HFE82V-200W 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 200A 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	Main contact≤0.5mΩ(at 200A) Auxiliary contact<100mΩ(at 0.5A)
Contact rating	200A
Mechanical endurance	2x10^{5}ops
Max. switching voltage	750 VDC
Max. breaking current	1500A(450 VDC) 1op
Max. switching power	180kW
Electrical endurance 1)	Making:1x10^{5}ops(20 VDC C=1500μF, Inrush150A)
	Breaking:5x10^{4}ops(450 VDC,15A)
	Breaking:500ops(450 VDC,200A)
	Breaking:1op(450 VDC,1500A)
	Short-circuit capacity: 5kA/450 VDC. 5ms No fire, no explosion
Current carrying 2) capacity	200A: Cont.
	250A: 15min
	320A: 5min
	600A: 30s
	900A: 10s

Notes: 1) 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.
2) Ambient temperature is at 85°C and cross section area of wire is 80mm^2 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	≥0.5	6
24	≤18	≥1	6

CHARACTERISTICS

Insulation resistance		1000MΩ(1000 VDC)
Dielectric strength	Between coil & contacts	4000 VAC 1min
	Between open contacts	3000 VAC 1min
	Between contacts & auxiliary 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		M6 screw terminal female
Unit weight		Approx.400g
Outline Dimensions		55.0x43.0x65.8mm

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

ORDERING INFORMATION

	HFE82	V	-200	W/		12-	H	A-	C	5	Y	-1	(XXX)

Type	
Application	**V:** Vehicle
Contact rating	**200:** 200A
Series breakdown	**W:** W series
Load voltage	**Nil:** 450 VDC
Coil voltage	**12:** 12 VDC **24:** 24 VDC
Contact arrangement	**H:** 1 Form A
Auxiliary contact form	**A:** 1 Form A
Coil terminal structure	**C:** Connector
Load terminal structure	**5:** Screw terminal female
Mounting	**Nil:**Vertical mounting **Y:** Horizontal mounting
Coil characteristic	**1:** Single coil
Special code[1)]	**XXX:** Customer special requirement **Nil:** Standard

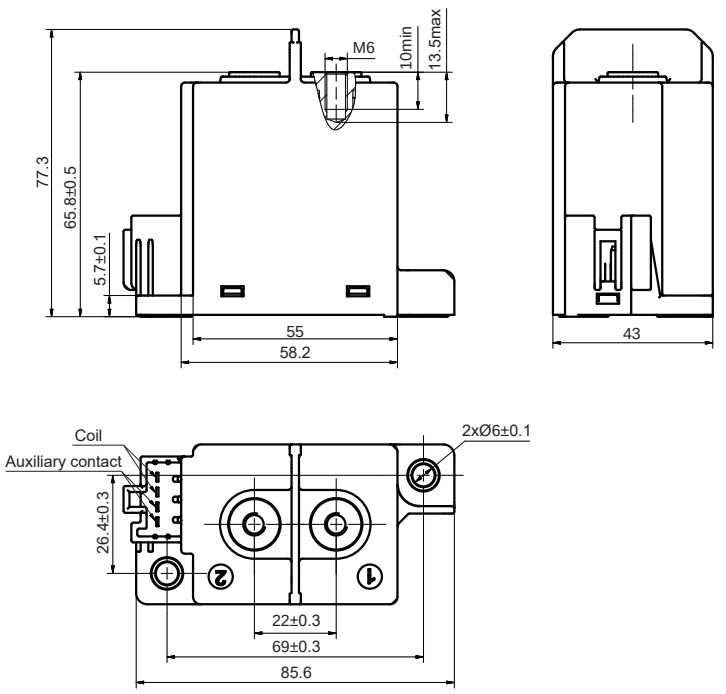
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Outline Dimensions

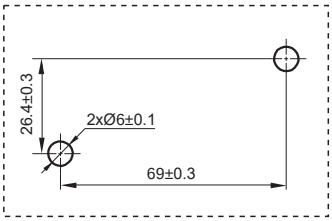
HFE82V-200W/XXX-12-HA-C5-1



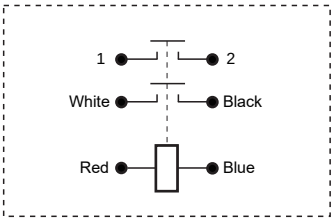
OUTLINE DIMENSIONS, MOUNTING HOLE, TERMINAL ARRANGEMENT

Unit: mm

Mounting Hole



Terminal Arrangement



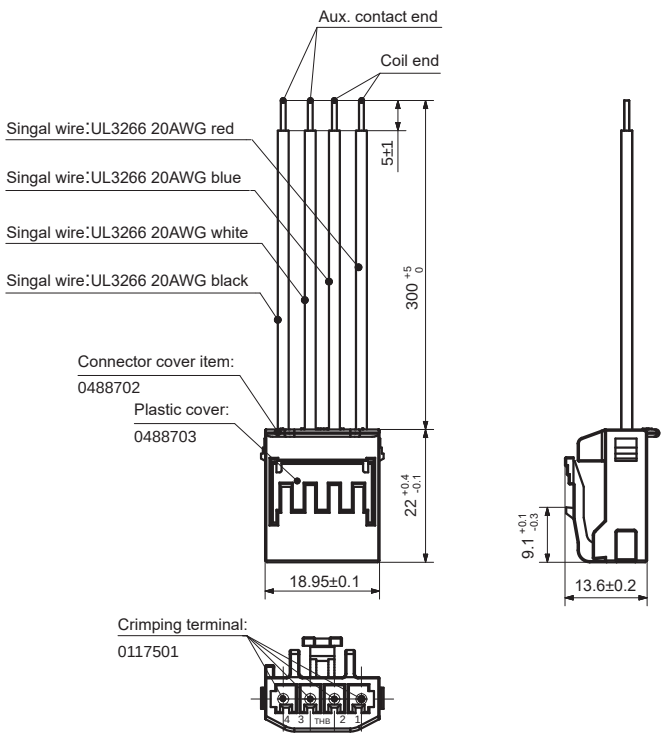
Note: No polarity on the load、auxiliary contacts and coil sides.

WIRING DIAGRAM

Unit: mm

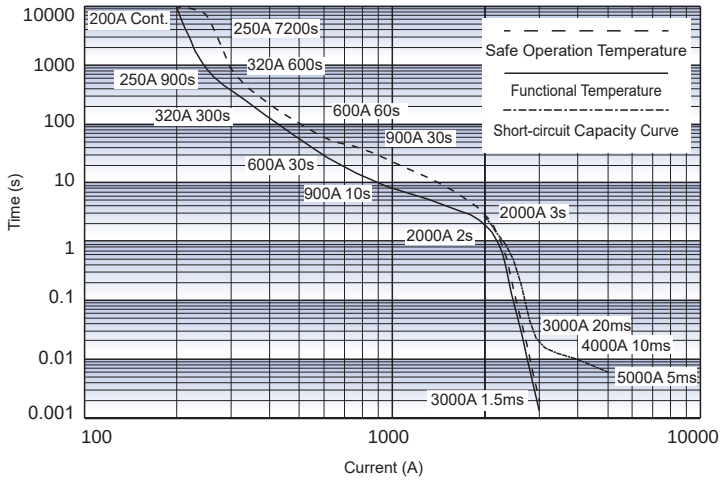
C:Connector

（Configured by customers:Tianhai 04387 series, KET: MG651038）



CHARACTERISTIC CURVES

Endurance Capacity Curve



Notes:

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

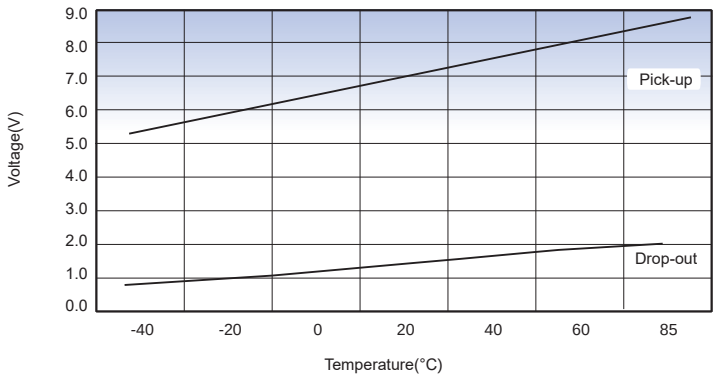
2.If the product needs to be operated for a long time, the upper temperature limit should not exceed 130℃; If the safe operation temperature of 180℃ is exceeded, the relay may also catch fire;

3.The ambient temperature is 85℃, and the cross sectional area of the wire is ≥80mm^2.

4.When the current is ≥2000A, 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 ≥5000A, the contact may bounce 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 6N·m to 8N·m. The torque beyond the range may cause damage.

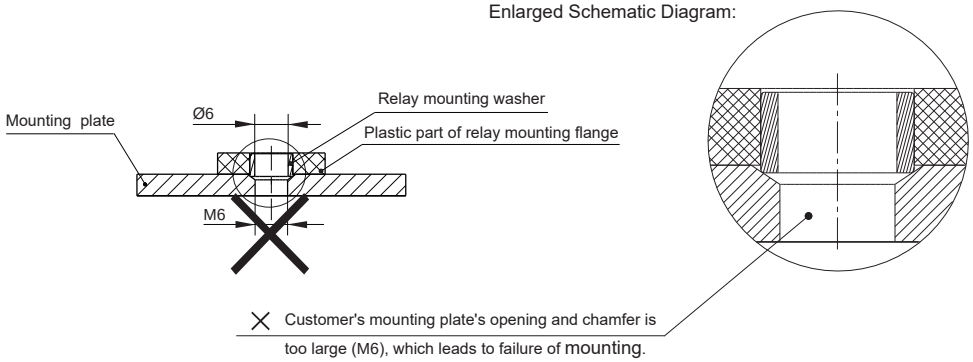
Mounting for load terminal				Relay mounting	
Mounting way	Torque requirement	Hole dia. of copper bus bar	Thickness of copper bus bar	Mounting way	Torque requirement
M6 Screw	6N·m ~ 8N·m	Ø6.0mm~Ø6.5mm	2mm~3mm	M5 Screw	3N·m ~ 4N·m

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 80mm^2, otherwise the terminal parts may have abnormal heating.

3. Cautions of relay mounting:

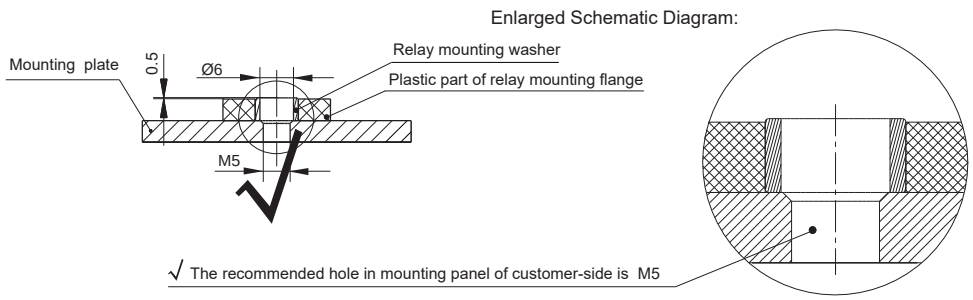
Unrecommended method
The hole of mounting plate at customer-side is too large.

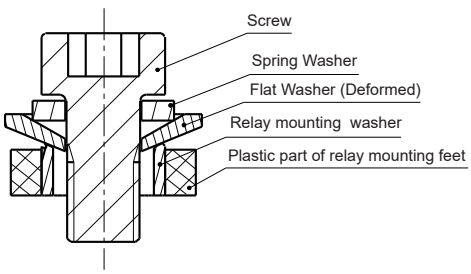
Enlarged Schematic Diagram:



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

Enlarged Schematic Diagram:





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.