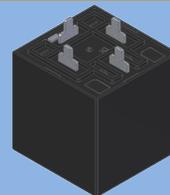


# EV CONTACTOR DC HIGH VOLTAGE HEV20



## ▶ Typical Applications

- DC high current and high voltage applications.
- Main Contactors for hybrid vehicles/ electric vehicles and fuel-cell cars.
- Battery charging systems.

## ▶ Product Facts

- Hydrogen dielectric for power switching high current and high voltage loads.
- Operating range:12~1000VDC.
- Hermetically 'Super-sealed' environment chamber uniquely protects all moving parts.

## ▶ Coil data

	Coil Resistance (at 23°C)	Coil Current (at 23°C)	Coil Power (at 23°C)	Pull-in Voltage	Drop-out Voltage	Limit Input Voltage
12VDC	48Ω	250mA	3.0W	≤9.0V	≥1V	16VDC
24VDC	192Ω	125mA		≤18V	≥2V	32VDC

## ▶ Contact data

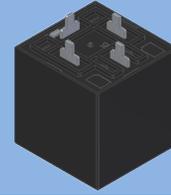
Item	Data	Un-polar resistive load(L/R1≤ms)
Continuous Current		20A
Max. Contact Capacity	V	450VDC
	A	20A
	W	9KW
Max. Switching Capacity		20A/450VDC
Min. Switching Capacity		1A 12VDC
Carrying Current Capacity		Reference curve
Contact Resistance (at 23°C)		≤10mΩ (DC20A)
Contact Material		Alloy Cu
Contact Type		1A(SPST-NO)
Aux. Contact Current, Max.		---
Aux. Contact Current, Min.		---

## ▶ Product Name Structure

**HEV 20 - 1 12 W - HR**

Series	Rated Current	Contact Type	Coil Voltage	Coil lead	Customer version
EVR (Square)	20: 20A	1: 1a Normally Open	12: 12VDC 24: 24VDC	D:Quick terminal W:PCB terminal	

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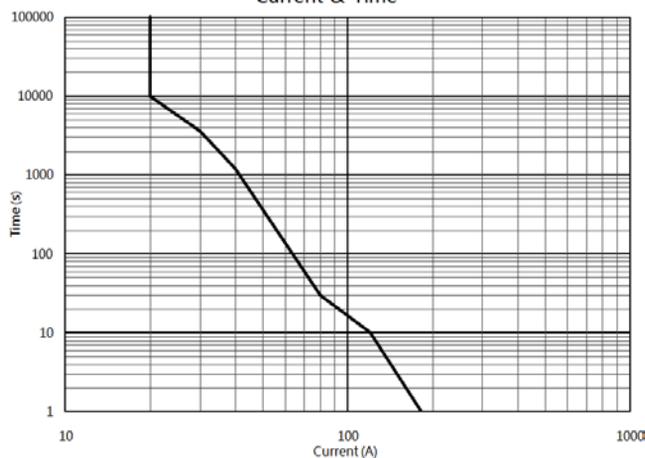
## Characteristics

Life	Mechanical Life		$2 \times 10^5$ Ops
	Electrical Life(L/R1≤ms) (Switching Life)	450VDC 20A	10000 Ops
		450VDC 10A	30000 Ops
		1000VDC 20A	1000 Ops
Insulation Resistance			Min. 100MΩ 500VDC
Insulation Dielectric Strength	Between Open Contact		2000VAC 60Sec. 1mA
	Between Contact and Coil		3000VAC 60Sec. 1mA
Operate Time (at 23°C)			≤30ms
Release Time (at 23°C)			≤10ms
Bounce Time (at 23°C)			≤5ms
Shock Resistance	Functional		Min 196m/s <sup>2</sup> (20G) 11ms, (10μs)
	Destructive		Min 490m/s <sup>2</sup> (50G) 6ms
Vibration Resistance	Functional		Min 43m/s <sup>2</sup> (5G) 10~200Hz
	Destructive		Min 43m/s <sup>2</sup> (5G) 10~200Hz
Conditions for operation Transport and storage	Ambient Temperature		-40°C~85°C
	Humidity		5~85%RH.
Unit Weight			55g

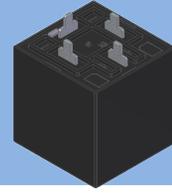
## Reference Data

Carrying Current Curve

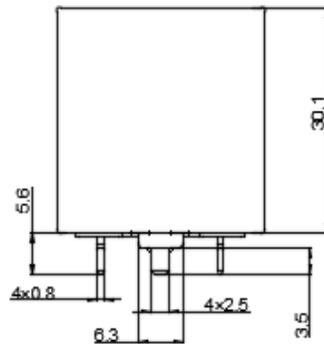
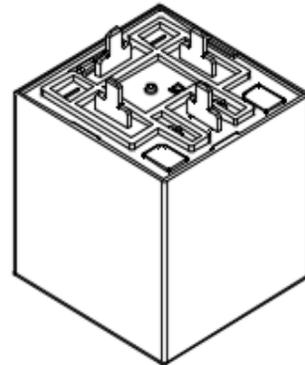
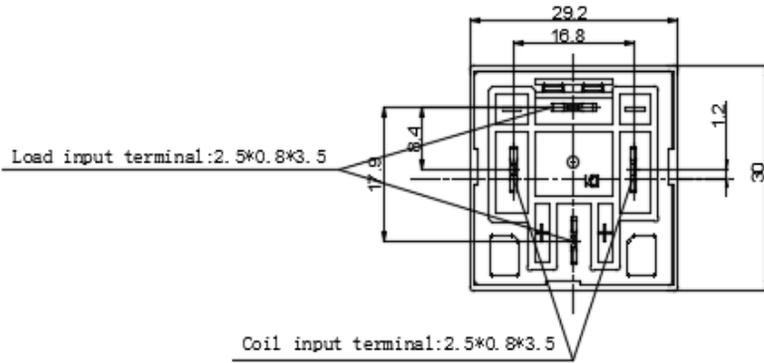
Current & Time



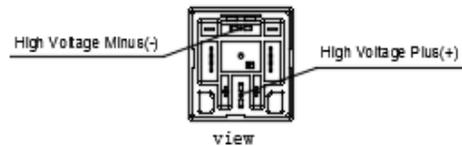
# EV CONTACTOR DC HIGH VOLTAGE HEV20



## Dimensional Drawing



general tolerance:  
Size < 10mm: ±0.3mm  
Size = 10-50mm: ±0.6mm  
Size > 50mm: ±1.0mm  
Terminal thickness: 0.8mm



Note 1. Coil input terminal has no polarity  
2. The load input terminal has polarity requirements, as shown in the view;

Note:  
1. All data valid at 23°C coil temperature.  
2. End of life when dielectric strength between terminals falls below 50 Megohms@500VDC.  
3. The contactor can not the initial data, when the end of life.  
4. The coil resistance tolerance is ±10