HFE82V-600 DIRECT CURRENT RELAY

RoHS compliant

Features

- Ceramic brazing sealed technology guarantees no risk of arc leaking and ensures no fire or explosion.
- Filled with gas (mostly hydrogen) to effectively prevent the oxidation burnt when exposed to electricity; the contact resistance is low and stable, and the parts exposed to electricity can meet IP67 protection level.
- Carrying current 600A continuously at 85°C.
- Insulation resistance is 1000MΩ(1000 VDC), and dielectric strength between the coil and contacts is 4kV, which meets the requirements of IEC 60664-1.
- Coil with energy-saving devices

CONTACT DATA

Contact arrangement	1 Form A
Contact resistance 1)	⩽0.2mΩ(at 600A)
Contact rating	600A
Mechanical endurance	2x10^{5}ops
Max. switching voltage	1000 VDC
Max. breaking current	2500A(800 VDC) 1op
Max. switching power	600kW
Electrical endurance 2)	Making:5×10^{4}ops(750VDC 120A,0.6s on:5.4s off)
	Switching:1×10^5 ops(800 VDC,10A)
	Switching:1×10^4 ops(800 VDC,100A)
	Switching:2×10^3 ops(750 VDC,300A)
	Switching:500ops(750 VDC,600A)
	Reverse switching:5×10^3 ops(750VDC,-100A)
	Reverse switching:1×10^{3}ops(750VDC,-300A)
	Reverse switching:300ops(750VDC,-600A)
	Breaking:1op(800 VDC,2500A)
	Switching:100ops(1000 VDC,600A)
Current carrying 3) capacity	600A:Cont.
	800A:20min
	1000A:5min
	3000A:4s
	8000A:10ms

COIL

23°C

Rated Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Coil power W
12	⩽9	1~9	Switch on:50(time:0.2s) Holding:10
24	⩽18	2~18	Switch on:50(time:0.2s) Holding:10

CHARACTERISTICS

Insulation resistance		1000MΩ(1000 VDC)
Dielectric strength	Between coil & contacts	4000 VAC 1min
	Between open contacts	3000 VAC 1min
Operate time (at rated volt.)		⩽50ms
Release time (at rated volt.)		⩽30ms
Shock resistance	Functional	196m/s^2
	Destructive	490m/s^2
Vibration resistance		10Hz ~ 500Hz 49m/s^2
Humidity		5% ~ 85% RH
Ambient temperature		-40°C ~ 85°C
Load terminal structure		M10 screw terminal female
Unit weight		Approx.1800g
Outline Dimensions		146.0x66.6x132.8mm

Notes:The above values are the initial values measured at room temperature.

Notes: 1) The above values are the initial values.

2) Unless otherwise specified, the temperature of eletrical endurance is at 23°C and the on-off ratio is 0.6s:5.4s.
The coil was not connected to the surge suppression device during the test. Please note that the use of a well-connected diode will greatly increase the release time of the relay, resulting in a reduced lifetime.

3) Ambient temperature is at 85°C and cross section area of wire is 200mm^2 min. See Fig. Endurance Capacity Curve for more information.

4) 8000A 10ms is short circuit carrying test，relay contact may be welded，but will not burn or exploded.

ORDERING INFORMATION

	HFE82	V	-600/	750-	24-	H-	L	6	(XXX)

Type	
Application	**V:** Vehicle
Contact rating	**600:** 600A
Load voltage	**Nil:** 450VDC **750:** 750VDC **1000:** 1000VDC
Coil voltage	**12:** 12 VDC **24:** 24 VDC
Contact arrangement	**H:** 1 Form A
Coil terminal structure	**L:** Lead wire
Load terminal structure	**6:** Screw terminal female and copper bus bar terminal
Special code[1)]	**XXX:** Customer special requirement **Nil:** Standard

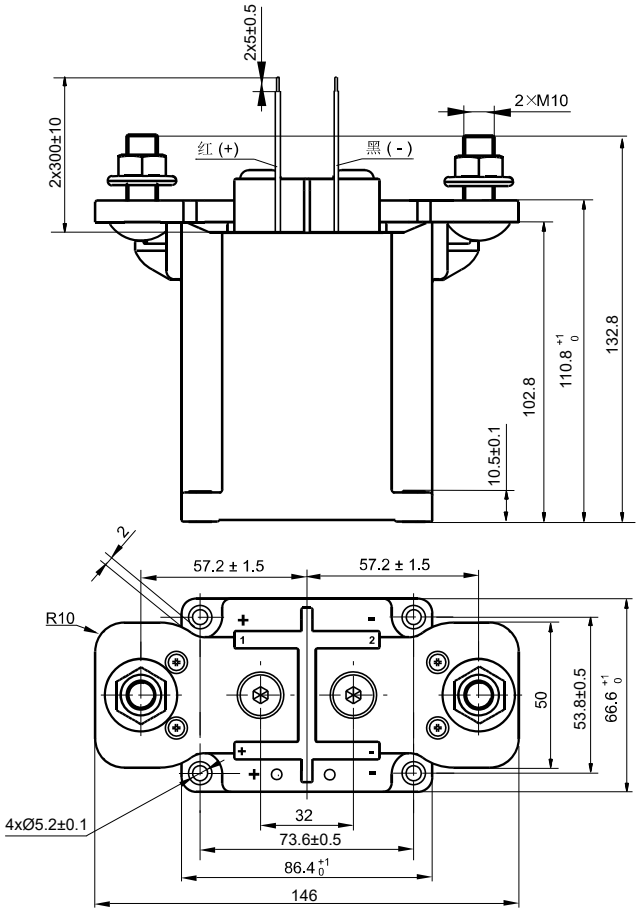
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

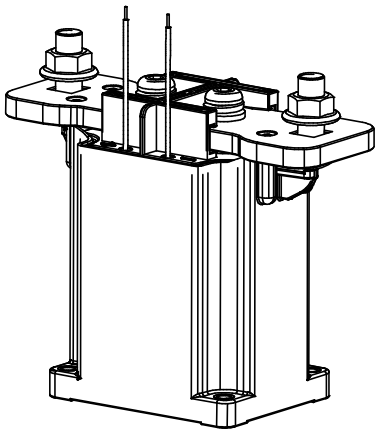
OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Outline Dimensions

HFE82V-600/XXX-XX-H-L6

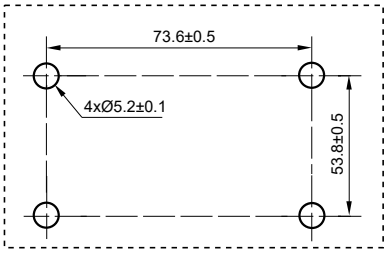




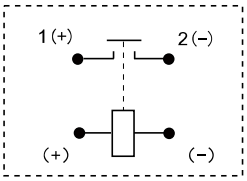
OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Mounting Hole



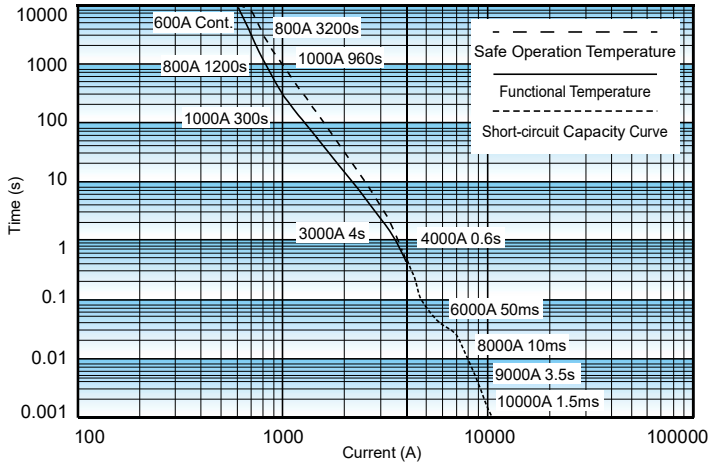
Terminal Arrangement



Note: Polarity on the load and coil sides.

CHARACTERISTIC CURVES

Endurance Capacity Curve



Notes:

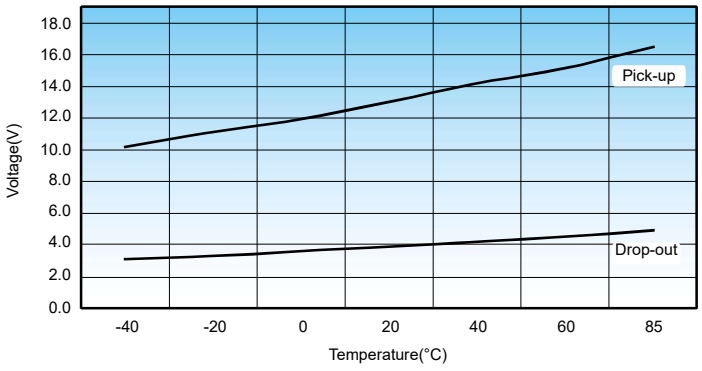
1.The upper limit of safe operation temperature and functional temperature are 180℃ and 130℃ respectively.

2.If the product needs to be operated for a long time, the upper temperature limit should not exceed 130℃.

3.The ambient temperature is 85℃, and the cross section area of the wire is ⩾200mm².

4.When the relay is operated under current ⩾4000A for a long-term, it may weld without fire or explosion.

Pick-up Voltage / Drop-out Voltage Curve



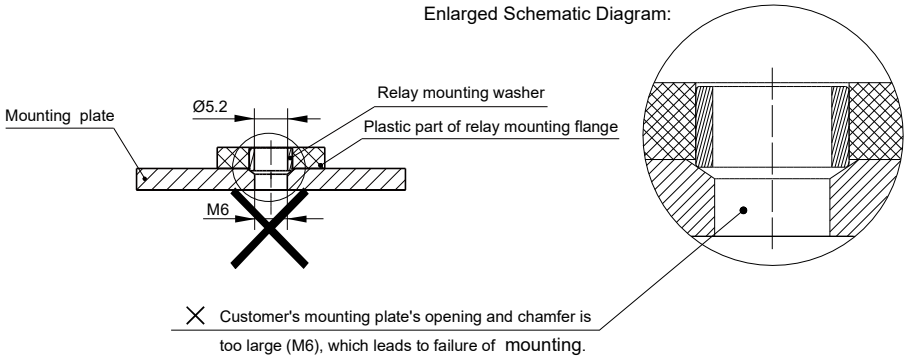
CAUTIONS

1. In case of loosening, please use washer when mount the relay with M5 screw, and the torque within 3N·m to 4N·m, The screw tightening torque at terminals shall be within 20N·m to 25N·m. The torque beyond the range may cause damage.

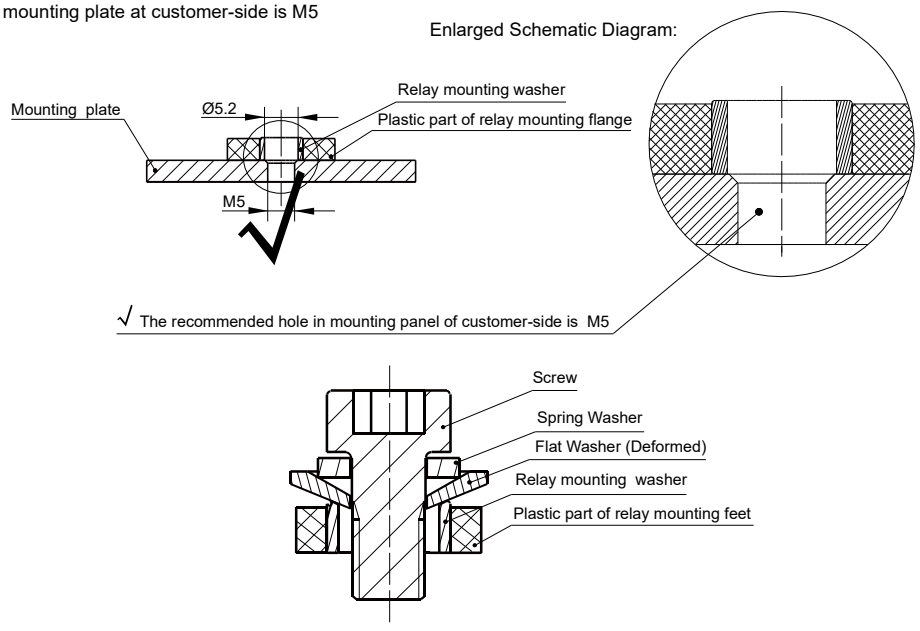
Mounting for load terminal				Mounting for relay body	
Mounting way	Torque requirement	Hole dia. of copper bus bar	Thickness of copper bus bar	Mounting way	Torque requirement
M10 Bolt	20N·m ~ 25N·m	Ø10mm~Ø10.5mm	≥4mm	M5 Screw	3N·m ~ 4N·m

2. Relay terminal lock vertically, please pre-lock first and then lock when installing,repeat locking is not recommended.
3. When the customer uses special crews and nuts,such as nylok,need to communicate and confirm with Hongfa.
4. When the customer has special installation requirement,such as upside down,multi busbar connection,need to communicate and confirm with Hongfa.
5. Be careful that oils and foreign matter do not stick to the main terminal part and please use the wire with min. cross section area 200mm^2, otherwise the terminal parts may have abnormal heating.
6. The product has energy-saving board inside and the coil will switch automatically after 0.2s drive, but repeated switching within 0.2s may cause failure of relay.
7. The product with PCB inside cannot be driven by ramp up voltage, please drive the coil by step type power ,otherwise the relay may fail to work.
8. Cautions of mounting for relay body:

Unrecommended method
The hole of mounting plate at customer-side is too large.



Recommended method
The hole in mounting plate at customer-side is M5



When use M5 screw, the thickness and strength of the washer needs to be guaranteed or it may deform and burst the cover.

Disclaimer

The specification is for reference only. See to "Terminology and Guidelines" for more information. Specifications subject to change without notice. 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.