

# HF116F-80

# HIGH POWER RELAY



File No.:E134517



File No.:R50154722



### Features

- 80A switching capability
- Applicable to solar photovoltaic inverter
- Applicable to UPS
- 3mm contact gap  
(compliant to European Photovoltaic Standard VDE0126, compliant to IEC 62109-2-2011)
- 4kV dielectric strength(between coil and contacts)
- UL insulation system: Class F
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (50.5 x 32.9 x 36) mm

### CONTACT DATA

Contact arrangement	1A
Contact resistance	10mΩ max.(at 10A 13.5VDC)
Contact material	AgSnO <sub>2</sub> , AgNi
Contact rating (Res. load)	80A 250VAC
Max. switching voltage	277VAC
Max. switching current	90A
Max. load current	100A 15min at room temp.
Max. switching power	24930VA
Mechanical endurance	1 x 10 <sup>6</sup> OPS
Electrical endurance	6 x 10 <sup>3</sup> OPS
	(80A 250VAC, at 85°C, 1s on 9s off)
	6 x 10 <sup>3</sup> OPS (80A 60VDC, at 85°C, 1s on 9s off)

### COIL

Coil power	Approx. 3.2W
Holding voltage	60%~120%U <sub>N</sub> (at 23°C)
	70%~95%U <sub>N</sub> (at 85°C)

- Notes:** 1)The coil holding voltage is the voltage applied to coil 200ms after the rated voltage.  
2)To avoid overheating and burning, the coil can not be consistently applied to with voltage larger than maximum holding voltage.

### CHARACTERISTICS

Insulation resistance	1000MΩ (at 500VDC)	
Dielectric strength	Between open contacts	2000VAC 1min
	Between coil & contacts	4000VAC 1min
Surge Voltage	6kV (1.2/50μs)	
Operate time (at nomi. volt.)	30ms max.	
Release time (at nomi. volt.)	30ms max.	
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance*	10Hz to 55Hz 1.5mm DA	
Humidity	5% to 85% RH	
Ambient temperature	-40°C to 85°C	
Termination <sup>2)</sup>	PCB	
Unit weight	Approx. 120g	
Construction	Dust protected	

- Notes:** 1) The data shown above are initial values;  
2) It does not allow using quick-connect terminations.  
3)\*Index is not in relay width direction.

### COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC *	Coil Resistance Ω
3	2.25	0.3	3.3	2.8 x (1±10%)
6	4.50	0.6	6.6	11.3 x (1±10%)
9	6.75	0.9	9.9	25 x (1±10%)
12	9.00	1.2	13.2	45 x (1±10%)
24	18.0	2.4	26.4	180 x (1±10%)
48	36.0	4.8	52.8	720 x (1±10%)

- Notes:** \*Maximun voltage refers to the maximun voltage which relay coil could endure in a short period of time.



HONGFA RELAY

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

2017 Rev. 1.00

## ORDERING INFORMATION

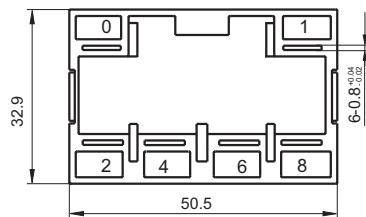
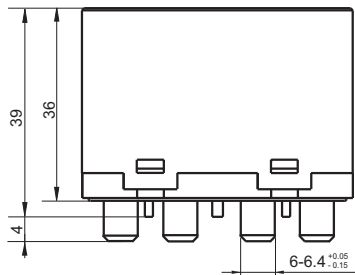
Type	HF116F-80/	12	-1H	T	F	(XXX)
Coil voltage	3, 6, 9, 12, 24, 48VDC					
Contact arrangement	1H:1 Form A					
Contact material	T: AgSnO <sub>2</sub>		Nil: AgNi			
Insulation standard	F: Class F					
Special code <sup>1)</sup>	XXX: Customer special requirement		Nil: Standard			

Notes: 1) The customer special requirement express as special code after evaluating by Hongfa. e.g.(335) stands for product in accordance to IEC 60335-1 (GWT).

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

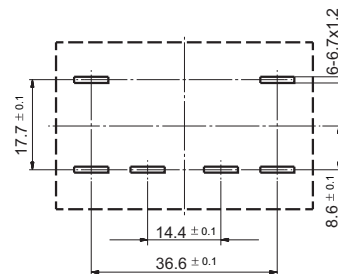
Outline Dimensions



(Bottom view)

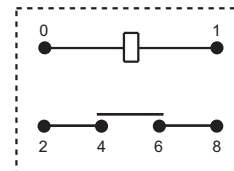
PCB Layout

(Bottom view)



Wiring Diagram

(Bottom view)



Remark: 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $> 5\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ .

2) The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .

### 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.