

# HFE32

## MINIATURE 3-PHASES RELAY



### Features

- 80A 3-phases latching relay
- Electrical endurance 10000ops
- According to IEC62055-31:UC2
- Contact resistance  $\leq 0.75\text{m}\Omega$

RoHS compliant

### CONTACT DATA

Contact arrangement	3A,3B
Contact resistance <sup>1)</sup>	Typical value: <sup>2)</sup> $\leq 0.75\text{m}\Omega(80\text{A})$
Contact material	AgSnO <sub>2</sub>
Contact rating	See "electrical endurance"
Max. switching voltage	276VAC
Max. switching current	80A
Max. switching power	22080VA
Mechanical endurance	1x10 <sup>5</sup> ops

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 (at 500VDC)
Dielectric strength	Between coil and contact	4000VAC 1 min
	Between open contacts	2000VAC 1 min
Creepage distance		8mm
Set time (at nomi. volt.)		30ms max.
Reset time (at nomi. volt.)		30ms max.
Shock resistance	Functional	98m/s <sup>2</sup>
	Destructive	980m/s <sup>2</sup>
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination	Coil termination	PCB&QC
	Load termination	QC
Unit weight		Approx.155g
Construction		Dust protected

Notes: The data shown above are initial values.

### COIL

Rated power	Single coil latching: Approx. 3W Double coil latching: Approx. 6W
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### COIL DATA

at 23°C

#### Single coil latching

Nominal Voltage VDC	Set / Reset Voltage VDC <sup>1)2)</sup> max.	Pulse Duration (Recommended) ms	Coil Resistance x (1 $\pm$ 10%) $\Omega$
6	$\leq 4.8$	100~200	12
9	$\leq 7.2$	100~200	27
12	$\leq 9.6$	100~200	48
24	$\leq 19.2$	100~200	192
48	$\leq 38.4$	100~200	768

#### Double coils latching

Nominal Voltage VDC	Set / Reset Voltage VDC <sup>1)2)</sup> max.	Pulse Duration (Recommended) ms	Coil Resistance x (1 $\pm$ 10%) $\Omega$
6	$\leq 4.8$	100~200	6+6
9	$\leq 7.2$	100~200	13.5+13.5
12	$\leq 9.6$	100~200	24+24
24	$\leq 19.2$	100~200	96+96
48	$\leq 38.4$	100~200	384+384

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

2) The above values are used as incoming inspection standards, and the recommended driving voltage is 1~1.5 times of the rated voltage.

### ELECTRICAL ENDURANCE

UC Class	Voltage (Uc)	Current (Ic)	Power Factor	Close Open time (s)	Electrical endurance (ops)	
416 (UC2)	253VAC	60A	COS $\phi$ =1 COS $\phi$ =0.5	10:20	5000 5000	Total:10000

Notes: Electrical endurance meet IEC62055-31 test requirement, do the inductive load test after the resistive load test.



HONGFA RELAY

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

2021 Rev.1.00

## ORDERING INFORMATION

Type	HFE32	-A /	12	-3D	T	2	-R	(XXX)
Version	A: Type A contact terminal							
Coil voltage	6, 9, 12, 24, 48 VDC							
Contact arrangement <sup>1)</sup>	3D: 3 Form B      3H: 3 Form A							
Contact material	T: AgSnO <sub>2</sub>							
Coil type	1: Single coil latching      2: Double coils latching							
Polarity	R: Reverse polarity      Nil: Standard polarity							
Special code <sup>2) 3)</sup>	XXX: Customer special requirement							

**Notes:** 1) 3H means that relay is on the "reset" status when delivery; 3D means that relay is on the "set" status when delivery. If no special required by customer, we will keep the relay on the "set" status when delivery.

2) Please make clear your technical requirements, and choose from the following UC ratings:

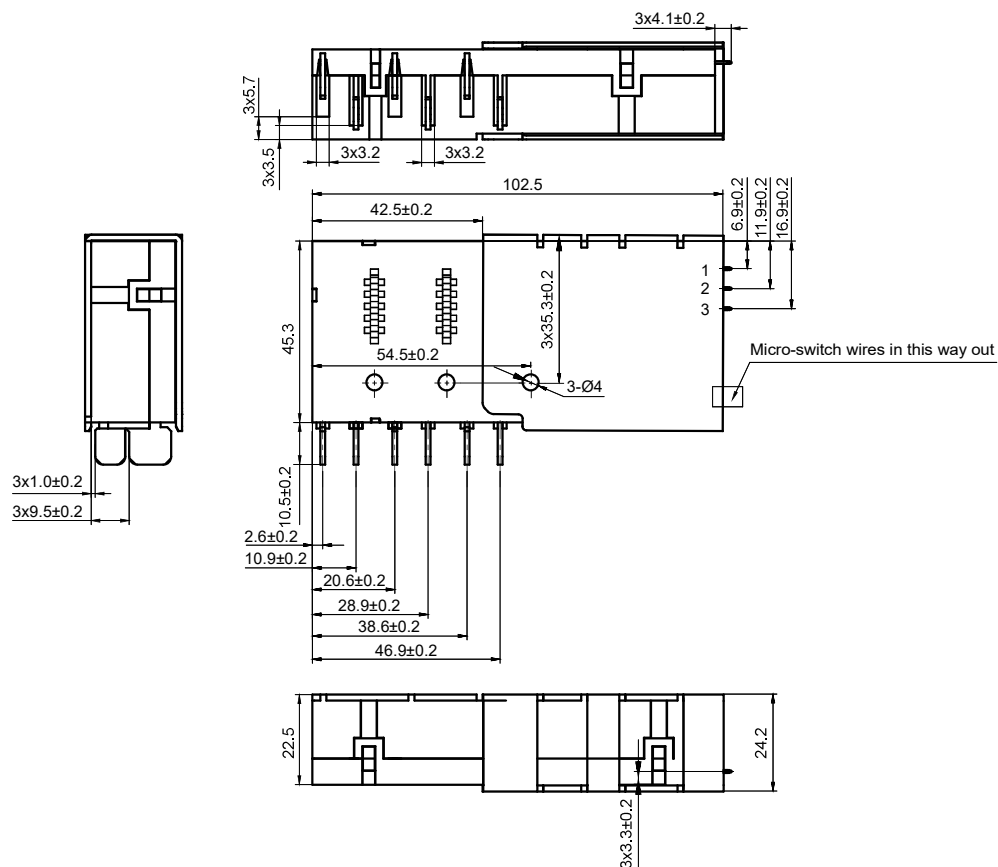
UC2: meet the UC2 requirements on IEC62055-31: Making test: 2.5KA/10ms carrying test 4.5KA/10ms.

3) The customer special requirement express as special code after evaluating by Hongfa. e.g. (416) stands for UC2.

## OUTLINE DIMENSIONS, WIRING DIAGRAM

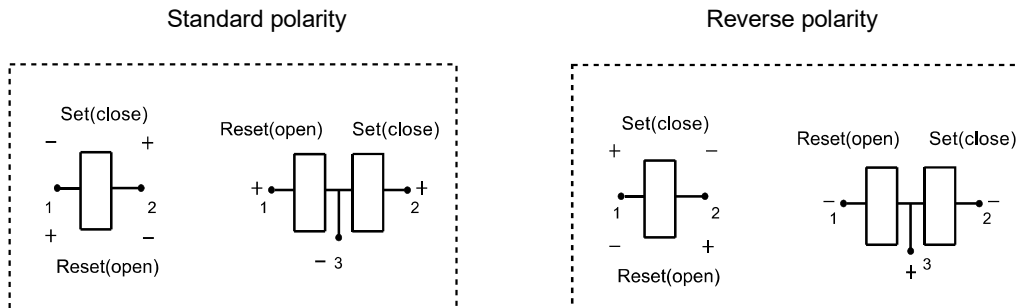
Unit: mm

Outline Dimensions



Remark: 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.

## Wiring Diagram



## CAUTIONS

1. Relay is on the "reset" or "set" status when being released from stock, 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. Do not energize voltage to "set" coil and "reset" coil simultaneously. And also long energized time (more than 1 min) should be avoided.
3. Normally the load terminals are not suitable for reflow solder, wave solder or tin solder, we suggest use spot welding. Load terminals shall be prevented from assembly stress, or freely move.
4. Relays used for metering measuring applications are usually made with dust proof structure, while most relays could be made specially per customer's specific requirements. No longer than 6 months' storage time is recommended for this kind of relay, and please pay attention to the storage environment. To ensure contact reliability, we will keep contact status be closed when delivery if no special required by customer.

## 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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