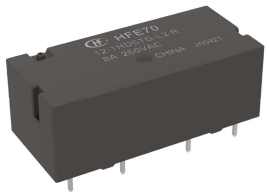
HFE70 SUBMINIATURE INTERMEDIATE POWER RELAY



Features

- High switching capacity
  1A, 1B: 8A 250VAC/30VDC;
- 4kV dielectric strength (between coil & contacts)
- 2 Form A and 1A + 1B contact arrangement available
- Monostable and bistable types available

RoHS compliant

CONTACT DATA

Contact arrangement	2A,1A +1B
Contact resistance [1]	[2] gold-plated: ≤30mΩ(1A 6VDC) Non gold-plated: ≤50mΩ(1A 6VDC)
Contact material	$AgSnO_2$
Contact rating(res. load)	8A 250VAC,$1x10^5$ops 5A 30VDC, $2x10^5$ops
Max. switching voltage	380VAC,30VDC
Max. switching current	8A
Max. switching power	2000W
Mechanical endurance	1 x 10^7ops(0.1s on, 0.1s off)
Electrical endurance	See "contact rating"

Notes: 1) The data shown above are initial values.
2) Typical value: Sampling quantity for contact resistance shall not less than 20 pcs, take the average value from 5 continous measurements for each sample.

CHARACTERISTICS

Insulation resistance		1000MΩ(500VDC)
Dielectric strength	Between coil & contacts	3750VAC 1min
	Between contact sets	2000VAC 1min
	Between open contacts	1200VAC 1min
Impulse voltage(between coil and contacts)		6kV(1.2/50μs)
Set time/Operate time		≤15ms
Reset time/Release time		≤10ms
Shock resistance	Functional	196m/s²
	Destructive	980m/s²
Vibration resistance	Functional	10Hz~55Hz 2mm DA
	Destructive	10Hz~55Hz 3mm DA
Humidity		5% ~ 85% RH
Ambient temperature		-40°C ~ 60°C
Termination	Coil terminal	PCB
	Load terminal	PCB
Unit weight		Approx.10g
Construction		Plastic sealed, Flux proofed

Notes: The data shown above are initial values.

COIL

Rated power	Monostable	Approx. 0.24W
	Double coils latching	Approx. 0.24W

COIL DATA

23°C

Monostable

Nominal Voltage VDC	Pick-up Voltage VDC [1)2)]	Drop-out Voltage VDC [1)]	Coil Resistance x (1±10%) Ω
3	≤2.1	≥0.3	38
5	≤3.5	≥0.5	105
6	≤4.2	≥0.6	150
9	≤6.3	≥0.9	360
12	≤8.4	≥1.2	600
24	≤16.8	≥2.4	2400
48	≤33.6	≥4.8	9000

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage VDC [1)2)]	Pulse Duration ms	Coil Resistance x (1±10%) Ω
3	≤2.1	≥50	38+38
5	≤3.5	≥50	105+105
6	≤4.2	≥50	150+150
9	≤6.3	≥50	360+360
12	≤8.4	≥50	600+600
24	≤16.8	≥50	2400+2400
48	≤33.6	≥50	9000+9000

Notes: 1) The data shown above are initial values.
2) Above driving voltage only apply to check relay normal function without load. When normal use with load, use (1~2)Ue for latching relay set/reset volage, use (1~1.3)Ue for set voltage and 0V for release voltage for monostable relay.

ORDERING INFORMATION

	HFE70	/24	-2H	S	T	G	-L2	-R	(XXX)
Type									
Coil voltage	3,5,6,9,12,24,48 VDC								
Contact arrangement [1]	**1HD:** 1A + 1B **2H:** 2 Form A								
Construction [2]	**S:** Plastic sealed	**Nil:** Flux proofed							
Contact material [3]	**T:** $AgSnO_2$								
Contact plating	**G:** Gold plated	**Nil:** Non gold plated							
Coil type	**L2:** Double coils latching	**Nil:** Monostable							
Polarity	**R:** Reverse polarity	**Nil:** Standard polarity							
Special code [4)5)]	**XXX:** Customer special requirement								

Notes:1) 2H means that relay is on the "reset" status when delivery; 1HD means that the terminal of 7 and 8 are open with terminal 5 and 6 closed.

2) Under the environment with harmful gas like H_2S, SO_2 or NO_2, plastic sealed type is recommended. Please confirm in actual application. If the water cleaning is not required, flux proofed type is preferentially recommended. If water cleaning or surface treatment is required after assembling relay on print circuit board, please contact us to confirm the suitable soldering conditions and specifications.

3) For the application with inrush current conditions, such as lamp load, motor load, capacitive load, coil load, etc., flux proofed type with non gold plated $AgSnO_2$ contact is recommended.

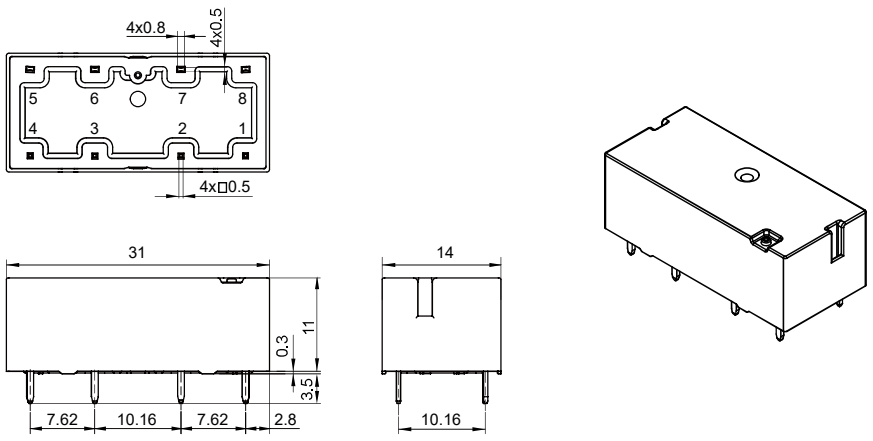
4) Please make confirmation with our engineers before selection if any inconformity between application conditions and our specifications.

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

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

Outline Dimensions



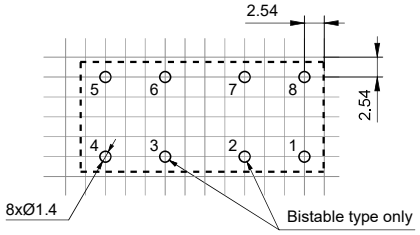
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be±0.2mm; outline dimension ＞1mm and ≤5mm, tolerance should be±0.3mm; outline dimension ＞5mm, tolerance should be ±0.4mm.

OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

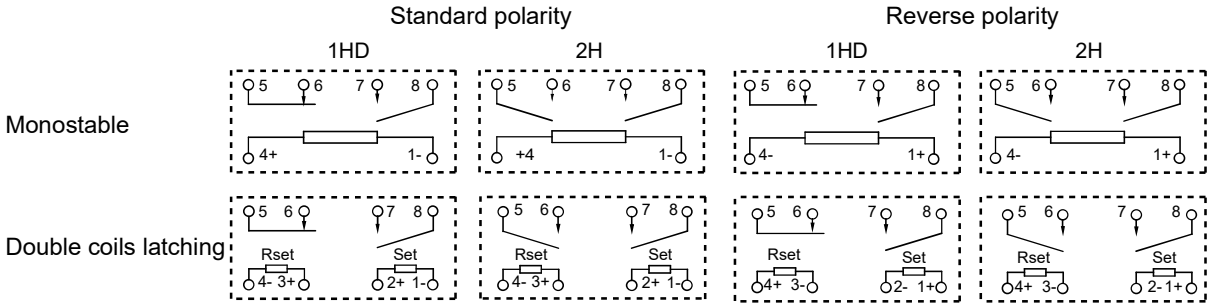
PCB Layout

(Bottom view)



Wiring Diagram

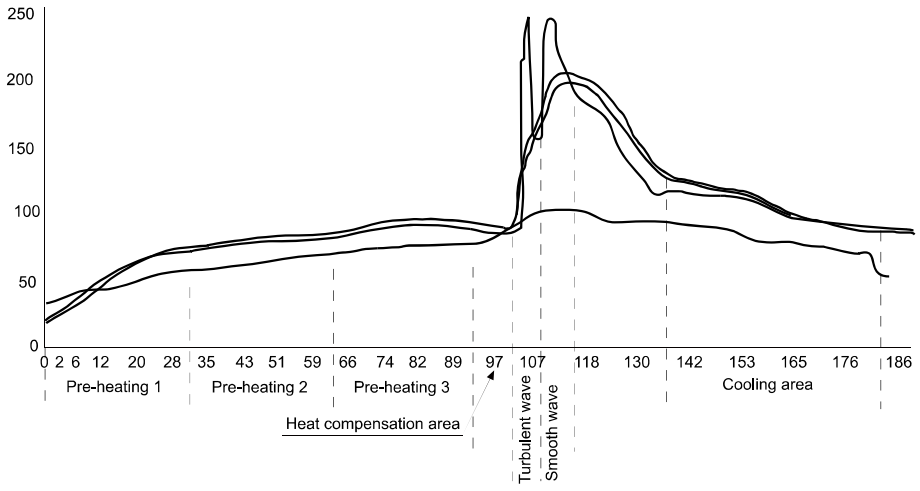
(Bottom view)



CAUTIONS

1. Latching relay is on the “reset” or "set" status when delivery, 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 applied across the 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. The recommended soldering temperature range is 250±10°C with the duration of 2~5s for PCB termination. It is not suggested to apply reflow soldering method, if it is required indeed, please contact with our technicians. It is general required that the wave soldering temperature at 250°C shall not more than 2s.the below chart is the wave soldering temperature distribution chart we recommended for your reference.
4. Keep the product away from strong magnetic field during transportation, storage and application, to avoid change of set/reset voltage.

Wave soldering temperature distribution chart



Disclaimer

The specification is for reference only. 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.