



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 150A 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.

CONTACT DATA

Contact arrangement	1 Form A
Contact resistance	≤0.5mΩ(at 150A)
Contact rating	150A
Mechanical endurance	2x10 ⁵ ops
Max. switching voltage	750 VDC
Max. breaking current	1300A(400 VDC) 1op
Max. switching power	150kW
Electrical endurance ¹⁾	Breaking:5x10 ⁴ ops (475 VDC, 20A)
	Making:7x10 ⁴ ops (20 VDC, 100A)
	Breaking:1x10 ³ ops(450 VDC, 150A)
Current carrying ²⁾ capacity	150A:Cont.
	180A:2h
	225A:15min
	320A:2min
	400A:1min
	600A:20s
	900A:8s

Notes: 1) Unless otherwise specified, the temperature of electrical 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.

2) Ambient temperature is at 85°C and cross section area of wire is 50mm² min. See Fig. Endurance Capacity Curve for more information.

COIL

23°C

Rated Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Coil power W
12	≤9	≥1	6
24	≤18	≥2	6

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.)		≤30ms
Release time (at rated volt.)		≤10ms
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		Screw terminal female
Unit weight		Approx.300g
Outline Dimensions		77.0x37.7x71.3mm

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



HONGFA RELAY

ISO9001、ISO/TS16949、ISO14001、OHSAS18001、IECQ QC 080000 CERTIFIED

2021 Rev. 1.00

ORDERING INFORMATION

Type	HFE82 V -150 F/ 500-12- H- Q 5 Y -1 (XXX)										
Application	V: Vehicle										
Contact rating	150: 150A										
Series breakdown	F: F series										
Load voltage	500: 500 VDC					750: 750 VDC					
Coil voltage	12: 12 VDC			24: 24 VDC							
Contact arrangement	H: 1 Form A										
Coil terminal structure	Q: QC terminal										
Load terminal structure	5: Screw terminal female										
Mounting	Y: Horizontal mounting										
Coil characteristic	1: Single coil										
Special code ¹⁾	XXX: Customer special requirement Nil: Standard										

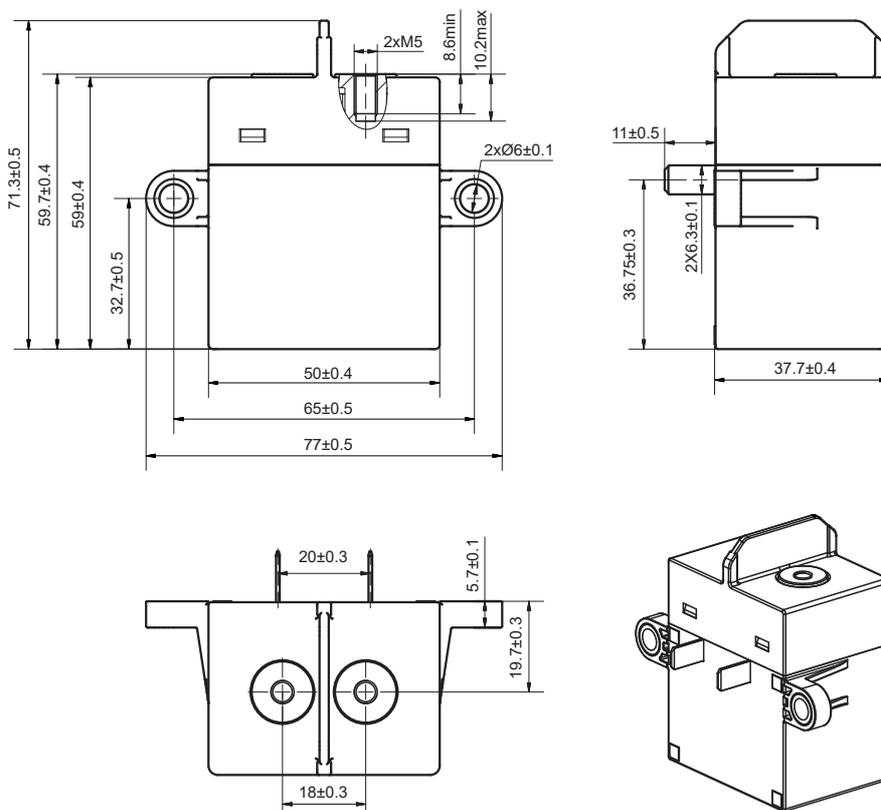
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Outline Dimensions

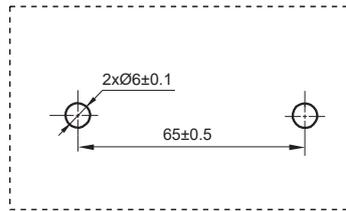
HFE82V-150F/XXX-XX-H-Q5Y-1



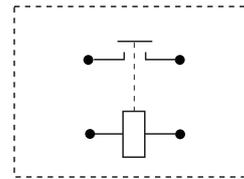
OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Mounting Hole



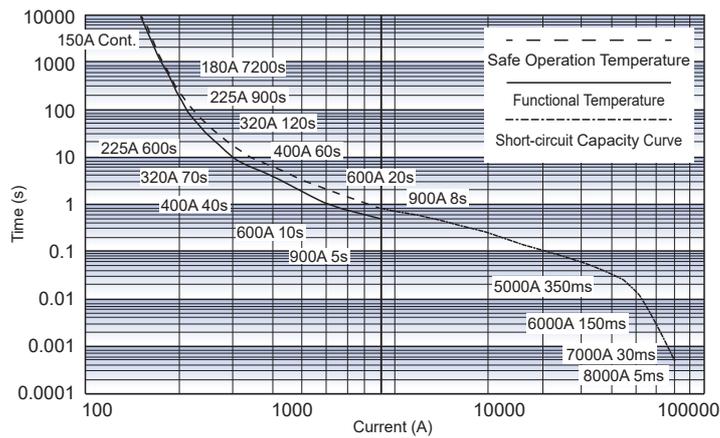
Terminal Arrangement



Note: No polarity on the load and coil sides.

CHARACTERISTIC CURVES

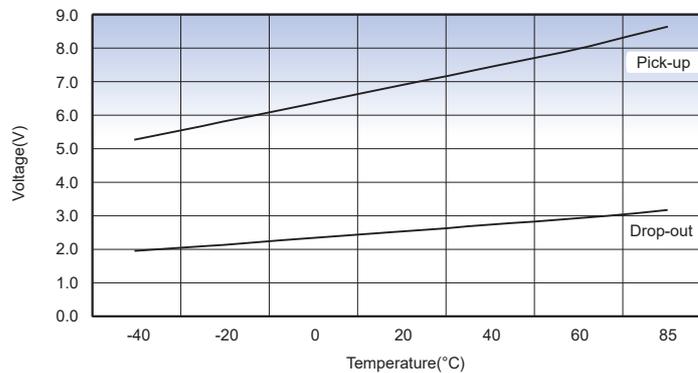
Endurance Capacity Curve



Notes:

1. The upper limit of safe operation temperature and functional temperature are 180°C and 130°C respectively.
2. If the product needs to be operated for a long time, the upper temperature limit should not exceed 130°C.
3. The ambient temperature is 85°C, and the cross sectional area of the wire is $\geq 50\text{mm}^2$.
4. When the current is $\geq 1500\text{A}$, the relay is likely to weld without fire or explosion.
5. The dash-dotted line is the short-circuit capacity curve of the relay. when the current is $\geq 5000\text{A}$, the contact may bounce without fire or explosion.

Pick-up Voltage / Drop-out Voltage Curve



CAUTIONS

- In case of loosening, please use washer when mount the relay with M5 screw, and the torque within 3N·m to 4N·m. The torque beyond the range may cause damage.

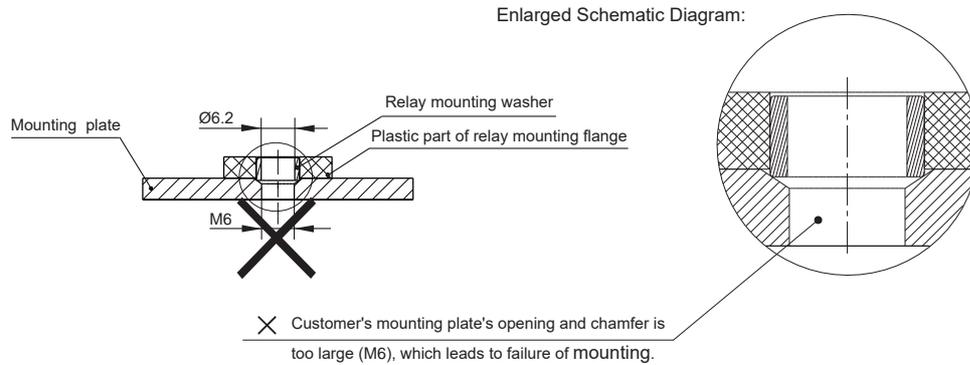
Mounting for load terminal				Relay mounting	
Mounting way	Torque requirement	Hole dia. of copper bus bar	Thickness of copper bus bar	Mounting way	Torque requirement
M5 Screw	3N·m ~ 4N·m	Ø5.0mm~Ø5.5mm	3mm	M5 Screw	3N·m ~ 4N·m

- 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 50mm², otherwise the terminal parts may have abnormal heating.

- Caution of relay mounting:

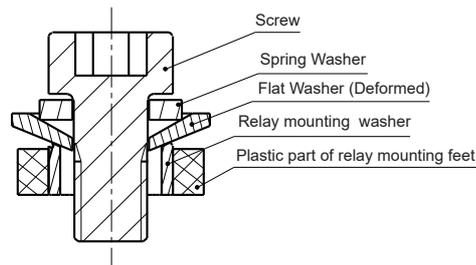
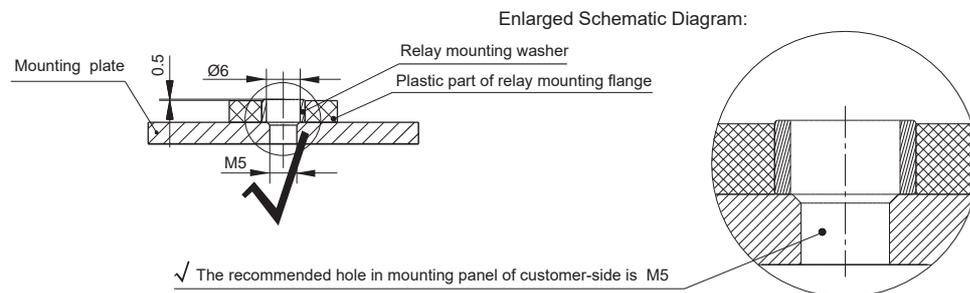
Unrecommended method

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.

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