



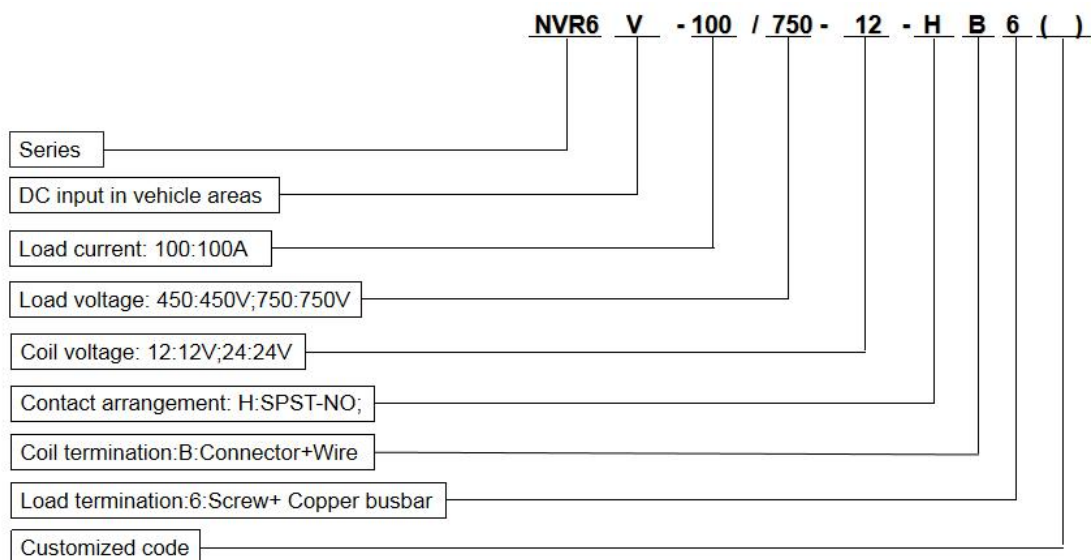
Features

- 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



Coil Data

| Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Rated operating power W |
|----------------------|------------------------|------------------------|----------------------------|
| 12 | ≤8.4 | ≥1 | 4.5 |
| 24 | ≤16.8 | ≥2 | 4.5 |

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



尼普顿电器
Neptune Electric

HVDC Relay NVR6V-100



Ceramic
Series

Main Contact Data

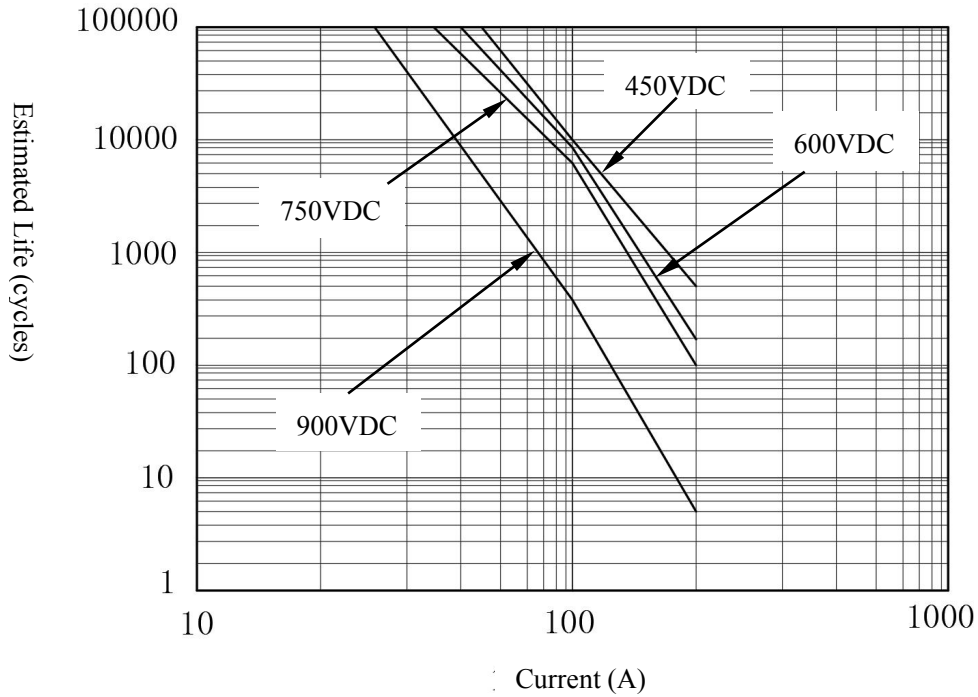
| | | |
|-----------------------------|--------------------------|------------------------------------|
| Contact arrangement | | 1H |
| Initial contact resistance | | $\leq 5\text{m}\Omega$ (6V DC/20A) |
| Rated current | | 100A |
| Limiting short-time current | | 200A:10min |
| | | 400A:10s |
| Max. switching current | | 1000A (320V DC) |
| Overload break | | 100 times (150A/400V DC) |
| Reverse break | | 1000 times (120A/200V DC) |
| Dielectric strength | Between contact and coil | 3000V AC |
| | Between contacts | |
| Insulation resistance | Between contact and coil | Min: 1000M Ω (1kV DC) |
| | Between contacts | |
| Operate time | | $\leq 30\text{ms}$ |
| Bounce time | | $< 5\text{ms}$ |
| Release time | | $\leq 10\text{ms}$ |

Other Data

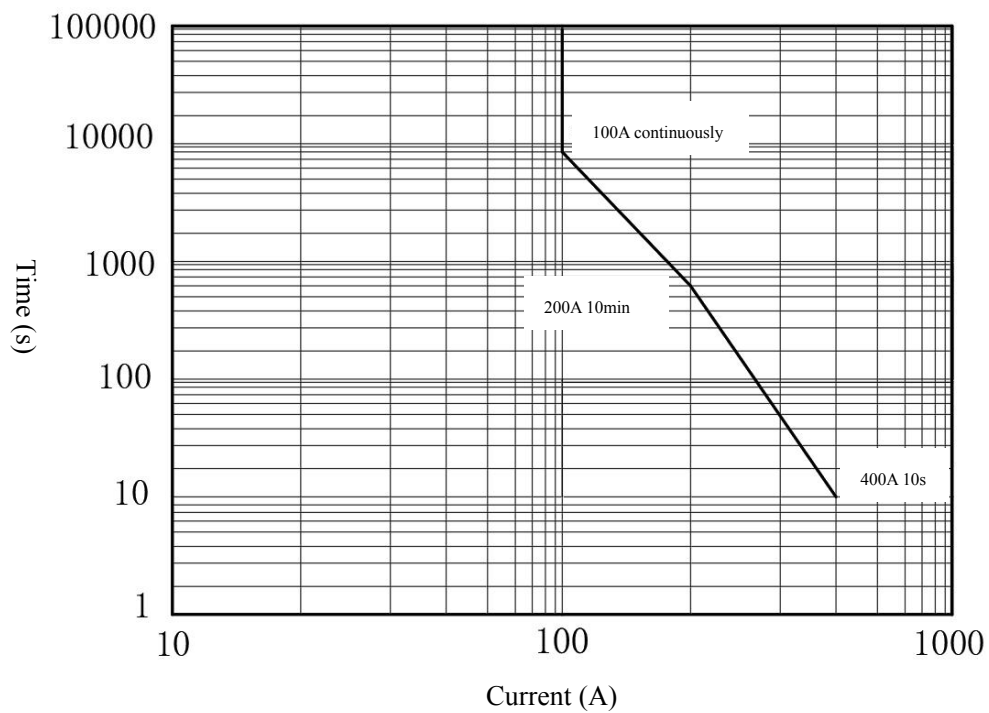
| | | | |
|------------------------|------------------------------------|---------|--|
| Endurance | Mechanical | | 2×10^5 times |
| | Electrical (Resistive load) | 450V DC | 1×10^4 times |
| | | 750V DC | 6×10^3 times |
| Mechanical performance | Shock resistance (Functional) | | 20G |
| | Shock resistance (Destructive) | | 50G |
| | Vibration resistance (Functional) | | 4G (10~500Hz) |
| | Vibration resistance (Destructive) | | 4G (10~500Hz) |
| Operational condition | Ambient temperature | | $-40^\circ\text{C} \sim +85^\circ\text{C}$ |
| | Relative humidity | | 5%~85% R. H. |
| Weight | | | Approx. 410g |



Estimated Life Diagram



Contacts Current Capacity Diagram





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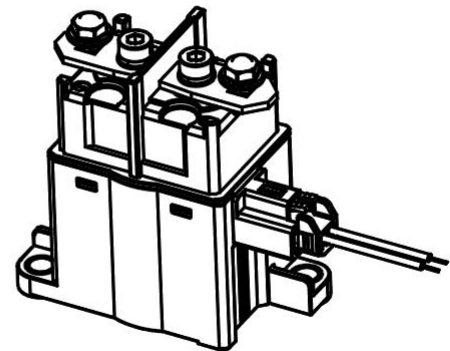
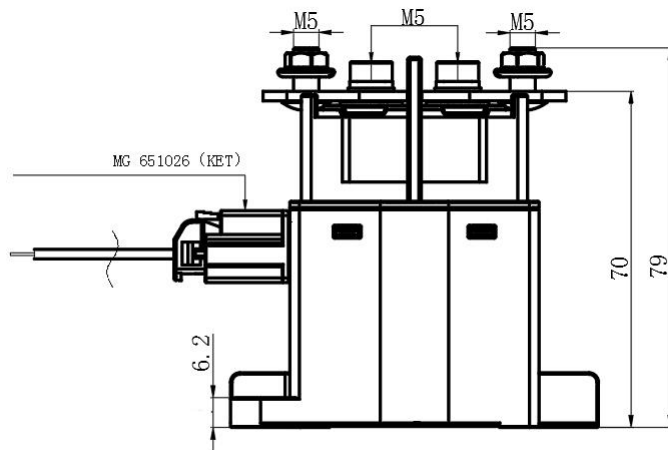
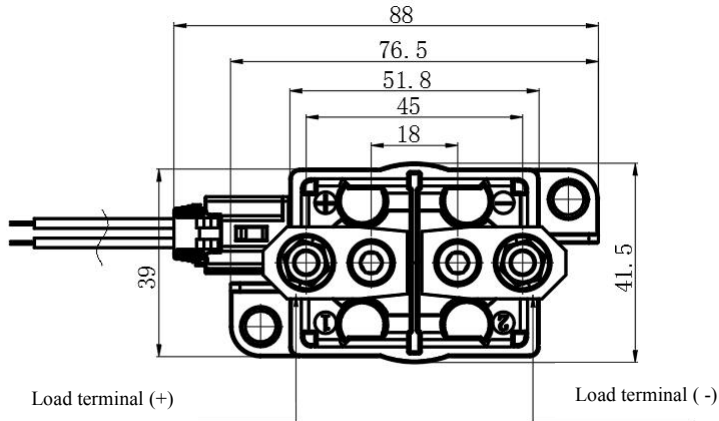
HVDC Relay NVR6V-100



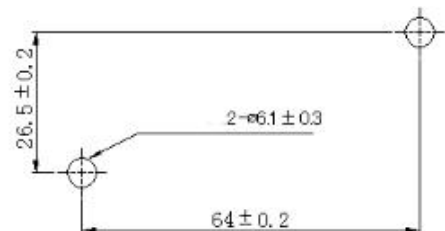
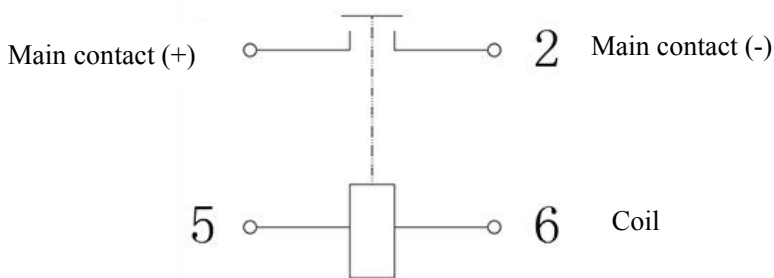
Ceramic Series

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)





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 ($L/R > 1\text{ms}$) is applied.
- Contact resistance may increase 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) M5 Screw: $3\text{Nm} \sim 4\text{Nm}$ (Tightening torque for fixing relay body)
B) M5 Screw: $3\text{Nm} \sim 4\text{Nm}$ (Tightening torque for contact terminal)
- Use the suitable wires or busbars according to the current. Carrying current: 100Amps; diameter of 50mm^2 (min.).
- Standard operation condition: temperature $-40^\circ\text{C} \sim 85^\circ\text{C}$, humidity $5\% \sim 85\% \text{R.H.}$.
- 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.)