

HFE28

HIGH POWER LATCHING RELAY



Features

- Latching relay
- 100A 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)
- AC-voltage driving is feasible
- 4kV dielectric strength (between coil and contacts)
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (66.0 x 75.0 x 23.5) mm

CONTACT DATA

| | |
|----------------------------|------------------------------------------|
| Contact arrangement | 2A, 2B, 2SH, 2SD |
| Contact resistance | Typ.:0.35mΩ max.(at 100A) ⁽¹⁾ |
| Contact material | AgSnO ₂ |
| Contact rating (Res. load) | 100A 277VAC/28VDC |
| Max. switching voltage | 440VAC |
| Max. switching current | 120A |
| Max. switching power | 27700VA/2800W |
| Mechanical endurance | 1 x 10 ⁵ OPS |

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 1min |
| | Between open contacts | 2500VAC 1min |
| Creepage distance | | 9.6mm |
| Operate time (at nomi. volt.) | | 20ms max. |
| Release time (at nomi. volt.) | | 20ms max. |
| Shock resistance | Functional | 98m/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 | | QC |
| Unit weight | | Approx. 220g |
| 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 | Set / Reset Voltage VDC max. | Pulse Duration ms min. | Coil Resistance x (1±10%) Ω | |
|---------------------|------------------------------|------------------------|-----------------------------|-----------|
| 6 | 4.8 | 100 | Single coil latching | 7.2 |
| 12 | 9.6 | 100 | | 28.8 |
| 24 | 19.2 | 100 | | 114 |
| 48 | 36.4 | 100 | | 460 |
| 6 | 4.8 | 100 | Double coils latching | 3.6+3.6 |
| 12 | 9.6 | 100 | | 14.4+14.4 |
| 24 | 19.2 | 100 | | 57+57 |
| 48 | 36.4 | 100 | | 230+230 |

| Nominal Voltage VAC | Set / Reset Voltage VAC max. | Pulse Duration ms min. | Coil Resistance x (1±10%) Ω | |
|---------------------|------------------------------|------------------------------|-----------------------------|-----------|
| 230 | 161 | 50: full-wave rectification | Single coil latching | 2420 |
| 230 | 161 | 100: half-wave rectification | Double coils latching | 1210+1210 |

ELECTRICAL ENDURANCE

| UC Class | Voltage (Uc) | Current (Ic) | Power Factor | Close Open time (s) | Electrical endurance (OPS) | |
|-----------|--------------|--------------|--------------|---------------------|----------------------------|-------------|
| 415 (UC1) | 230VAC | 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.



HONGFA RELAY

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

2015 Rev. 1.00

ORDERING INFORMATION

| | | | | | | | | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|------------|---------------------------------|----------|-----------|--------------|
| HFE28 | | -140 | /12 | -2D | T | 2 | -R | (XXX) |
| Type | | | | | | | | |
| Sampling resistance | 140: 140 $\mu\Omega$ 280: 280 $\mu\Omega$ Nil: Without sampling resistance | | | | | | | |
| Coil voltage | 6, 12, 24, 48VDC; 230VAC | | | | | | | |
| Contact form ¹⁾ | 2D: 2 Form B (Single-contact) 2H: 2 Form A (Single-contact) 2SD: 2 Form B (Double-contact of 2 Form B) 2SH: 2 Form A (Double-contact of 2 Form A) | | | | | | | |
| 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) 2H, 2SH means that relay is on the "reset" status when delivery; 2D, 2SD means that relay is on the "set" status when delivery. If no special requirement 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 2400A peak current for 10ms;

UC2: meet the UC2 requirements on IEC62055-31: Making test: 2.5kA/10ms, carrying test 4.5kA/10ms;

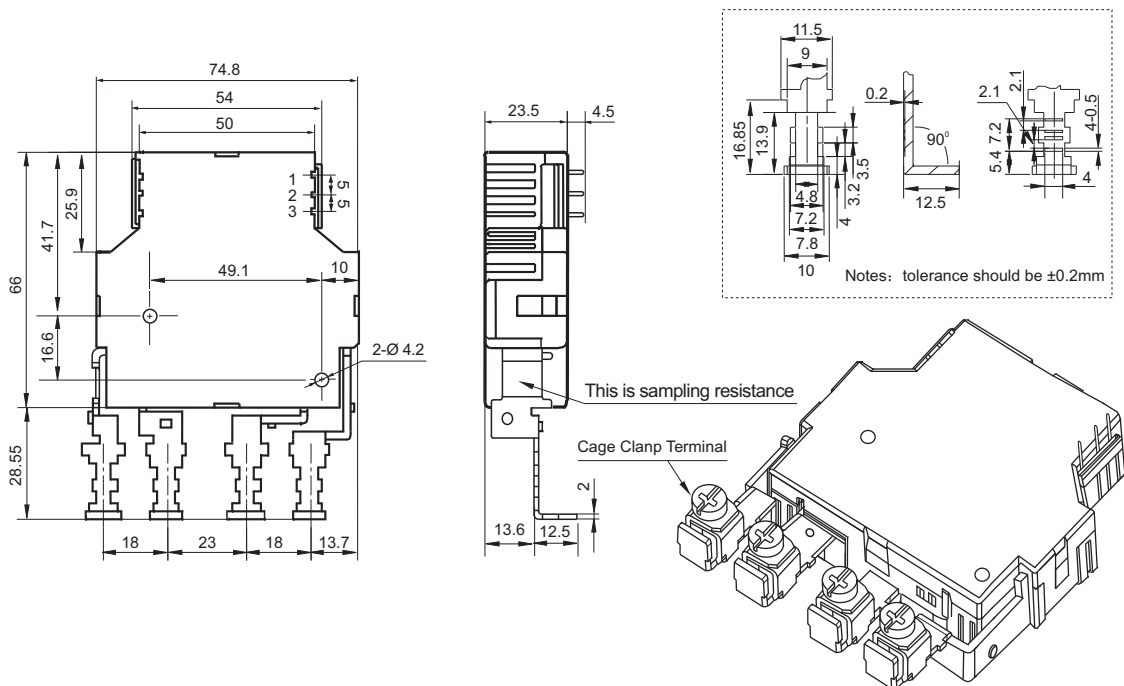
UC3: meet the UC3 requirements on IEC62055-31: Making test: 3kA/10ms, carrying test 6kA/10ms.

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 AND WIRING DIAGRAM

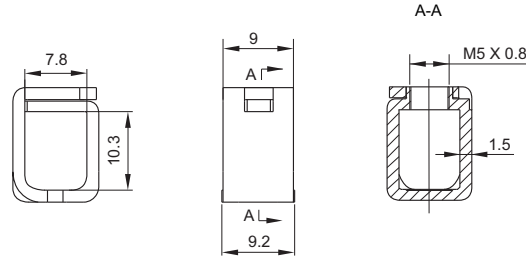
Unit: mm

Outline Dimensions



Remark: 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.

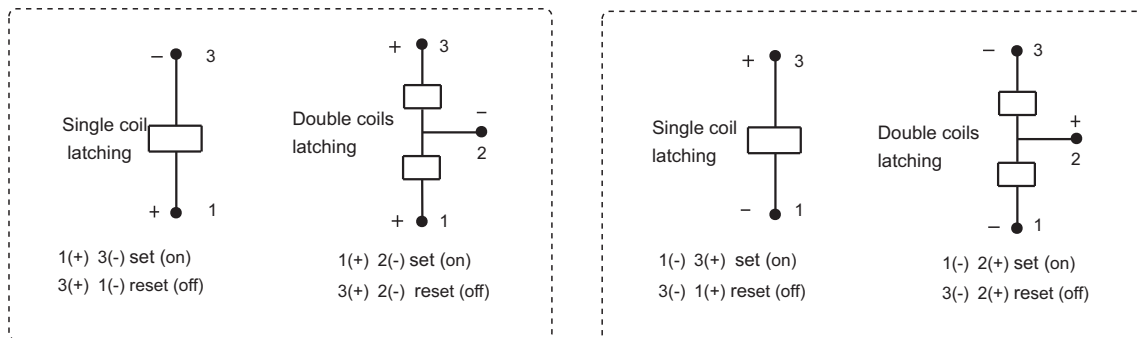
Cage Clamp Terminal



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.
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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