HFE23 MINIATURE 3-PHASES RELAY

Features

- 3-phases latching relay
- 120A switching capability at Res.load
- According to the fault current and electrical life test of IEC 62055-31: UC1, UC2, UC3 (please see below table and notes2)
- Heavy load up to 27.6kVA
- 4kV dielectric strength (between coil and contacts)
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (115.0 x 54.0 x 24.0) mm

CONTACT DATA

Contact arrangement	3A, 3B, 3SH, 3SD
Contact resistance	Typ.:0.35mΩ max. (at 100A)(1)
Contact material	$AgSnO_2$
Contact rating (Res. load)	120A 230VAC
Max. switching voltage	440VAC
Max. switching current	120A
Max. switching power	27600VA
Mechanical endurance	1 x 10^5OPS

Notes: (1) 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 & contacts	4000VAC 1 min
	Between open contacts	2500VAC 1 min
Creepage distance		8mm
Operate time (at nomi. volt.)		20ms max.
Release time (at nomi. volt.)		20ms 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˚C to 85˚C
Termination		QC
Unit weight		Approx.300g
Construction		Dust protected

Notes: The data shown above are initial values.

COIL

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

COIL DATA at 23˚C

Nominal Voltage VDC	Pick-up Voltage VDC max.	Pulse Duration ms min.	Coil Resistance x (1±10%) Ω	
6	4.8	100	Single coil latching	7
9	7.2	100		16
12	9.6	100		29
24	19.2	100		115
48	38.4	100		460
6	4.8	100	Double coils latching	3.5+3.5
9	7.2	100		8+8
12	9.6	100		14.5+14.5
24	19.2	100		57.5+57.5
48	38.4	100		230+230

Notes: When requiring other nominal voltage, special order allowed.

ELECTRICAL ENDURANCE

UC Class	Voltage (Uc)	Current (Ic)	Power Factor	Close Open time (s)	Electrical endurance (OPS)	
415 (UC1)	220VAC	80A	COSØ=1	10:20	3000	Total:6000
		10A	COSØ=0.4		3000	
416 (UC2)		80A	COSØ=1		5000	Total:10000
			COSØ=0.5		5000	
417 (UC3)		100A	COSØ=1		5000	Total:10000
			COSØ=0.5		5000	

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

ORDERING INFORMATION

	HFE23	-A /	12	-3D	T	2	-R	(XXX)

Type	
Version	**A:** Type A contact terminal
Coil voltage	6, 9, 12, 24, 48VDC
Contact form [1]	**3D: 3** Form B (Single-contact) **3H: 3** Form A (Single-contact) **3SD: 3** Form B (Double-contact) **3SH: 3** Form A (Double-contact)
Contact material	**T:** $AgSnO_2$
Sort	**1:** Single coil latching **2:** Double coils latching
Polarity	**R:** Negative polarity **Nil**: Positive polarity
Special code [2) 3)]	**XXX:** Customer special requirement

Notes: 1) 3H, 3SH means that relay is on the "reset" status when delivery; 3D, 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.

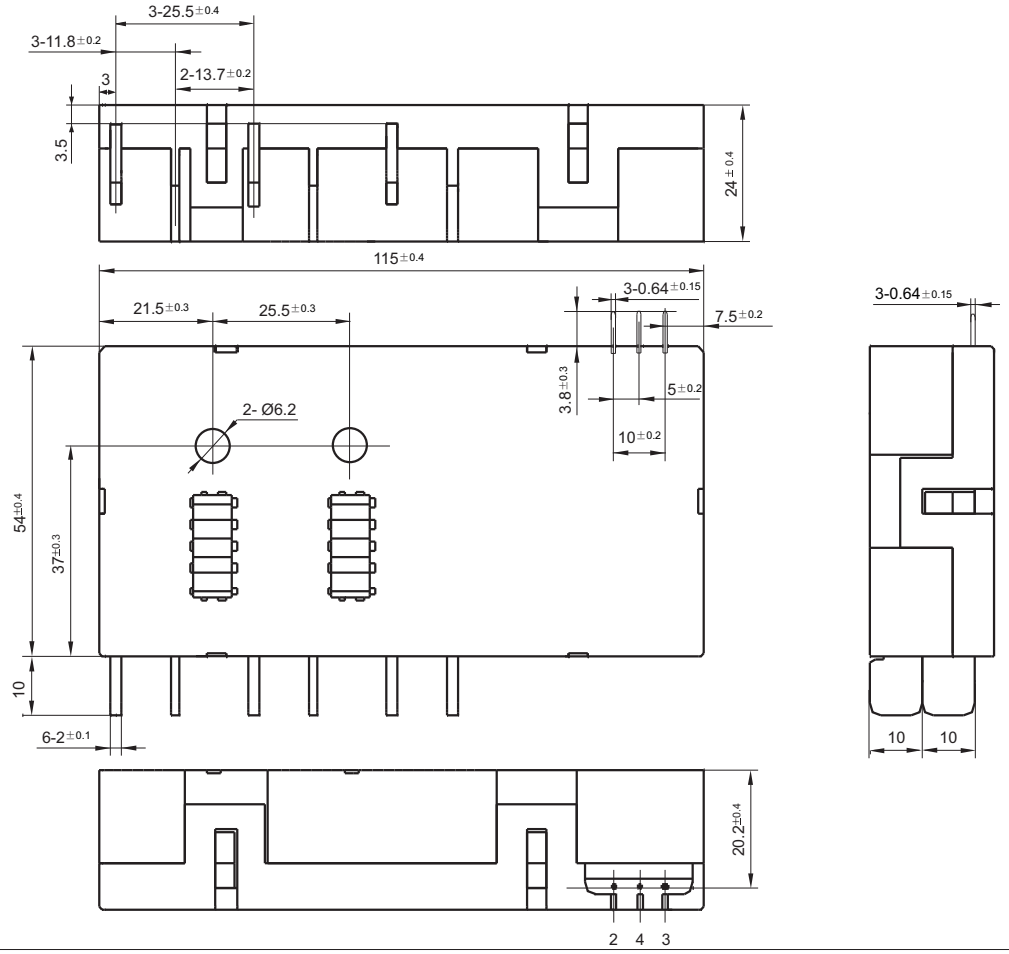
2) Please make clear your technical requirements, and choose from the following 3 UC ratings:
UC1: meet the UC1 requirements on IEC62055-31: Carrying test 3000A peak current for 10ms;
UC2: meet the UC2 requirements on IEC62055-31: Making test:2.5KA/10ms, carrying test 4.5KA /10ms;
UC3: meet the UC3 requirements 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. (415) stands for UC1; e.g. (416) stands for UC2; e.g. (417) stands for UC3.

OUTLINE DIMENSIONS, WIRING DIAGRAM

Unit: mm

Outline Dimensions

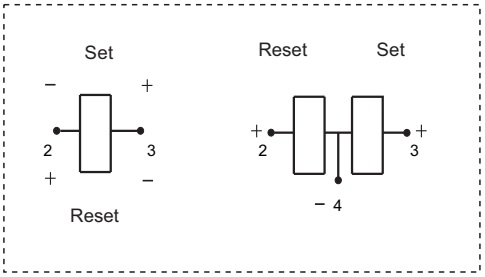


OUTLINE DIMENSIONS, WIRING DIAGRAM

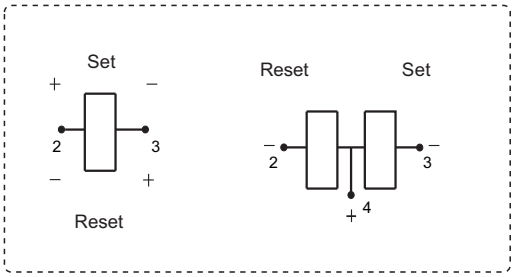
Unit: mm

Coil Wiring Diagram

Positive polarity



Negative polarity



Notice

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. In order to maintain “set” or “reset” status, energized voltage to 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 terminals of relay without twisted copper wire can not be tin-soldered, can not be moved willfully, more over two terminals can not be fixed at the same time.
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. 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.

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