HF182F-L POWER RELAY

File No.:E133481

File No.:R50455116

File No.:CQC19002234396

Features

- Latching relay
- High capacity:20A 277VAC
- High surge current capacity:370A
- Small size:22mm x 10mm x 14mm
- Meeting reinforce insulation
- Dielectric strength:
  Between coil & contacts≥5000VAC
- High temperature resistance:105℃
- Meet IEC62368-1
- TV-10 240VAC Capability

RoHS compliant

CONTACT DATA

Contact arrangement	1A
Contact resistance(initial)[1]	100mΩ max.(1A 6VDC)
Contact materia	$AgSnO_2$
Contact rating (Res. load)	16A 277VAC
Max. switching voltage	480VAC
Max. switching current	20A
Max. switching power	5540VA
Min. Applicable Load	6V 1A
Mechanical endurance	1 x 10^6ops
Electrical endurance	5 x 10^4ops(16A 277VAC, Resistive load, 85℃, 1s on 9s off)

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

CHARACTERISTICS

Insulation resistance		1000MΩ (500VDC)
Dielectric strength	Between open contacts	1000VAC 1min
	Between coil & contacts	5000VAC 1min
Surge voltage	Between coil & contacts	8kV(1.2 / 50μs)
Set time (at rated. volt.)		10ms max.
Reset time (at rated. volt.)		10ms max.
Vibration resistance		10Hz to 150Hz 2.0mm DA
Shock resistance	Functional	100m/s²
	Destructive	1000m/s²
Humidity		5% to 85%RH
Ambient temperature		-40℃ to 105℃

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

COIL

Coil power	1 coil latching：Approx. 0.53W
	2 coils latching：Approx. 0.8W

COIL DATA 23℃

1 coil latching

Nominal Voltage VDC	Pick-up Voltage VDC max[1]	Drop-out Voltage VDC min[1]	Max. Voltage VDC[2]	Pulse Duration ms		Coil Resistance Ω
				Typ	Min	
3	2.4	2.4	6	≥50	30	17 x (1±10%)
5	4.0	4.0	10	≥50	30	47 x (1±10%)
6	4.8	4.8	12	≥50	30	68 x (1±10%)
9	7.2	7.2	18	≥50	30	152.8 x (1±10%)
12	9.6	9.6	24	≥50	30	271.7 x (1±10%)
24	19.2	19.2	48	≥50	30	1086.8 x (1±10%)

2 coils latching

Nominal Voltage VDC	Pick-up Voltage VDC max[1]	Drop-out Voltage VDC min[1]	Max. Voltage VDC[2]	Pulse Duration ms		Coil Resistance Ω
				Typ	Min	
3	2.4	2.4	6	≥50	30	11.25 x (1±10%)
5	4.0	4.0	10	≥50	30	31.5 x (1±10%)
6	4.8	4.8	12	≥50	30	45 x (1±10%)
9	7.2	7.2	18	≥50	30	101.5 x (1±10%)
12	9.6	9.6	24	≥50	30	180 x (1±10%)
24	19.2	19.2	48	≥50	30	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(≤50ms).

SAFETY APPROVAL RATINGS

CQC	16A 347VAC/277VAC/250VAC Resistive 105˚C 16A 347VAC/277VAC/250VAC Resistive 85˚C 10A 347VAC/277VAC/250VAC Resistive 85˚C 20A 277VAC/250VAC Resistive 85˚C
UL/CUL[4)]	16A 347VAC General use 105˚C 16A 277VAC/250VAC/125VAC/120VAC General use 85˚C 10A 277VAC/250VAC/125VAC/120VAC General use 85˚C TV-8 240VAC/120VAC 85˚C 2400W 240VAC Tungsten 85˚C 1200W 120VAC Tungsten 85˚C 1HP motor 277VAC/250VAC 85˚C 3A 120VAC/277VAC electronic ballast 85˚C 10A 277VAC standard ballast 85˚C 20A 277VAC/250VAC/125VAC/120VAC 85˚C TV-10 240VAC/120VAC 85˚C 1/2HP motor 120VAC 85˚C 8A 120VAC/277VAC electronic ballast 85˚C 10A 120VAC electronic ballast 85˚C
TÜV	16A 277VAC 105˚C 10A 277VAC 85˚C 10(10) 277VAC motor 85˚C 8A (surge current 125A/1ms) 277VAC Tungsten 85˚C 20A 277VAC 85˚C *22A 277VAC/250VAC/125VAC/120VAC 85˚C

Notes: 1) All values unspecified are at room temperature.
2) Only typical loads are listed above. Other load specifications can be available upon request.
3) * According to IEC62368-1.
4)Suitable for overvoltage category III, and shall provide protection for a rated impulse withstand voltage peak of 6 kv.

ORDERING INFORMATION

	HF182F-L/	12	-H	S	L2	T	F	(XXX)

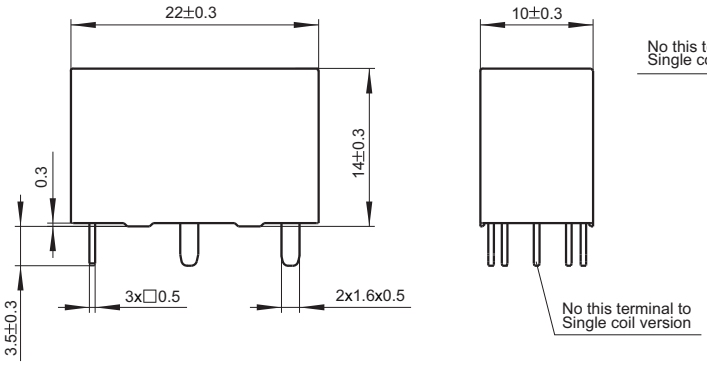
Type			
Coil voltage	3,5, 6,9, 12, 24VDC		
Contact arrangement	**H: 1** Form A		
Construction[1)2)]	**S:**Plastic sealed	**Nil:**：Flux proofed	
Sort	**L1:** 1 coil latching	**L2:** 2 coils latching	
Contact material	**T:** $AgSnO_2$		
Insulation standard	**F:** Class F		
Special code [3)]	**XXX:** Customer special requirement		**Nil:** Standard

Notes: 1) Under the ambience with dangerous gas like H_2S, SO_2 or NO_2, plastic sealed type is recommended; please test the relay in real applications. If the ambience allows, flux proofed is preferentially recommended.
2) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.
3) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

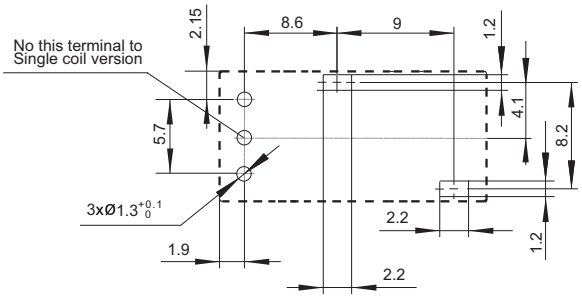
Unit: mm

Outline Dimensions



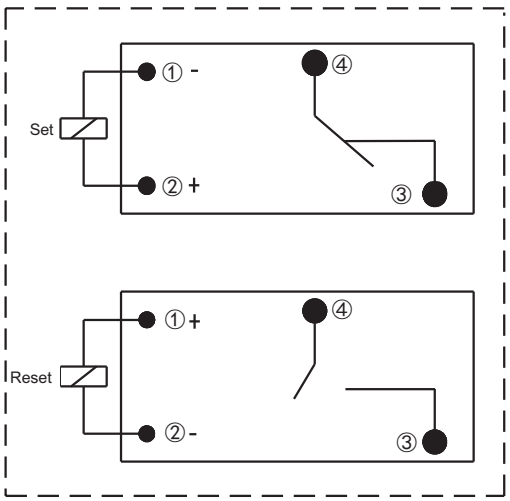
PCB Layout

(Bottom view)

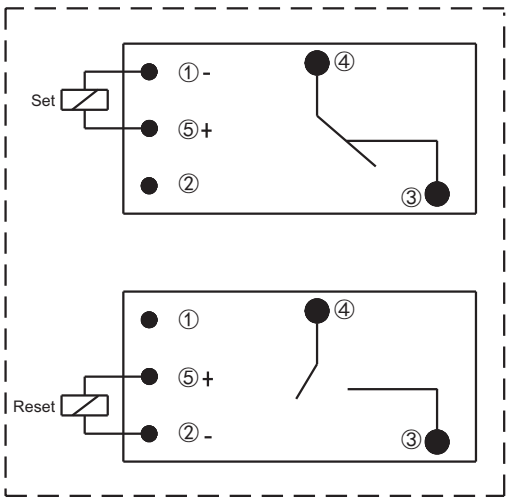


Wiring Diagram (Bottom view)

1 coil latching



2 coils latching



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Dimensional tolerance is not marked for product boundary dimensions		Dimensional tolerance is not marked for PCB board
Boundary dimensions	Dimensional tolerance	
≤1	±0.2	±0.1
>1~5	±0.3	
>5	±0.4	

Remark:1) The pin dimension of the product outline drawing is the size before tinning (it will become larger after tinning), and the mounting hole size is the recommended design size of the PCB board hole. The specific PCB board hole design size can be mapped and adjusted according to the actual product.
2) 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.
3) The tolerance without indicating for PCB layout is always ±0.1mm.

Notice:

1. Relay is on the “reset” status when being released from stock, with the consideration of shock risen from transit and relay mounting, relay would be changed to “set” or "reset" status, therefore, when application (connecting the power supply), please reset the relay to “set” or “reset” status on request.
2. In order to maintain “set” or “reset” status, energized voltage to coil should reach the rated voltage, impulse width should be 5 times more than “set” or “reset” time. Do not energize voltage to “set” coil and “reset” coil simultaneously. And also long energized time (more than 1 min) should be avoided.
3. Keep the product away from strong magnetic field during transportation, storage and application, to avoid change of set/reset voltage.