

# HFA7B

# FORCIBLY GUIDED RELAY



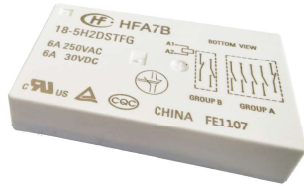
File No.: E133481



File No.: R 50639774



File No.: CQC25002457532



## Features

- Forcibly guided contacts according to IEC 61810-3(EN50205)
- 6A switching capability
- UL insulation system: Class F available
- Environmental friendly product(RoHS compliant)
- Outline Dimensions: ( 55×16.5×15.7 ) mm

**RoHS compliant**

## CONTACT DATA

Contact arrangement	5NO+2NC
Forcibly guided contacts Type (according to EN50205)	Type A
Contact resistance	≤20Ω(at 6VDC 10mA) ≤100mΩ(at 6VDC 1A)
Contact material	AgSnO <sub>2</sub> +Au plated
Contact rating (Res. load)	6A 250VAC
Min.contact load <sup>2)</sup>	5VDC 10mA
Max.swtiching voltage	400VAC/220VDC(at 0.2A Res. load)
Max.switching current	6A
Max.switching capacity	1500VA / 180W
Mechanical endurance <sup>3)</sup>	1×10 <sup>7</sup> cycles
Contact rating DC-13	NO:5A 24VDC
Contact rating AC-15	NO:3A 250VAC
Electrical endurance	≥1×10 <sup>4</sup> cycles(NO / NC:85°C, 5s on 5s off, 6A 250VAC, Resistive load)

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

2)Min. contact load is just a reference value in normal temperature, normal humidity, normal pressure environment and with relay pin up, which will vary depending on the power-on and off frequency, environmental conditions, expected lifespan, and installation direction. Thus, please have confirmation tests with actual load before use. And it is recommended to avoid using the relay when the temperature is below 0°C.

3)No loading test, no mechanical damage after the test.

## COIL DATA (Standard)

23°C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Drop-out Voltage VDC min.	Max. Voltage <sup>2)</sup> VDC	Coil Resistance Ω
5	3.8	0.5	5.5	36×(1±10%)
6	4.5	0.6	6.6	51×(1±10%)
9	6.8	0.9	9.9	116×(1±10%)
12	9	1.2	13.2	206×(1±10%)
15	11.3	1.5	16.5	319×(1±10%)
18	13.5	1.8	19.8	463×(1±10%)
21	16	2.1	23.1	630×(1±10%)
24	18	2.4	26.4	820×(1±10%)
36	27	3.6	39.6	1850×(1±10%)
48	36	4.8	52.8	3290×(1±10%)
60	45	6.0	66	5140×(1±15%)
110	83	11	121	17280×(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/IEC 27001 CERTIFIED

2026 Rev. 1.00

## COIL

Coil power	Approx. 0.7W
Holding Voltage <sup>1)</sup>	50% to 100%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.

## CHARACTERISTICS

Insulation resistance	1000MΩ(500VDC)		
Dielectric strength	Group A	Group B	
	Between open contacts	1500VAC	1500VAC
	Between coil & contacts	4000VAC	2500VAC
	Between adjacent contacts	4000VAC	2500VAC
Between Group A and Group B	4000VAC		
Surge voltage (Between coil & contacts)	6kV(1.2×50μs)		
Operate time(at rated voltage)	20ms max.		
Release time(at rated voltage)	20ms max.		
Temperature rise(at rated voltage)	≤70Kmax.(2NO Contact load current 6A, rated voltage excitation, at 85°C)		
Shock resistance	Functional	5g(NC)/10g(NO)	
	Destructive	100g	
Vibration resistance	10Hz to 200Hz 5g(NC)/10g(NO)		
Humidity	5% to 85%RH		
Ambient temperature	-40°C to 85°C		
Termination	PCB		
Unit weight	Approx. 35g		
Construction	Plastic sealed		

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

2)Group A and Group B details see the wiring diagram.

## SAFETY APPROVAL RATINGS

UL/CUL	1NO / 1NC:85°C, 6A 250VAC, General use 1NO / 1NC:85°C, 6A 30VDC, Resistive 1NO/1NC: R300 85°C 1NO/1NC: B300 85°C
TÜV	1NO / 1NC:85°C, 6A 250VAC/ 30VDC, Resistive 1NO: AC-15(3A)85°C 1NO: DC-13(5A)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	HFA7B/	18	5H2D	S	T	F	G	(XXX)
Coil voltage	5, 6, 9, 12, 15, 18, 21, 24, 36, 48, 60, 110VDC							
Contact arrangement	5H2D: 5NO+2NC							
Construction	S: Plastic sealed							
Contact material	T: AgSnO <sub>2</sub>							
Insulation class	F: Class F							
Contact plating	G: Au plated							
Special code <sup>2)</sup>	XXX: Customer special requirement Nil: Standard							

Notes: 1) Contact is recommended for suitable condition and specifications if water cleaning or surface process is involved in assembling relays on PCB;

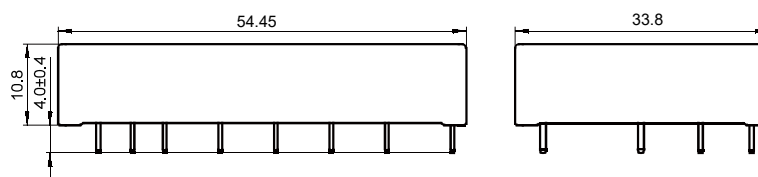
2) The customer special requirement express as special code after evaluating by Hongfa.

3) Please avoid using the relay in an environment containing organic silicon, otherwise the entry of organic silicon into the relay may acceleration contact failure. If there are harmful substances and elements such as water vapor, H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>2</sub>, Cl, P, dust, etc. as well as unknown harmful substances and elements. 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 that produce harmful substances and elements or use plastic sealed type and arrange relevant tests to confirm that it meet the requirements for actual use.

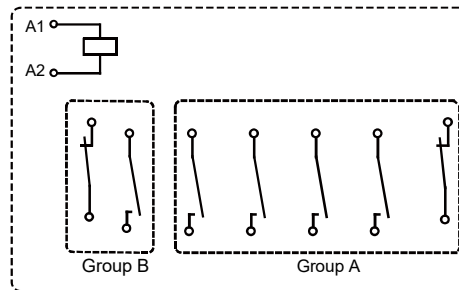
## OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

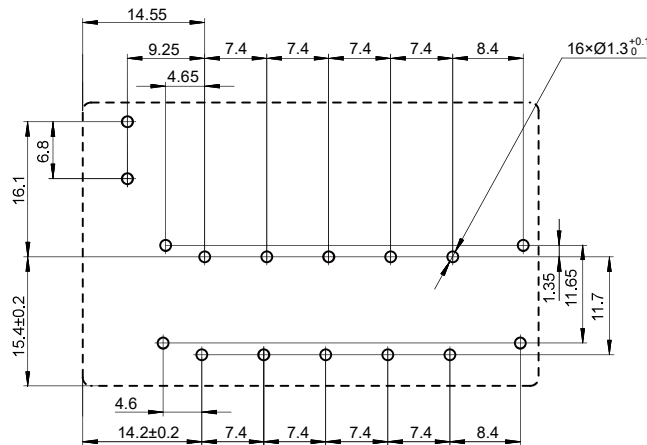
Outline Dimensions



Wiring Diagram(Bottom view)



PCB Layout(Bottom view)



- Notes:**
- 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  $> 5\text{mm}$ , 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.