

HFE50

MINIATURE HIGH POWER LATCHING RELAY



Features

- 100A Latching relay
- Electrical endurance 10000ops
- According to IEC62055-31:UC2
- Contact resistance $\leq 0.5m\Omega$

CONTACT DATA

Contact arrangement	1A, 1B
Contact resistance ¹⁾	Typ.:0.5m Ω max.(at 100A) ²⁾
Contact material	AgSnO ₂
Contact rating	100A 220VAC
Max. switching voltage	253VAC
Max. switching current	100A
Rated switching power	22000VA
Mechanical endurance	1 x 10 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	1000M Ω (at 500VDC)	
Dielectric strength	Between coil & contacts	4000VAC 1min
	Between open contacts	2000VAC 1min
Creepage distance	8mm	
Set time (at nomi. volt.)	20ms max.	
Reset time (at nomi. volt.)	20ms max.	
Shock resistance	Functional	196m/s ²
	Destructive	980m/s ²
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. 65g	
Construction	Dust protected	

Notes: The data shown above are initial values.

COIL

Coil power	Single coil latching: Approx. 2.4W Double coils latching: Approx. 4.8W
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COIL DATA

at 23°C

Single coil latching

Nominal Voltage VDC	Set / Reset Voltage VDC ¹⁾ max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1 \pm 10%) Ω
6	≤ 4.2	50~100	15
9	≤ 6.3	50~100	34
12	≤ 8.4	50~100	60
24	≤ 16.8	50~100	240
48	≤ 33.6	50~100	960

Double coils latching

Nominal Voltage VDC	Set / Reset Voltage VDC ¹⁾ max.	Pulse Duration (Recommended) ms.	Coil Resistance x (1 \pm 10%) Ω
6	≤ 4.2	50~100	7.5+7.5
9	≤ 6.3	50~100	17+17
12	≤ 8.4	50~100	30+30
24	≤ 16.8	50~100	120+120
48	≤ 33.6	50~100	480+480

Notes:1) The data shown above are initial values ; recommended driving voltage is 1~1.5times of rated voltage.



HONGFA RELAY

ISO9001, ISO/TS16949, ISO14001, OHSAS18001, IECQ QC 080000 CERTIFIED

2020 Rev. 1.00

ELECTRICAL ENDURANCE

UC Class	Voltage (Uc)	Current (Ic)	Power factor	Close Open time (s)	Electrical endurance (OPS)		Short circuit current (10ms)
416 (UC2)	230VAC	80A	COS ϕ =1	10:20	5000	Total:10000	Making: 2500A Carrying: 2500A Carrying: 4500A
		80A	COS ϕ =0.5		5000		

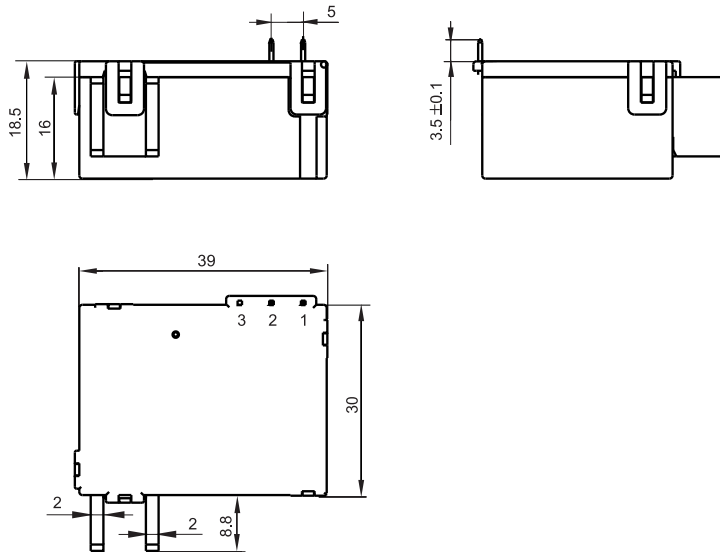
Notes: 1) Electrical endurance meet IEC62055-31 test requirement,do the inductive load test after the resistive load test.
2) The coil is driven at rated voltage.

ORDERING INFORMATION

Type	HFE50 - 100/ 12 D T 4 1 -R (XXX)
Contact rating	100: 100A
Coil voltage	6, 9, 12, 24, 48VDC
Contact form ¹⁾	D: 1 Form B H: 1 Form A
Contact material	T: AgSnO ₂
Coil angle form	2: Distance 5mm; No bowleg 4: Distance 5mm; L-bowleg
Sort	1: Single coil latching 2: Double coils latching
Polarity	R: Negative polarity Nil: Positive polarity
Special code ^{2) 4)}	XXX: Customer special requirement

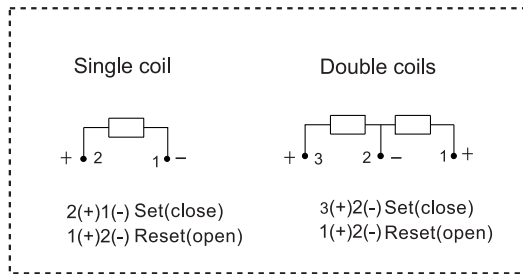
Notes: 1) H means that relay is on the "reset" status when delivery; D means that relay is on the "set" status when delivery. If no special required by customer, we will keep the relay on the "set" status when delivery.
2) UC2: Meet the UC2 requirements on IEC62055-31.
3) We can make special design according to customer's requirement, Please see the typical design.
4) The customer special requirement express as special code after evaluating by Hongfa. e.g. (416) stands for UC2.

Outline Dimensions

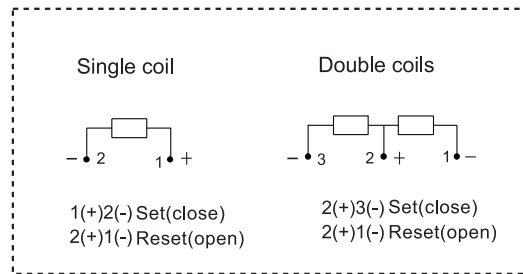


Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.
 2) The tolerance without indicating for PCB layout is always ± 0.1 mm.

Positive polarity



Negative polarity



Notice:

- 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.
- Do not energize voltage to "set" coil and "reset" coil simultaneously. And also long energized time (more than 1 min) should be avoided.
- 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.
- 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.