

HVC20

DC CONTACTOR



FEATURE

- Precharge relay for new energy vehicles.
- Epoxy resin structure, small size, can cut off the load voltage of 1000 VDC.
- Current-carrying 20 A for a long time at 85°C.

COIL SPECIFICATION

ITEM		COIL RESISTANCE (Ω)	NOMINAL OPERATING CURRENT (A)	PULL-IN VOLTAGE (V)	DROP-OUT VOLTAGE (V)	COIL POWER (W)	MAX. ALLOWABLE VOLTAGE (V)
DC	12	48Ω	0.25A	≤9VDC	≥1VDC	3W	16VDC
	24	192Ω	0.125A	≤18VDC	≥2VDC	3W	32VDC

PART NUMBERING RULE



Series	Rated Current	Auxiliary contact	Contact Type	Coil Voltage	Coil lead
HVC=Light weight type	020: 020 A	Null:No auxiliary contact	1: 1a Normally Open	12: 12 VDC	D=Quick terminal
				24: 24 VDC	W=PCB terminal

CONTACT RATINGS

ITEM	MODEL	Unipolar resistive load(L/R≤1ms)	
		HVC020 (Authentication Certificate CE/CCC)	
Maximum Continuous Current		20A	
Maximum Cut Off	V	1000 VDC	
	A	200A (300 VDC) 1 Ops	
Overload cut off		40A 750VDC 10 Ops	
Reverse cut off		1A 12VDC	
Min. Switching Capacity(Resistive Load)		30A 1h, 40A 20min, 80A 30s, 120A 10s, 200A 0.6s	
Short Term Current		≤10mΩ (DC 20A)	
Contact Resistance		Alloy Cu	
Contact Material		1A (SPST-NO.)	
Contact Arrangement		40A 750VDC 10 Ops	

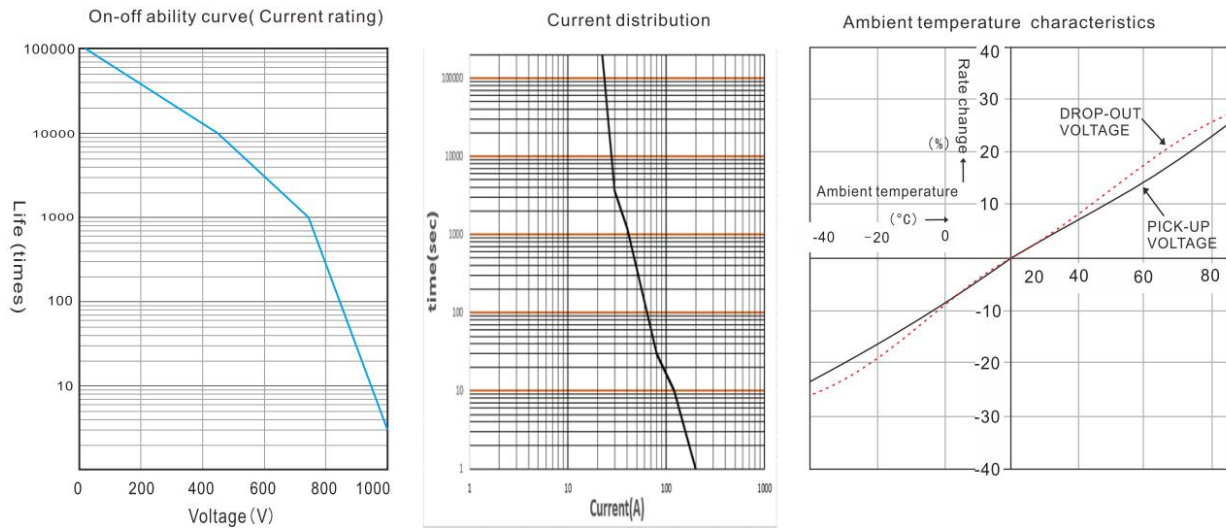
INSULATION PERFORMANCE

Insulation Resistance		Min.1000MΩ 500V DC
Dielectric Strength	Between Open Contacts	2000V AC 60 Sec.1mA
	Between Contact And Coil	3000V AC 60 Sec.1mA
Operate Time(at 20 ℃)		≤30ms
Release Time(at 20 ℃)		≤10ms

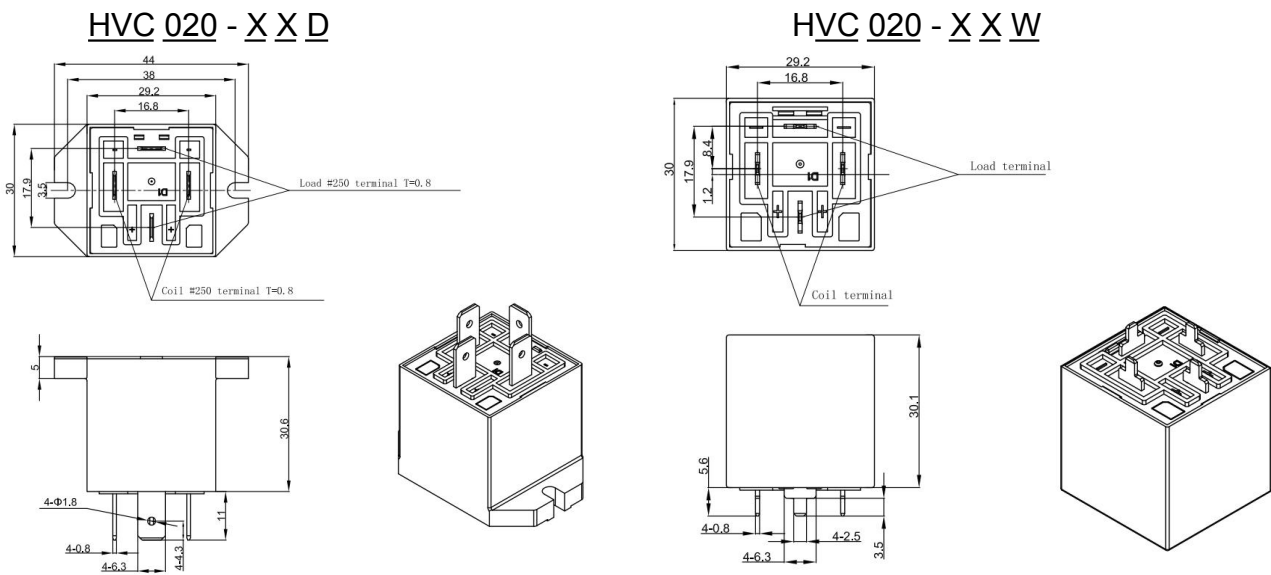
MECHANICAL PARAMETERS

Life	Mechanical Life		2x10 ⁵ Ops
	Electrical Life (Resistive Load) (L/R≤1ms)	450 VDC 20 A	10,000 Ops
		450 VDC 10 A	30,000 Ops
		750 VDC 20 A	1,000 Ops
Shock Resistance	Functional	Min 196 m/s ² [20G] 11ms , (10 μs)	
	Destructive	Min 490 m/s ² [50G] 6ms	
Vibration Resistance	Functional	49 m/s ² [5G] 10 to 500Hz , (10 μs)	
	Destructive	49 m/s ² [5G] 10 to 500Hz 4h	
Conditions For Operation, Transport And Storage	Ambient Temperature		-40℃ to +85℃
	Humidity		5% to 85% R.H.
Weight			52g

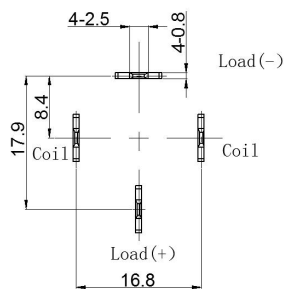
ENGINEERING DATA



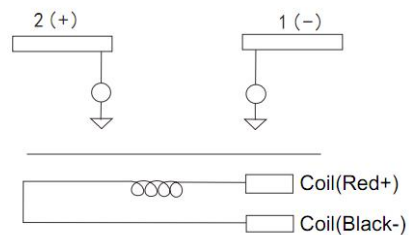
DIMENSIONAL DRAWING



MOUNTING DIMENSIONS



SCHEMATIC



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

CONTACTOR APPLICATION PRECAUTIONS

SV 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:

MODEL CREWS	HVC10	HVC10	HVC20	HVC20	HVC40	HVC40
	QC Type	PCB Type	QC Type	PCB Type	QC Type	PCB Type
M4	/	/	/	/	/	/
M5	/	/	/	/	/	/
M6	/	/	/	/	/	/

➤ Part II contactor installation:

MODEL CREWS	HVC10	HVC10	HVC20	HVC20	HVC40	HVC40
	QC Type	PCB Type	QC Type	PCB Type	QC Type	PCB Type
M3	1.4N.m~2.2N.m	/	1.4N.m~2.2N.m	/	1.4N.m~2.2N.m	/
M4	/	/	/	/	/	/

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	HVC10	HVC10	HVC20	HVC20	HVC40	HVC40
	QC Type	PCB Type	QC Type	PCB Type	QC Type	PCB Type
Specifications (D*W*H)	354*280*180 mm	354*280*180 mm	354*280*180 mm	354*280*180 mm	354*280*180 mm	354*280*180 mm
Number	100 PCS	100 PCS	100 PCS	100 PCS	100 PCS	100 PCS
Net weight	5.2 kg	5.2 kg	5.2 kg	5.2 kg	5.2 kg	5.2 kg
Monomer	0.52 kg	0.52 kg	0.52 kg	0.52kg	0.52 kg	0.52kg

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	HVC10	HVC10	HVC20	HVC20	HVC40	HVC40
	QC Type	PCB Type	QC Type	PCB Type	QC Type	PCB Type
Area (mm ²)	2.5	2.5	4	4	10	10

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.