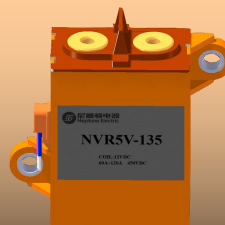




尼普顿电器
Neptune Electric

HVDC Relay NVR5V-135



Medium
Voltage
Series

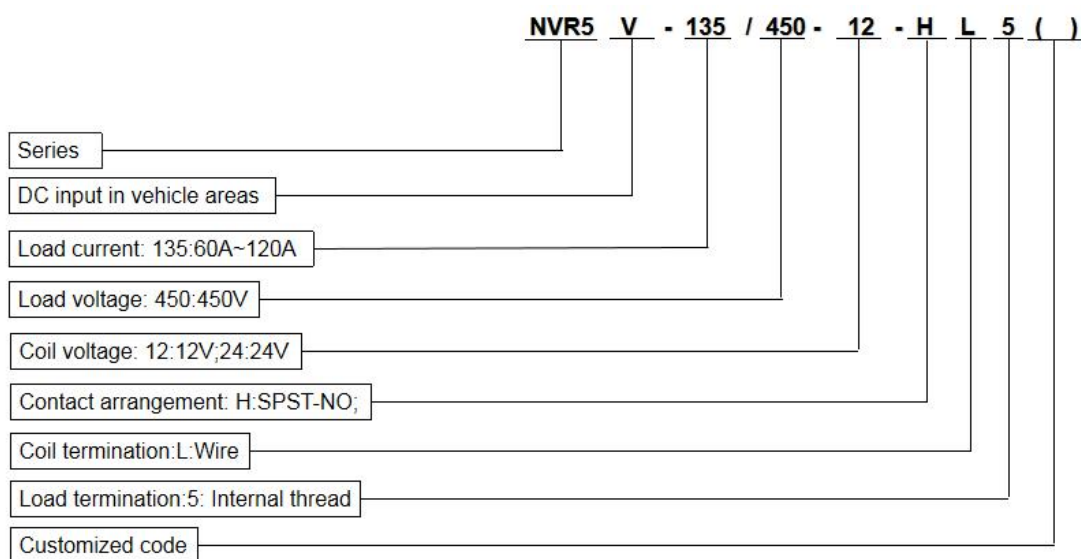
Features

- RoHS compliant;
- Magnet arc blowout;
- Up to 450VDC Cutoff;
- Compact and lightweight;
- Polarity free coil circuit

Applications

- ◆ Main contactors for HEV, PHEV and BEV;
- ◆ Battery charging systems;
- ◆ Power charging devices;
- ◆ Solar power systems;

Product Code Structure



Coil Data

Parameters for external economization with PWM.

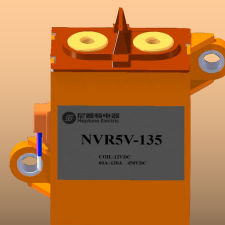
Rated voltage VDC	Operate voltage VDC	Surge current ADC	Max. Release voltage VDC	Max. VDC	Coil resistance $\Omega \pm 10\%$	Rated operating power W
12	≤ 7.5	4.0	≥ 4.0	16.0	3/33	4.5

- 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		$\leq 3\text{m}\Omega$ (20A)
Rated current		60~120A
Max. switch voltage		500V
Limiting short-time current		500A:30s
		1500A:2s
Dielectric strength	Between contact and coil	2800VDC, 3mA
	Between contacts	
Insulation resistance	Between contact and coil	Min: 1000M Ω (1kV DC)
	Between contacts	
Operate time		$\leq 30\text{ms}$
Release time		$\leq 10\text{ms}$

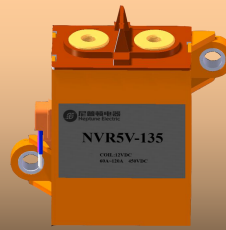
Other Data

Endurance	Mechanical		2×10^5 times
	Electrical (Resistive load)	ON:210A (24VDC) OFF:10A(24VDC)	1×10^5 Times
		ON:210A (24VDC) OFF:500A(450VDC)	10 Times
Mechanical performance	Shock resistance (Functional)		20G
	Shock resistance (Destructive)		50G
	Vibration resistance (Functional)		10G(10~500Hz)
	Vibration resistance (Destructive)		10G(10~500Hz)
Operational condition	Ambient temperature		-40℃~+85℃
	Relative humidity		5%~85% R. H.
Weight			Approx. 295g



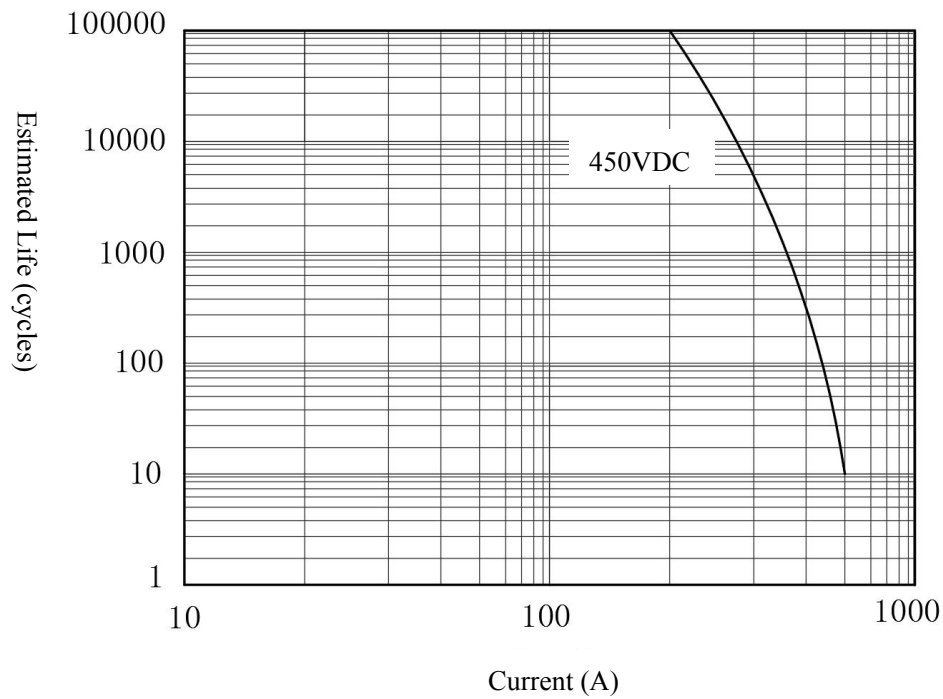
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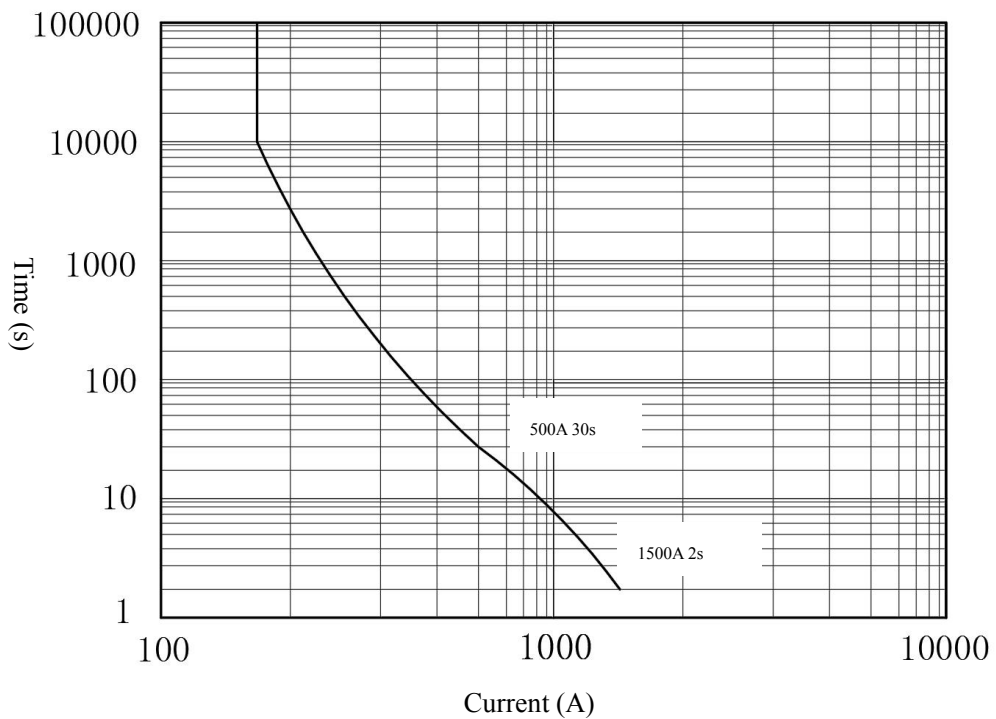
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Estimated Life Diagram



Contacts Current Capacity Diagram

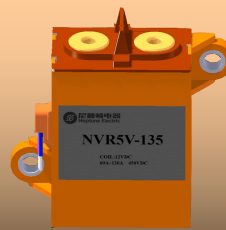
80A 30s 120A130





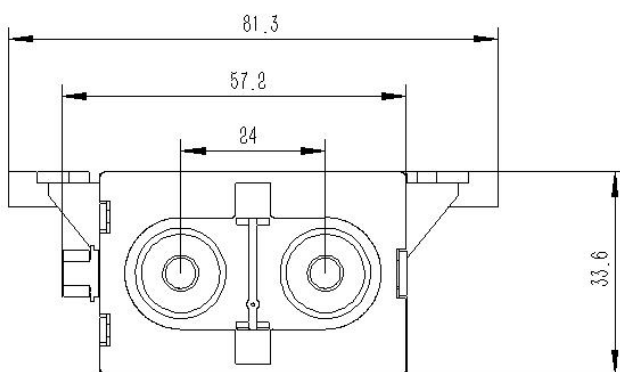
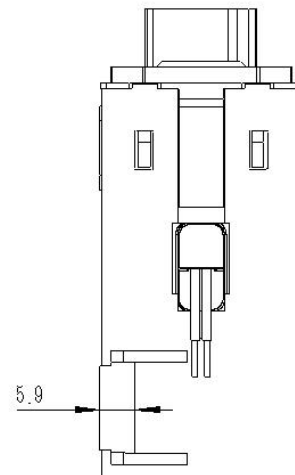
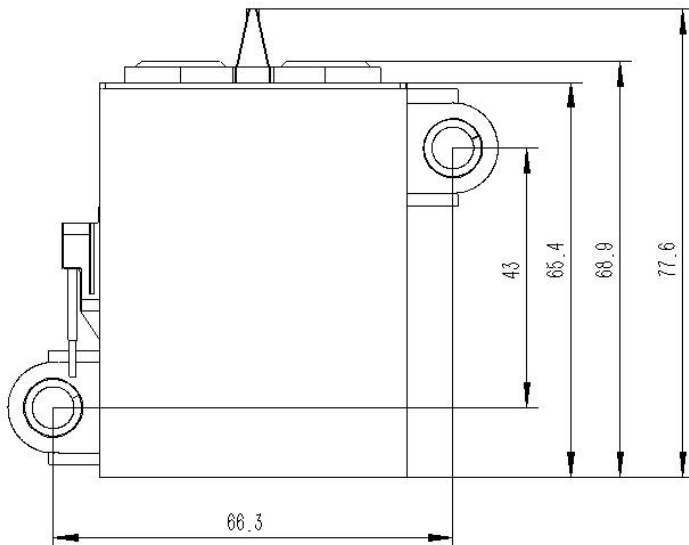
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HVDC Relay NVR5V-135

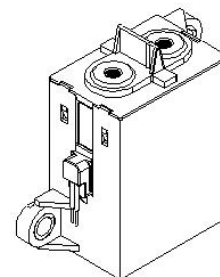


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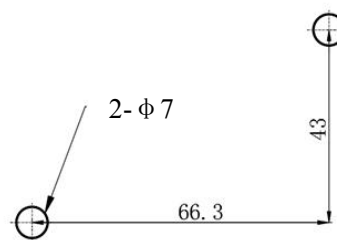
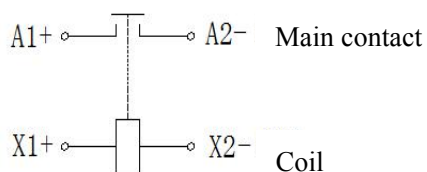
Dimensions (mm)



M4



Circuit and Layout Dimensions (mm)

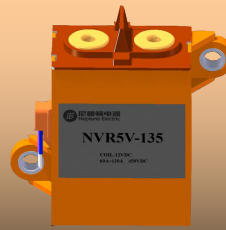


Permissible deviations for basic size range	Tolerance
Up to 10	±0.3
Over 10 up to 50	±0.6
Over 50	±1.0



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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 ($L/R > 1\text{ms}$) is applied.
- If the relay operates on no load condition, the contact resistance may increase.
- Please connect the terminals correctly. Any wrong connection may cause circuit damage such as malfunction, overheat, and fire.
- Max. Tightening torque: 5N
- Use the suitable wires or busbars according to the current.
- Standard operation condition: temperature $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$, humidity 5%~85%R.H., altitude: $\leq 5500\text{m}$.
- 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.)