

HF10F

MINIATURE HIGH POWER RELAY



File No.:E134517



Features

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

RoHS compliant

CONTACT DATA

Contact arrangement	2C, 3C
Contact resistance	100mΩ max.(at 1A 24VDC)
Contact material	AgSnO ₂ , AgCdO
Contact rating (Res. load)	2C: 10A 250VAC / 30VDC 3C: (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	2 Form C type: 1 x 10 ⁵ ops (10A 250VAC/30VDC; Resistive load, Room temp., 1s on 9s off) 3 Form C type: 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		1000MΩ (500VDC)
Dielectric strength	Between coil & contacts	2500VAC 1min
	Between open contacts	1500VAC 1min
	Between contact sets	2000VAC 1min
Operate time (at nomi. volt.)		30ms(DC) max.
Release time (at nomi. volt.)		30ms(DC) max.
Temperature rise (at nomi. volt.)		100K 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 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
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SAFETY APPROVAL RATINGS

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

at 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±10%)
012	9.60	1.20	14.4	120 x (1±10%)
024	19.2	2.40	28.8	470 x (1±10%)
048	38.4	4.80	57.6	1800 x (1±10%)
060	48.0	6.00	72.0	2790 x (1±10%)
100	80.0	10.0	120	7500 x (1±10%)
110	88.0	11.0	132	
120	96.0	12.0	144	
220	176	22.0	264	37000 x (1±10%)



HONGFA RELAY

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

2024 Rev. 1.01

COIL DATA				23°C
Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	Max. Voltage ²⁾ 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								

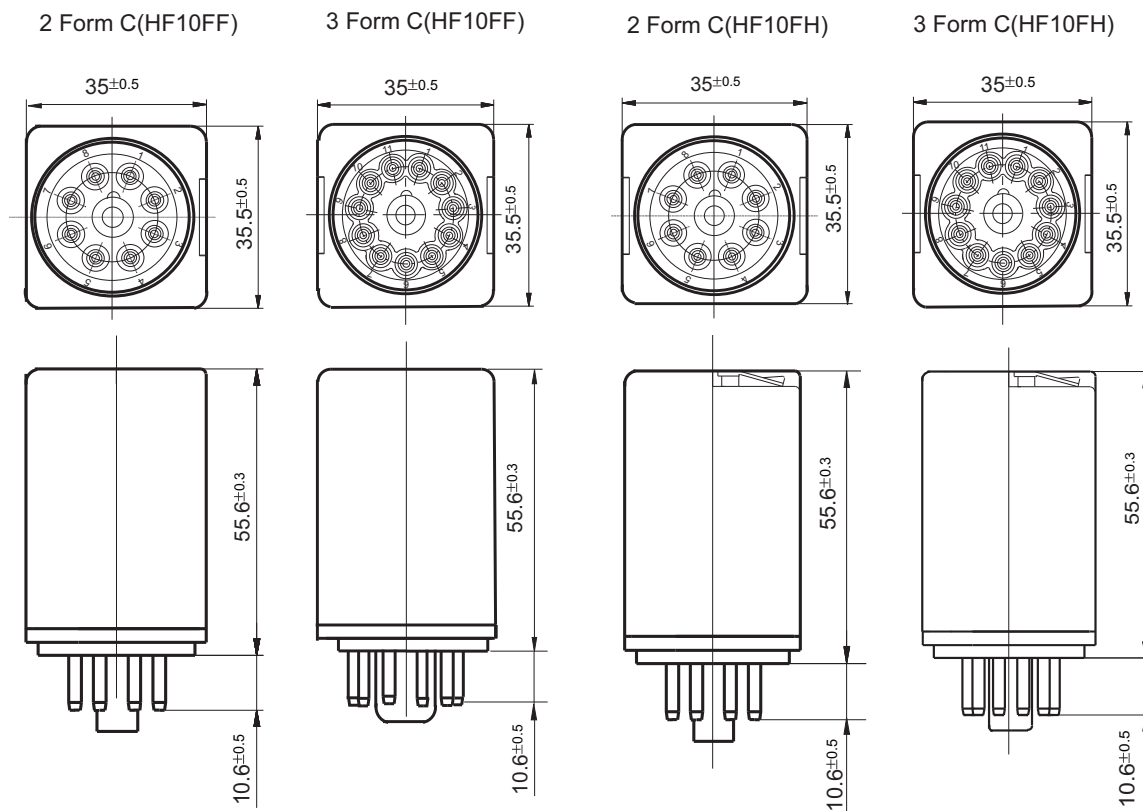
Notes: 1) The customer special requirement express as special code after evaluating by Hongfa.

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions

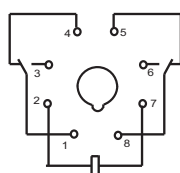
(Bottom view)



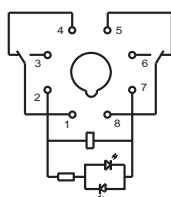
Wiring Diagram

(Bottom view)

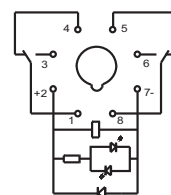
2 Form C
(HF10FF/HF10FH)



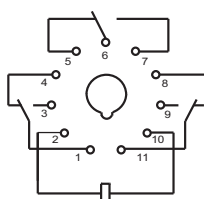
2 Form C
(HF10FF/HF10FH With LED)



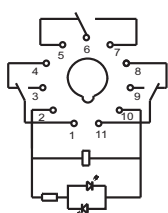
2 Form C
(HF10FF/HF10FH With LED, With fly-wheel diode)



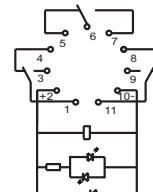
3 Form C
(HF10FF/HF10FH)



3 Form C
(HF10FF/HF10FH With LED)



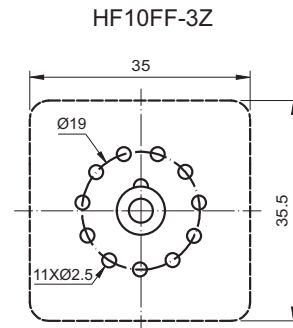
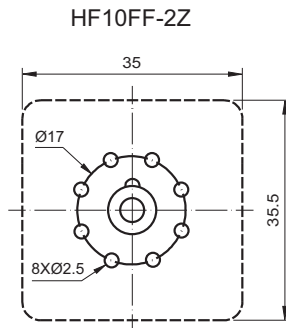
3 Form C
(HF10FF/HF10FH With LED, With fly-wheel diode)



OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

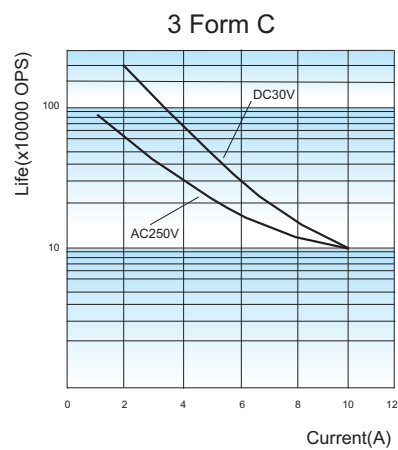
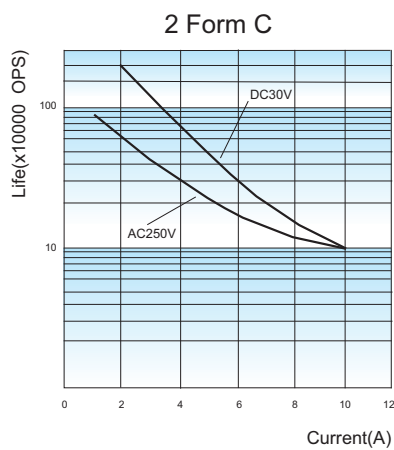
Unit: mm

PCB Layout
(Bottom view)

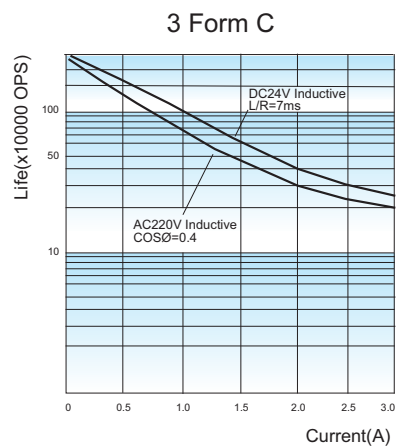
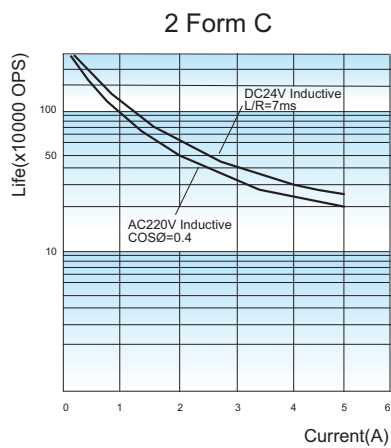


CHARACTERISTIC CURVES

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

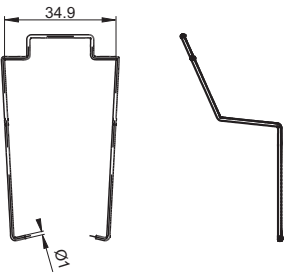
Type	Nominal Voltage	Nominal Current	Ambient Temperature	Dielectric Strength min.	Screw Torque	Wire Strip Length	Unit weight
10FF-2Z-C3	250VAC	10A	-40 °C to 70 °C	2000VAC	0.6N · m	7mm	Approx. 49g
10FF-2Z-C4	250VAC	10A	-40 °C to 70 °C	2000VAC	0.6N · m	7mm	Approx. 61g
10FF-3Z-C3	250VAC	10A	-40 °C to 70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


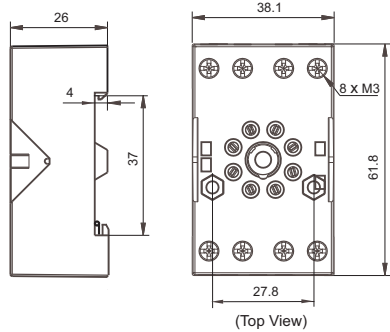
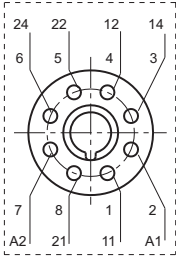
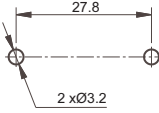

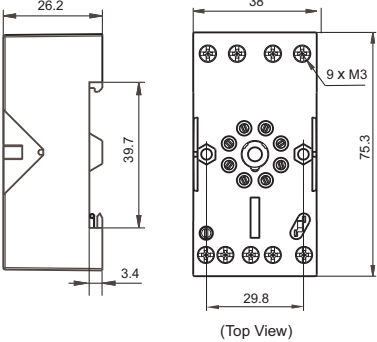
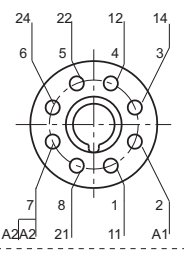
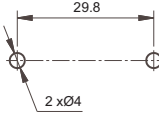

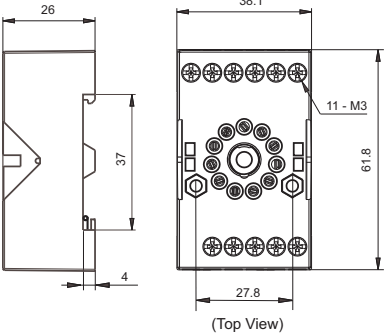
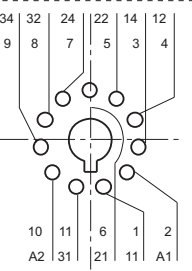
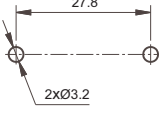

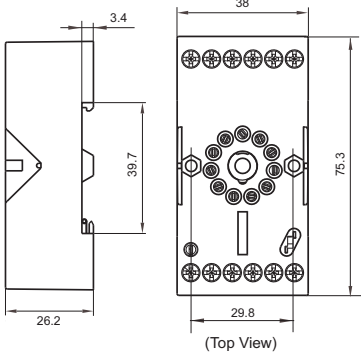
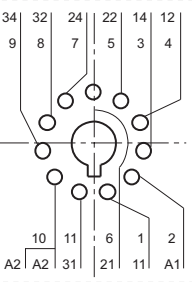
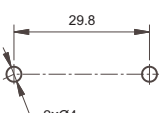


Things to be noticed when selecting sockets:

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
<p>10FF-2Z-C3</p>  <p>Screw terminal DIN rail or Screw mounting With finger protection device Applicable for 2 poles</p>	 <p>(Top View)</p>	 <p>(Top View)</p>		<p>Metallic retainer 10FF-H1</p>
<p>10FF-2Z-C4</p>  <p>Screw terminal DIN rail or Screw mounting With finger protection device Applicable for 2 poles</p>	 <p>(Top View)</p>	 <p>(Top View)</p>		<p>Metallic retainer 10FF-H1</p> <p>Plug-in module HFFAA to HFFHU*</p>
<p>10FF-3Z-C3</p>  <p>Screw terminal DIN rail or Screw mounting With finger protection device Applicable for 3 poles</p>	 <p>(Top View)</p>	 <p>(Top View)</p>		<p>Metallic retainer 10FF-H1</p>
<p>10FF-3Z-C4</p>  <p>Screw terminal DIN rail or Screw mounting With finger protection device Applicable for 3 poles</p>	 <p>(Top View)</p>	 <p>(Top View)</p>		<p>Metallic retainer 10FF-H1</p> <p>Plug-in module HFFAA to HFFHU*</p>

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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