尼普顿电器 Neptune Electric

HVDC Relay NVR5V-135S

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

NVR5 V - 135 S / 450 - 12 - H L 5 ( )

- Series
- DC input in vehicle areas
- Load current:135:60A~120A
- Series code
- Load voltage: 450:450V
- Coil voltage: 12:12V;24:24V
- Contact arrangement: H:SPST-NO;
- Coil termination: L:Wire
- Load termination:5:Internal thread
- Customized code

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 Ω ±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		≤3mΩ (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: 1000MΩ (1kV DC)
	Between contacts	
Operate time		≤30ms
Release time		≤10ms

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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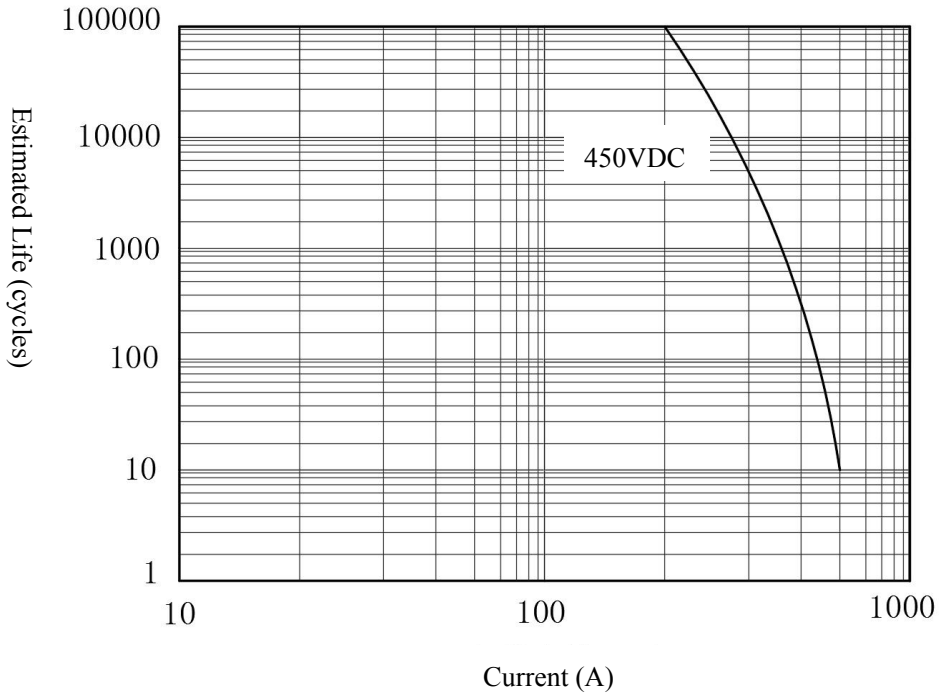
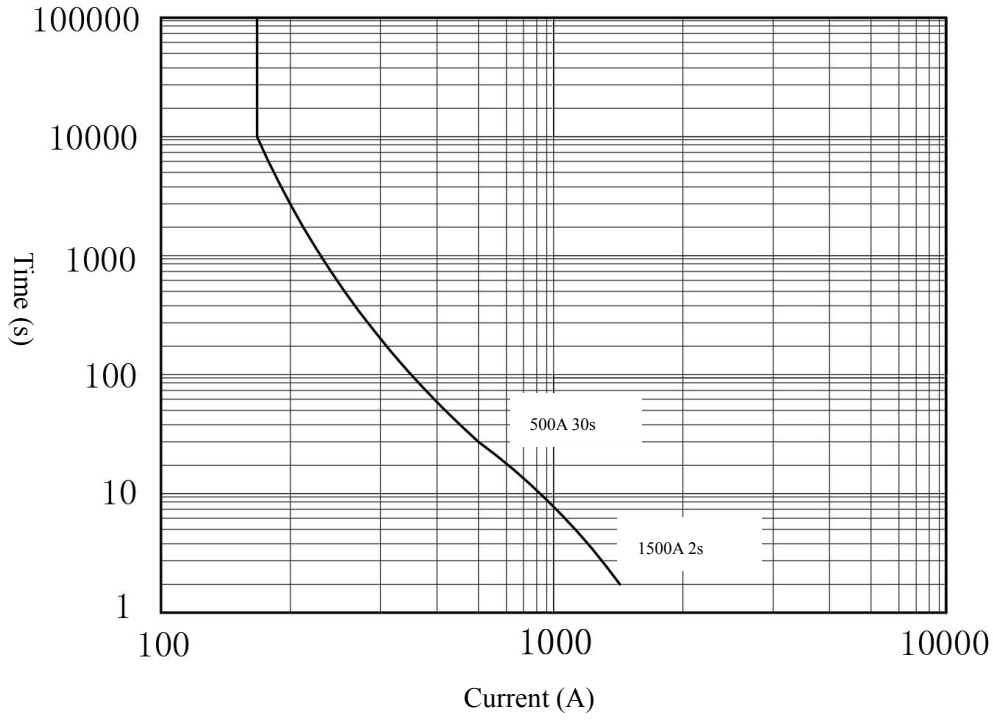
Estimated Life Diagram



Contacts Current Capacity Diagram

80A 30s 120A130



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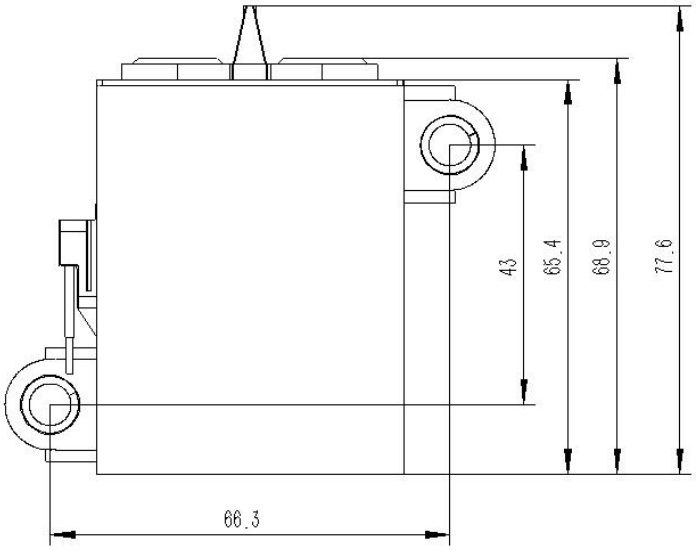
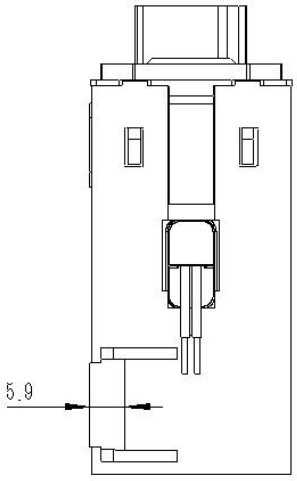
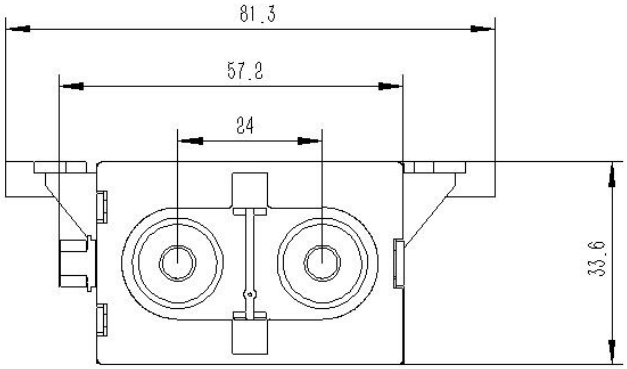
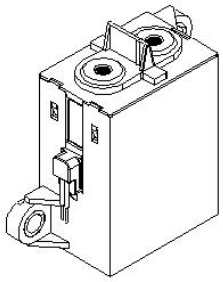
Dimensions (mm)





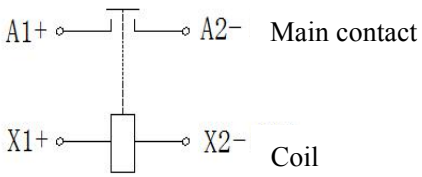


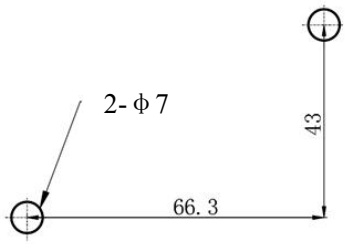
M4



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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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.
- 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℃~85℃,humidity 5%~85%R.H.,altitude:≤5500m.
- 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.)