

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 (1000VDC), 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	≤6mV at 20 A
Rated Current (resistive load)	400 A (@ 240mm ²)
Rated Switching Voltage	1500VDC
Min.Applicable Load	6VDC, 1 A
Max. Switching Power	600kW
Max. Breaking Current	2000A (1000VDC)
Aux. Contact Arrangement	1 Form A
Rated Load of Aux.	6VDC, 100mA
Max Load of Aux.	24VDC, 300mA

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	Driving 55 Holding 6	Driving 4.6 Holding 0.5	Driving 3.0 Holding 24.5	8.0 Max.	1.2 Min.
24	Driving 55 Holding 6	Driving 2.3 Holding 0.25	Driving 11.4 Holding 108.6	16.0 Max.	2.4 Min.

ENDURANCE

Electrical Life (resistive Load)	Switching: 6000 ops (1500 VDC, 150A)
	Breaking: 3000 ops (1500 VDC, 300A)
	Switching: 100 ops (1500 VDC, 400A)
	Breaking: 1000 ops (1500 VDC, 400A)
Current Endurance	Breaking: 1 op (1000 VDC, 2000A)
	400A, Cont.
	500A, 2000s
	1350A, 15s
Mechanical endurance	2000A, 1s
	2x10 ⁵ times, on-off ratio: 0.5s: 0.5s

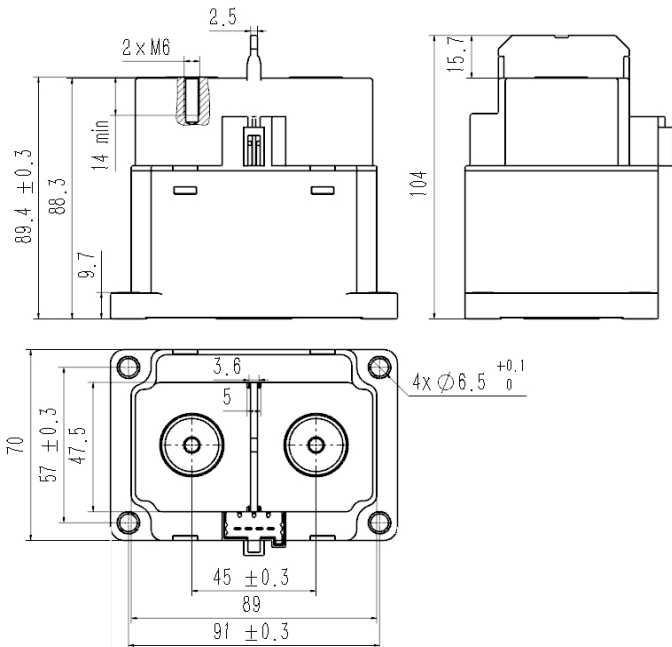
CHARACTERISTICS

Operate Time(at nominal voltage)	≤50ms	
Release Time(at nominal voltage)	≤15ms	
Insulation Resistance	> 1000 MΩ (at 1000 VDC)	
Dielectric Strength	Between Coil and Contacts	4,000 VAC, 50/60 Hz (1min)
	Between Open Contacts	4,000 VAC, 50/60 Hz (1min)
Vibration	10Hz ~ 500Hz, 49 m/s ²	
Shock Resistance	Functional	196 m/s ²
	Destructive	490 m/s ²
Ambient temperature	-40°C ~ 85°C	
Humidity	5%RH to 85%RH	
Weight	Approx 900g	

ORDERING INFORMATION

	CH	PV	-S	400	/ F -	24	C	A	1	- A	C	, XXX
Company Code												
CH: Churod												
Application Area												
PV: Photovoltaic Energy Storage												
Series Code												
S: S Series												
Load Current												
400: 400A												
Load Voltage												
F: 1500VDC ; E: 1000VDC												
Coil Specification												
12: 12VDC ; 24: 24VDC ;												
Coil Termination												
C: Connector												
Contact Type												
A: Form A												
Load Termination												
1: Screw Terminal Female												
Aux. Contact Type												
A: Form A												
Aux. Contact Termination												
C: Connector												
Characteristic Code												
Blank or Other Customer Requirements												

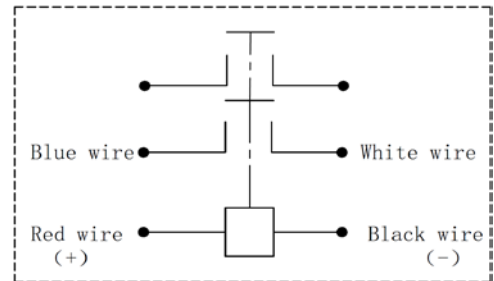
OUTLINE DIMENSION



Note: All unspecified tolerance according to following table.

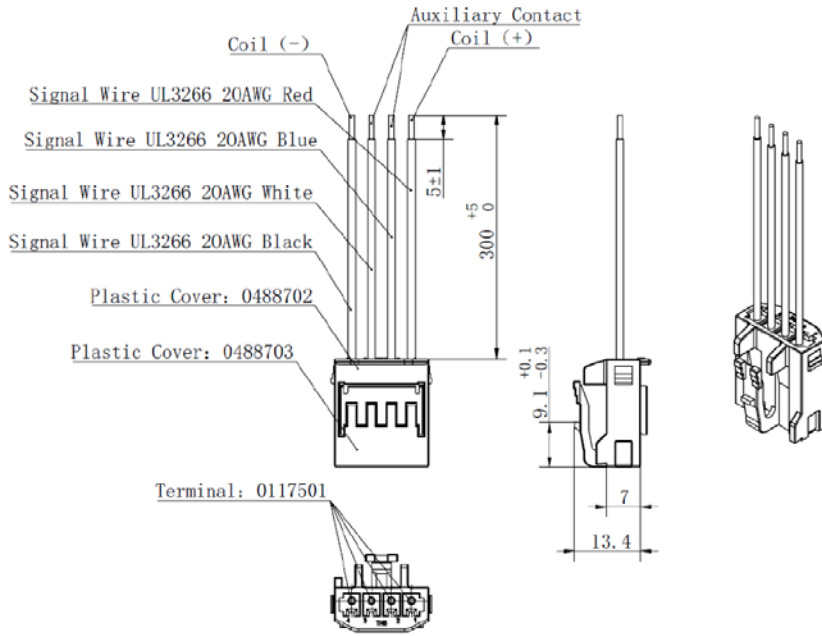
Outline dimensions hadn't specified tolerance	
Outline Dimensions	Tolerance
≤ 10	± 0.3
$10 \sim 50$	± 0.6
> 50	± 1

WIRING DIAGRAM



Note: The coil has polarity. The load and Aux. have no polarity

COIL TERMINATION:CONNECTOR



INSTALLATION INFORMANTION

Load Terminal Installation				
Installation Mode	Selection Screw	Torque	Copper Busbar Diameter	Copper Busbar Thickness
M6 Screw	M6x18 Combined Bolt	6 N·m ~8N·m	Ø 6.0 mm~Ø 6.5 mm	3.0mm~5.0 mm

Relay Installation		
Mounting Type	Horizontal or vertical direction	Mounting Hole Size
Installation Mode	M6 Screw	
Torque	6 N·m ~8N·m	

ENGINEERING NOTES

- Unless otherwise explicitly stated, the standard environment conditions for measurement or testing are listed as followings:
Ambient temperature is 23°C±5°C.
Atmospheric pressure is 96× (1±10%) kPa.
Relative humidity is 25% RH ~ 75% RH.
- In order to curb the reverse electromotive force of coil, a nonlinear resistor is recommended to use (ZNR is recommended, the max energy tolerance:≥1J. 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.
- The rating load of contact is resistive load. Please assure a surge absorption device together with inductive load when using the L/R≥1ms inductive load (L Load), otherwise it may lead to the decrease of electrical endurance and defective switch.