

HFE 80V-100

DIRECT CURRENT RELAY



Features

- Carrying current 100A continuously at 85°C
- No specific polarity requirements for the connection
- 4kV dielectric strength between coil & contacts
- Outline Dimensions: (81 x 47.7 x 82.4) mm (Horizontal)
(88 x 47.4 x 82.9) mm (Vertical)

CONTACT DATA

Contact arrangement	1A		
Contact resistance	≤0.8mΩ (6VDC 20A)		
Rated load current	100A		
Mechanical endurance	2 x 10 ⁵ ops		
	60V type	150V type	
Max. switching voltage	60VDC	150VDC	
Max. breaking current	200A	200A	
Max. switching power	6kW	15kW	
Electrical endurance ¹⁾	Cap. load	Making: 7.5 x 10 ⁴ ops (3VDC, τ=1ms Inrush 400A, Steady 100A)	Making: 7.5 x 10 ⁴ ops (7.5VDC, τ=1ms Inrush 400A, Steady 100A)
		Res. load	Breaking: 1 x 10 ⁴ ops (60VDC, 40A)
	Breaking: 6 x 10 ³ ops (60VDC, 100A)		Breaking: 3 x 10 ³ ops (150VDC, 100A)
	Breaking: 50 ops (60VDC, 200A)	Breaking: 50 ops (150VDC, 200A)	
Current carrying capacity ²⁾	100A: Cont.		
	200A: 10min		
	400A: 30s		
	1000A: 0.6s		

Notes: 1) Until special statement, the temperature of electrical endurance is at 23°C and the on-off ratio is 0.6s:5.4s.
2) Ambient temperature is room temperature and cross section area of wire is 40mm² min. See Pic Endurance Capacity Curve for more information.

COIL

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Coil power W
12	9	1.2	5
24	18	2.4	5

Notes: The values above are conservative values within the temperature range(-40°C to 85°C), the pick-up voltage and drop-out voltage are showed in the Pic Pick-up Voltage / Drop-out Voltage Curve.

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1min.
	Between open contacts	3000VAC 1min.
Operate time (at nomi. volt.)		30ms max.
Release time (at nomi. volt.)		10ms max.
Shock resistance	Functional	196m/s ²
	Destructive	490m/s ²
Vibration resistance		10Hz to 1000Hz 50m/s ²
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		M6 screw thread female
Unit weight		Approx.400g
Outline dimensions		Horizontal: 81 x 47.7 x 82.4 mm Vertical: 88 x 47.4 x 82.9 mm

Notes: The data shown above are initial values.



HONGFA RELAY

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

2016 Rev. 1.20

ORDERING INFORMATION

	HFE80V	-100 / 150-	12-	H	T	C	5	Y	(XXX)
Type	V: New energy vehicle								
Contact rating	100: 100A								
Load voltage	Nil: 60VDC 150: 150VDC								
Coil voltage	12: 12VDC 24: 24 VDC								
Contact arrangement	H: 1 Form A								
Contact material	T: AgSnO ₂								
Coil input terminal	C: Connector								
Load input terminal	5: Screw Terminal Female								
Mounting	Nil: Vertical fixing Y: Horizontal fixing								
Special code¹⁾	XXX: Customer special requirement			Nil: Standard					

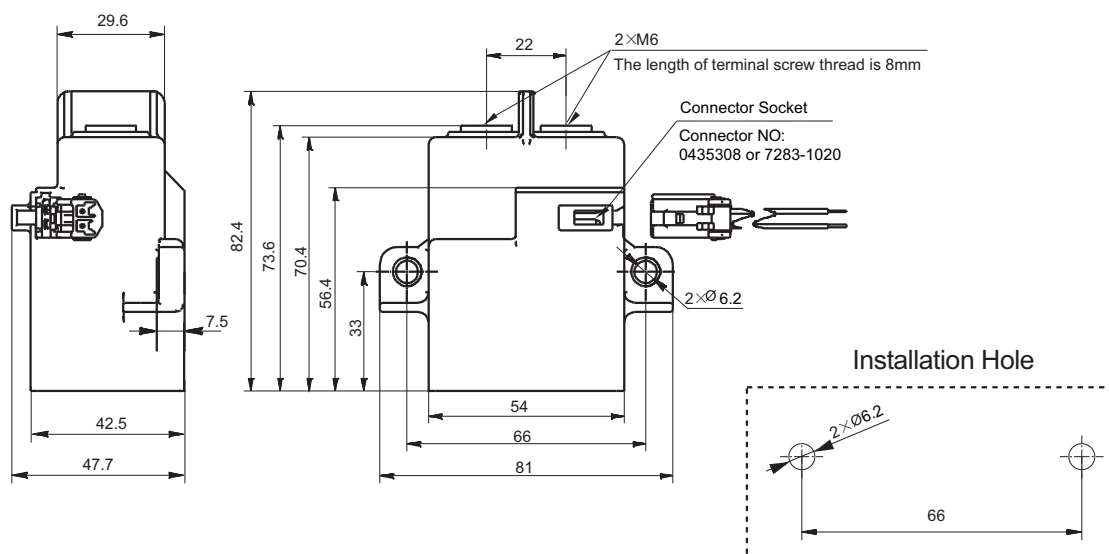
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, INSTALLATION HOLE

Unit: mm

Outline Dimensions

HFE80V-100/XXX-XX-HTC5Y

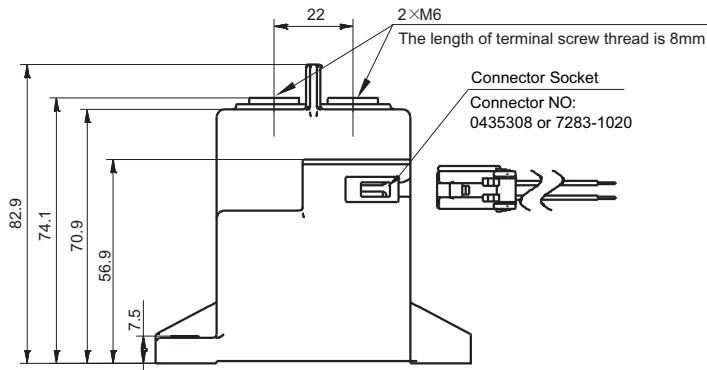


OUTLINE DIMENSIONS, INSTALLATION HOLE

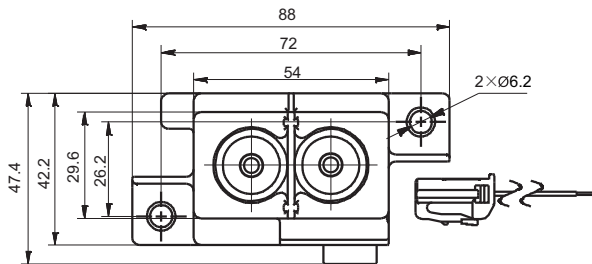
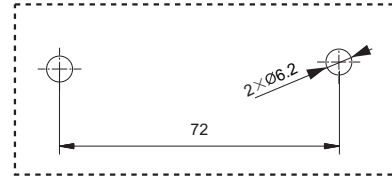
Unit: mm

Outline Dimensions

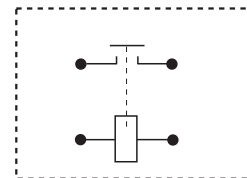
HFE80V-100/XXX-XX-HTC5



Installation Hole



Coil Wiring Diagram



Note: no polarity on the loads and coil.

Remark: In case of no tolerance shown in outline dimension: outline dimension ≤ 10 mm, tolerance should be ± 0.3 mm; outline dimension > 10 mm and ≤ 50 mm, tolerance should be ± 0.5 mm; outline dimension > 50 mm, tolerance should be ± 0.8 mm.

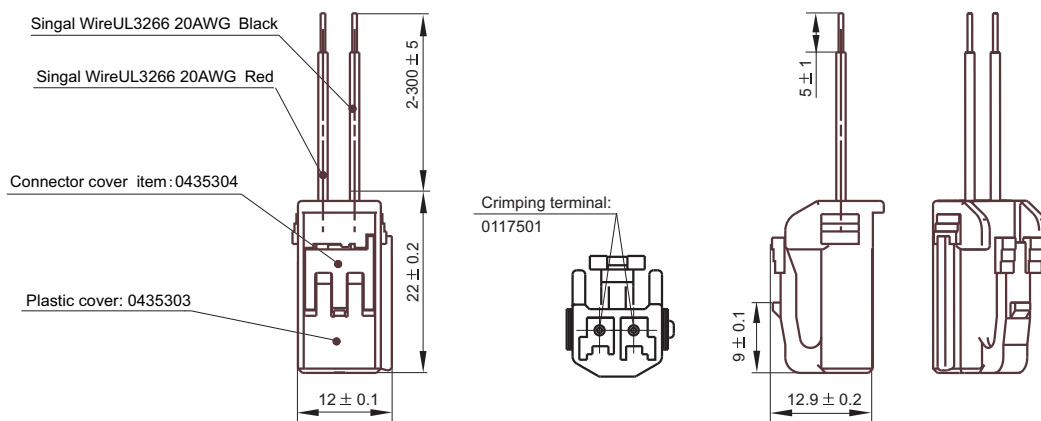
OUTLINE DIMENSIONS,INSTALLATION HOLE

Unit: mm

Wiring Diagram

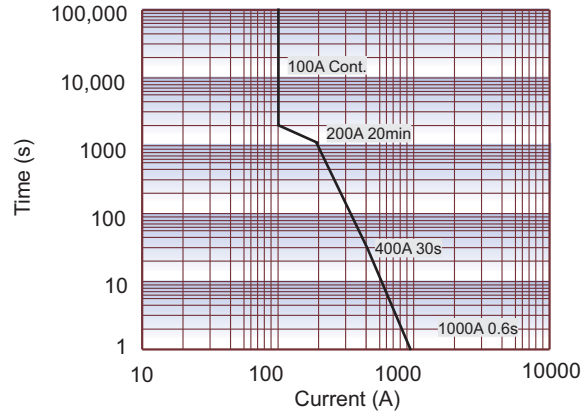
C: Connector

(Tianhai: 0435308 or Yazaki: 7283-1020)



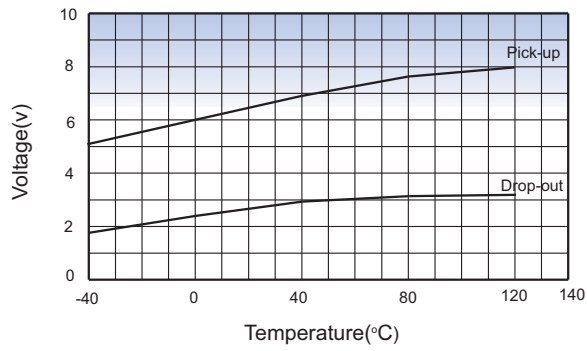
CHARACTERISTIC CURVES

Endurance Capacity Curve



Notes: The data above is measured at the environment temperature 85°C with cross section area of wire $\geq 40\text{mm}^2$. This data is only for reference and please do not use it for fuse selection.

Pick-up Voltage / Drop-out Voltage Curve



Notes: When the coil voltage is 12V, the data above is taken as sample value and only for reference (Sample quantity: n=3)

Cautions

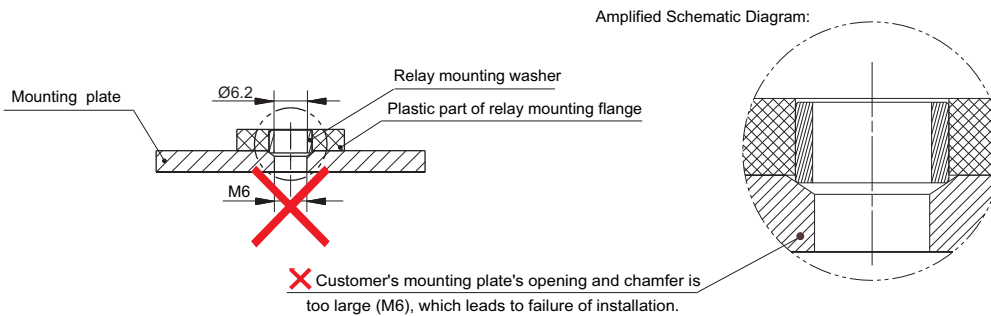
1. In case of loosening, please use washer when install the relay with M5 screw, and the torque within 3N·m to 4N·m, the torque of fixing screw at terminals shall be within 6N·m to 8N·m. The torque beyond the range may cause damage.

2. Please do not adhere foreign materials like oil on the terminals and please use the wire with cross section area 40mm² min, otherwise the terminal parts may have abnormal heating.

3. Cautions of Relay Installation:

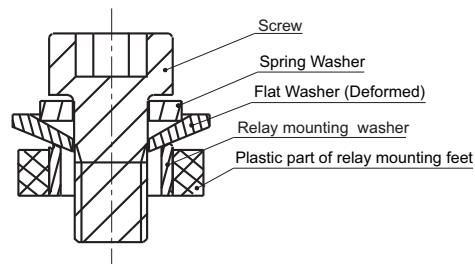
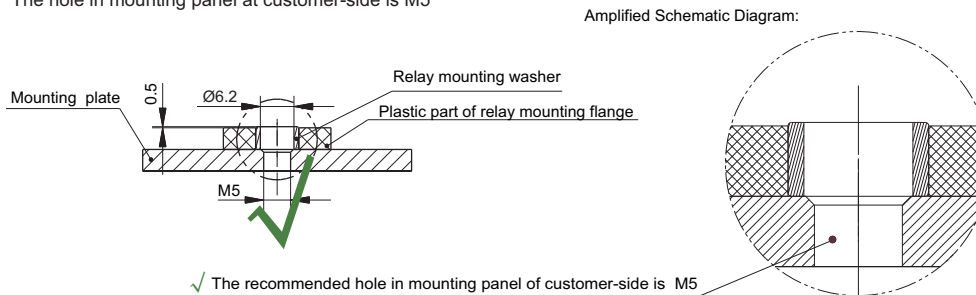
Unrecommended method

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



Recommended method

The hole in mounting panel 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.