

# SVR20

# 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

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	40Ω	0.3A	≤9VDC	≥1VDC	3.6W	16VDC
	24	160Ω	0.15A	≤18VDC	≥2VDC	3.6W	32VDC

## PART NUMBERING RULE

<u>SVR</u>	<u>020</u>	-	<u>1</u>	<u>12</u>	<u>D</u>
Series	Rated Current	Auxiliary contact	Contact Type	Coil Voltage	Coil lead
SVR=Square type	020: 020 A	Null:No auxiliary contact	1: 1a Normally Open	12: 12 VDC 24: 24 VDC	D=Quick terminal E=Direct wire with connector plug

## CONTACT RATINGS

ITEM	MODEL	Unipolar resistive load(L/R≤1ms)	
		SVR020 (Authentication Certificate CE/CCC)	
Maximum Continuous Current		20A	
Maximum Cut Off	V	1000 VDC	
	A	200A (300 VDC) 1 Ops	
Overload cut off		60A 750VDC 10 Ops	
Reverse cut off		-20A 200VDC 1000 Ops	
Min. Switching Capacity(Resistive Load)		1A 12VDC	
Short Term Current		30A 1h, 40A 20min, 80A 30s, 120A 10s, 200A 0.6s	
Contact Resistance		≤10mΩ (DC 20A)	
Contact Material		Alloy Cu	
Contact Arrangement		1A (SPST-NO.)	

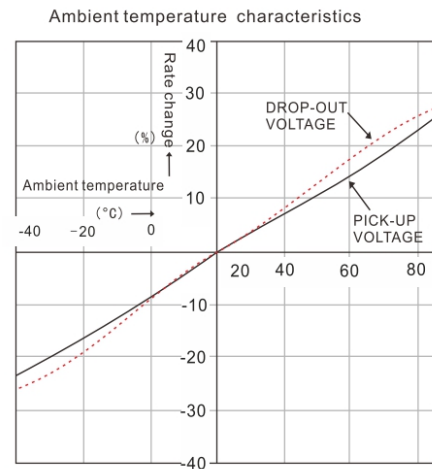
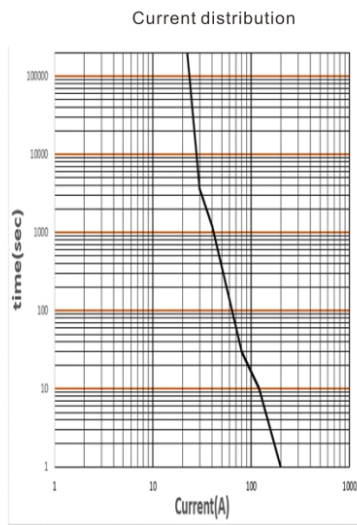
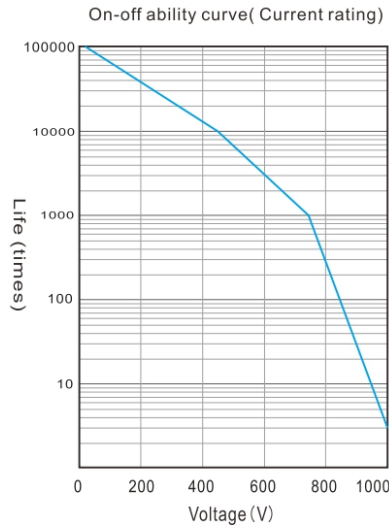
## INSULATION PERFORMANCE

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 ℃)		≤30ms
Release Time(at 20 ℃)		≤10ms

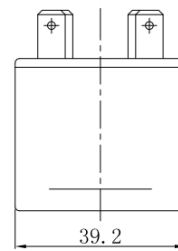
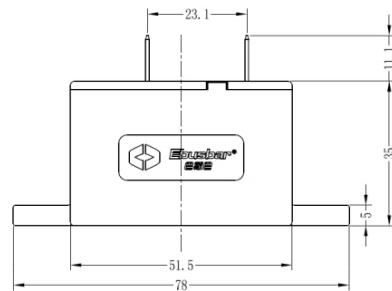
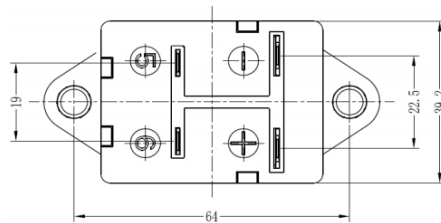
## MECHANICAL PARAMETERS

Life	Mechanical Life		2x10 <sup>5</sup> Ops
	Electrical Life (Resistive Load) (L/R≤1ms)	450 VDC 20 A	10,000 Ops
		750 VDC 20 A	1,000 Ops
		1000 VDC 10 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℃ to +85℃
	Humidity		5% to 85% R.H.
Weight			160g

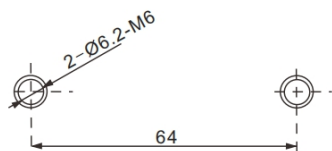
# ENGINEERING DATA



# DIMENSIONAL DRAWING

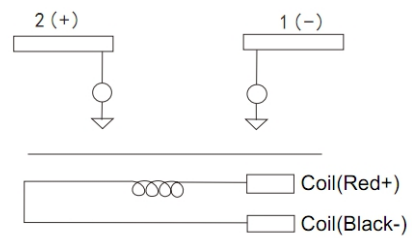


# MOUNTING DIMENSIONS



Tolerance:  
 dim<10mm:±0.3;  
 dim=10~50mm:±0.6;  
 dim>50mm:±1.0

# 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	SVR020	SVR040	SVR100	SVR150	SVR200	SVR300
CREWS	/	/	SVR120	/	SVR250	/
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

Remarks: SVR100、SVR120、SVR200、SVR250、 use screws .

➤ Part II contactor installation:

MODEL	SVR020	SVR040	SVR100	SVR150	SVR200	SVR300
CREWS	/	/	SVR120	/	SVR250	/
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	10N.m~ 12N.m	10N.m~ 12N.m	10N.m~ 12N.m	10N.m~ 12N.m	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

MODEL	SVR020	SVR040	SVR100	SVR150	SVR200	SVR300
Each box	/	/	SVR120	/	SVR250	/
Specifications (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
Number	40 PCS	40 PCS	20 PCS	20 PCS	20 PCS	20 PCS
Net weight	6.4 kg	7.2 kg	7 kg	8kg	9 kg	10.6 kg
Monomer	0.16 kg	0.18 kg	0.35 kg	0.4 kg	0.45 kg	0.53 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	SVR020	SVR040	SVR100	SVR120	SVR150	SVR200	SVR250	SVR300
Area (mm <sup>2</sup> )	4	10	35	50	70	95	150	185

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.