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			3450g

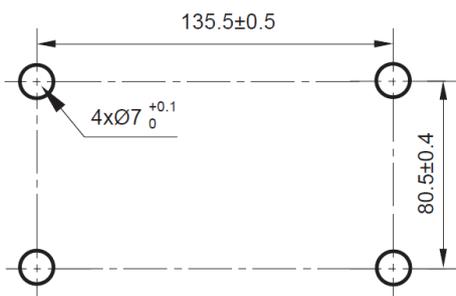
## ENGINEERING DATA



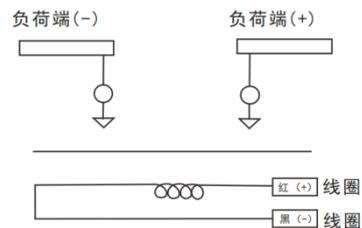
## DIMENSIONAL DRAWING



## MOUNTING DIMENSIONS



## 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	EVR020	EVR040	EVR100	EVR150	EVR200	EVR300	EVR1000
	/	/	EVR120	/	EVR250	/	/
M4	/	3N.m~4N.m	/	/	/	/	
M5	/	3N.m~4N.m	6N.m~8N.m	6N.m~8N.m	/	/	
M6	/	/	6N.m~8N.m	6N.m~8N.m	10N.m~ 12N.m	/	
M8	/	/	/	/	/	10N.m~12N.m	
M10	/	/	/	/	/	/	20N.m~25N.m

➤ Part II contactor installation:

CREWS	EVR020	EVR040	EVR100	EVR150	EVR200	EVR300	EVR1000
	/	/	EVR120	/	EVR250	/	/
M5	6N.m~8N.m	6N.m~8N.m	6N.m~8N.m	6N.m~8N.m	6N.m~8N.m	6N.m~8N.m	/
M6	10N.m~ 12N.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	EVR020	EVR040	EVR100	EVR150	EVR200	EVR300	EVR1000
	/	/	EVR120	/	EVR250	/	/
(D*W*H)	362*357*146 mm	407*337*131 mm	382*302*196 mm	532*432*91 mm	557*577*96 mm	557*577*96 mm	382*302*196 mm
Number	40 PCS	40 PCS	30 PCS	20 PCS	20 PCS	20 PCS	4PCS
Net weight	6.4 kg	7.2 kg	10.5 kg	8kg	9 kg	10.6 kg	13.8 kg
Monomer	0.16 kg	0.18 kg	0.35 kg	0.4 kg	0.45 kg	0.53 kg	3.45 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	EVR020	EVR040	EVR100	EVR120	EVR150	EVR200	EVR250	EVR300	EVR1000
Area mm <sup>2</sup>	4	10	35	50	70	95	150	185	400

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.