尼普顿电器
Neptune Electric

HVDC Relay NVR6V-50Y

Ceramic Series

Features

- CCC and RoHS compliant;
- Contacts sealed in ceramic capsules and inert gas;
- Contacts protected against contamination. e.g oxidation and corrosion;
- Magnet arc blowout;
- Up to 900VDC Cutoff;
- Compact and lightweight;

Applications

- Main contactors for larger hybrid electric vehicles(HEV),plug-in hybrids(PHEV)and full electric vehicles(BEV);
- Battery charging systems;
- Power charging devices;
- Solar power systems;
- Could server and uninterrupted power supply(UPS)

Product Code Structure

NVR6 V - 50 Y / 750 - 12 - H L 7 ( )

- Series
- DC input in vehicle areas
- Load current: 50:50A
- Series code
- Load voltage: 450:450V;750:750V
- Coil voltage: 12:12V;24:24V
- Contact arrangement: H:SPST-NO;
- Coil termination: L:Wire
- Load termination:7:Screw
- Customized code

Coil Data

Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Rated operating power W
12	≤8.4	≥1	5.5
24	≤16.8	≥2	5.5

1) Operate voltage and release voltage may vary with environmental temperature.
2) The ripple factor should be under 5%.

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Main Contact Data

Contact arrangement		1H
Initial contact resistance		≤2mΩ (6V DC/20A)
Rated current		50A
Limiting short-time current		200A:10min
		300A:10s
Max. switching current		1000A(320V DC)
Overload break		50 times (150A/450V DC)
Dielectric strength	Between contact and coil	3000V AC
	Between contacts	
Insulation resistance	Between contact and coil	Min: 1000MΩ (1kV DC)
	Between contacts	
Operate time		≤25ms
Bounce time		<5ms
Release time		≤10ms

Other Data

Endurance	Mechanical		2×10^5 times
	Electrical (Resistive load)	450V DC	1×10^4 times
		750V DC	6×10^3 times
Mechanical performance	Shock resistance (Functional)		20G
	Shock resistance (Destructive)		50G
	Vibration resistance (Functional)		4G(10～500Hz)
	Vibration resistance (Destructive)		4G(10～500Hz)
Operational condition	Ambient temperature		-40℃～+85℃
	Relative humidity		5%～85% R.H.
Weight			Approx. 220g

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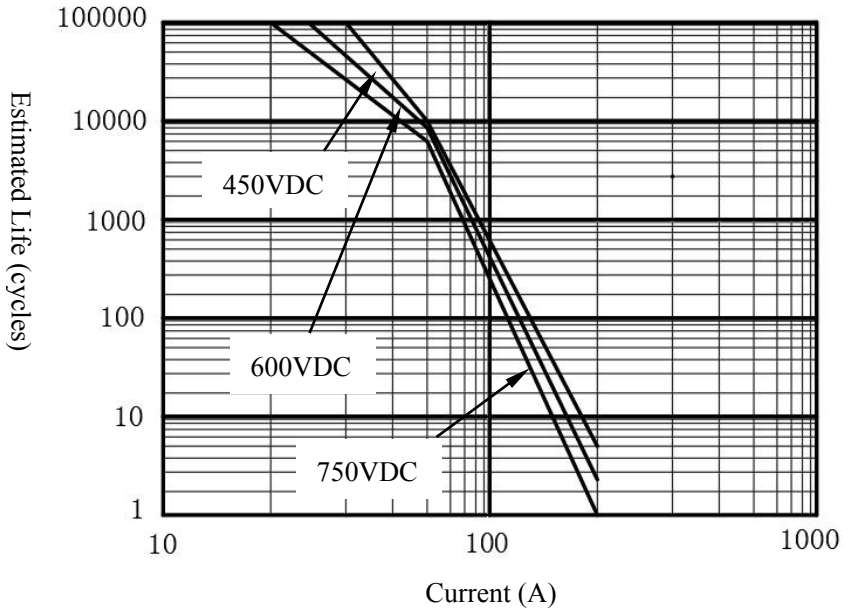
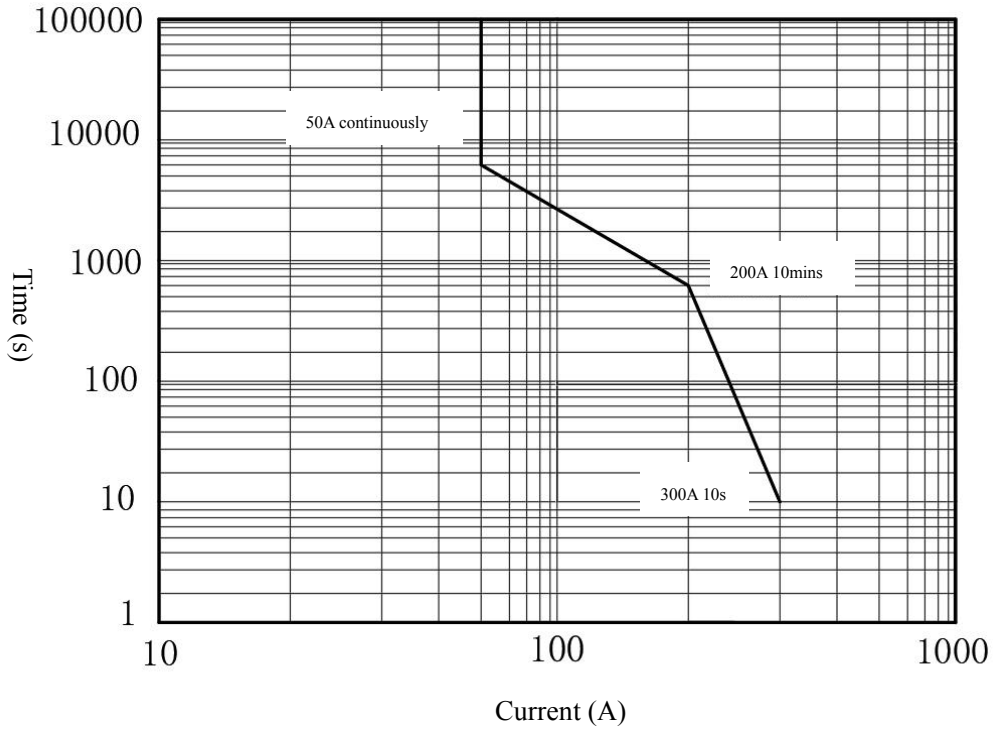
Estimated Life Diagram



Contacts Current Capacity Diagram



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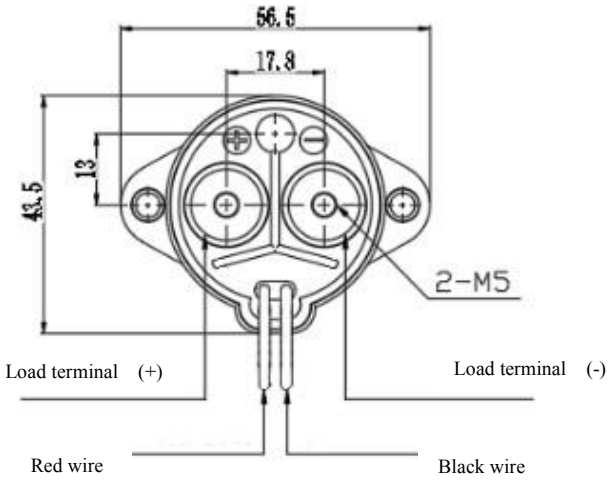
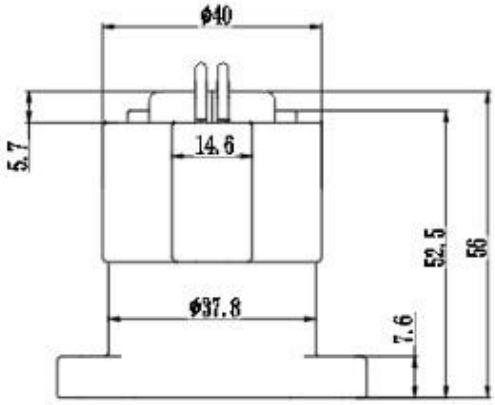
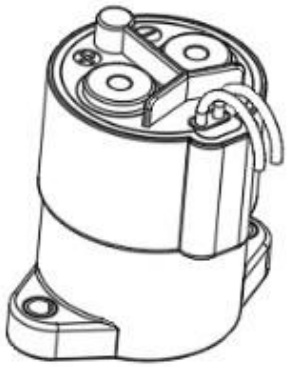
Dimensions (mm)

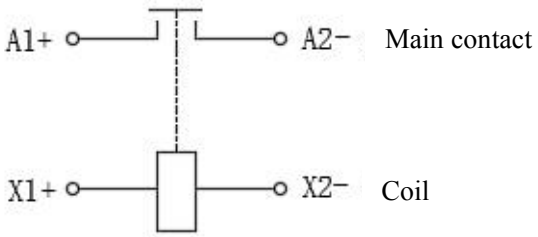
Permissible deviations for basic size range	Tolerance
Up to 10	±0.3
Over 10 up to 50	±0.6
Over 50	±1.0

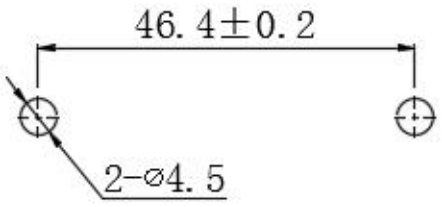






Circuit and Layout Dimensions (mm)





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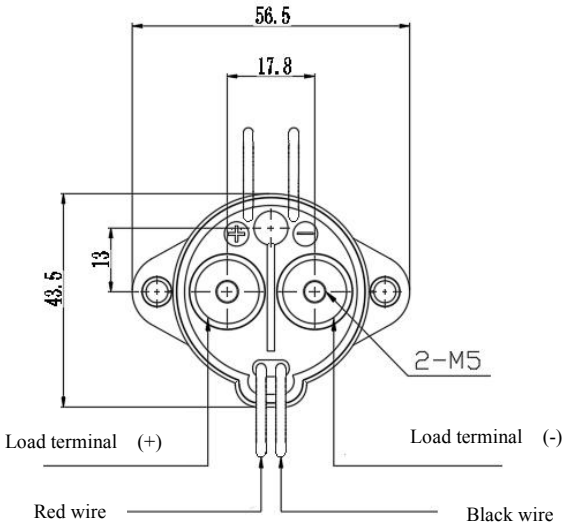

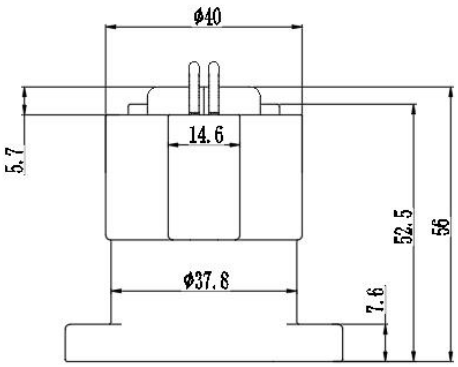

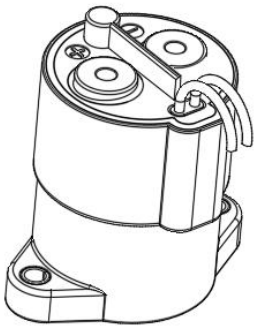

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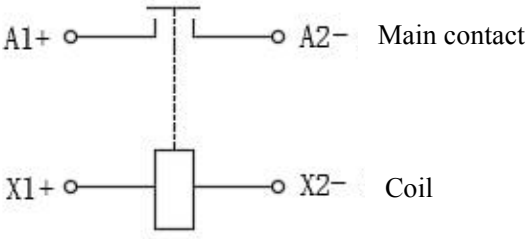

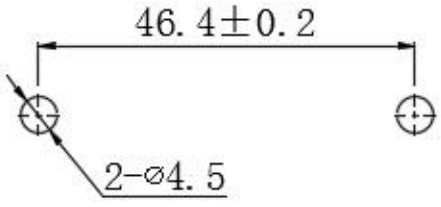

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Cautions

- Please use relays in the conditions described in the specification. Otherwise product performance will not be guaranteed.
- Please add surge protection in parallel if an inductive load (L/R＞1ms) is applied.
- Contact resistance may increases if a relay is operating without a load.
- Please connect the terminals correctly. Any wrong connection may cause circuit damage such as malfunction, overheat, and fire.
- Screwing-tightening condition: A) M4 Screw:1.8Nm~2.7Nm (Tightening torque for fixing relay body) B) M5 Screw:3Nm~4Nm (Tightening torque for contact terminal)
- Use the suitable wires or busbars according to the current. Carrying current:50Amps:diameter of 16mm^2 (min.).
- Standard operation condition:temperature-40℃~85℃,humidity5%~85%R.H..
- If the relay is dropped, it should not be used again.

(Please do not determine specifications based on this document. Contact our sales staff for more information and supports.)