

## FEATURES

- 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; the contact resistance is low and stable
- Contact part can meet IP67 protection level
- Current rated load 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.

## APPLICATION

Energy storage system  
 Construction machinery  
 Charging pile  
 Solar inverter



## CONTACT DATA

Main Contact Arrangement	1 Form A
Initial Contact Voltage Drop	≤90 mV at 20 A
Rated Current (resistive load)	20A
Rated Switching Voltage	1500VDC
Max. Switching Power (1500VDC)	30kW
Max. Breaking Current	200A (1000VDC)
Min.Applicable Load	6VDC, 1A

## COIL DATA @ 23°C

Nominal Voltage (VDC)	Coil Power (W)	Nominal Current (A)	Coil Resistance (Ω±10%)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)
12	2.6	0.22	55.4	9.0 Max.	1 Min.
24	2.6	0.11	221.6	18.0 Max.	2 Min.

## ENDURANCE

Electrical Life (resistive Load)	Switching: 7.5×10 <sup>4</sup> 次 (450 Vd.c.,20A)
	Switching: 5×10 <sup>4</sup> 次 (750 Vd.c.,20A)
	Switching: 1×10 <sup>4</sup> 次 (1000 Vd.c.,15A)
	Switching: 6000次 (1500 Vd.c.,15A)
	Making: 1.5×10 <sup>4</sup> 次 (1500 Vd.c.,40A)
Current Enduranc	20A, Cont.
	30A, 1.0 h
	40A,20 min
	80A, 30 s
	120A, 10 s
	200A, 0.6 s
Mechanical endurance	2×10 <sup>5</sup> times, on-off ratio: 0.5s: 0.5s

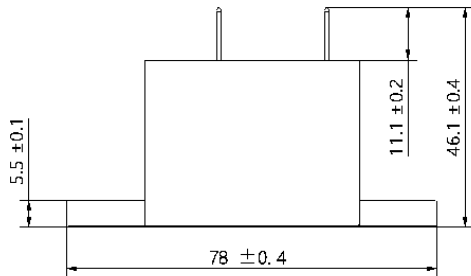
## CHARACTERISTICS

Operate Time(at nominal voltage)		≤15ms
Release Time(at nominal voltage)		≤5ms
Insulation Resistance		> 1000 MΩ (at 1000 VDC)
Dielectric Strength	Between Coil and Contacts	4,000 VAC, 50/60 Hz (1min)
	Between Open Contacts	3,000 VAC, 50/60 Hz (1min)
Vibration		10Hz ~ 500Hz, 49 m/s <sup>2</sup>
Shock Resistance	Functional	196 m/s <sup>2</sup>
	Destructive	490 m/s <sup>2</sup>
Ambient temperature		-40°C ~ 85°C
Humidity		5%RH to 85%RH
Weight		140g

## ORDERING

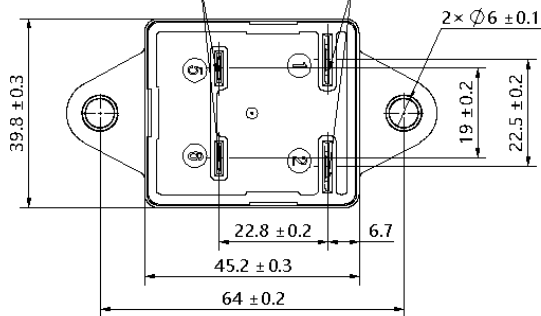
	<b>CH</b>	<b>PV</b>	<b>-S</b>	<b>20</b>	<b>/ F -</b>	<b>12</b>	<b>Q</b>	<b>A</b>	<b>4</b>	<b>, XXX</b>
Company Code	CH: Churod									
Application Area	PV: Photovoltaic Energy Storage									
Series Code	S: S Series									
Load Current	20: 20A									
Load Voltage	F 1500VDC									
Coil Specification	12: 12VDC; 24: 24VDC									
Coil Termination	Q: QC terminal									
Contact Type	A: Form A									
Load Termination	4: QC terminal									
Characteristic Code	Blank or Other Customer Requirements									

## OUTLINE DIMENSION

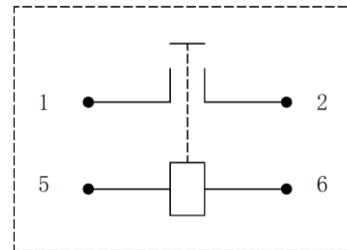


Coil input terminal(Non-polarity)  
#250 insert terminal, Thickness=0.8

Load input terminal(Non-polarity)  
#250 insert terminal, Thickness=0.8



## WIRING DIAGRAM

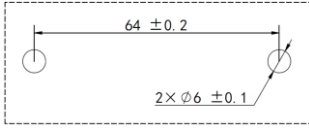


Note: No polarity on the load and coil

Note: All unspecified tolerance according to following table.

Outline dimensions hadn't specified tolerance	
Outline Dimensions	Tolerance
≤10	±0.3
10~50	±0.6
>50	±1

## INSTALLATION INFORMANTION

Relay Installation		
Mounting Type	Horizontal or vertical direction	Mounting Hole Size
Installation Mode	M5 Screw	
Torque	3 N•m ~4N•m	

## ENGINEERING NOTES

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

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 (L Load), otherwise it may lead to the decrease of electrical endurance and defective switch.

4. In order to prevent loosening, please use the washer when installing the relay. Please use the M5 screws to install relay, screw locking torque within 3 N•m ~ 4 N•m; Allowable pulling or pushing force for the terminal : (1) Main terminal: 49N; (2) Coil terminal: 49N. Damage may occur when it is beyond the range.