

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 1000A continuously at 85°C.
- Insulation resistance is 1000MΩ(1000 VDC), and dielectric strength between the coil and contacts is 5kV, which meets the requirements of IEC 60664-1.
- Coil with energy-saving devices

### CONTACT DATA

Contact arrangement	1 Form A
Contact resistance	≤0.2mΩ(at 1000A)
Contact rating	1000A
Mechanical endurance	2x10 <sup>5</sup> ops
Max. switching voltage	1000 VDC
Max. breaking current	2000A(1000 VDC) 1op
Max. switching power	1500kW
Electrical endurance 1)	Making:2×10 <sup>4</sup> ops(1000 VDC 60A)
	Breaking:1 op(1000 VDC 2000A)
	Breaking:50 ops(1000 VDC 1000A)
	Breaking:50 ops(1500 VDC 800A)
	Switching:100 ops(1000 VDC 1000A)
Current carrying 2) capacity	1000A:Cont.
	1500A:140s
	2000A:82s
	3000A:30s
	4000A:18s
	10000A:5ms
	12000A:2ms

Notes: 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 400mm<sup>2</sup> min. See Fig. Endurance Capacity Curve for more information.

3) 10000A 2ms is short circuit carrying test, relay contact may be welded, but will not burn or exploded.

### COIL

23°C

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

### CHARACTERISTICS

Insulation resistance		1000MΩ(1000 VDC)
Dielectric strength	Between coil & contacts	5000 VAC 1min
	Between open contacts	5000 VAC 1min
Operate time (at rated volt.)		≤100ms
Release time (at rated volt.)		≤30ms
Shock resistance	Functional	196m/s <sup>2</sup>
	Destructive	490m/s <sup>2</sup>
Vibration resistance		10Hz ~ 500Hz 49m/s <sup>2</sup>
Humidity		5% ~ 85% RH
Ambient temperature		-40°C ~ 85°C
Load terminal structure		M10 screw terminal female
Unit weight		Approx.3450g
Outline Dimensions		165.6x104.6x132.8mm

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	-1000 /1000	-24	-H	-C	6	-6 (XXX)
Application	V: Vehicle							
Contact rating	1000:1000A							
Load voltage	1000: 1000 VDC 1200: 1200 VDC							
Coil voltage	24: 24 VDC							
Contact arrangement	H: 1 Form A							
Coil terminal structure	C: Connector							
Load terminal structure	6: Screw terminal female and copper bus bar terminal							
Coil characteristic	6: Double coil with PCBA							
Special code <sup>1)</sup>	XXX: Customer special requirement Nil: Standard							

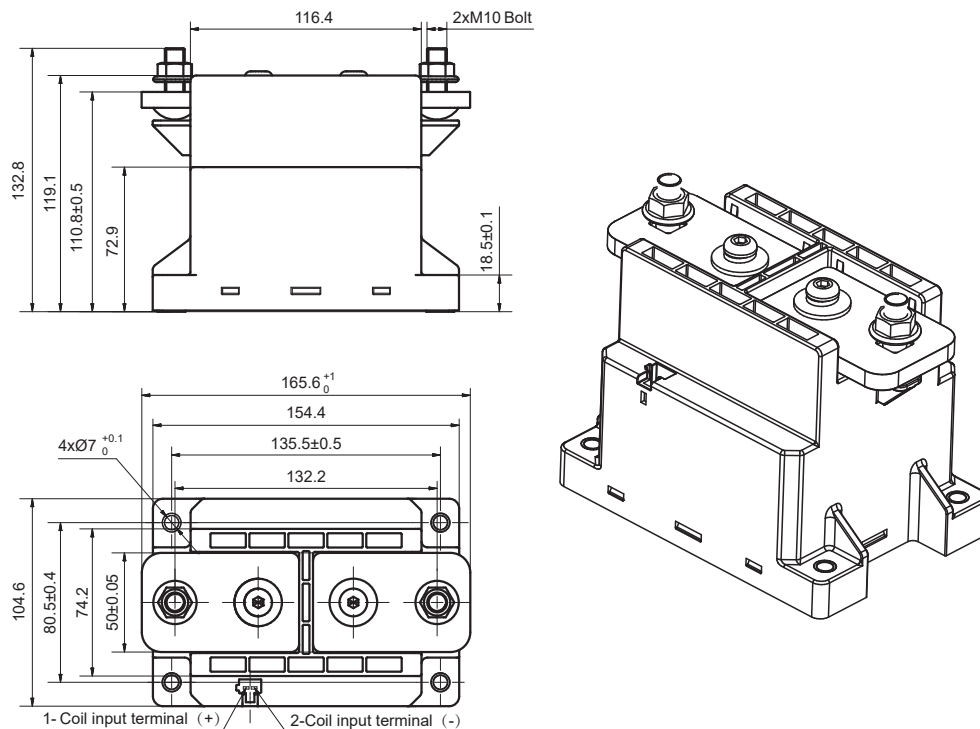
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

## OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

### Outline Dimensions

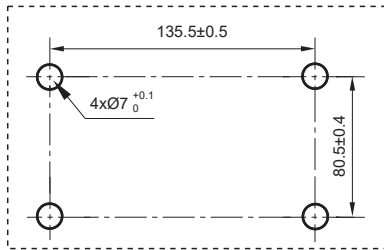
HFE82V-1000/XXX-24-H-C-6



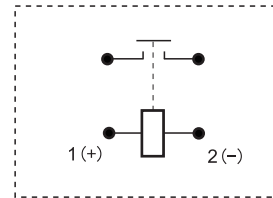
# OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Mounting Hole



Terminal Arrangement



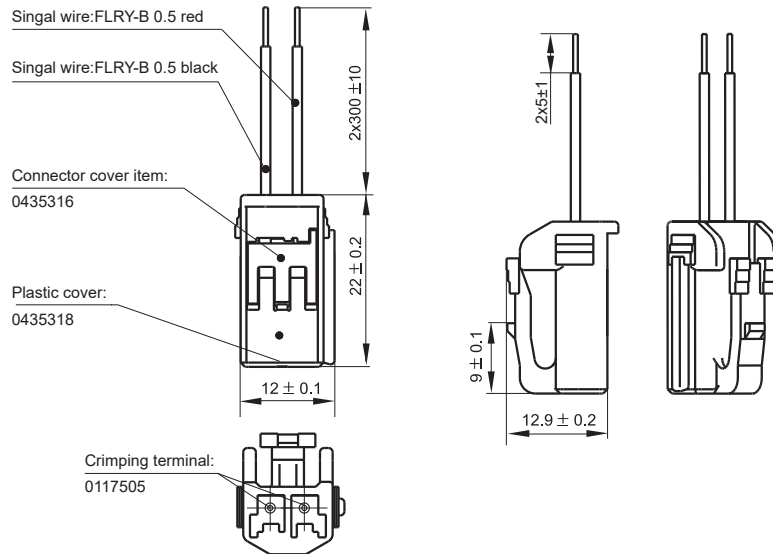
Note: No polarity on the load, with polarity on the coil.

# WIRING DIAGRAM

Unit: mm

## C:Connector

( Configured by customers:Tianhai 0435 series, Yazaki 7283-1020 )



## CAUTIONS

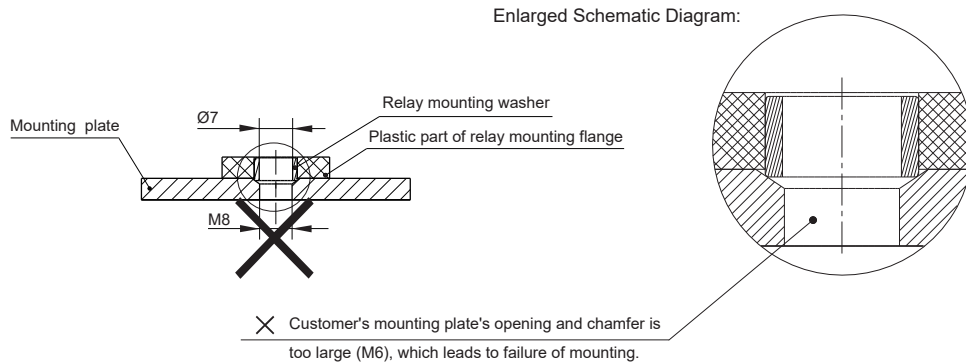
1. In case of loosening, please use washer when mount the relay with M5 screw, and the torque within 6N·m to 8N·m, The screw tightening torque at terminals shall be within 20N·m to 25N·m. The torque beyond the range may cause damage.

Mounting for load terminal				Relay mounting	
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	≥8mm	M6 Screw	6N·m ~ 8N·m

2. 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 400mm<sup>2</sup>, otherwise the terminal parts may have abnormal heating.
3. 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.
4. 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.
5. Cautions of relay mounting:

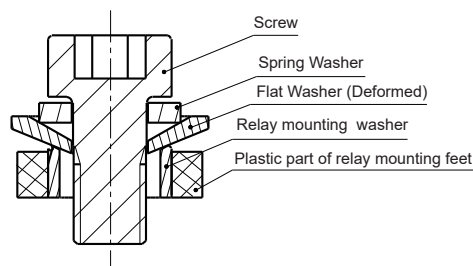
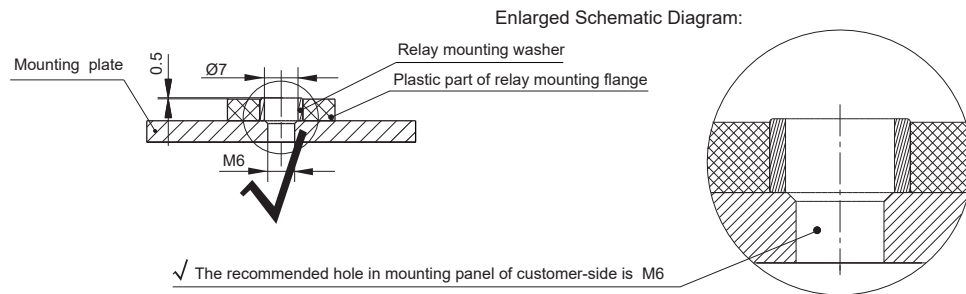
### Unrecommended method

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



### Recommended method

The hole in mounting plate at customer-side is M6



When use M6 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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