HFE16 MINIATURE 3-PHASES RELAY

Features

- 120A 3-phases latching relay
- Electrical endurance 10000ops
- According to IEC62055-31:UC2,UC3
- Contact resistance ≤0.35mΩ

RoHS compliant

CONTACT DATA

Contact arrangement	3A(Dual contact),3B(Dual contact)
Contact resistance 1)	Typical value: 2) ≤0.35mΩ(100A)
Contact material	$AgSnO_2$
Contact rating	See “electrical endurance”
Max. switching voltage	276VAC
Max. switching current	120A
Max. switching power	33120VA
Mechanical endurance	$1x10^5$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(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/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1.5mm DA
Humidity		5% to 85% RH
Ambient temperature		-40℃ to 85℃
Termination	Coil termination	PCB &QC
	Load termination	QC
Unit weight		Approx.300g
Construction		Dust protected

Notes: The data shown above are initial values.

COIL

Rated power	Single coil latching: Approx. 5W Double coils latching: Approx. 10W

COIL DATA at 23℃

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1) 2) max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1±10%) Ω
6	≤4.8	100 ~200	7
9	≤7.2	100 ~200	16
12	≤9.6	100 ~200	29
24	≤19.2	100 ~200	115
48	≤38.4	100 ~200	460

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage VDC 1) 2) max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1±10%) Ω
6	≤4.8	100 ~200	3.5+3.5
9	≤7.2	100 ~200	8+8
12	≤9.6	100 ~200	14.5+14.5
24	≤19.2	100 ~200	57.5+57.5
48	≤38.4	100 ~200	230+230

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)	240VAC	80A	COSØ=1	10:20	5000	Total:10000
			COSØ=0.5		5000	
417 (UC3)		100A	COSØ=1		5000	Total:10000
			COSØ=0.5		5000	

Notes: 1) Electrical endurance meet IEC62055-31 test requirement,do the inductive load test after the resistive load test.
2) Only some typical ratings of UC are listed above, if more special ratings required, please contact us.

ORDERING INFORMATION

	HFE16	12	-3SD	T	2	-R	(XXX)
Type							
Coil voltage	6, 9, 12, 24, 48VDC						
Contact arrangement 1)	**3SD: 3** Form B (Dual contact) **3SH: 3** Form A (Dual contact)						
Contact material	**T:** $AgSnO_2$						
Coil type	**1:** Single coil latching	**2:** Double coils latching					
Polarity	**R:** Reverse polarity	**Nil:** Standard polarity					
Special code 2) 3)	**XXX:** Customer special requirement						

Notes: 1) 3SH means that relay is on the "reset" status when delivery; 3SD means that relay is on the "set" status when delivery. If no speical 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 2 UC ratings:
UC2: meet the UC2 requirements on IEC62055-31: Making test:2.5KA/10ms, carrying test 4.5KA /10ms;
UC3: meet the UC3 requirements on IEC62055-31: Making test:3KA/10ms, carrying test 6KA/10ms.

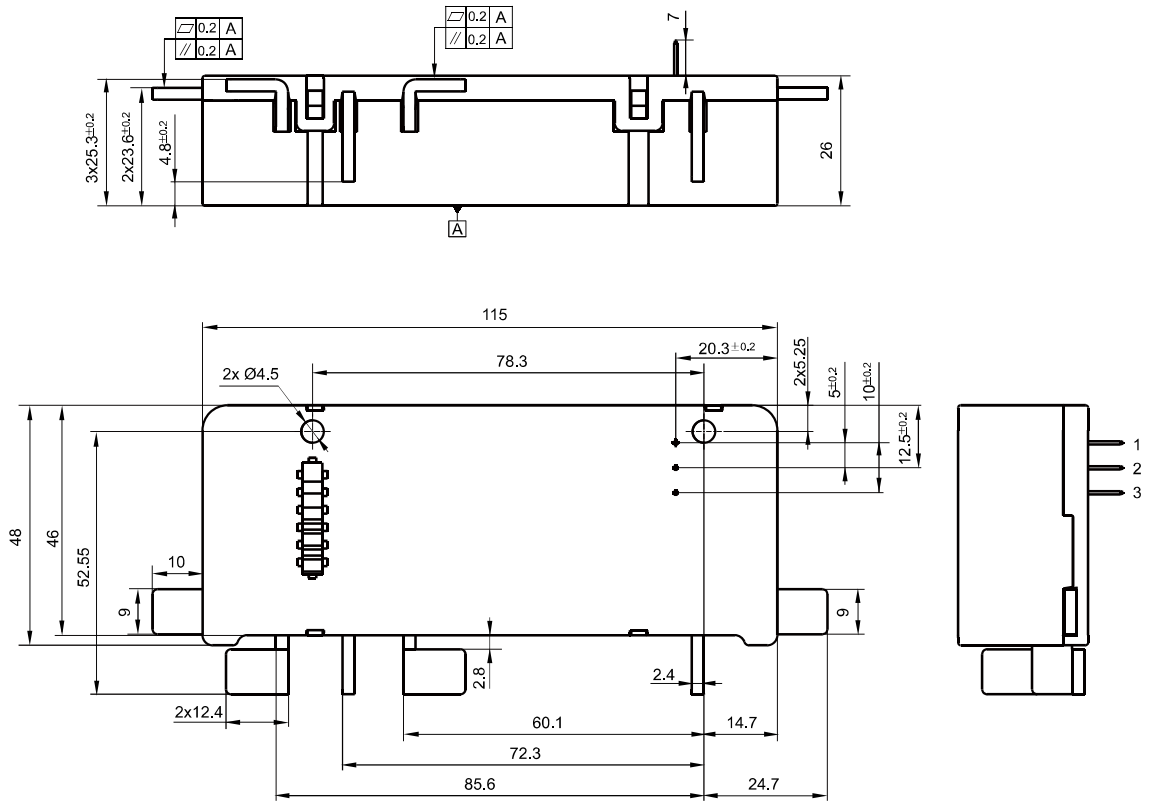
3) The customer special requirement express as special code after evaluating by Hongfa. e.g. (416) stands for UC2; e.g. (417) stands for UC3.

OUTLINE DIMENSIONS, WIRING DIAGRAM

Unit: mm

Outline Dimensions

HFE16



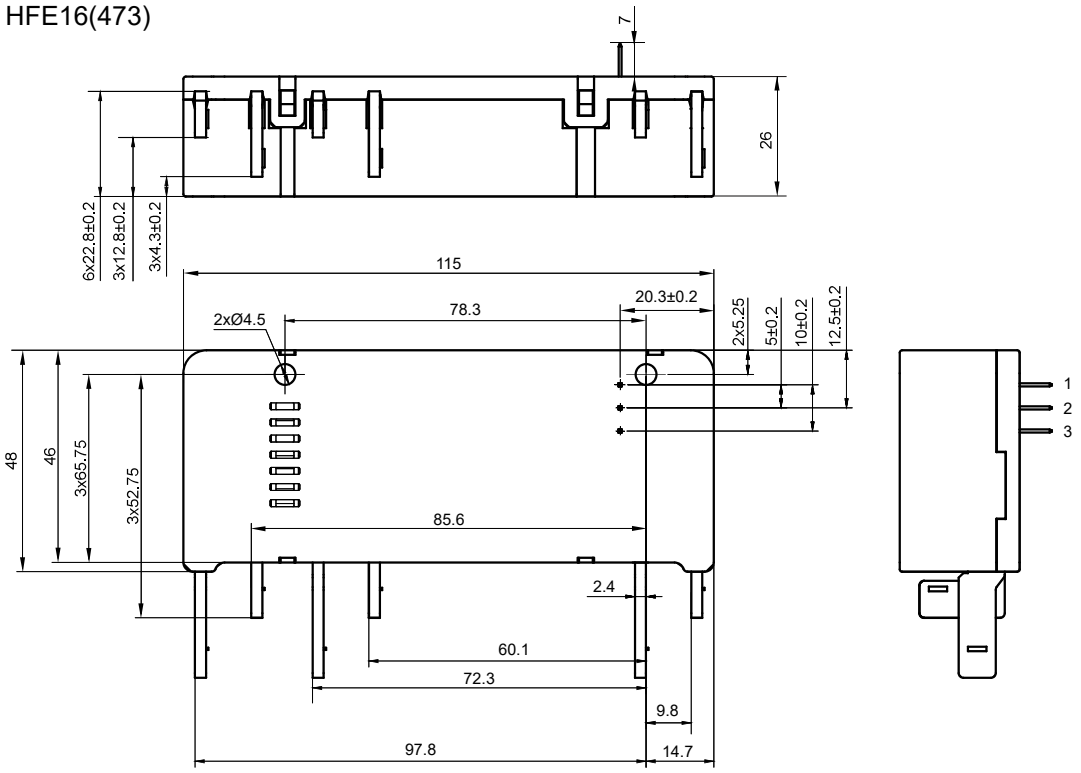
Remark: In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.1mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.2mm; outline dimension >5mm, tolerance should be ±0.4mm.

OUTLINE DIMENSIONS, WIRING DIAGRAM

Unit: mm

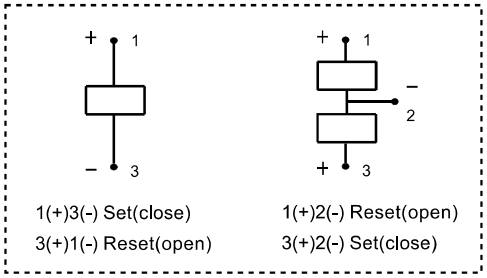
Outline Dimensions

HFE16(473)



Wiring Diagram

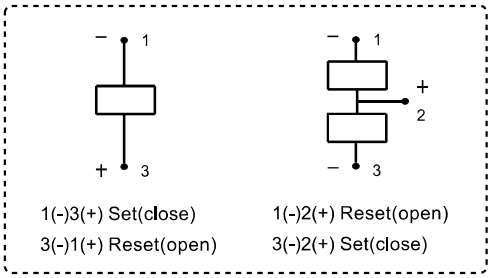
Standard polarity



1(+)3(-) Set(close)
3(+)1(-) Reset(open)

1(+)2(-) Reset(open)
3(+)2(-) Set(close)

Reverse polarity



1(-)3(+) Set(close)
3(-)1(+) Reset(open)

1(-)2(+) Reset(open)
3(-)2(+) Set(close)

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.