

# HF175F

## MINIATURE HIGH POWER RELAY

**cULus**

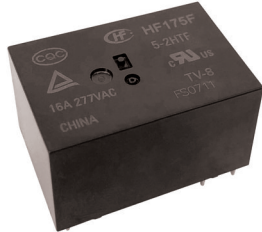
File No.: E133481



File No.: R50412801



File No.: CQC18002196447  
CQC18002202622



### Features

- 2 From A and 2 From C configurations
- Low height, only 15.7mm
- Contact gap:  $\geq 0.75\text{mm}$ , with optional specifications
- Contact load: 20A, with optional specifications
- 5kV dielectric strength (between coil and contacts)
- Creepage/clearance distance  $> 10\text{mm}$ , Meets reinforce insulation
- Product in accordance to IEC 60335-1 available
- UL insulation system: Class F

**RoHS compliant**

### CONTACT DATA

Contact arrangement	2A,2C
Contact resistance	100mΩ max.(1A 6VDC)
Contact material	AgSnO <sub>2</sub>
Contact rating(Res.load)	16A 277VAC
Max. switching voltage	277VAC
Max. switching current	16A
Max. switching power	4432VA
Mechanical endurance	5 x 10 <sup>6</sup> OPS
Electrical endurance	5 x 10 <sup>4</sup> OPS (2NO:16A 277VAC, General load 85°C, 1s on 9s off)

### CHARACTERISTICS

Insulation resistance		1000MΩ (500VDC)
Dielectric strength	Between coil & contacts	5000VAC 1min
	Between open contacts	1000VAC 1min
	Between contacts sets	2500VAC 1min
Surge voltage (Between coil &contacts)		10kV (1.2 / 50μs)
Operate time (at rated. volt.)		10ms max.
Release time (at rated. volt.)		5ms max.
Shock resistance	Functional*	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance	NO	10Hz to 55 Hz 1.5mm DA
	NC*	10Hz to 55 Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx.16.5g
Construction		Flux proofed

Notes: 1) The data shown above are initial values.  
2)\*means Non length index

### COIL

Coil power	Approx. 800mW
Holding voltage	45% to 110%U <sub>N</sub> (at 23°C) 55% to 100%U <sub>N</sub> (at 85°C)

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.

### COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max.* Voltage VDC	Coil Resistance Ω
5	3.50	0.5	7.5	31.3 x (1±10%)
6	4.20	0.6	9.0	45 x (1±10%)
9	6.30	0.9	13.5	101.3 x (1±10%)
12	8.40	1.2	18	180 x (1±10%)
24	16.80	2.4	36	720 x (1±10%)
48	33.60	4.8	72	2880 x (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.

### SAFETY APPROVAL RATINGS

UL/CUL	2H	16A 277VAC General use 85°C TV-8 120VAC 50°C 1HP 240VAC 40°C Electronic ballast 5A 120VAC 50°C
	2Z	16A 277VAC General use 85°C NO: TV-8 120VAC 50°C NO: 1HP 240VAC 40°C NO: Electronic ballast 5A 120VAC 50°C

Notes: 1) Only typical loads are listed above. Other load specifications can be available upon request.



HONGFA RELAY

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

2025 Rev. 2.00

## ORDERING INFORMATION

	HF175F /	12	-2H	T	F	(XXX)
Type						
Coil voltage	5, 6, 9, 12, 18, 24, 48VDC					
Contact arrangement	2H: 2 Form A		2Z: 2 Form C			
Contact material	T: AgSnO <sub>2</sub>					
Insulation standard	F: Class F					
Special code <sup>3)</sup>	XXX: Customer special requirement			Nil: Standard		

Notes: 1)We recommend flux proofed types for a clean environment (free from contaminations like H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>,dust,etc.)

2)Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB.

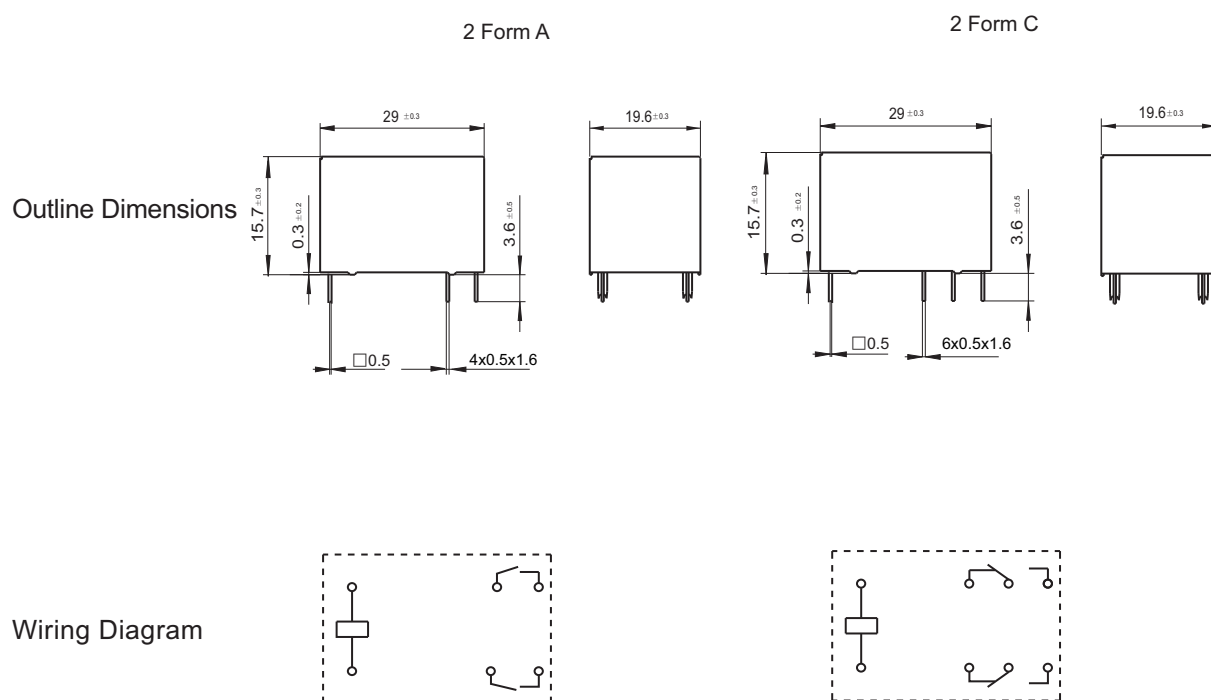
3)The customer special requirement express as special code after evaluating by Hongfa.

e.g.(AL2)indicates that the contact gap of the product is  $\geq 0.75\text{mm}$ , plastic sealed type(only for 2 Form A type).

(530)indicates a load of 20A(only for 2 Form A type).

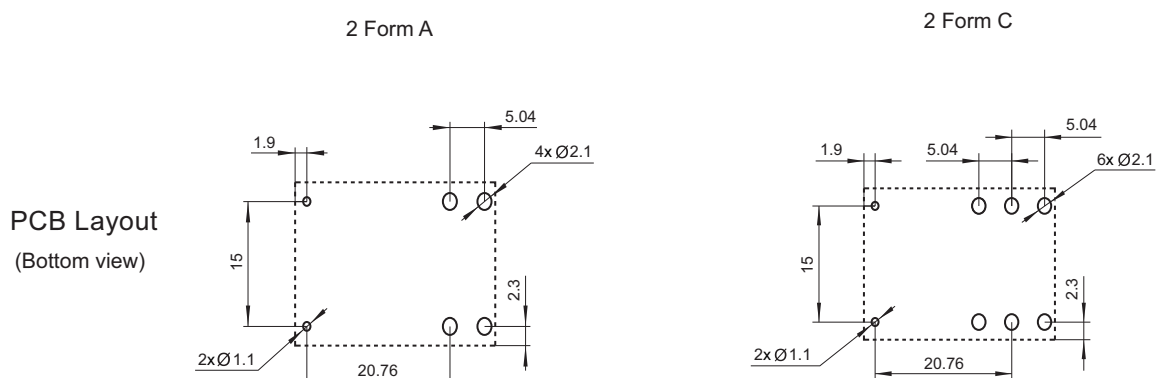
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm



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Unit: mm



- 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  $\leq 1\text{mm}$ , tolerance should be  $\pm 0.2\text{mm}$ ; outline dimension  $> 1\text{mm}$  and  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.3\text{mm}$ ; outline dimension  $\leq 5\text{mm}$ , tolerance should be  $\pm 0.4\text{mm}$ .
- 3)The tolerance without indicating for PCB layout is always  $\pm 0.1\text{mm}$ .

### 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.