

I. Product Purpose

- 1、 Used for industry machinery power/motor control, circuit insulation,circuit protection and safety devices etc.,
- 2、 Used for vehicle battery distribution and backup;
- 3、 Used for converter power control;
- 4、 Used for electric vehicle charging hub;
- 5、 Used for solar power plant;
- 6、 Used for the other DC high-voltage devices.

II. Product Characteristics

1、 Controlled high current and high voltage

Sealed with the epoxy resins, filled with inactive gases inside ,it combine the magnetic quenching for making the products bear the high current and voltage.

2、 Compact structure & low noise for operation

The shape can be made small by using an arc-free gap structure that does not allow the arc to leak. Due to structure that seals the contacts in the protective gas compartment, efficient and safe shut-off is ensured even if the contact gap is small.

The working noise is small, as is the case when switching large currents.The operation noise is low even switching the high current.

3、 Good safety performance

The contact is sealed in the sealed compartment, and the arc cannot be leaked, thus ensuring good safety of the product.

4、 Good Reliability

The contact unit is sealed in a protective gas, so the contact resistance remains stable regardless of the environment. At the same time, the dust proof and waterproof of the contact part is also realized.

5、 No Special Requirement on Installation Way

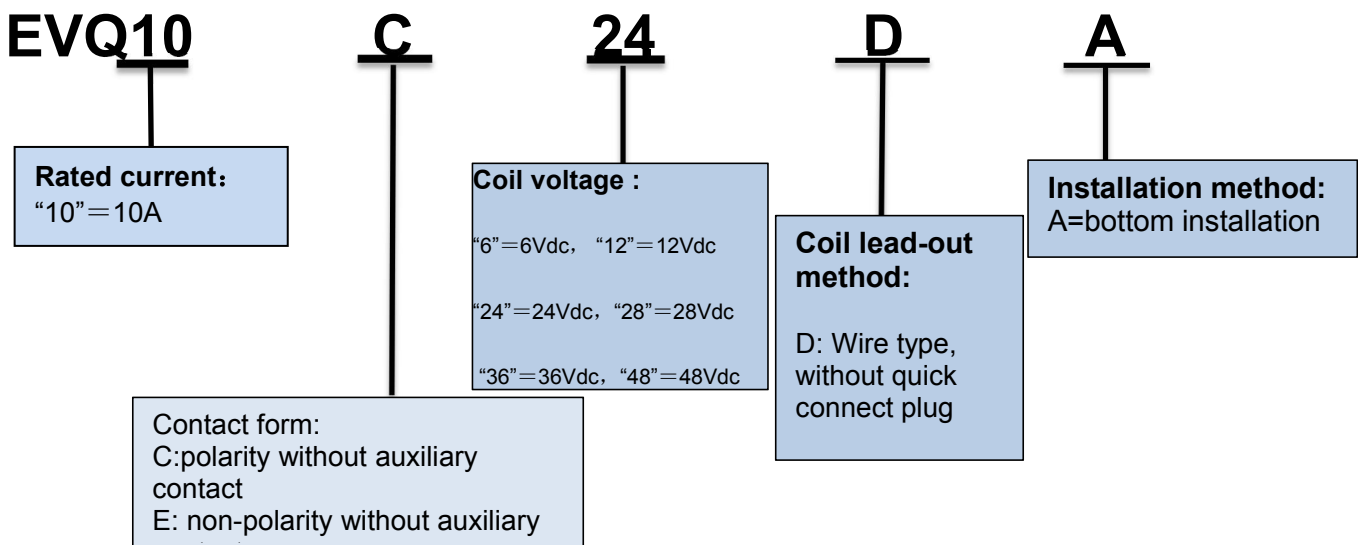
The movable part is light in weight and has a large reaction force. The product is less affected by gravity and is installed at the bottom. There is no special requirement for the installation position.

6、 Diversity Multi-purpose

Standard uses include: battery switches and backup equipment, DC voltage power control, circuit safety protection, etc.

7、 Conforms with EU RoHS Instruction (2002/95/EC)

III.Product Model Meaning System



Note: customized coil voltage according to different request

EVQ10 Series DC Contactor

IV. Technical parameter


1、Coil specifications

Coil rated voltage	Working Voltage Range (20℃)	pull-in voltage (20℃) (▲1)	Holding voltage (20℃)	Release voltage (20℃) (▲1)	Rated operating current [rated voltage] (20℃)	Rated coil resistance [±5%] (20℃) (▲1)	Coil power (20℃)	Coil polarity
6Vdc (Us)	Us85% Us110%	Us75% Max.	Us85% Min.	Us10% Min.	545.5mA	11 Ω	3.3W	×
12Vdc (Us)	Us85% Us110%	Us75% Max.	Us85% Min.	Us10% Min.	266.7mA	45 Ω	3.2W	×
24Vdc (Us)	Us85% Us110%	Us75% Max.	Us85% Min.	Us10% Min.	143.7mA	167 Ω	3.45W	×
28Vdc (Us)	Us85% Us110%	Us75% Max.	Us85% Min.	Us10% Min.	116.7mA	240 Ω	3.3W	×
36Vdc (Us)	Us85% Us110%	Us75% Max.	Us85% Min.	Us10% Min.	90.0mA	400 Ω	3.2W	×
48Vdc (Us)	Us85% Us110%	Us75% Max.	Us85% Min.	Us10% Min.	65.8mA	730 Ω	3.2W	×
72Vdc (Us)	Us85% Us110%	Us75% Max.	Us85% Min.	Us10% Min.	45.0mA	1600 Ω	3.2W	×

▲1 : Absorption voltage, release voltage and coil resistance of products without energy-saving circuit boards may vary with ambient temperature and operating conditions. Therefore, please note that the following theoretical formulas can be obtained according to the temperature coefficient of copper resistance. The calculated values may be slightly different from the actual values. Temperature rise: actual value = $U * (1 + 0.004 * K)$, temperature drop: actual value = $U * (1 - 0.004 * K)$, where U = the rated value of 20 C, K = current ambient temperature - 20.

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2. Performance parameter

Product line		EVQ10	
Product shape			
Electrical form	Types of electrical appliances		Contactor
	Main Contact System Form		Bridge-form operation (SPST-NO-DM)
	Current type		DC
	Medium type at break		Protective gases
	Operation mode		Electric
	Rated working system		Uninterrupted working system
Rating and Limit Values of Main Contacts	Contact polarity	Polarity	√
		Non-polarity	√
	Rated operating voltage (Ue)		12-900Vdc
	Rated operating current		1-10A (▲2)
	Rating short-time tolerance current and duration time		20A 180sec.
			30A 120sec.
	Maximum cutting-off voltage (one-time permitted)		100A 320Vdc
	Contact Contact Resistance (Initial)		1mΩ Max. (at 1A)
	Suction time (at 20°C)		25ms Max. (▲3)
	Contact bounce time (at 20°C)		7ms Max. (▲3)
Release time (at 20°C)		12ms Max. (▲4)	
Mechanical Life-time	Mechanical life		1×10 ⁶ (▲5)
	Electrical life (▲2, ▲4)	Polarity	See graph-1
		Non-polarity	See graph-2
Dielectric properties parameters	insulation resistance		Initial state: 100MΩ Min. (▲1)
			At the end of life: 50MΩ Min. (▲1)
	rated impulse withstand voltage(initial)	Main contact interface	AC 2500 Vrms/1mA/1min. (sea level)
		Main contactor and coil interface	AC 2500 Vrms/1mA/1min. (sea level)
Mechanical properties			20G Peak value, 11ms 1/2 sinusoid (coil power setup)
	Vibration		20G Peak value, 80~2,000Hz, sinusoid
Coil parameters	Rated operating voltage		6Vdc, 12Vdc, 24Vdc, 28Vdc, 36Vdc, 48Vdc, 72Vdc
	Coil polarity		×
	Energy-saving circuit board		×
Auxiliary contact (▲6)			×
Environmental	Temperature range of use and storage environment		-40°C~95°C
	Use and storage ambient humidity range		5%~95% RH.
	Altitude		≤4000m
weight			120±10g
Safety certification			CE、CCC、UL

▲1: measure the voltageDC500V,the testing position is as same as dielectric withstanding voltage

▲2: loading category: DC-1, L/R millisecond

▲3: enforce the rated operation voltage on coil, involves the contactor will bounce.

▲4: enforce the rated operation voltage on coil, without diode.

▲5: rated controlling capacity, transforming frequency, conncting and cutting-off ,ON : OFF=0.5second: 0.5second

▲6: assistant contactor parameter:2A@30VDC/3A@125VAC. 600Vac 50/60Hz 1min.

3.Reference data

(1) Cut-off life curve with load

Switching on and off (resistive load L/R less than 1 millisecond, ON: OFF=1Sec: 9Sec)

Make&Break Switching Rating (Resistive Load L/R≤1ms, ON: OFF=1Sec: 9Sec)

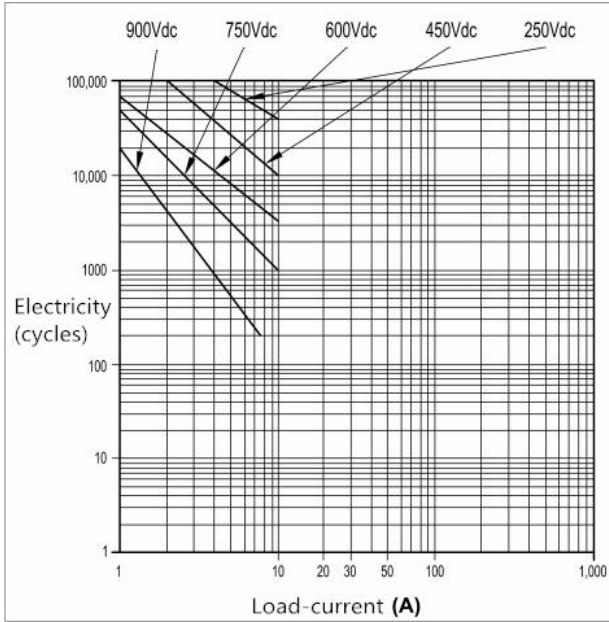


Figure 1 - EVQ10 series (polarity)

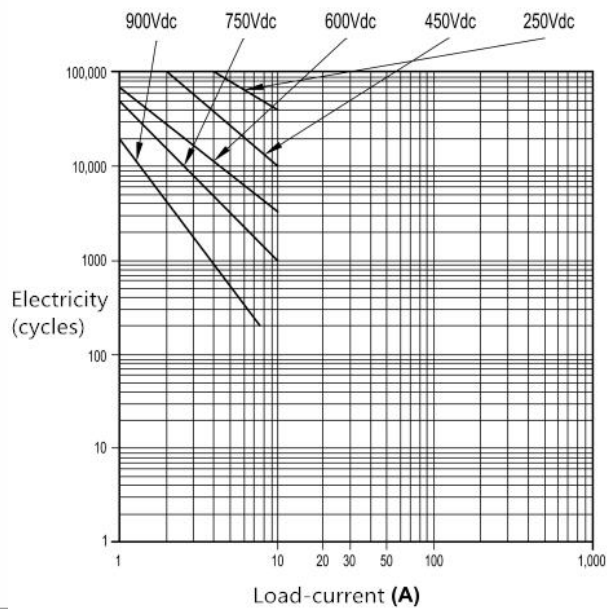
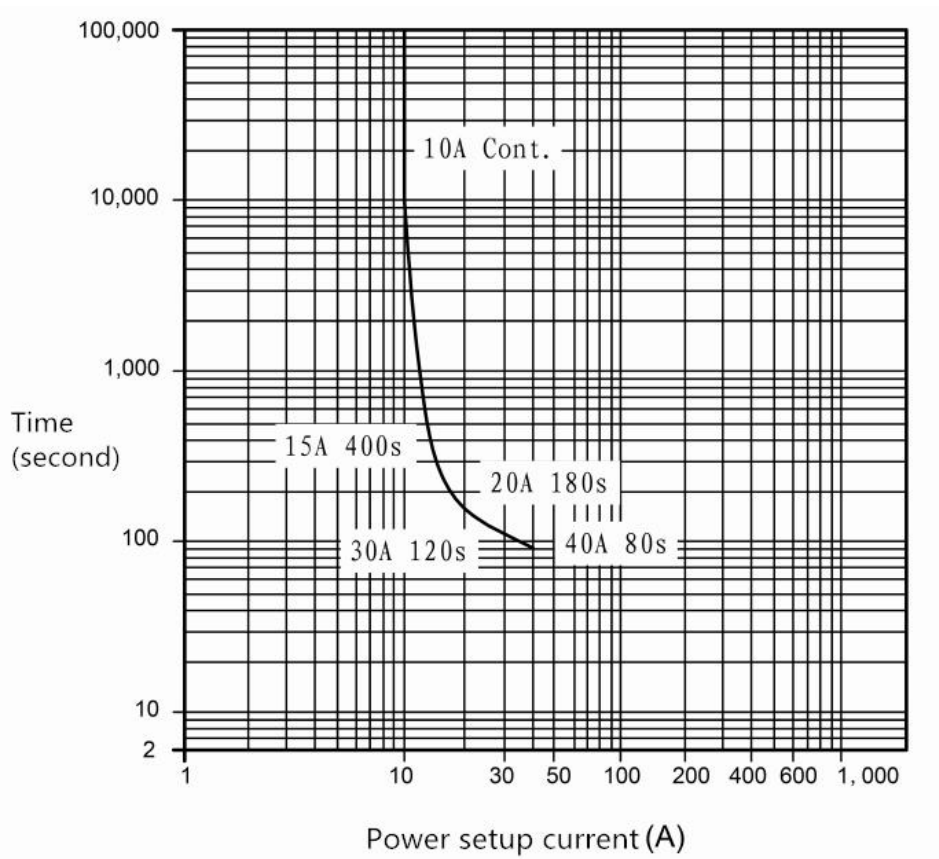


Figure 2 - EVQ10 series (non-polarity)

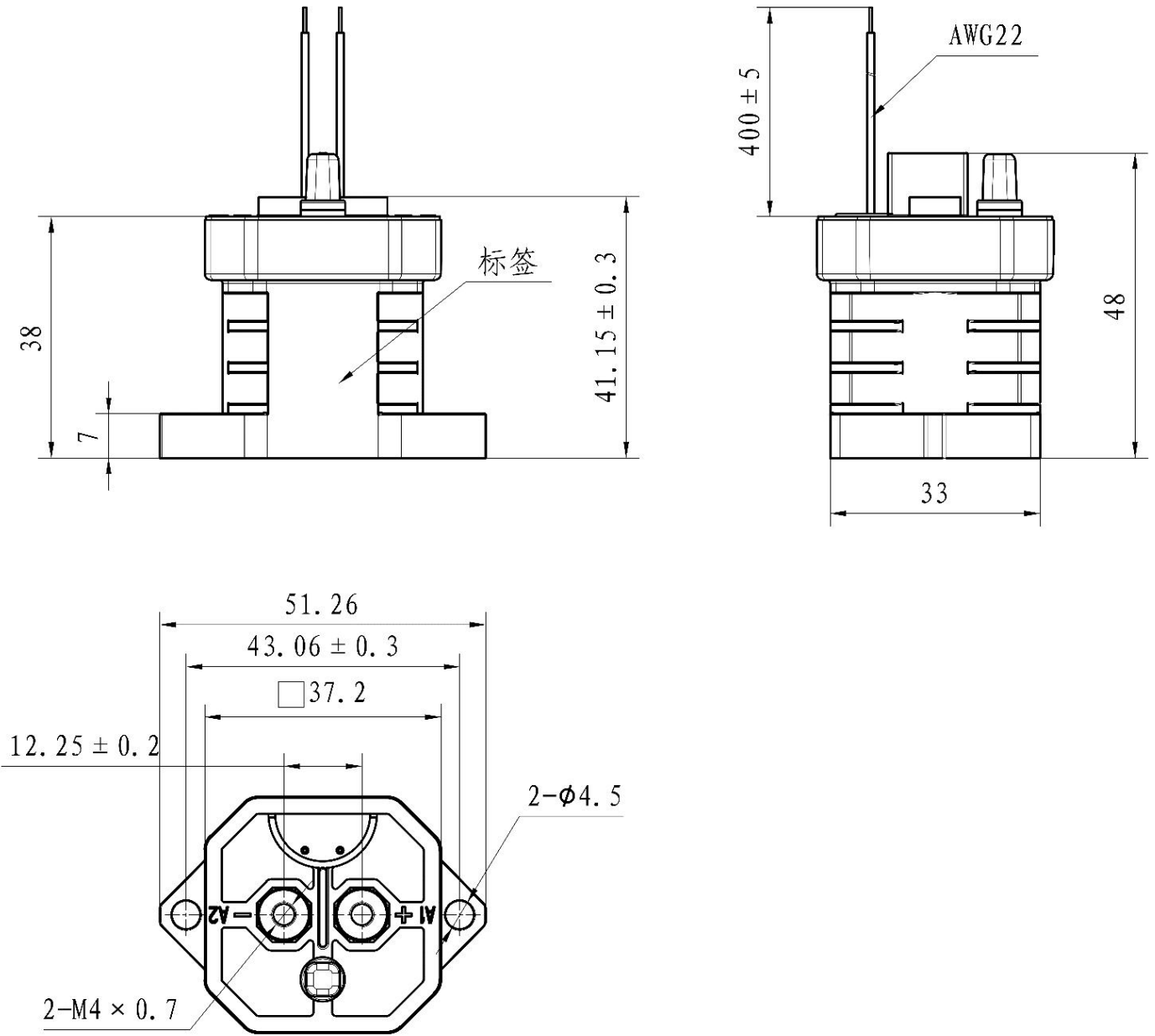
(1) Electric power curve



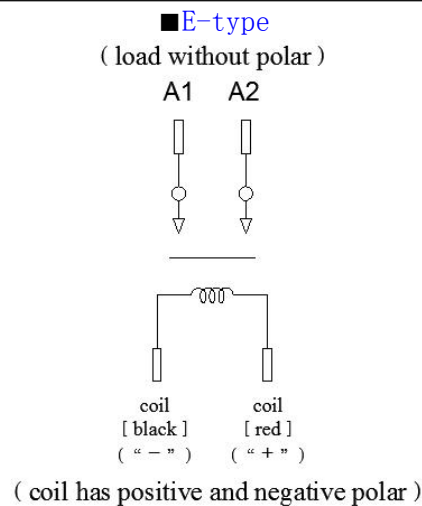
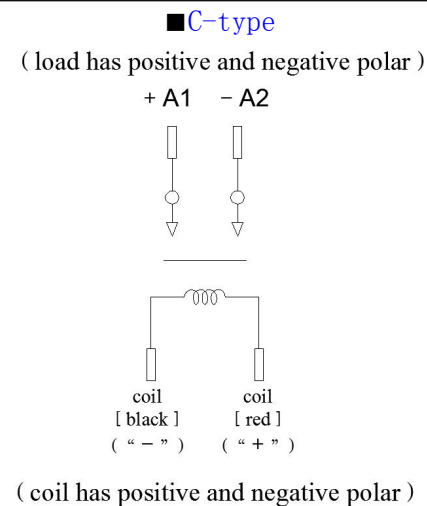
EVQ10 Series DC Contactor

EVQ10 Series—outside screw thread

(1) Outside size graph for Type-C & type-E



Wire connecting graph



Notes:

- 1, Size unit: mm, vision angle: $\oplus \triangleleft$;
- 2, Without notice for Dimension Tolerance nominal value < 10mm is ± 0.3 , nominal value 10-50mm is ± 0.6 , nominal value > 50mm is ± 1.0 ;
- 3, Specification of the length of coil wire and the connecting terminal can be made according to the client's requirement.