

HF10F

MINIATURE HIGH POWER RELAY



Safety approval is pending.



Features

- 10A switching capability
- Multiple switching capability (2C, 3C type)
- Standard electrontube terminal
- With test button
- Sockets available

RoHS compliant

CONTACT DATA

| | |
|-------------------------------|---|
| Contact arrangement | 2Z, 3Z |
| Contact resistance | $\leq 100\text{m}\Omega$ (1A 24VDC) |
| Contact material | AgSnO ₂ , AgCdO |
| Contact rating (Res. load) | 2Z: 10A 250VAC / 30VDC 3Z: (NO) 10A 250VAC / 30VDC (NC) 5A 250VAC / 30VDC |
| Max. switching voltage | 250VAC / 30VDC |
| Max. switching current | 10A |
| Max. switching power | 2500VA / 300W |
| Mechanical endurance | 1 x 10 ⁷ OPS |
| Electrical endurance | 2Ztype: 1 x 10 ⁵ OPS (10A 250VAC/30VDC; Resistive load, Room temp., 1s on 9s off) 3Ztype: 1 x 10 ⁵ OPS (NO:10A 250VAC/30VDC; NC: 5A 250VAC/30VDC; Resistive load, Room temp., 1s on 9s off) |

Notes: The data shown above are initial values.

CHARACTERISTICS

| | | |
|-----------------------------------|-------------------------|--------------------------------|
| Insulation resistance | | 1000M Ω (500VDC) |
| Dielectric strength | Between coil & contacts | 2500VAC 1min |
| | Between open contacts | 1500VAC 1min |
| | Between contact sets | 2000VAC 1min |
| Operate time (at nomi. volt.) | | $\leq 30\text{ms}$ (DC) |
| Release time (at nomi. volt.) | | $\leq 30\text{ms}$ (DC) |
| Temperature rise (at nomi. volt.) | | 100K max |
| Shock resistance | Functional | 98m/s ² |
| | Destructive | 980m/s ² |
| Vibration resistance | | 10Hz ~ 55Hz 1.5mm DA |
| Humidity | | 5% to 85% RH |
| Ambient temperature | | -40°C to 55°C |
| Termination | | Standard electrontube terminal |
| Unit weight | | Approx.90g |
| Construction | | Dust protected |

COIL

| | |
|------------|---|
| Coil power | DC type: Approx.1.4W; AC type: Approx. 3.0VA |
|------------|---|

SAFETY APPROVAL IS PENDING

| | |
|--------|--|
| UL/CUL | 10A 250VAC/30VDC 1/3HP 120VAC 1/3HP 240VAC 1/2HP 277VAC |
|--------|--|

COIL DATA

23°C

| Nominal Voltage VDC | Pick-up Voltage VDC max. | Drop-out Voltage VAC min. | Max. ²⁾ Voltage VAC | Coil Resistance Ω |
|---------------------|--------------------------|---------------------------|--------------------------------|--------------------------|
| 006 | 4.80 | 0.60 | 7.20 | 23.5 x (1 \pm 10%) |
| 012 | 9.60 | 1.20 | 14.4 | 120 x (1 \pm 10%) |
| 024 | 19.2 | 2.40 | 28.8 | 470 x (1 \pm 10%) |
| 048 | 38.4 | 4.80 | 57.6 | 1800 x (1 \pm 10%) |
| 060 | 48.0 | 6.00 | 72.0 | 2790 x (1 \pm 10%) |
| 100 | 80.0 | 10.0 | 120 | 7500 x (1 \pm 10%) |
| 110 | 88.0 | 11.0 | 132 | |
| 120 | 96.0 | 12.0 | 144 | |
| 220 | 176 | 22.0 | 264 | 37000 x (1 \pm 10%) |



HONGFA RELAY

ISO9001, IATF16949, ISO14001, ISO45001, IECQ QC 080000, ISO/IEC 27001 CERTIFIED

2024 Rev. 1.00

COIL DATA

23°C

| Nominal Voltage VAC | Pick-up Voltage VAC max. | Drop-out Voltage VAC min. | Max. ²⁾ Voltage VAC | Coil Resistance Ω |
|---------------------|--------------------------|---------------------------|--------------------------------|-------------------|
| 006 | 4.80 | 1.80 | 7.20 | 3.9 x (1±10%) |
| 012 | 9.60 | 3.60 | 14.4 | 16.9 x (1±10%) |
| 024 | 19.2 | 7.20 | 28.8 | 72 x (1±10%) |
| 048 | 38.4 | 14.4 | 57.6 | 290x (1±10%) |
| 110 | 88.0 | 33.0 | 132 | 1700 x (1±10%) |
| 120 | 96.0 | 36.0 | 144 | |
| 110/120 | 88.0 | 36.0 | 132 | |
| 220 | 176 | 36.0 | 264 | 6500 x (1±10%) |
| 230 | 184 | 69.0 | 276 | |
| 220/240 | 176 | 72.0 | 264 | |
| 240 | 192 | 72.0 | 288 | |

Notes: 1) All values unspecified are at room temperature.

2) Maximum voltage refers to the maximum voltage which relay coil could endure in a short period of time.

ORDERING INFORMATION

| | | | | | | | | | |
|----------------------------|--|---|------|---|-----|---|---|---|-------|
| Type | HF10F | F | /230 | A | -2Z | D | T | G | (XXX) |
| Button Function | F: Standard type without button H: With test button type | | | | | | | | |
| Coil voltage | See "COIL DATA"Nominal Voltage | | | | | | | | |
| Coil voltage form | A: AC D: DC | | | | | | | | |
| Contact arrangement | 2Z: 2 Form C 3Z: 3 Form C | | | | | | | | |
| Combined component code | D: With LED type DJ: With LED and diode type(only for DC type) Nil: Standard | | | | | | | | |
| Contact material | T: AgSnO ₂ Nil: AgCdO | | | | | | | | |
| Contact plating | G: Gold plated Nil: No gold plated | | | | | | | | |
| Special code ¹⁾ | XXX: Customer special requirement Nil: Standard | | | | | | | | |

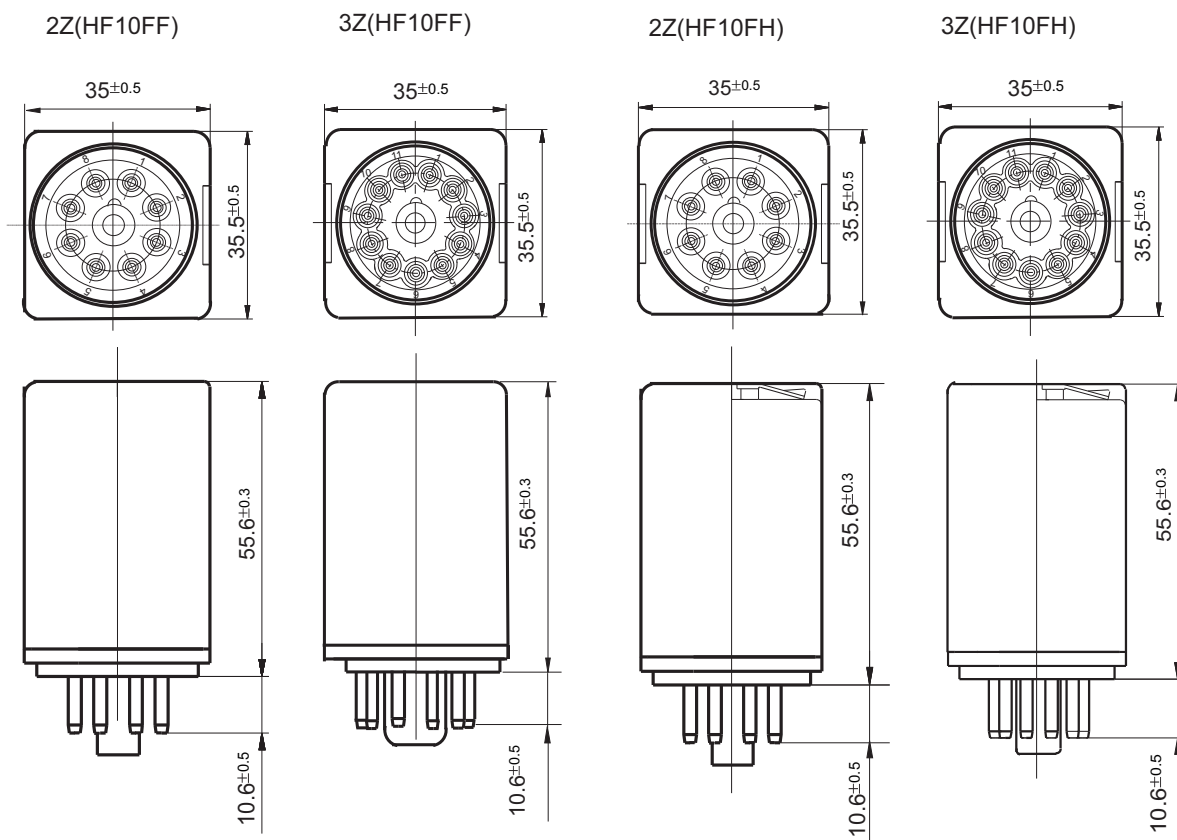
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

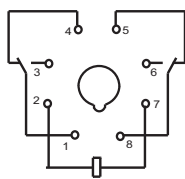
(Bottom view)



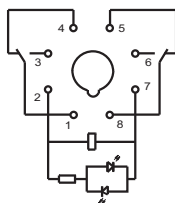
Wiring Diagram

(Bottom view)

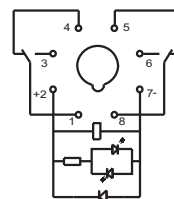
2Z
(HF10FF/HF10FH)



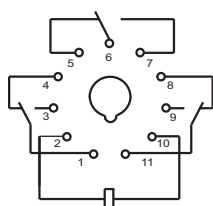
2Z
(HF10FF/HF10FH With LED)



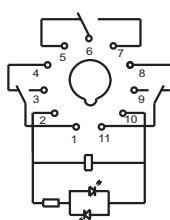
2Z
(HF10FF/HF10FH With LED, With fly-wheel diode)



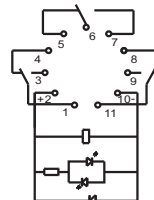
3Z
(HF10FF/HF10FH)



3Z
(HF10FF/HF10FH With LED)



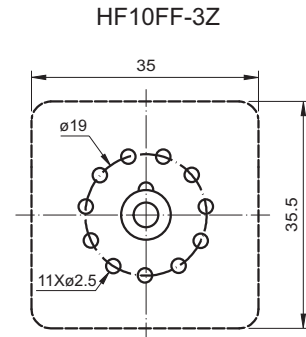
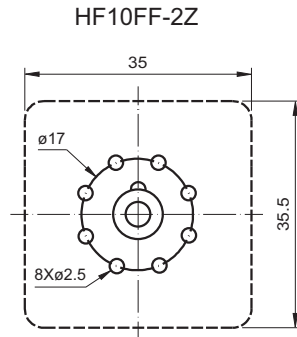
3Z
(HF10FF/HF10FH With LED, With fly-wheel diode)



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

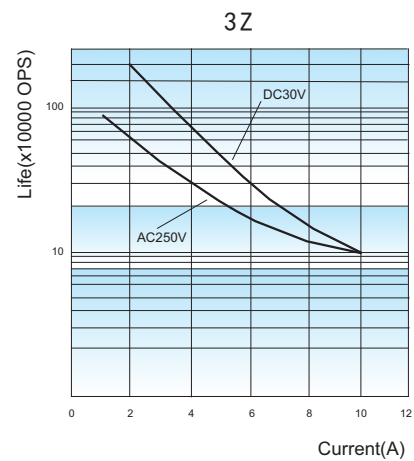
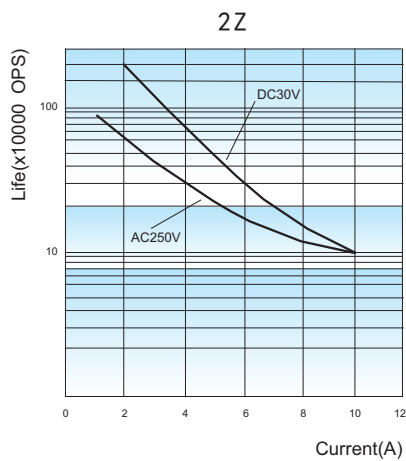
Unit: mm

PCB Layout
(Bottom view)

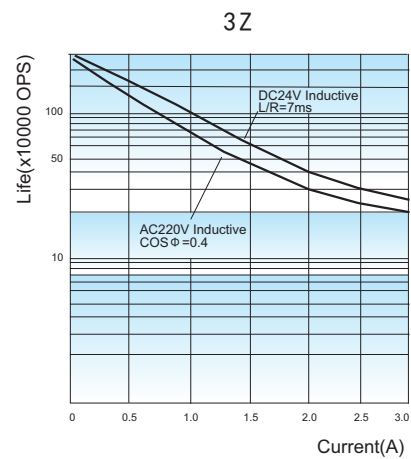
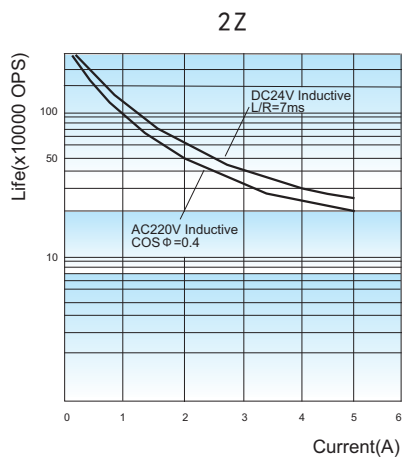


CHARACTERISTIC CURVES

RESISTIVE ENDURANCE CURVE



INDUCTIVE ENDURANCE CURVE



Relay Sockets



Features

- The dielectric strength can reach 2000VAC and the insulation resistance is 1000MΩ
- Two mounting types are available: screw mounting and DIN rail mounting.
- With finger protection device are available
- Many kinds of plug-in modules are available with the function of energizing indication and wiring protection.
- Components available: metallic retainer, plug-in modules
- Environmental friendly product (RoHS compliant)

CHARACTERISTICS

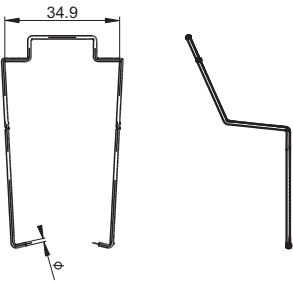
| Type | Nominal Voltage | Nominal Current | Ambient Temperature | Dielectric Strength min. | Screw Torque | Wire Strip Length | Unit weight |
|------------|-----------------|-----------------|---------------------|--------------------------|--------------|-------------------|-------------|
| 10FF-2Z-C3 | 250VAC | 10A | -40 °C to 70°C | 2000VAC | 0.6N · m | 7mm | Approx. 49g |
| 10FF-2Z-C4 | 250VAC | 10A | -40 °C to 70°C | 2000VAC | 0.6N · m | 7mm | Approx. 61g |
| 10FF-3Z-C3 | 250VAC | 10A | -40 °C to 70°C | 2000VAC | 0.6N · m | 7mm | Approx. 56g |
| 10FF-3Z-C4 | 250VAC | 10A | -40 °C to 70°C | 2000VAC | 0.6N · m | 7mm | Approx. 65g |

DIMENSION OF RELATED COMPONENT (AVAILABLE)

Unit: mm

Retainer

10FF-H1 (Metallic retainer)


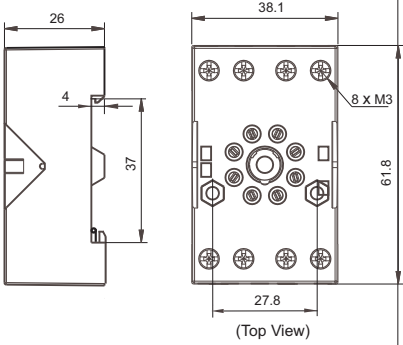
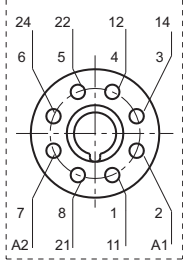
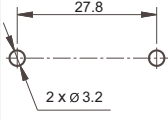

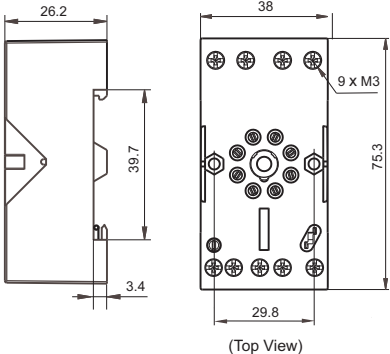
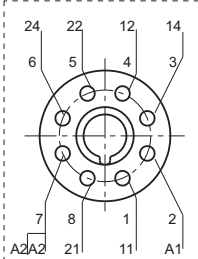
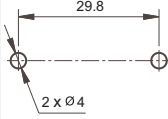

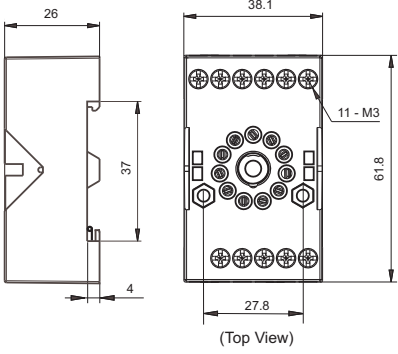
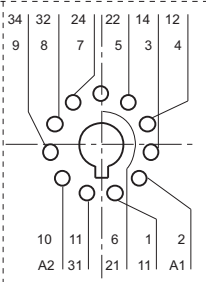
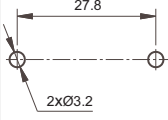

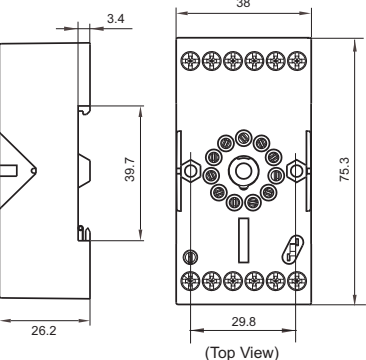
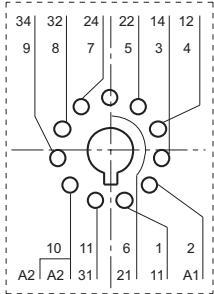
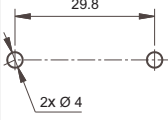


Things to be noticed when selecting sockets:

1. Please choose suitable relay socket according to the actual mounting environment, relay contact poles and terminal layout. If there is any query on selection, please contact Hongfa for the technical service.
2. As for related components, they should be selected separately. Please do give clear indication of the types of relay sockets and related components you choose while placing order.
3. The above is only an example of typical socket and related component type which is suitable to HF10FF relay. If you have any special requirements, please contact us.
4. Main outline dimension, outline dimension>50mm ,tolerance should be ± 1mm; 20mm<outline dimension ≤50mm, tolerance should be ± 0.5mm; 5mm<outline dimension ≤20mm, tolerance should be ± 0.4mm; outline dimension≤5mm, tolerance should be ± 0.3mm.
5. DIN rail mounting: recommend to use standard rail 35×7.5×1mm, 35×15×1mm.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

| Socket | Outline Dimensions | Wiring Diagram | PCB Layout | Components Available |
|---|---|--|---|---|
| 10FF-2Z-C3  Screw terminal DIN rail or Screw mounting With finger protection device Applicable for 2 poles |  (Top View) |  (Top View) |  | metallic retainer 10FF-H1 |
| 10FF-2Z-C4  Screw terminal DIN rail or Screw mounting With finger protection device Applicable for 2 poles |  (Top View) |  (Top View) |  | metallic retainer 10FF-H1 plug-in module HFFAA to HFFHU* |
| 10FF-3Z-C3  Screw terminal DIN rail or Screw mounting With finger protection device Applicable for 3 poles |  (Top View) |  (Top View) |  | metallic retainer 10FF-H1 |
| 10FF-3Z-C4  Screw terminal DIN rail or Screw mounting With finger protection device Applicable for 3 poles |  (Top View) |  (Top View) |  | metallic retainer 10FF-H1 plug-in module HFFAA to HFFHU* |

Notes: * Please refer to the product datasheet if plug-in module is required.

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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