

HFZ20V-200P

EPOXY SEALED POLARITY SERIES DC RELAY



Features

- Rated 200A switching capability
- Coil does not require polarity, contact load has polarity
- The relay has epoxy resin encapsulation and sealing structure, which can work in explosive or hazardous environment, coils and contacts do not oxidize and contaminate the environment.
- Pre-charging and other applications
- Small size, light weight

RoHS compliant

CONTACT DATA

| | |
|-------------------------------------|--|
| Contact arrangement | 1SH |
| Contact resistance | 3mΩ max.(typ.1mΩ) (6VDC,20A) |
| Nominal current | 200A |
| Rated load voltage | 12~200VDC |
| Max. breaking current | 2000A 200VDC (more than 1 time) |
| Max.switching power | 400kW |
| Min. load of main contact | 1A 12VDC |
| Min. load of auxiliary contact | 8V 100mA |
| Standard continuous charged current | 200A(95mm ²) |
| Short time overload current | 250A 30min (95mm ²) 300A 5min (95mm ²) 400A 20s (95mm ²) |
| Mechanical endurance | 2x10 ⁵ OPS |
| Electrical endurance | 1 x 10 ⁴ OPS (150A 450VDC) Resistive load, 23°C, 1s on 9s off |

CHARACTERISTICS

| | | | |
|-----------------------|--------------------------|----------------------------------|-----|
| Insulation resistance | Between open contacts | 1000MΩ (1000VDC) | |
| | Between contact and coil | 1000MΩ (1000VDC) | |
| Dielectric strength | Between open contacts | 2000Vrms | |
| | Between coil & contacts | 2000Vrms | |
| Nominal voltage (VDC) | | 12 | 24 |
| Operate time (ms) | | ≤30 | ≤30 |
| Release time (ms) | | ≤10 | ≤10 |
| Bounce time(ms) | | ≤5 | ≤5 |
| Shock resistance | | 196 m/s ² | |
| Vibration resistance | | 10Hz to 500Hz 98m/s ² | |
| Ambient temperature | | -40°C to 85°C | |
| Humidity | | 5% to 95%RH | |
| Protection grade | | IP67 | |
| Termination | | The M6 internal thread | |
| Outline dimensions | | 68x50.6x58.3 | |
| Weight | | 350g | |

Notes: 1) The above values are the initial values at room temperature.
2) The test result can not meet the requirements of voltage resistance and insulation resistance.

COIL DATA

| | | |
|------------------------------------|-------------|-------------|
| Nominal voltage (VDC) | 12 | 24 |
| Operating voltage (VDC) | 9~16 | 18~32 |
| Max. voltage (VDC) | 16 | 32 |
| Pick-up voltage (VDC) | ≤9 | ≤18 |
| Drop-out voltage (VDC) | ≥1 | ≥2 |
| Coil resistance x (1±7%) | 25 | 110 |
| Min. starting current (A) | -- | -- |
| Transient surge current (A) | -- | -- |
| Average holding current (A) | 0.48 | 0.218 |
| Steady-state power consumption (W) | Approx. 5.8 | Approx. 5.2 |

Notes: Other rated voltages can be specially ordered.



HONGFA RELAY

ISO9001, IATF16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2021 Rev. 1.00

ORDERING INFORMATION

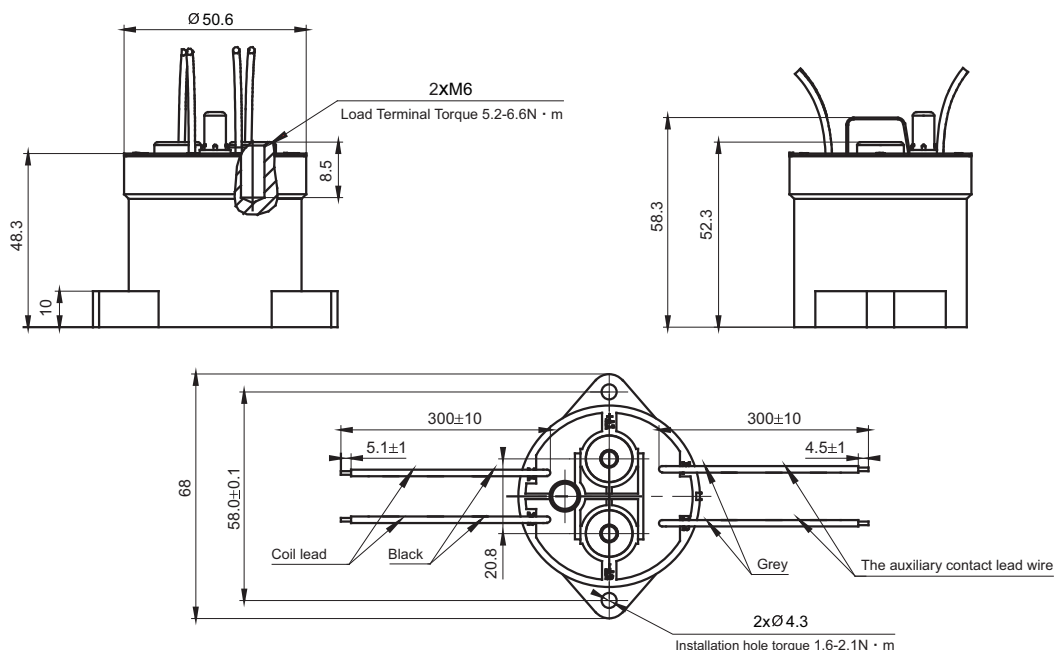
| | | | | | | | | | | | | |
|----------------------------|--|--------------------------|------|--------|-----|----|---------------|---|---|---|----|-------|
| Type | HFZ20 | <input type="checkbox"/> | -200 | P/200- | 12- | SH | S | A | L | 5 | -1 | (XXX) |
| Application | Nil: New Energy Power Control V : Vehicle | | | | | | | | | | | |
| Version | 200: 200A | | | | | | | | | | | |
| Load polarity | P: polar | | | | | | | | | | | |
| Nominal voltage | 200: 12~200VDC | | | | | | | | | | | |
| Coil voltage | 12: 12VDC 24: 24VDC | | | | | | | | | | | |
| Contact arrangement | SH: 1 FormA(double-contact of 1 FormA) | | | | | | | | | | | |
| Contact material | S: Silver plated | | | | | | | | | | | |
| Auxiliary Contact Form | Nil: Without auxiliary contact A: Normally open auxiliary contact B: Normally closed auxiliary contact | | | | | | | | | | | |
| Coil terminal | L: Lead wire B: Lead wire with connector | | | | | | | | | | | |
| Load terminal | 5: Internal thread mounting | | | | | | | | | | | |
| Sort | 1: 1 coil | | | | | | | | | | | |
| Special code ¹⁾ | XXX: Customer special requirement | | | | | | Nil: Standard | | | | | |

Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

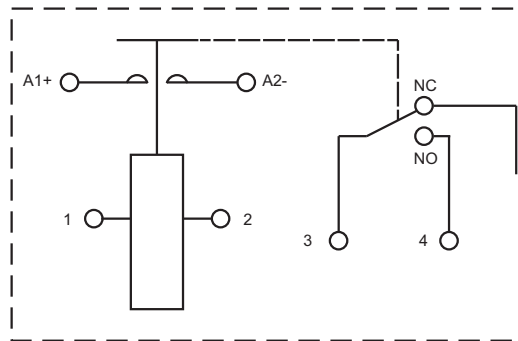
Outline Dimensions



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

PCB Layout (Bottom view)

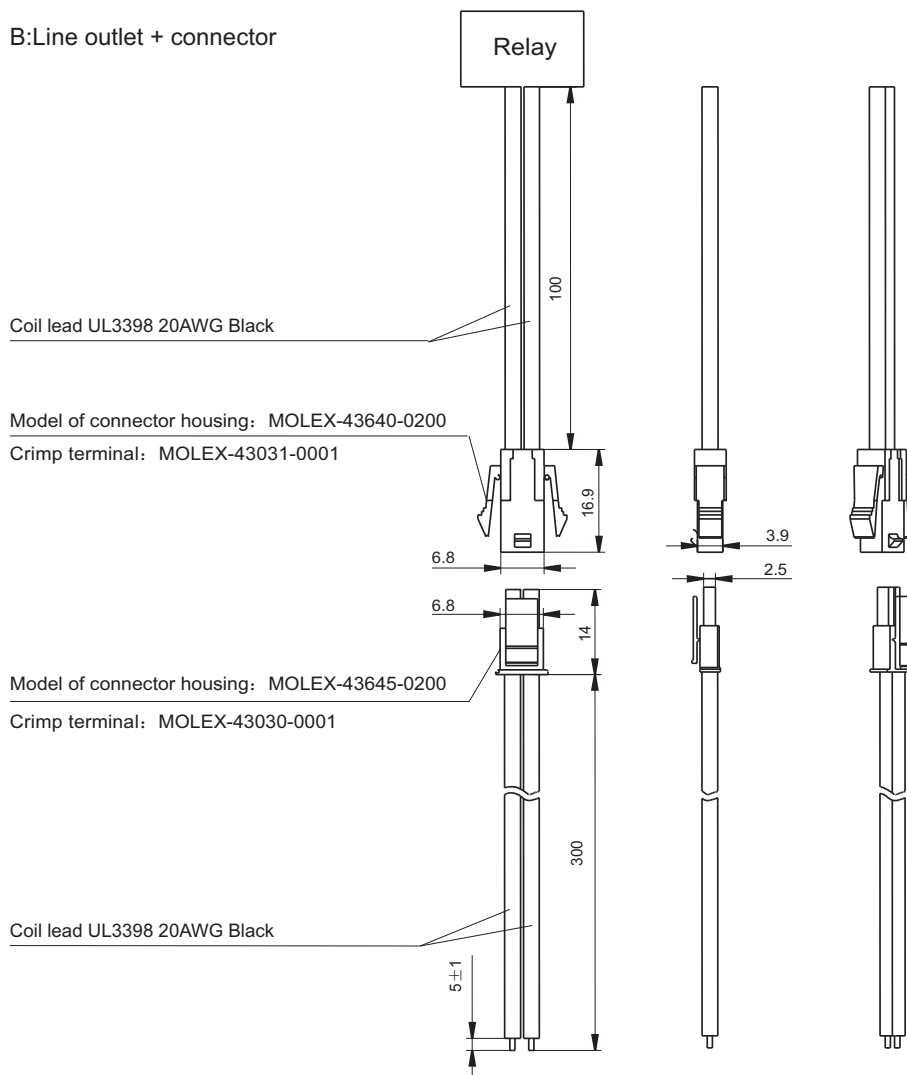


Notes: 1) Dimension tolerance is not indicated for part of the overall dimension of the product. When the overall dimension is less than or equal to 10 mm, the tolerance is ± 0.3 mm; When the overall dimension is between (10 ~ 50) mm, the tolerance is ± 0.5 mm; When the overall dimension is greater than or equal to 50 mm, the tolerance is ± 0.8 mm.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

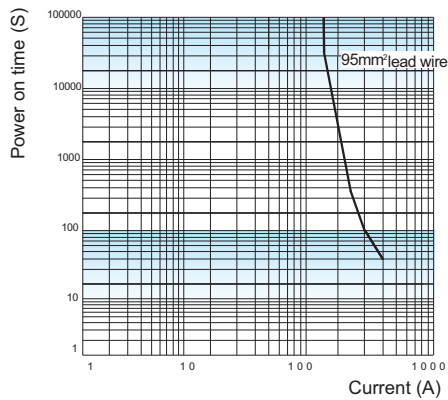
Unit: mm

B:Line outlet + connector



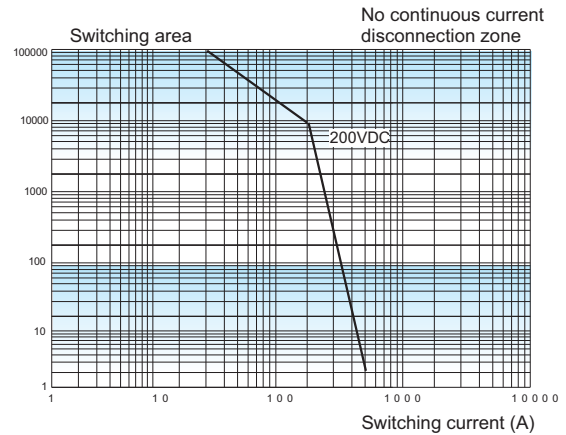
CHARACTERISTIC CURVES

Current carrying capacity



Notes: The above data are measured at room temperature for your reference only. Do not use it to select a fuse directly.

Load switching capability

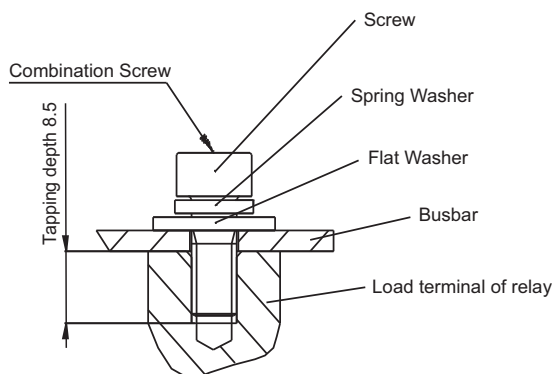


Notes: Resistive load
Insulation after electrical life test $\geq 50\text{M}\Omega$ (500VDC)
As the lifetime is related to many factors, it is recommended to verify the ratings according to the actual application.

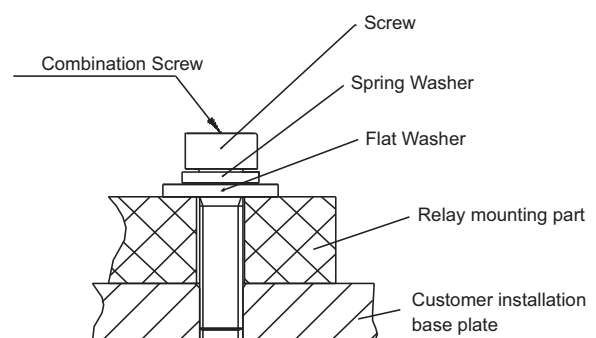
Precautions for use

1. In order to suppress the relay coil reverse electromotive force, it is recommended to connect bi-directional TVS diode or varistor with the coil in parallel (voltage is 1.5-2 times of rated voltage). If diode is used, the relay release time will be greatly prolonged, which may lead to the decline of cut-off performance.
Note: the energy-saving product has a coil suppression reverse electromotive force device.
2. The rated values of contact parameters are tested under resistive load. In the case of inductive load with $L/R > 1\text{ms}$, please connect inrush current protection devices for this load. If no measures are taken, electrical durability may decrease and on-off failure may occur. Please leave enough space when design.
3. As a HVDC switching device, it may fail at high temperature when the lifetime and load capacity exceed parameters specified in the manual. The protective circuit which can cut off the load in case of emergency shall be adopted. As a product with limited life, it should be replaced in time to ensure safety.
4. Please avoid grease and other foreign bodies on the terminal, and use connecting wires of 50mm^2 or above; When installing the load terminal, ensure that the power cable is close to the lead terminal. Install and tighten it in the sequence of flat washer, spring washer and nut, or directly use the self-locking nut. Contamination of the lead terminal or incorrect connection sequence can cause severe overheating and melting of the insulation of the connection cable.
5. Please use washers to prevent looseness during installation. Please control the locking torque within the recommended range. If it exceeds the range, it may cause damage to the shell. When using screws, make sure the gasket is thick and strong enough, otherwise it will deform and burst the casing.

Load wire installation



Relay installation



Notes: Tapping depth of load internal thread M6 is 8.5mm.

Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change without notice. In case there is specific criterion (such as mission profile, technical specification, PPAP etc.) checked and agreed by and between customer and Hongfa, this specific criterion should be taken as standard regarding any requirement on Hongfa product. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

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