

## FEATURE

- Ceramic brazing sealed technology guarantees no risk of arc leaking and ensures no fire or explosion
- Filled with gas ( mostly hydrogen) to minimize contact oxidation and damage from arcing; contact resistance is low and stable; contact part can meet IP67 protection level.
- Current 400A continuously at 85°C
- Insulation resistance is 1000MΩ( 1000Vd.c.), and dielectric strength between the coil and contacts is 4.0kV,which meets the requirements of IEC 60664-1
- Resistance to high levels of short circuit:10000A

## APPLICATION

New energy vehicle , Charging point, Photovoltaic ,  
Energy storage , Industrial power



## CONTACT DATA

Contact Arrangement	1 Form A
Contact Resistance	≤120 mV at 400 A
Rated Load Current	400 A (@ 200mm <sup>2</sup> wire)
Rated Switching Voltage	450 Vd.c. or 750 Vd.c.
Min. Applicable Load	6Vd.c. , 1 A
Rated Switching Power	180 kW(450 Vd.c.) or 300kW(750 Vd.c.)
Max. Breaking Current	2000 A (450 Vd.c.) 1op

## COIL

Coil power (W)	Nominal Voltage (VDC)	Coil Resistance (Ω±3%)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)
6	12	24	9.0 Max.	1 Min.
	24	96	18.0 Max.	2 Min.

Notes: The values above are conservative values within the temperature range(-40°Cto 85°C).

## ENDURANCE

Electrical Endurance	Contact Load	Times
	Making: 22.5 Vd.c. 140A C=1100 μF	7.5×10 <sup>4</sup> ops
	Breaking:(450 Vd.c. 5 A)	7.5×10 <sup>4</sup> ops
	Breaking:(450 Vd.c. 10 A)	2.5×10 <sup>4</sup> ops
	Breaking:(450 Vd.c. 200 A)	3000 ops
	Breaking:(450 Vd.c. 400A)	1000 ops
	Breaking:(750 Vd.c. 400A)	100 ops
Current Endurance	Breaking:(450 Vd.c. 2000A)	1 op
	Short Circuit Current	500Vd.c. Current 10000A t≤5ms 1 op(No Smoke, no Fire)
	400A, Cont.	
	500A, 2000 s	
	1350A, 15 s	
	2000A, 10s	
	3000A, 5s	
	4000A, 0.6s	
	5000A, 0.01s	
	6000A, 0.005s	
	7000A, 0.005s	
	8000A, 0.005s	
Mechanical endurance	2×10 <sup>5</sup> ops, on-off ratio:0.5s:0.5s	

## CHARACTERIST

Dielectric strength	Between coil & contacts	4000 Va.c.1 min
	Between open contacts	3000 Va.c.1 min
Insulation resistance		1000 MΩ at 1000 Vd.c.
Operate time (at nomi. volt.)		≤50ms
Release time (at nomi. volt.)		≤10ms
Vibration resistance		10Hz ~ 500Hz, 49 m/s <sup>2</sup>
Shock resistance	Functional	Functional Open:196 m/s <sup>2</sup> ; Functional Close:98 m/s <sup>2</sup>
	Destructive	490 m/s <sup>2</sup>
Ambient temperature		-40°C ~ 85°C
Humidity		5%RH to 85%RH
Termination		M6 Screw terminal male
Mounting		M6 Screw
Unit weight		Approx.760g
Outline Dimensions		Standard Type: 95.8mm x 95mm x 49mm

Notes: Above is the initial vale in the room temperature

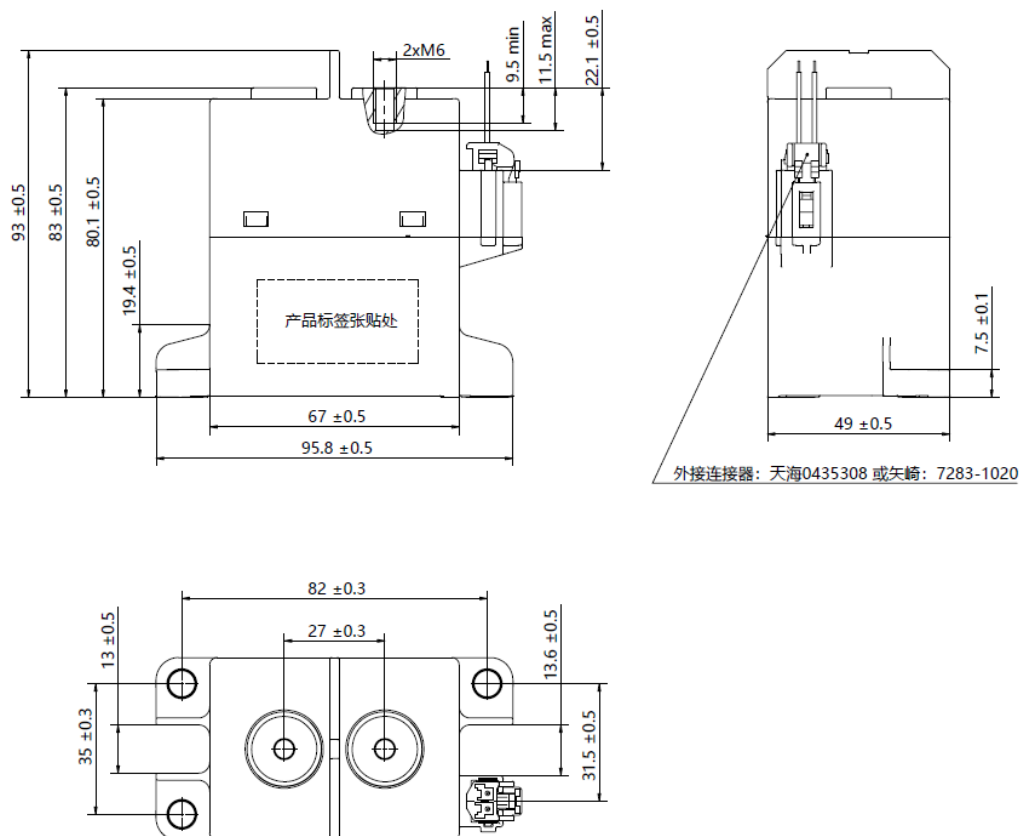
- Notes: (1) Until special statement, the temperature of electrical endurance is at 23°Cand the on-off ratio is 0.6s:5.4s.  
 (2)If breaking current ≥ 1200 A, relays insulation resistance may decrease (≥1MΩ) , but with no fire or explosion.  
 (3)When the current is ≥ 2000A, no fire or explosion shall occur after the test as the acceptance requirements.(Welding may occur, dielectric strength and insulation resistance may decrease).

## ORDERING INFORMATION

	CHEV	-1	12	H	400	-1	C	1	xxx
<b>Product Series:</b> CHEV									
<b>Contact Arrangement:</b> 1:1 Form A									
<b>Nominal Voltage:</b> 12:12Vd.c.      24: 24Vd.c.									
<b>Sub-series:</b> H: H Series									
<b>Load Current:</b> 400: 400A									
<b>Load Voltage:</b> 1: 450Vd.c.      2: 750Vd.c.									
<b>Coil Termination :</b> C: Connector									
<b>Termination :</b> 1: Screw Terminal Female									
<b>Extra numbers or letters:</b> Blank or Other Customer Requirements									

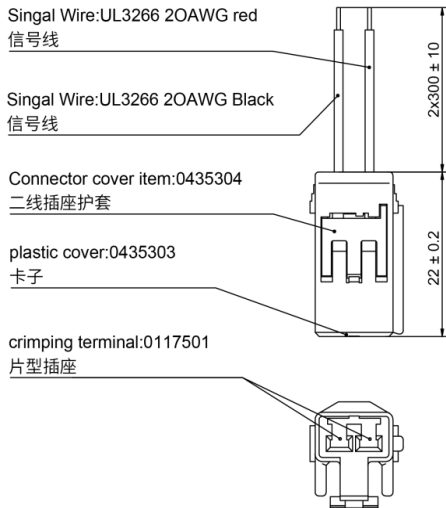
Notes: The customer special requirement express as special code after evaluating by Churod.

## OUTLINE DIMENSIONS



Remark: in case of no tolerance shown in outline dimension: outline dimension  $\leq 10\text{mm}$ ; tolerance should be  $\pm 0.3\text{mm}$ , outline dimension  $> 10\text{mm}$  and  $\leq 50\text{mm}$ , tolerance should be  $\pm 0.5\text{mm}$ , outline dimension  $> 50\text{mm}$ , tolerance should be  $\pm 0.8\text{mm}$ .

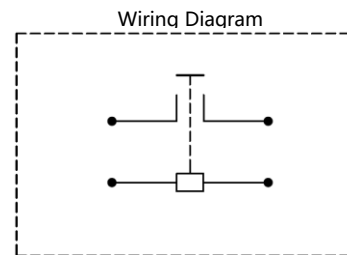
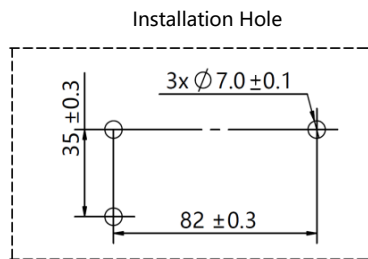
## WIRING DIAGRAM



Note: With female connector:  
配母端连接器

Tianhai: 0435308 or Yazaki: 7283-1020  
天海:0435308 或 矢崎:7283-1020

## INSTALLATION HOLE SIZE、WIRING DIAGRAM



Note: No polarity on the load and coil

## INSTALLATION INFORMATION

Load Terminal Installation				
Installation Mode	Selection Screw	Torque	Copper Busbar Diameter	Copper Busbar Thickness
M6 Screw	M6×16 Combined Bolt	6N·m ~8N·m	φ 6.0 ~6.5 mm	4.0 ~6.0 mm

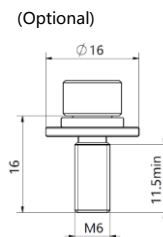
Combined Bolt Drawing

Relay Installation	
Installation Mode	Torque
M6 Screw	6N·m ~8N·m

Note:

In order to prevent loosening, please use the washer when installing the relay.

Please avoid grease and other foreign matter in the terminal, please use the connecting wire with a cross section area  $\geq 200\text{mm}^2$ , or they may cause abnormal heating in the terminal part.



## DISCLAIMER

1. Unless otherwise explicitly stated, the standard environment conditions for measurement or testing are listed as follows:

Ambient temperature is  $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$ .

Atmospheric pressure is  $96 \times (1 \pm 10\%) \text{ kPa}$ .

Relative humidity is 25% RH ~ 75% RH.

2. In order to curb the reverse electromotive force of coil, a nonlinear resistor is recommended to use (ZNR is recommended, the max energy tolerance:  $\geq 1\text{J}$ .

Voltage: 1.5~2 times the rated voltage). Please be noted that a diode will make the release time of relay increase, which should lead to the degradation of cutting-off capability. Relay products with circuit board do not need to add a device to curb the reverse electromotive force of the coil.

3. The rating load of contact is resistive load. Please assure a surge absorption device together with inductive load when using the  $L/R \geq 1\text{ms}$  inductive load

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change within notice. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query. Please contact Churod for the technical service. However, it is the user's responsibility to determine which product should be used only.

[Http://www.churod.com](http://www.churod.com)

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