

HF115FP

MINIATURE POWER RELAY



File No.: E133481



File No.: 116934



Features

- 1 pole 16A, 2 pole 8A, 1 CO & 2 CO contacts
- 5kV dielectric, Creepage distance 8 mm (coil to contacts)
- Meeting VDE 0700, 0631 reinforce insulation
- DC/AC coil type relay, Coil power 400mW / 0.75VA
- Manual test device
- Type with mechanical indicator / electrical indicator
- Sockets available

RoHS compliant

CONTACT DATA

| | | |
|----------------------------------|--|-----------|
| Contact arrangement | 1C | 2C |
| Contact resistance ¹⁾ | 100mΩ max.(at 1A 6VDC) | |
| Contact material | AgNi | |
| Contact rating (Res. load) | 16A 250VAC | 8A 250VAC |
| Max. switching voltage | 440VAC | |
| Max. switching current | 16A | 8A |
| Max. switching power | 4000VA | 2000VA |
| Mechanical endurance | DC type: 5 x 10 ⁶ OPS AC type: 1 x 10 ⁶ OPS | |
| Electrical endurance | 1Z3B type: 3x 10 ⁴ OPS (NO: 16A 250VAC, Resistive load, at 70°C, 1s on 9s off) 2Z4B type: 5 x 10 ⁴ OPS (NO: 8A 250VAC, Resistive load, at 70°C, 1s on 9s off) | |

Notes: 1) The data shown above are initial values.

CHARACTERISTICS

| | | |
|------------------------------------|--|---|
| Insulation resistance | 1000MΩ (at 500VDC) | |
| Dielectric strength | Between coil & contacts | 5000VAC 1min |
| | Between open contacts | 1000VAC 1min |
| | Between contact sets | 2500VAC 1min |
| Operate time (at rated. volt.) | DC type: 15ms max. | |
| Release time (at rated. volt.) | DC type: 8ms max. | |
| Temperature rise (at rated. volt.) | DC type: 60K max. AC type: 85K max. | |
| Shock resistance* | Function | 98m/s ² |
| | Destructive | 980m/s ² |
| Vibration resistance* | NO | 10Hz to 150Hz 10g |
| | NC | length direction: 10Hz to 150Hz 2g other direction: 10Hz to 150Hz 5g |
| Humidity | 5% to 85% RH | |
| Ambient temperature | -40°C to 70°C | |
| Termination | PCB | |
| Unit weight | Approx. 16g | |
| Mounting distance | 5mm, packing of sockets | |

Notes: 1) The data shown above are initial values.
2) * Index is not that of relay length direction.
3) UL insulation system: Class A



HONGFA RELAY

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

2019 Rev. 1.02

COIL

| | |
|------------|--|
| Coil power | DC type: Approx. 400mW; AC type: Approx. 0.75VA |
|------------|--|

Notes: The data shown above don't include the power of electronic indicating circuit when the relay picks-up.

COIL DATA

at 23°C

DC type

| Nominal Voltage VDC | Pick-up Voltage VDC max.1) | Drop-out Voltage VDC min.1) | Max. Voltage VDC 2) | Coil Resistance Ω |
|---------------------|----------------------------|-----------------------------|---------------------|-------------------|
| 12 | 8.4 | 1.2 | 18 | 360 x (1±10%) |
| 24 | 16.8 | 2.4 | 36 | 1440 x (1±10%) |
| 48 ³⁾ | 33.6 | 4.8 | 72 | 5760 x (1±15%) |
| 110 ³⁾ | 77.0 | 11.0 | 165 | 25200 x (1±15%) |

Notes: 1) The data shown above are initial values.

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

3) For products with rated voltage ≥ 48V, measures should be taken to prevent coil overvoltage in order to protect coil in test and application (eg. Connect diodes in parallel).

AC type(50Hz)

| Nominal Voltage VAC | Pick-up Voltage VAC max.1) | Drop-out Voltage VAC min.1) | Coil Current mA | Coil DC Resistance Ω |
|---------------------|----------------------------|-----------------------------|-----------------|----------------------|
| 24 | 18.0 | 3.6 | 31.6 | 350 x (1±10%) |
| 115 | 86.3 | 17.25 | 6.6 | 8100 x (1±15%) |
| 230 | 172.5 | 34.5 | 3.2 | 32500 x (1±15%) |

Notes: 1) The data shown above are initial values.

SAFETY APPROVAL RATINGS

| | | |
|--------|----------|--------------------|
| UL/CUL | 1 Form C | 16A 250VAC at 70°C |
| | 2 Form C | 8A 250VAC at 70°C |
| VDE | 1 Form C | 16A 250VAC at 70°C |
| | 2 Form C | 8A 250VAC at 70°C |

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

2) Only typical loads are listed above. Other load specifications can be available upon request.

ORDERING INFORMATION

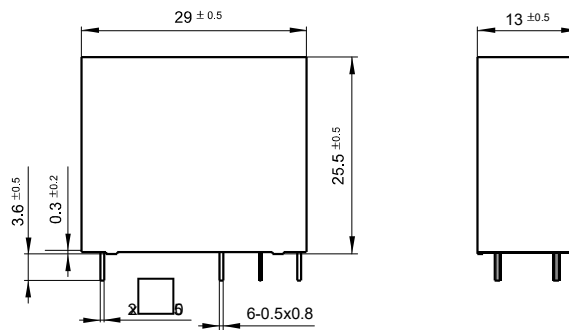
| | | | | | | |
|----------------------------|--|-----|--------------------|---|---|-------|
| Type | HF115FP / | 024 | -1Z | 3 | B | (XXX) |
| Coil voltage | 012 to 110: 12, 24, 48, 110 VDC A24 to A230: 24, 115, 230 VAC | | | | | |
| Contact arrangement | 1Z: 1 Form C | | 2Z: 2 Form C | | | |
| Version | 3: 5.0mm 1 pole 16A | | 4: 5.0mm 2 pole 8A | | | |
| Contact material | B: AgNi | | | | | |
| Special code ²⁾ | XXX: Customer special requirement | | Nil: Standard | | | |

Notes: 1) Flux-proofed relays can not be used in the environment with pollutants like H₂S, SO₂, NO₂, dust, etc.
2) The customer special requirement express as special code after evaluating by Hongfa.

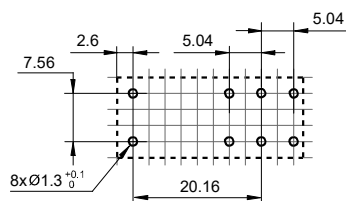
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions



PCB Layout (Bottom view)



DIN rail Socket



Solder Socket



Remark: 1) The pin dimension of the product outline drawing is the size before tinning (it will become larger after tinning), and the mounting hole size is the recommended design size of the PCB board hole. The specific PCB board hole design size can be mapped and adjusted according to the actual product.

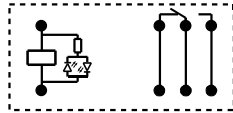
- 2) In case of no tolerance shown in outline dimension: outline dimension ≤ 1 mm, tolerance should be ± 0.2 mm; outline dimension > 1 mm and ≤ 5 mm, tolerance should be ± 0.3 mm; outline dimension > 5 mm, tolerance should be ± 0.4 mm.
- 3) The tolerance without indicating for PCB layout is always ± 0.1 mm.
- 4) The width of the gridding is 2.52mm.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

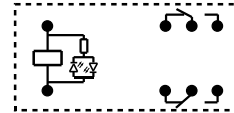
Unit: mm

Wiring Diagram (Bottom view)

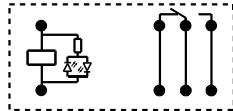
HF115FP/ □□□ -1Z3□



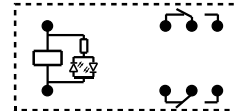
HF115FP/ □□□ -2Z4□



HF115FP/A □□□ -1Z3□



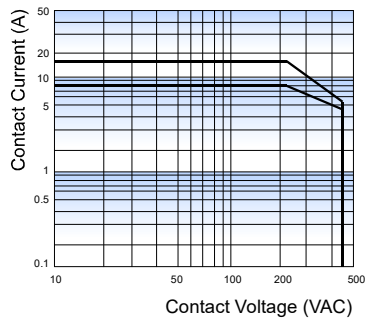
HF115FP/A □□□ -2Z4□



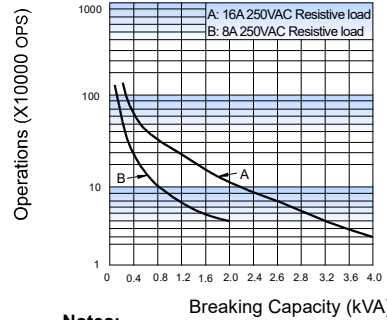
Remark: DC coil with a parallel diode is available but the coil terminal is different in positive or cathode.

CHARACTERISTIC CURVES

MAXIMUM SWITCHING POWER



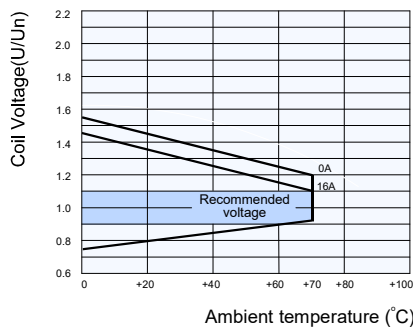
ENDURANCE CURVE



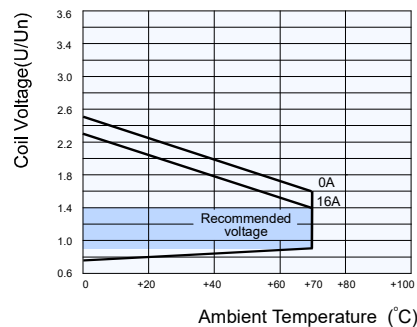
Notes:

- 1. Curve A: 1Z3B type
Curve B: 2Z4B type
- 2. Test conditions:
NO, Flux proofed, Room temp., 1s on 9s off

COIL OPERATING RANGE (AC) *



COIL OPERATING RANGE (DC) *



Notes: * The use of a relay with an energising voltage other than the rated coil voltage may lead to reduced electrical life. An energising voltage over the abver range may damage the insulation of relay coil.

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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