

# HFE 62

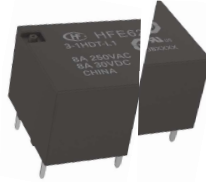
# SUBMINIATURE INTERMEDIATE POWER RELAY



File No.: E133481



FILE NO.:B0532860032



### Features

- High switching capacity  
1A, 1B: 10A 250VAC/30VDC;
- 4kV dielectric strength (between coil & contacts)
- 1 Form A, 1 Form B, 2 Form A, 2 Form B and 1A + 1B contact arrangement
- Monostable and bistable types available
- Suffix (803): TV5 compliant

**RoHS compliant**

### CONTACT DATA

Contact arrangement	1A, 1B	2A, 2B, 1A +1B
Contact resistance <sup>1)</sup>	<sup>2)</sup> gold-plated: ≤30mΩ(1A 6VDC) Non gold-plated: ≤50mΩ(1A 6VDC)	
Contact material	AgSnO <sub>2</sub>	
Contact rating	10A 250VAC, 10 x 10 <sup>4</sup> ops(Res. load) 400W 220VAC, 3 x 10 <sup>4</sup> ops(led) 400W 220VAC, 3 x 10 <sup>4</sup> ops (Fluorescent lamps)	8A 250VAC, 10 x 10 <sup>4</sup> ops (Res. load)
Max. switching voltage	380VAC/250VDC	
Max. switching current	10A	8A
Max. switching power	2500W	2000W
Mechanical endurance	1 x 10 <sup>7</sup> ops	
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 continuous measurements for each sample.

### CHARACTERISTICS

Insulation resistance	1000MΩ(500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between Contact sets	4000VAC 1min
	Between open contacts	1000VAC (50/60 Hz 1min)
Operate time	≤6ms	
Release time	≤6ms	
Vibration resistance	10Hz~55Hz 1.5mm DA	
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Humidity	5% ~85% RH	
Ambient temperature	-40°C~85°C	
Termination	Coil terminal	PCB
	Load terminal	PCB
Unit weight	Approx.6g	
Construction	Plastic sealed, Flux proofed	

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

### COIL

Rated power	Monostable	Approx. 280mW
	Single coils latching	Approx. 200mW
	Double coils latching	Approx. 280mW

### COIL DATA

23°C

#### Single side stable

Nominal Voltage VDC	Pick-up Voltage <sub>1)</sub> VDC	Drop-out Voltage <sub>1)</sub> VDC	Coil Resistance x (1±10%) Ω
3	≤2.4	≥0.3	32.1
5	≤4	≥0.5	89.3
6	≤4.8	≥0.6	129
9	≤7.2	≥0.9	289
12	≤9.6	≥1.2	514
24	≤19.2	≥2.4	2056

#### Single coil latching

Nominal Voltage VDC	Set / Reset Voltage <sub>1)</sub> VDC	Pulse Duration ms	Coil Resistance x (1±10%) Ω
3	≤2.4	≥50	45
5	≤4	≥50	125
6	≤4.8	≥50	180
9	≤7.2	≥50	405
12	≤9.6	≥50	720
24	≤19.2	≥50	2880

#### Double coils latching

Nominal Voltage VDC	Set / Reset Voltage <sub>1)</sub> VDC	Pulse Duration ms	Coil Resistance x (1±10%) Ω
3	≤2.4	≥50	32.1+32.1
5	≤4	≥50	89.3+89.3
6	≤4.8	≥50	129+129
9	≤7.2	≥50	289+289
12	≤9.6	≥50	514+514
24	≤19.2	≥50	2056+2056

**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)U<sub>e</sub> for latching relay set/reset voltage, use (1~1.3)U<sub>e</sub> for set voltage and 0V for release voltage for monostable relay.



HONGFA RELAY

ISO9001、IATF16949、ISO14001、OHSAS18001、IECQ QC 080000 CERTIFIED

2021 Rev.1.00

## SAFETY APPROVAL RATINGS

TÜV	1A,1B	Resistive load: 10A 250VAC (CosΦ1.0) 85°C Inductive load: 5A 250VAC (CosΦ0.4) 85°C Resistive load: 10A 30VDC (0ms) 85°C
	2A,1A+1B,2B	Resistive load: 8A 250VAC (CosΦ1.0) 85°C Inductive load: 4A 250VAC (CosΦ0.4) 85°C Resistive load: 8A 30VDC (0ms) 85°C
UL	1A,1B	Resistive load: 10A 250VAC 85°C Resistive load: 10A 30VDC 85°C
	2A,1A+1B,2B	Resistive load: 8A 250VAC 85°C Resistive load: 8A 30VDC 85°C
	1A(803)	TV-5 40°C

## ORDERING INFORMATION

Type	HFE62 / 12 -1H S T G -L1 - R (XXX)
Coil voltage	3,5,6,9,12,24 VDC
Contact arrangement <sup>1)</sup>	1H: 1 Form A 2H: 2 Form A 1D: 1 Form B(only for latching relay) 2D: 2 Form B(only for latching relay) 1HD: 1A + 1B
Construction <sup>2)</sup>	S: Plastic sealed Nil: Flux proofed
Contact material <sup>3)</sup>	T:AgSnO <sub>2</sub>
Contact plating	G: Gold plated Nil: Non gold plated
Coil type	L1: Single coil latching L2: Double coils latching Nil: Monostable
Polarity	R: Reverse polarity Nil: Standard polarity
Special code <sup>4)5)</sup>	XXX: Customer special requirement

**Notes:** 1) 1H, 2H means that relay is on the "reset" status when delivery; 1D, 2D means that relay is on the "set" status when delivery.

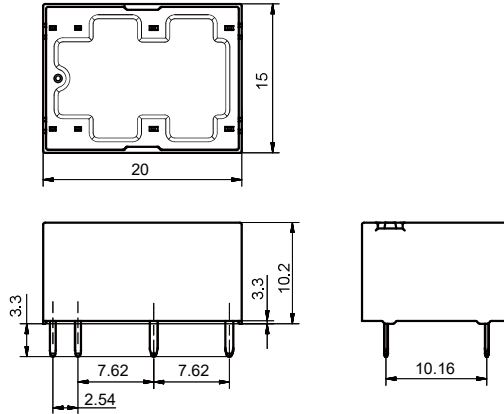
2) Under the environment with harmful gas like H<sub>2</sub>S, SO<sub>2</sub> or NO<sub>2</sub>, plastic sealed type is recommended; Please test the relay in real applications. If the water cleaning is not required, flux proofed type is preferentially recommended. If water cleaning or surface treatment 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<sub>2</sub> 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. e.g. (803): suffix (803): single coil driving power 0.4W; dual coil, monostable coil power: 0.8W; TV5 compliant.

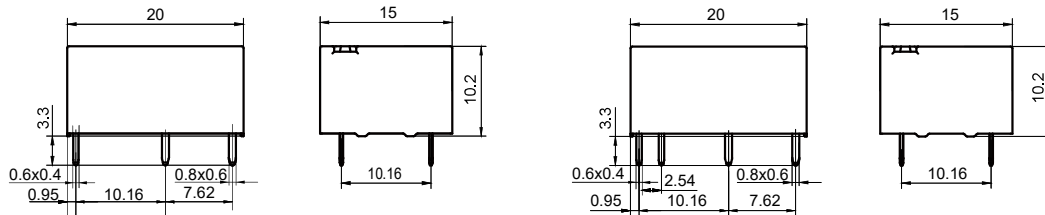
Outline Dimensions



**Remark:** 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.

Monostable & 1 coil latching

2 coils latching

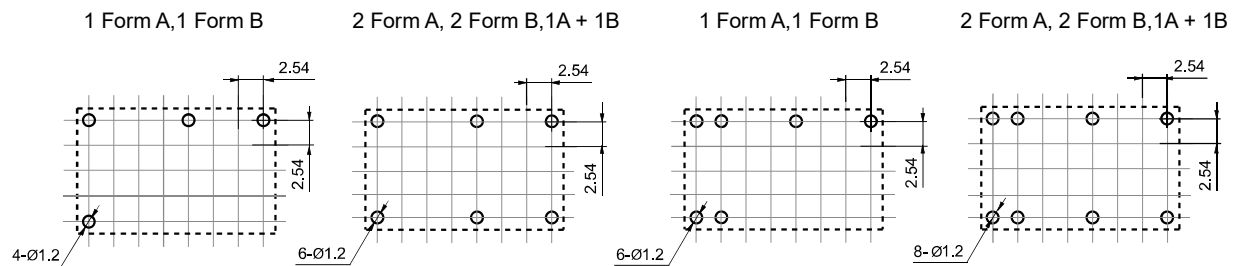


PCB Layout

(Bottom view)

Monostable & 1 coil latching

2 coils latching



**Remark:** 1) In case of no tolerance shown in outline dimension: outline dimension  $\leq 1$ mm, tolerance should be  $\pm 0.2$ mm; outline dimension  $> 1$ mm and  $\leq 5$ mm, tolerance should be  $\pm 0.3$ mm; outline dimension  $> 5$ mm, tolerance should be  $\pm 0.4$ mm.

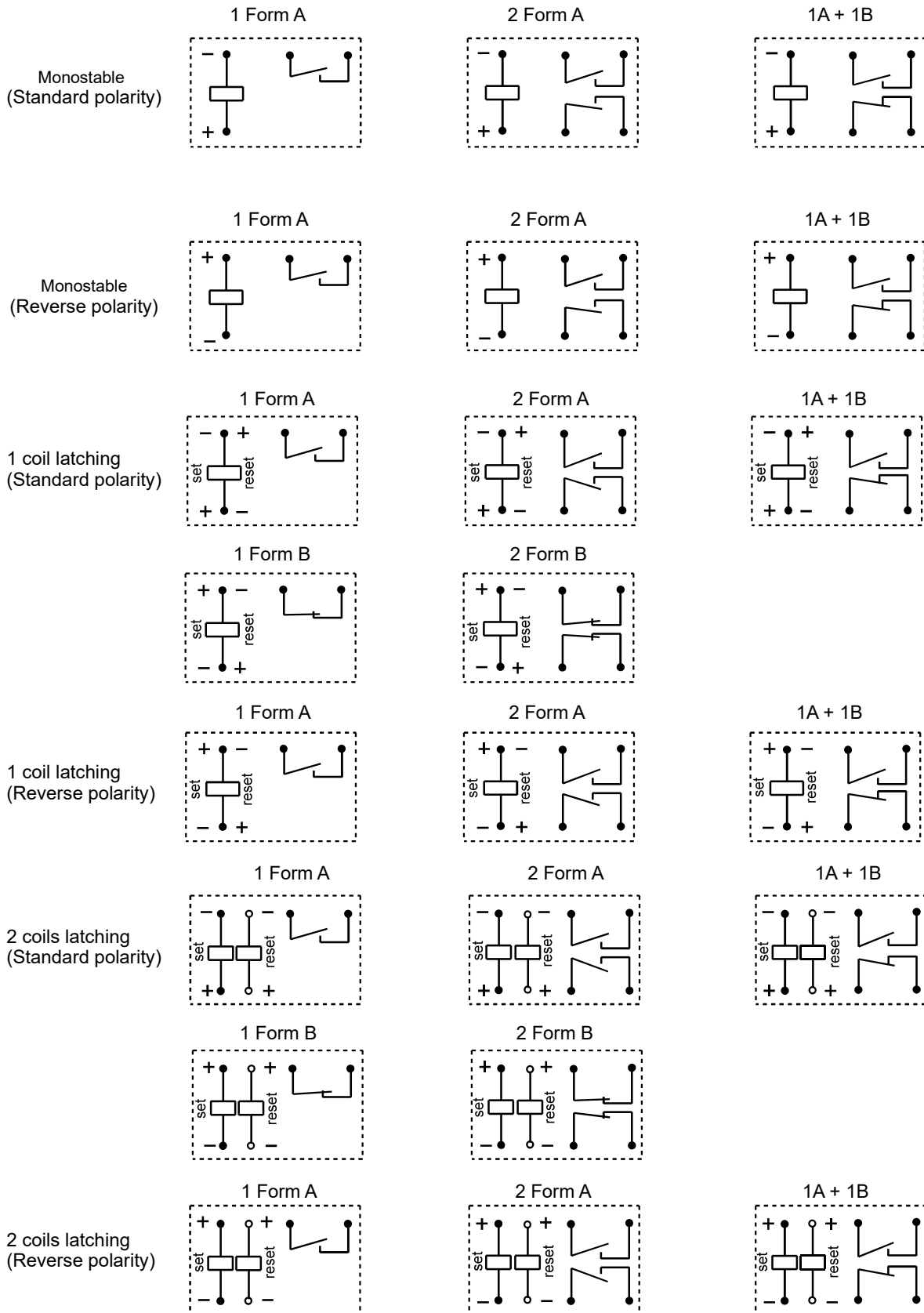
2) The tolerance without indicating for PCB layout is always  $\pm 1$ mm.

3) The width of the gridding is 2.54mm.

# OUTLINE DIMENSIONS AND WIRING DIAGRAM

Unit: mm

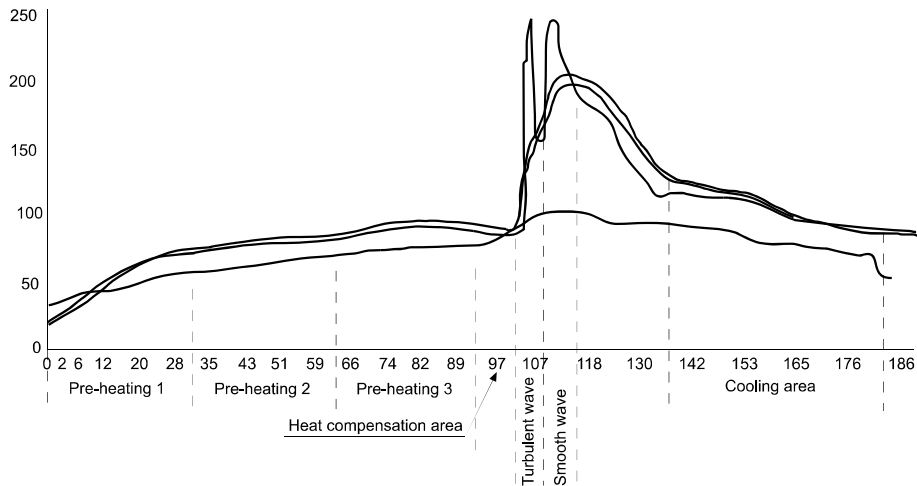
Wiring Diagram  
(Bottom view)



## CAUTIONS

1. 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. It is not allowed to use the product exceed the ambient temperature range of  $-40\text{ }^{\circ}\text{C} \sim 70\text{ }^{\circ}\text{C}$  for long time, as the parts and component of relay may get deformation due to high temperature. The parameters for wave soldering are recommended as follows: max. pre-heating time of 120s, max. pre-heating temperature of  $120\text{ }^{\circ}\text{C}$ , soldering temperature of  $260\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ , soldering time of  $10\text{s} \pm 3\text{s}$ . Please try to shorten the time and lower the temperature of pre-heating and soldering. It is recommended to apply manual soldering for such relay.

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.

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