HF116F-80 HIGH POWER RELAY

File No.:E134517

File No.:R 50154722

File No.: CQC09002031231
CQC18002206328

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

CONTACT DATA

Contact arrangement	1A
Contact resistance[1)]	10mΩ max(at 10A 13.5VDC)
Contact material	$AgSnO_2$, AgNi
Contact rating (Res. load)	80A 60VDC/80A 250VAC
Max. switching voltage	277VAC/60VDC
Max. switching current	90A
Max. load current	100A 15min at room temp.
Max. switching power	24930VA
Mechanical endurance	1 x 10^6OPS
Electrical endurance	6 x 10^3OPS (80A 250VAC, at 85°C, 1s on 9s off) 6 x 10^3OPS (80A 60VDC, at 85°C, 1s on 9s off)

Notes: 1) The data shown above are initial values.

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/s²
	Destructive	980m/s²
Vibration resistance*		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination[2)]		PCB
Unit weight		Approx. 90g
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

Coil power	Approx. 3.2W
Holding voltage	60% to 120%U_N(at 23°C) 70% to 95%U_N(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.

COIL DATA at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max[1)]	Drop-out Voltage VDC min[1)]	Max. Voltage VDC *[2)]	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: 1) The data shown above are initial values;
2) *Maximun voltage refers to the maximun voltage which relay coil could endure in a short period of time.

SAFETY APPROVAL RATINGS

UL/CUL	$AgSnO_2$	277VAC 80A 60VDC 80A
TÜV	$AgSnO_2$	277VAC 90A 277VAC 80A Making 35A 100ms 250VAC,loading 90A 800ms 250VAC,Breaking 35A 100ms 250VAC
	AgNi	Making 35A 100ms 250VAC,loading 90A 800ms 250VAC,Breaking 35A 100ms 250VAC

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

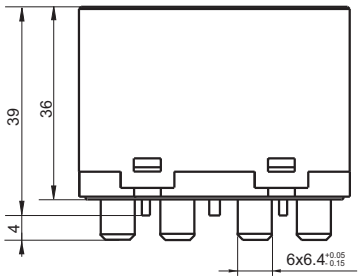
	HF116F-80/	12	-1H	T	F	(XXX)
Type						
Coil voltage	3, 6, 9, 12, 24, 48VDC					
Contact arrangement	**1H:** 1 Form A					
Contact material	**T:** $AgSnO_2$	**Nil:** AgNi				
Insulation standard	**F:** Class F					
Special code[1)]	**XXX:** Customer special requirement	**Nil:** Standard				

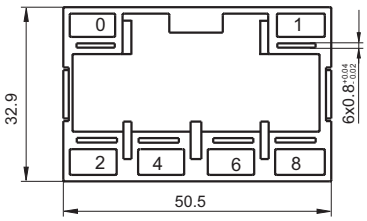
Notes: 1) Water cleaning or surface process is not suggested after the dust protected relays are assembled on PCB.
2) Dust protected relays relays can not be used in the environment with pollutants like H_2S, SO_2, NO_2, dust, etc.
3) The customer special requirement express as special code after evaluating 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

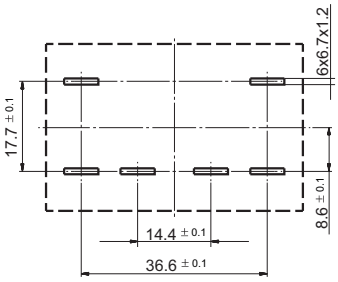




(Bottom view)

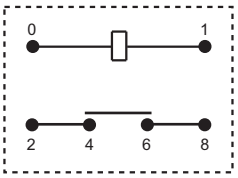
PCB Layout

(Bottom view)



Wiring Diagram

(Bottom view)



Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.

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.