HF185F MINIATURE HIGH POWER RELAY

c UL us
File No.:E133481

File No.:R50496728

Features

- Two groups 50A contact switching ability
- Applicable to inverter used for photovoltaic power generation systems
- Switching between zero line and fire line
- 3.0 mm contact gap
- Low coil holding voltage contributes to saving energy of equipment
- UL insulation system: Class F

RoHS compliant

CONTACT DATA

Contact arrangement	2A
Contact resistance	10mΩ max. (20 A 6VDC)
Contact material	$AgSnO_2$
Contact rating (Res. load)	Making 20A Loading 50A, Breaking 20A 277VAC
Max.switching voltage	600VAC
Max.switching current	50A
Max.switching power	13850VA
Mechanical endurance	1 x 10^6OPS
Electrical endurance	2NO:3×10^4 OPS max. (85℃, 1s on 9s off, Making 20A Loading 50A Breaking 20A 277VAC, Resistive load)

Notes: The data shown above are initial values.

COIL

Coil power	Approx. 3W
Holding voltage	40% to 100%U_N (at 25℃) 50% to 60%U_N (at 85℃)

Notes: 1) The coil holding voltage is the voltage applied to coil 100ms 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 (500VDC)
Dielectric strength	Between open contacts	2500VAC 1min
	Between coil & contacts	5000VAC 1min
	Between contact sets	2500VAC 1min
Surge voltage	Between coil & contacts	6kV(1.2 / 50μs)
Operate time (at rated. volt.)		30ms max
Release time (at rated. volt.)		30ms max
Temperature rise(at nomi. volt.)		70K max(Contact load current 50A,Applied voltage of coil 100% rated voltage for 100ms holding voltage of coil 50% to 60% rated voltage,at 85℃)
Shock resistance	Functional	98m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85%RH
Ambient temperature		-40℃ to 85℃ (Coil applied holding voltage)
Termination		PCB
Unit weight		Approx. 105g
Construction		Flux proofed

Notes: The data shown above are initial values.

COIL DATA 23℃

Nominal Voltage VDC	Pick-up Voltage VDC max(1)	Drop-out Voltage VDC min(1)	Max. Voltage VDC(2)	Coil Resistance Ω
6	4.2	0.6	7.2	12 x (1±10%)
9	6.3	0.9	10.8	27 x (1±10%)
12	8.4	1.2	14.4	48 x (1±10%)
24	16.8	2.4	28.8	192 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	2NO:Making 20A,loading 50A breaking 20A 600 VAC 85℃, 1s on 9s off, Resistive load 50A 277 VAC 85℃, 1s on 9s off, Resistive load
TÜV	2NO:Making 20A,loading 50A breaking 20A 600 VAC 85℃, 1s on 9s off, Resistive load 50A 277 VAC 85℃, 1s on 9s off, Resistive load

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

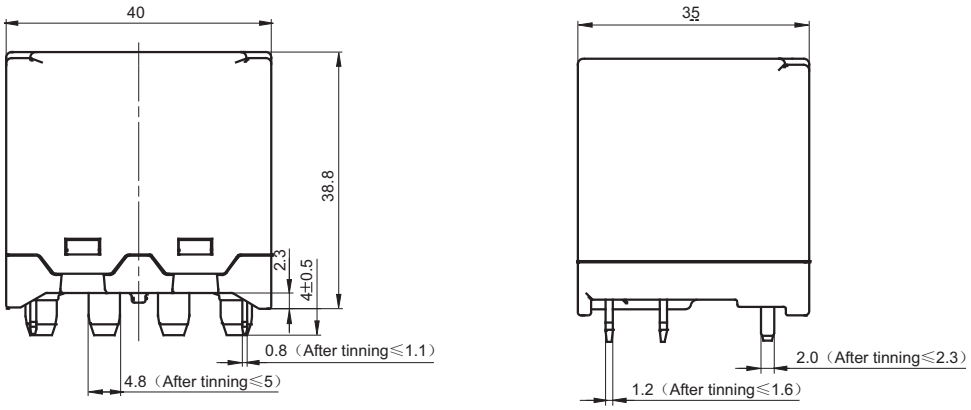
	HF185F/	12	-2H	T	F	(XXX)
Type						
Coil voltage	6, 9, 12, 24 VDC					
Contact arrangement	**2H: 2** Form A					
Contact material	**T:** $AgSnO_2$					
Insulation standard	**F:** Class F					
Special code 3)	**XXX:** Customer special requirement			**Nil:** Standard		

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

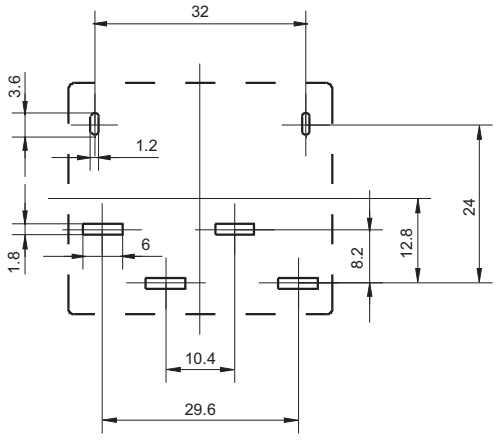
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions



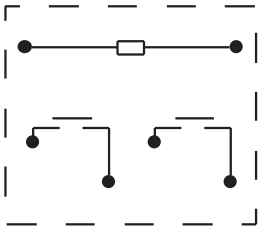
PCB Layout (Bottom view)



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

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.