

# 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  $\geq 3\text{mm}$
- Creepage  $\geq 4\text{mm}$ , Clearance  $\geq 3\text{mm}$  (between contact set)
- IEC62368-1 compliant products are available

RoHS compliant

## CONTACT DATA

Contact arrangement	2A+2B
Contact resistance	15mΩ max. (at 20A6VDC, Initial value)
Contact materia	AgSnO <sub>2</sub>
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 <sup>5</sup>
Electrical endurance	2×10 <sup>4</sup> (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
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## 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(1.2/50us)
	Between open contacts	4kV(1.2/50us)
Operate time (at rated. volt.)		≤20ms(≤8ms, at 6 times volt)
Release time (at rated. volt.)		≤20ms(≤8ms, at 6 times volt)
Vibration resistance		10Hz-55Hz, 3mmDA
Shock resistance	Functional	196m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Humidity		-40°C to 85°C
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 <sup>1)</sup>	Drop-out Voltage VDC min <sup>1)</sup>	Max. Voltage VDC <sup>2)</sup>	Pulse Duration ms		Coil Resistance Ω
				type	min	
5	4.0	4.0	30	$\geq 50$	30	12.5×(1±10%)
9	7.2	7.2	54	$\geq 50$	30	40.5×(1±10%)
12	9.6	9.6	72	$\geq 50$	30	72×(1±10%)
24	19.2	19.2	144	$\geq 50$	30	288×(1±10%)

Double coils latching

Nominal Voltage VDC	Pick-up Voltage VDC max <sup>1)</sup>	Drop-out Voltage VDC min <sup>1)</sup>	Max. Voltage VDC <sup>2)</sup>	Pulse Duration ms		Coil Resistance Ω
				type	min	
5	$\leq 4.0$	$\leq 4.0$	30	$\geq 50$	30	6.25×(1±10%)
9	$\leq 7.2$	$\leq 7.2$	54	$\geq 50$	30	20.25×(1±10%)
12	$\leq 9.6$	$\leq 9.6$	72	$\geq 50$	30	36×(1±10%)
24	$\leq 19.2$	$\leq 19.2$	144	$\geq 50$	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( $\leq 50\text{s}$ ).



HONGFA RELAY

ISO9001、IATF16949、ISO14001、OHSAS18001、IECQ QC 080000、ISO/IEC 27001 CERTIFIED 2025 Rev. 1.00

## SAFETY APPROVAL RATINGS

CQC	28A 410VDC 85 °C
	28A 290VAC 85 °C
	30A 290VAC 85 °C
UL	28A 410VDC 85 °C
	28A 290VAC 85 °C
	30A 290VAC 85 °C
Tüv	28A 410VDC 85 °C
	28A 290VAC 85 °C
	30A 290VAC 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.

## ORDERING INFORMATION

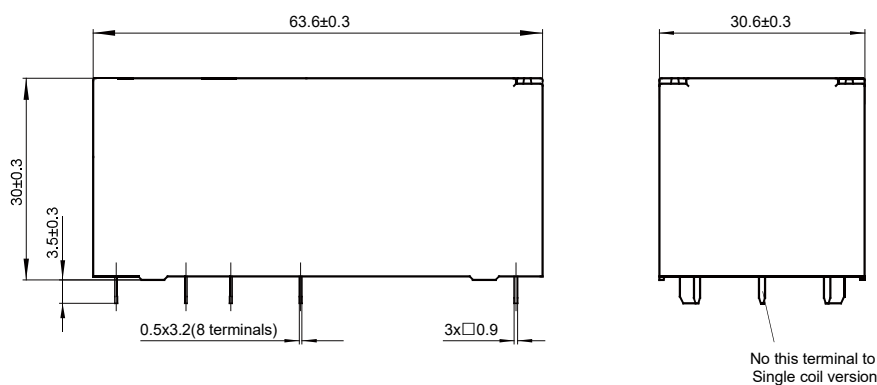
Type	HF180F-G/ 12 -2HD S L2 T F (XXX)
Coil voltage	5,9,12,24VDC
Contact arrangement	2HD: 2 Form A+ 2 Form B
Construction	S: Plastic sealed Nil: Unplastic sealed
Sort	L1: Single coil latching L2: Double coils latching
Contact material	T: AgSnO <sub>2</sub>
Insulation standard	F: Class F
Special code 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

Notes: 1) Special code 954 indicates only applicable to AC load specifications.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

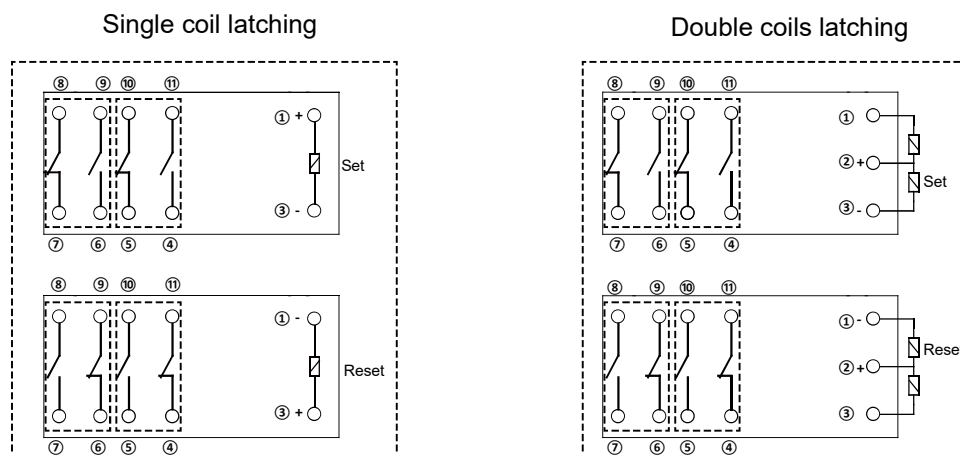
Outline Dimensions  
(Double-line diagram)



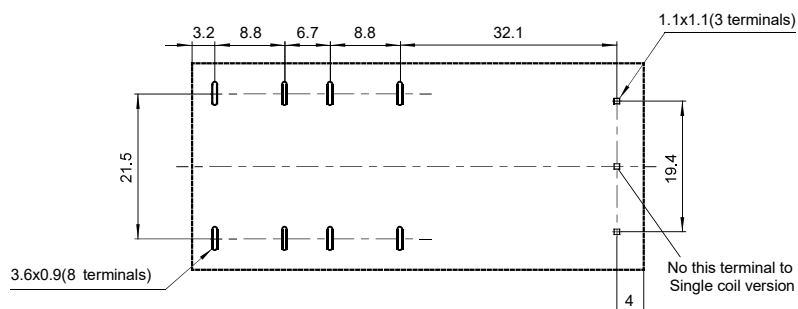
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

### Wiring Diagram



### PCB Layout (Bottom view)



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

#### Notice:

- 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.
- 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.
- Keep the product away from strong magnetic field during transportation, storage and application, to avoid change of set/reset voltage.
- 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.

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