HF180F-G POWER CONTROL RELAY

File No.：E133481

File No.：R 50430279

File No.：CQC19002213614

Features

- Latching relay，Zero consumption at standby
- 2 Form A+ 2 Form B contact arrangement
- General for ac/dc load, There are also specifications that are only applicable to AC loads
- Supports multiple voltage energize,quick switch between contact sets
- Contact gap≥3mm
- Creepage ≥4mm，Clearance≥3mm(between contact set)
- IEC62368-1 compliant products are available

RoHS compliant

CONTACT DATA

Contact arrangement	2A+2B
Contact resistance	15mΩ max. (at 20A 6VDC,Initial value)
Contact materia	$AgSnO_2$
Contact rating (Res. load)	28A 290VAC/410VDC、30A 290VAC*
Max. switching voltage	290VAC
Max. switching current	30A
Max. switching power	7250VA
Min. Applicable Load	6V 1A
Mechanical endurance	1×10^5
Electrical endurance	2×10^4(2H/2D：28A 290VAC Resistive load，85℃，5s on 5 off)

COIL

Coil power	Single coil latching：Approx.2.0W Double coils latching：Approx.4.0W

CHARACTERISTICS(infancy)

Insulation resistance		1000 MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between contact sets	2500VAC 1min
	Between open contacts	2500VAC 1min
Surge voltage	Between coil & contacts	10kV(1.2/50μs)
	Between open contacts	4kV(1.2/50μs)
Operate time (at rated. volt.)		20ms max.(≤8ms,at 6 times volt)
Release time (at rated. volt.)		20ms max.(≤8ms,at 6 times volt)
Vibration resistance		10Hz to 55Hz, 3mmDA
Shock resistance	Functional	196m/s²
	Destructive	980m/s²
Humidity		-40℃ to 85℃
Ambient temperature		5% to 85% RH

Notes: The data shown above are initial values.

COIL DATA 23℃

Single 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
				type	min	
5	4.0	4.0	30	≥50	30	12.5×(1±10%)
9	7.2	7.2	54	≥50	30	40.5×(1±10%)
12	9.6	9.6	72	≥50	30	72×(1±10%)
24	19.2	19.2	144	≥50	30	288×(1±10%)

Double 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
				type	min	
5	4.0	4.0	30	≥50	30	6.25×(1±10%)
9	7.2	7.2	54	≥50	30	20.25×(1±10%)
12	9.6	9.6	72	≥50	30	36×(1±10%)
24	19.2	19.2	144	≥50	30	144×(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(≤50s).

SAFETY APPROVAL RATINGS

CQC	28A 410VDC 85℃
UL	28A 290VAC 85℃
TÜV	30A 290VAC 85℃

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

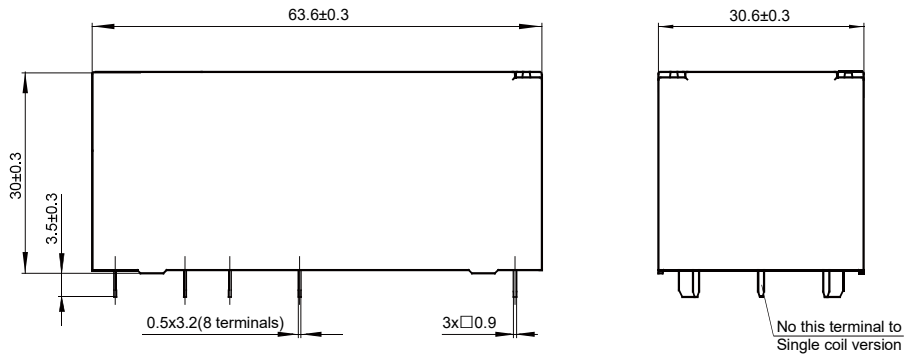
	HF180F-G/	12	-2HD	S	L2	T	F	（XXX）
Type								
Coil voltage	5,9,12,24VDC							
Contact arrangement	**2HD:** 2 Form A+ 2 Form B							
Construction	**S:** Plastic sealed	**Nil**: : Unplastic sealed						
Sort	**L1:** Single coil latching	**L2:** Double coils latching						
Contact material	**T:** $AgSnO_2$							
Insulation standard	**F:** Class F							
Special code[1)4)]	**XXX:** Customer special requirement	**Nil**: Standard						

Notes:1) Special code 954 indicates only applicable to AC load specifications.
2) Please avoid using the relay in an environment containing organic silicon,otherwise the entry of organic silicon into the relay may acceleration ontact failure.If there are harmfu substances and elements such as water vapor, H_2S, SO_2, NO_2 ,Cl,P,etc.In the use of environmental gases,it may lead to increased contact resistance and poor contact during the use of relays.In the above situations, please control the materials or use plastic sealed type and arrange relevant tests to confirm.
3) Washing or surface cleaning process is not suggested after the flux-proofed relays are assembled on PCB.
4) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions
（Double-line diagram）

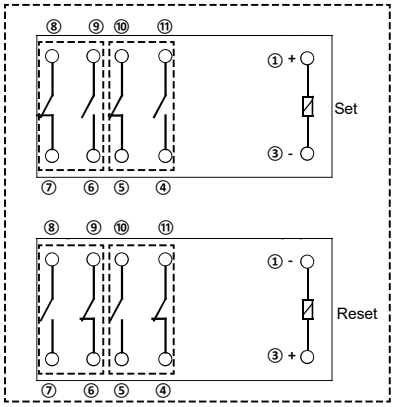


OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

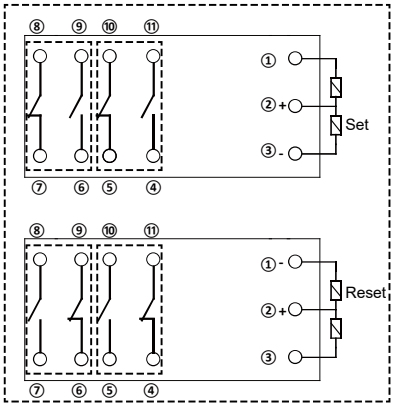
Unit: mm

Wiring Diagram

Single coil latching



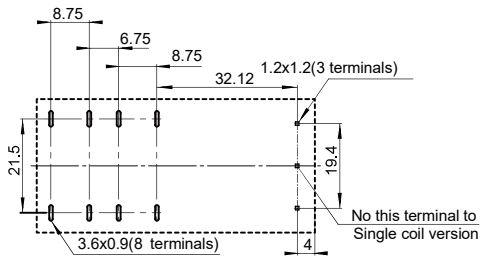
Double coils latching



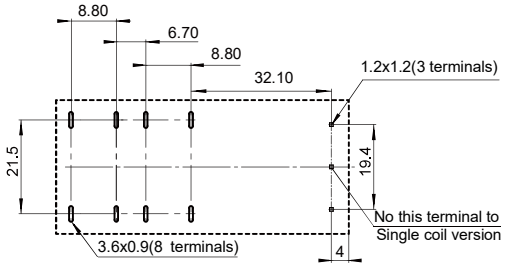
PCB Layout

(Bottom view)

Standard type



954 type



In case of no tolerance shown in outline dimension		The tolerance without indicating for PCB layout
Dimensions	Tolerance	
⩽1	±0.2	±0.1
＞1 ~ 5	±0.3	
＞5	±0.4	

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.
4. Relay contains a magnet. Install offset or with 30 mm spacing to avoid interference.

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.