

# HF13F/3Z, 4Z

# MINIATURE HIGH POWER RELAY



**c** **us**

File No.: E133481

## Features

- 15A contact switching capability
- With 3Z, 4Z contact structure
- QC terminal
- LED available, Sockets available
- Impulse voltage up to 4kV (Between contact & coil)
- UL insulation system: Class F

RoHS compliant

## CONTACT DATA

Contact arrangement	3C, 4C
Contact resistance <sup>1)</sup>	50mΩ max.(at 6VDC 100mA)
Contact material	AgSnO <sub>2</sub> In <sub>2</sub> O <sub>3</sub>
Contact gap	0.5mm min.
Contact rating (Res.load)	NO: 15A 250VAC, 15A 28VDC NC: 7.5A 250VAC, 7.5A 28VDC
Max. switching voltage	250VAC
Max. switching current	15A
Max. switching power	3750VA 420W
Min. Capacity <sup>2)</sup>	5VDC 100mA
Mechanical endurance	1×10 <sup>7</sup> OPS
Electrical endurance	1×10 <sup>5</sup> OPS (55°C)

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

2) Min. contact load is reference value. Please perform the confirmation test with the actual load before usage since reference value may change according to switching frequencies, environmental conditions and expected life cycles.

## CHARACTERISTICS

Insulation resistance		1000MΩ(500VDC)
Dielectric strength	Between coil & contacts	2000VAC 1min
	Between open contacts	1500VAC 1min
	Between contacts sets	2000VAC 1min
Impulse voltage (Between contact & coil)		4kV(1.2/50μs)
Operate time(at nomi. volt.)		20ms max.
Release time(at nomi. volt.)		20ms max.
Temperature rise		100K(at 55°C) max.
Shock resistance	Functional	10g
	Destructive	30g
Vibration resistance		10Hz to 35Hz DA 1mm
Humidity		5% to 85%RH
Ambient temperature		-40°C to 55°C
Termination		QC terminal
Unit weight		3 Form C: Approx.54g 4 Form C: Approx.71g
Construction		Dust protected

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

## COIL DATA

23°C

### 3 From C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC	Coil Resistance Ω
12	9.6	1.2	13.2	80×(1±10%)
24	19.2	2.4	26.4	320×(1±10%)
48	38.4	4.8	52.8	1280×(1±10%)
110	88	11	121	6720×(1±10%)

Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	Max. Voltage VAC	Coil Resistance Ω
12	9.6	3.6	13.2	30×(1±10%)
24	19.2	7.2	26.4	110×(1±10%)
48	38.4	14.4	52.8	460×(1±10%)
120	96	36	132	2880×(1±10%)
230	184	69	253	9600×(1±15%)
240	192	72	264	11300×(1±15%)

### 4 From C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage VDC	Coil Resistance Ω
12	9.6	1.2	13.2	75.8×(1±10%)
24	19.2	2.4	26.4	303×(1±10%)
48	38.4	4.8	52.8	1210×(1±10%)
110	88	11	121	6370×(1±10%)

Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	Max. Voltage VAC	Coil Resistance Ω
12	9.6	3.6	13.2	20×(1±10%)
24	19.2	7.2	26.4	80×(1±10%)
48	38.4	14.4	52.8	310×(1±10%)
120	96	36	132	2100×(1±10%)
230	184	69	253	7350×(1±15%)
240	192	72	264	8000×(1±15%)

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

2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.



HONGFA RELAY

ISO9001,IATF16949,ISO14001,ISO45001,IECQ QC 080000,ISO/EC 27001 CERTIFIED

2023 Rev. 1.00

## COIL

Coil power	3 Form C	DC: Approx. 1.7 W, AC: Approx. 1.7 W
	4 Form C	DC: Approx. 2.0 W, AC: Approx. 2.9 VA

## SAFETY APPROVAL RATINGS

UL/CUL	3 Form C, 4 Form C	NO: 15A 250VAC/28VDC
		NC: 7.5A 250VAC/28VDC

Notes: 1) All values unspecified are at room temperature.

## ORDERING INFORMATION

Type	HF13F	/A	012	-4Z	1	5	D
Coil form	A: AC Nil: DC						
Coil voltage	DC: 012, 024, 048, 110						
	AC: 012, 024, 048, 120, 230, 240						
Contact arrangement	3Z: 3 Form C 4Z: 4 Form C						
Terminals	1: QC						
Contact material	5: AgSnO <sub>2</sub> In <sub>2</sub> O <sub>3</sub>						
Component	D: LED						

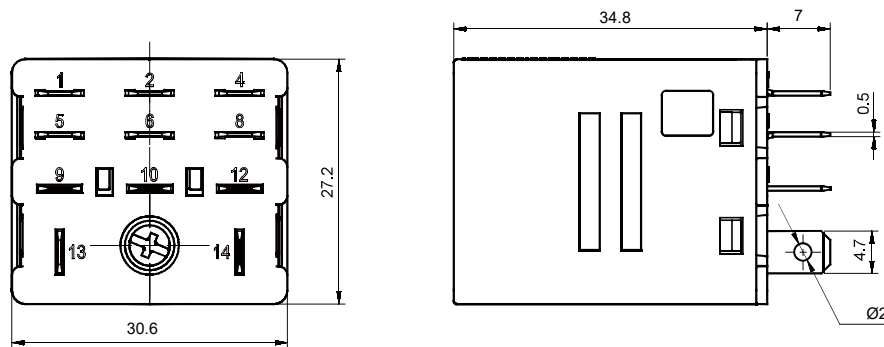
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

3 Form C

### Outline Dimensions

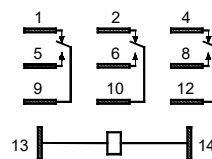
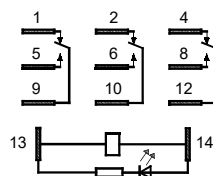


### Wiring Diagram

(Bottom view)

With LED

No LED

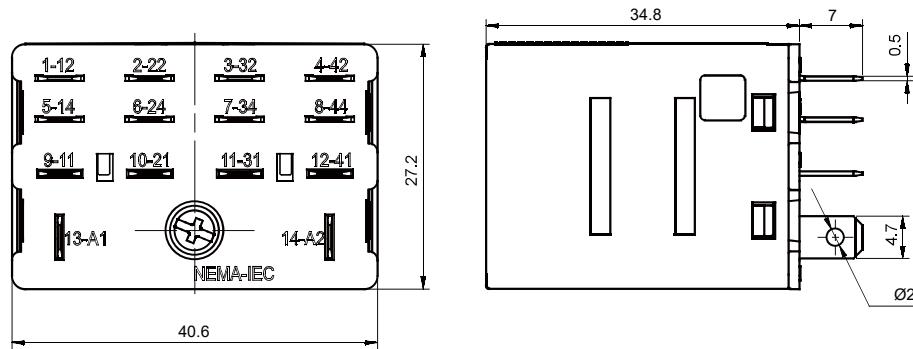


## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

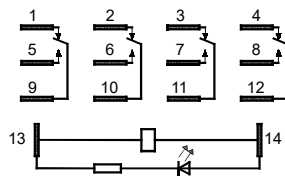
### 4 Form C

#### Outline Dimensions

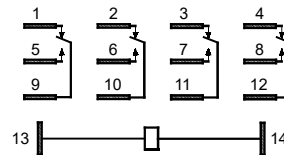


#### Wiring Diagram (Bottom view)

##### With LED



##### No LED



**Notes:** 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1\text{mm}$ , tolerance should be  $\pm 2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 3\text{mm}$ ; outline dimension  $\geq 5\text{mm}$ , tolerance should be  $\pm 4\text{mm}$ .

#### 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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