HFZ16V-200/E EPOXY SEALED NON-POLAR SERIES DC RELAYS

c UL us
File No.:20151202-E133481

CQC
File No.:2016010304860448

Features

- Rated 200A switching capability
- No polarity on the load and the coil
- 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 enviroment.
- Main circuit and other applications
- Optional built-in energy-saving coil to keep the power low and suppress the reverse electromotive force

RoHS compliant

CONTACT DATA

Contact arrangement	1SH
Contact resistance	0.5mΩ max.(@200A)
Nominal current	200A
Rated load voltage	12~900VDC
Max. breaking current	2000A 320VDC(more than 1 time)
Max.switching power	640kW
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	320A 5min ($95mm^2$) 400A 3min ($95mm^2$) 500A 30s ($95mm^2$)
Mechanical endurance	$2x10^5$OPS
Electrical endurance	1 x 10^4OPS(150A 450VDC Resistive load, 23℃, 1s on 9s off)

COIL DATA

Nominal voltage (VDC)	12/24
Operating voltage (VDC)	9~36
Max. voltage (VDC)	36
Pick-up voltage (VDC)	≤9
Drop-out voltage (VDC)	≥5
Coil resistance x (1±7%)	3.1
Min. starting current (A)	3
Transient surge current (A)	3.5(0.1s)
Average holding current (A)	Approx. 0.14
Steady-state power vonsumption (W)	Approx. 2

Notes: Other rated voltages can be specially ordered.

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
Release time (ms)		≤10
Bounce time(ms)		≤5
Shock resistance		196 m/s^2
Vibration resistance		10Hz to 500Hz 49m/s^2
Ambient temperature		-40℃ to 85℃
Humidity		5% to 95%RH
Protection grade		IP67
Termination		The M8 external thread
Outline dimensions		80.5 X 66 X 72.3
Weight		440g

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.

ORDERING INFORMATION

HFZ16 □ -200/ 900- B- SH- S A L 4 □ E P -1 (XXX)

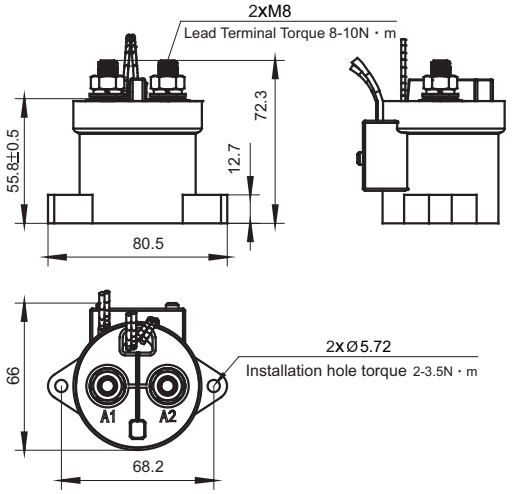
Type		
Application	**Nil:** New Energy Power Control **V :** Vehicle	
Version	**200:** 200A	
Nominal voltage	**900:** 12~900VDC	
Coil voltage	**B:** 9~36VDC	
Contact arrangement	**SH:** 1 FormA(double-contact of 1 FormA)	
Contact material	**S:** Silver plated	
Auxiliary Contact Form	**Nil:** Without auxiliary contact **A:** Normally open auxiliary contact **B:** Normally closed auxiliary contact **C:** Conversion auxiliary contact	
Coil terminal	**L:** Lead wire **B:** Lead wire with connector	
Load terminal	**4:** External thread mounting	
Installation method	**Nil:** Vertical	
Appearance and ttructure	**E:** Simplified shell structure	
Coil power consumption	**P:** energy-saving	
Sort	**1:** 1 coil	
Special code[1)]	**XXX:** Customer special requirement	**Nil:** Standard

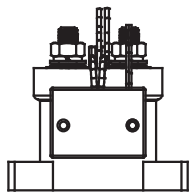
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

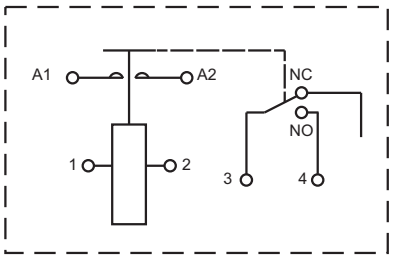
Unit: mm

Outline Dimensions





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 ±0.5mm; When the overall dimension is greater than or equal to 50 mm, the tolerance is ± 0.8 mm.

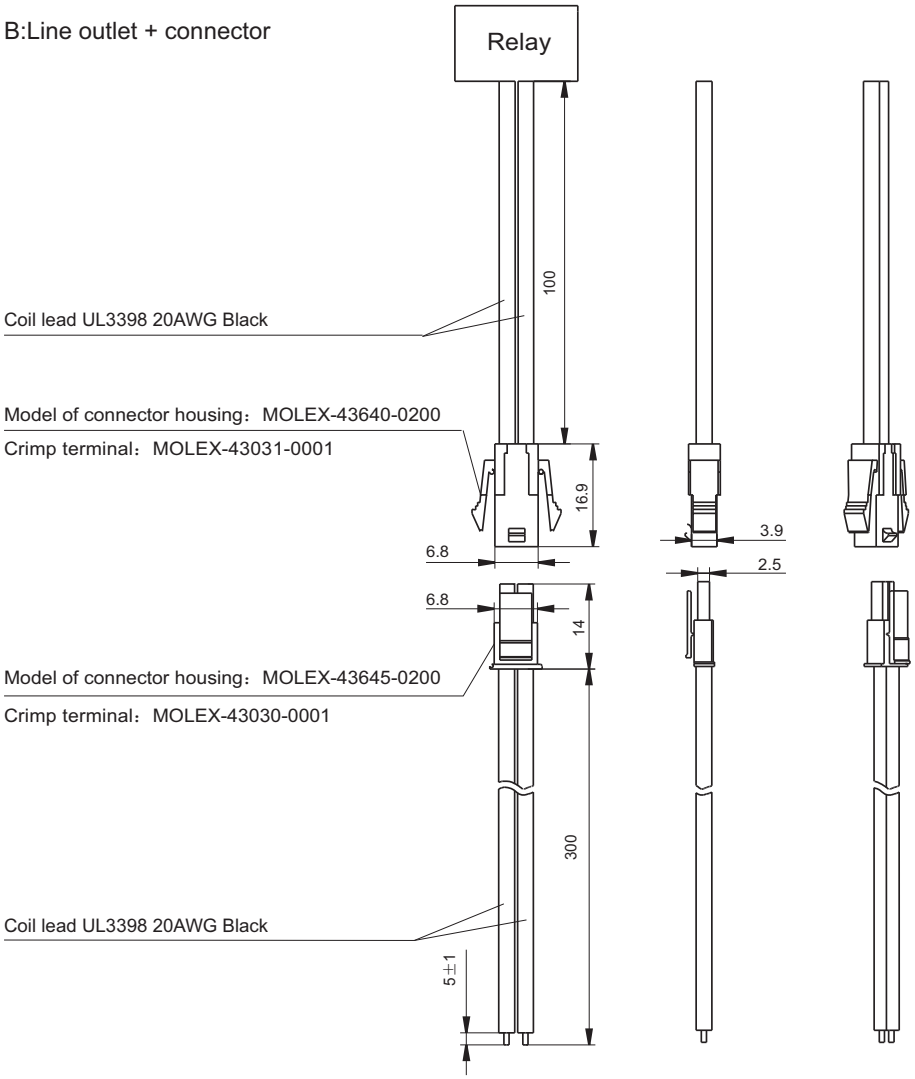
2) L:Coil lead specifications:UL3321,22AWG,black;Line length 300mm;Specifications of auxiliary contact lead wire : UL3398,20AWG, Black; length 300 mm.

3) B:Line outlet + connector (See Figure).

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

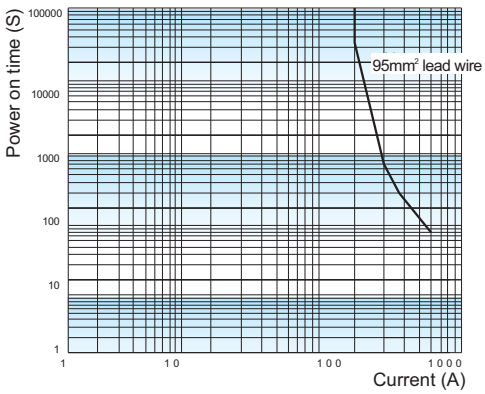
Unit: mm

B:Line outlet + connector



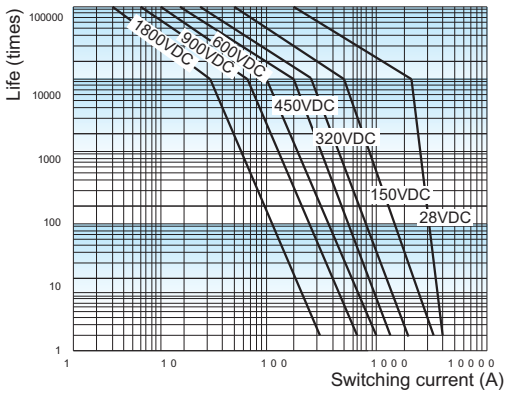
CHARACTERISTIC CURVES

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

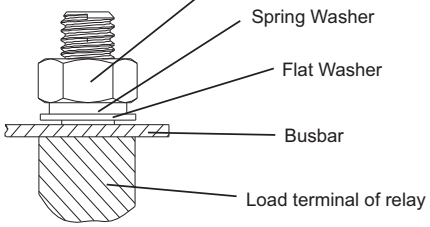


Notes: Resistive load
Insulation after electrical life test ≥50MΩ (500VDC)
As the lifetime is related to many factors,
it is recommended to verify the ratings according to the actual application.

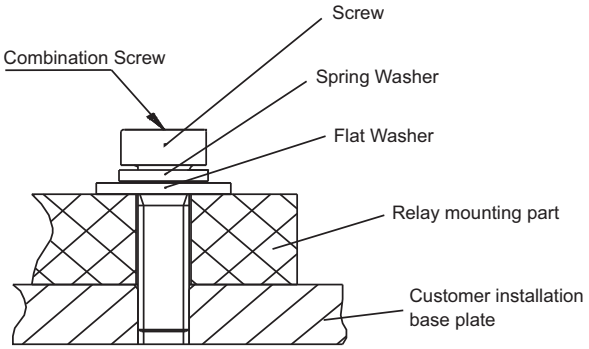
Precautions for use

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 > 1ms, please connect inrush pcurrent rotection 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 95mm^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: Load external thread M8.