CHEV-H40 40A High Voltage Direct Current Relay

中汇瑞德 CHUROD ELECTRONICS

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

New Energy Vehicles

Construction machinery

Charging pile

Solar inverter

CONTACT DATA

Main Contact Arrangement	1 Form A
Initial Contact Voltage Drop	≤120mV at 40 A
Rated Current (resistive load)	40 A （@10mm^2）
Rated Switching Voltage	750VDC
Max. Switching Voltage	1000VDC
Max. Switching Power（750VDC）	30KW
Max. Breaking Current	400A (300VDC)
Min.Applicable Load	6VDC，1 A

COIL DATA @ 23℃

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：2×10^{4}次 (450 Vd.c.,40A)
	Switching：1000次 (750 Vd.c.,40A)
	Making：7.5×10^{4}次 (750 Vd.c.,40A)
Current Enduranc	40A, Cont.
	60A, 1.0 h
	80A,20 min
	160A, 30 s
	320A, 10 s
	400A, 0.6 s
Mechanical endurance	2x10^5 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^2
Shock Resistance	Functional	196 m/s^2
	Destructive	490 m/s^2
Ambient temperature		-40℃～85℃
Humidity		5%RH to 85%RH
Weight		140g

ENDURANCE

CH	EV	−H	40	/ C−	12	L	A	1	, XXX

Company Code
CH: Churod

Application Area
EV: New Energy Vehicles

Series Code
H: H Series

Load Current
40: 40A

Load Voltage
C:750VDC;

Coil Specification
12: 12VDC; 24: 24VDC

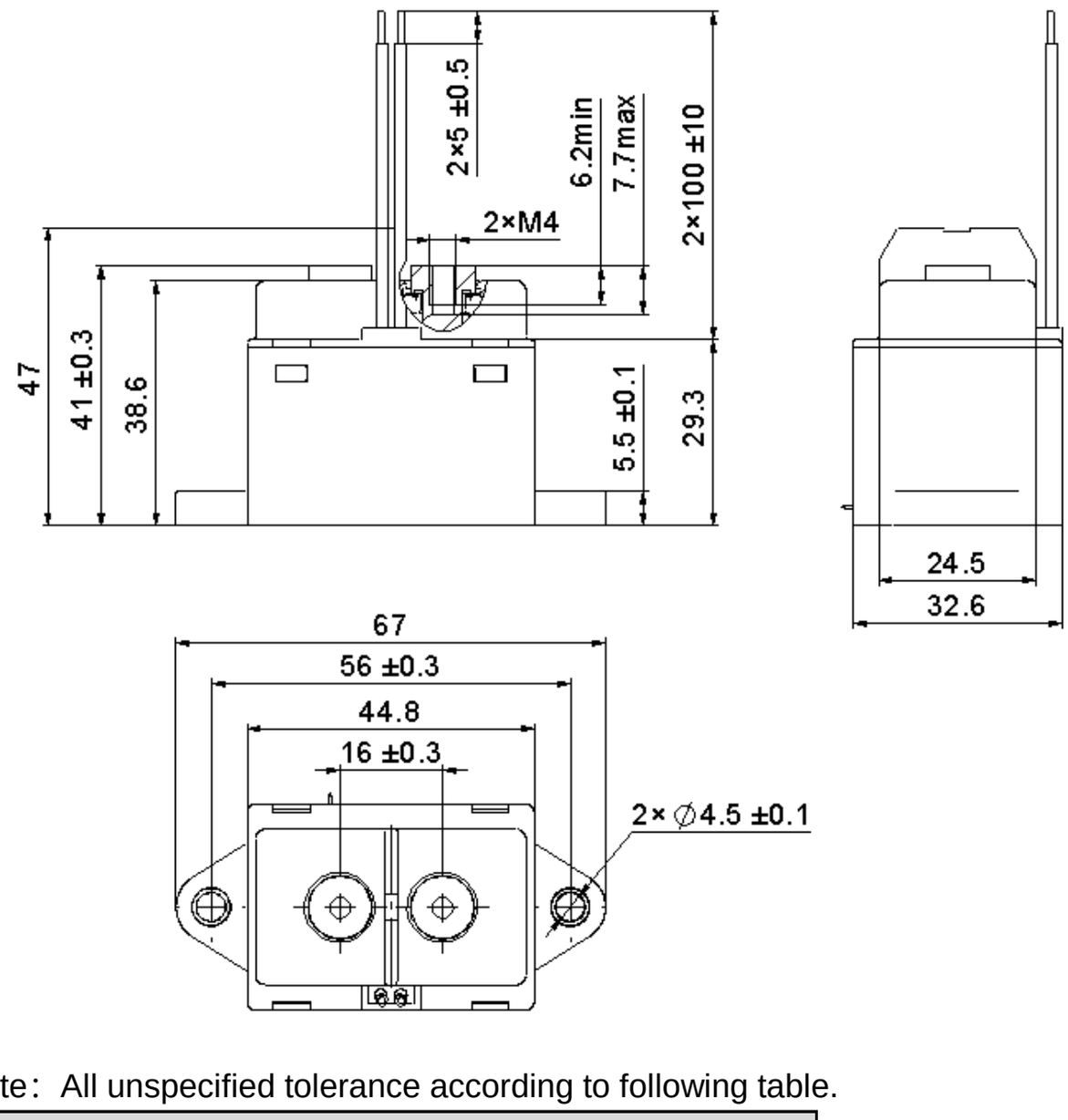
Coil Termination
L: Wire

Contact Type
A: Form A

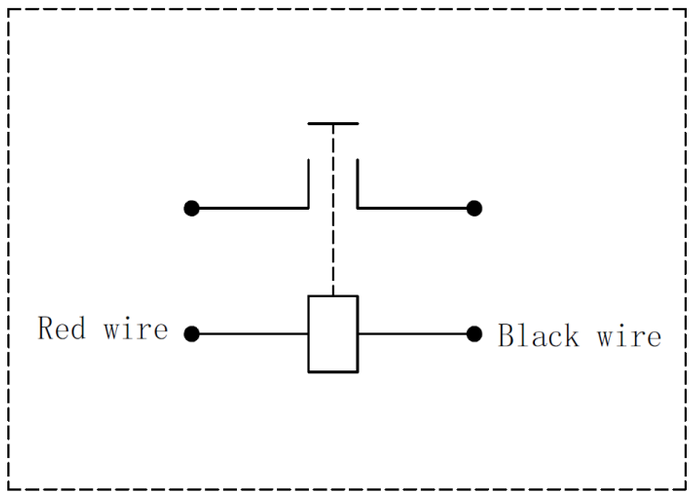
Load Termination
1:Screw Terminal Female

Characteristic Code
Blank or Other Customer Requirements

OUTLINE DIMENSION



WIRING DIAGRAM



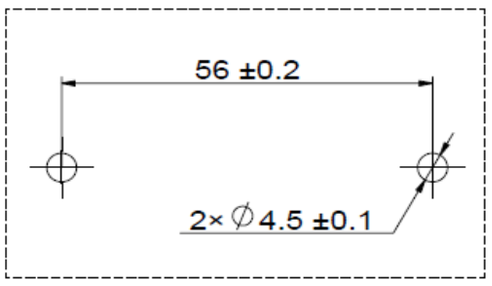
Note: No polarity on the load and coil

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

Load Terminal Installation				
Installation Mode	Selection Screw	Torque	Copper Busbar Diameter	Copper Busbar Thickness
M4 Screw	M4x8 Combined Bolt	2 N·m ~3N·m	Ø 4.0 mm~Ø 4.5 mm	1.0mm~1.5 mm

Relay Installation		
Mounting Type	Horizontal or vertical direction	Mounting Hole Size
Installation Mode	M4 Screw	
Torque	2 N•m ~3N•m	

ENGINEERING NOTES

1. Unless otherwise explicitly stated, the standard environment conditions for measurement or testing are listed as followings:
Ambient temperature is 23℃±5℃.
Atmospheric pressure is 96×（1±10%）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:≥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.
3. 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.