HF115FP MINIATURE POWER RELAY

c UL us
File No.: E133481

DVE
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
- Environmental friendly product (RoHS compliant)
- Outline Dimensions: (29.0 x 13.0 x 25.5) mm

CONTACT DATA

Contact arrangement	1C	2C
Contact resistance	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	5 x 10^6OPS	
Electrical endurance	See approval reports for more details	

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 nomi. volt.)		DC type: 15ms max.
Release time (at nomi. volt.)		DC type: 8ms max.
Temperature rise (at nomi. volt.)		DC type: 60K max. AC type: 85K max.
Shock resistance*	Functional	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

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

Notes: * The max. allowable voltage in the COIL DATA is coil overdrive voltage, it is the instantaneous max. voltage which the relay coil could endure in a very short time.

AC type(50Hz)

Nominal Voltage VAC	Pick-up Voltage VAC max.	Drop-out Voltage VAC min.	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%)

SAFETY APPROVAL RATINGS

UL/CUL	1 Form C	16A 250VAC
	2 Form C	8A 250VAC
VDE	1 Form C	16A 250VAC
	2 Form C	8A 250VAC

Notes: Only some typical ratings are listed above. If more details are required, please contact us.

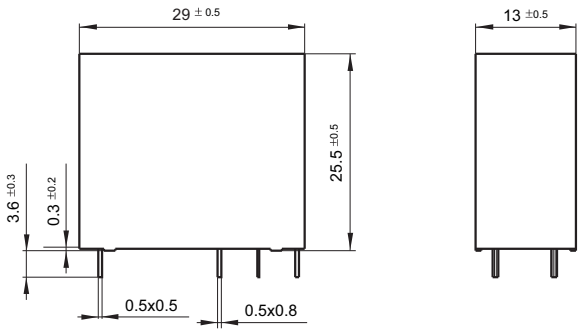
ORDERING INFORMATION

	HF115FP /	024	-1Z	3	B	(XXX)
Type						
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					
Customer special code						

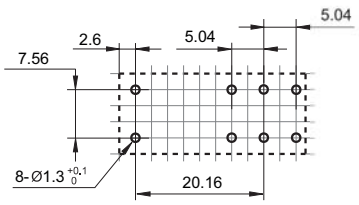
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Outline Dimensions



PCB Layout (Bottom view)



DIN rail Socket

Solder Socket

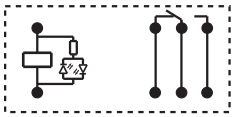
Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.
2) The tolerance without indicating for PCB layout is always ±0.1mm.
3) The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

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

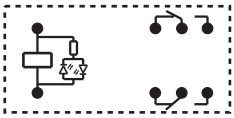
Unit: mm

Wiring Diagram (Bottom view)

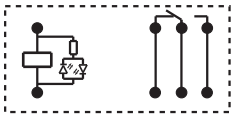
HF115FP/ □□□ -1Z3□



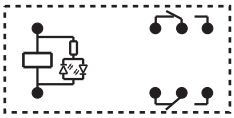
HF115FP/ □□□ -2Z4□



HF115FP/A □□□ -1Z3□



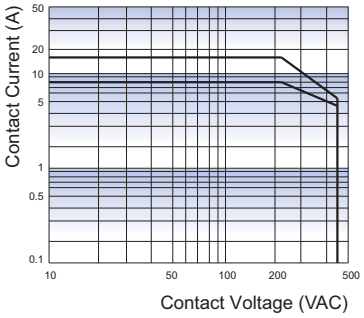
HF115FP/A □□□ -2Z4□



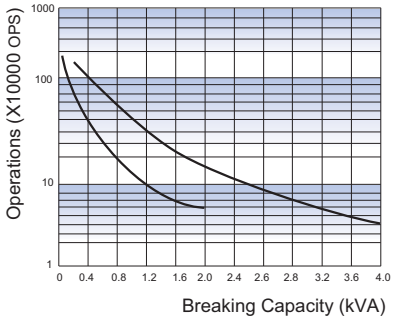
Remark: DC coil with a parrelled diode is available but the coil terminal is different in postive or cathode.

CHARACTERISTIC CURVES

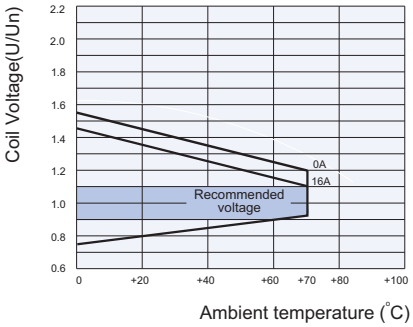
MAXIMUM SWITCHING POWER



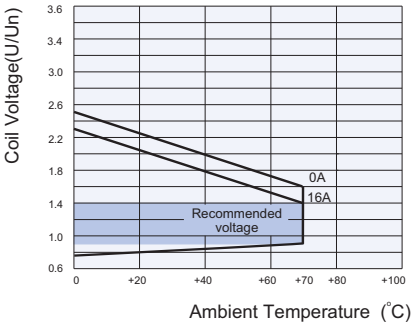
ENDURANCE CURVE



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.

Relay Sockets

File No.: E253370

Features

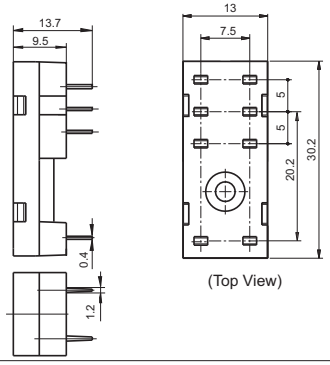
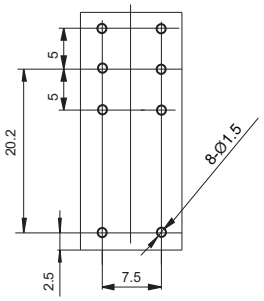
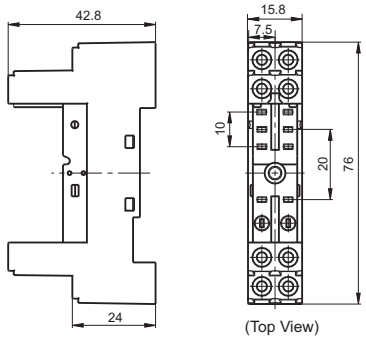
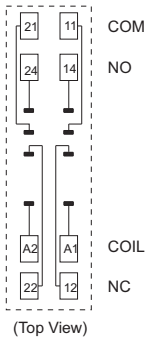
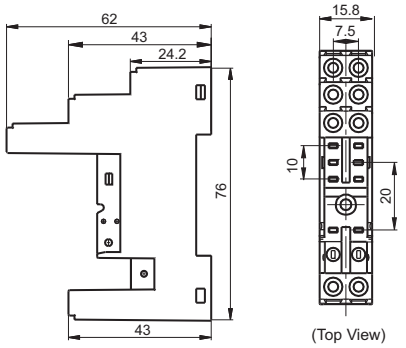
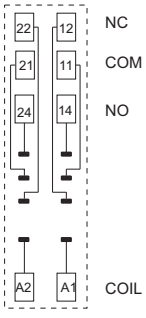
- The dielectric strength can reach 5000VAC(I/O) and the insulation resistance is 1000MΩ
- Three mounting types are available: PCB, screw mounting and DIN rail mounting
- With finger protection device
- Many kinds of plug-in modules are available with the function of energizing indication and wiring protection
- Environmental friendly product (RoHS compliant)

CHARACTERISTICS

Type	Nominal Voltage	Nominal Current	Ambient Temperature	Dielectric Strength min.	Screw Torque	Wire Strip Length
14FF-2Z-A1	250VAC	10A	-40 ˚C to 70˚C	5000VAC	—	—
14FF-2Z-C2	250VAC	10A	-40 ˚C to 70˚C	5000VAC	0.6N·m	7mm
14FF-2Z-C3	250VAC	10A	-40 ˚C to 70˚C	5000VAC	0.6N·m	7mm
14FF-2Z-C4	250VAC	10A	-40 ˚C to 70˚C	5000VAC	0.6N·m	7mm

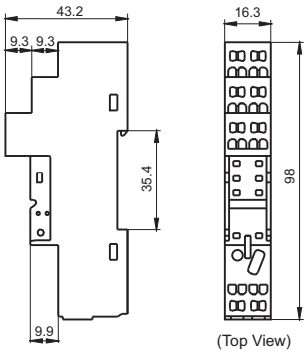
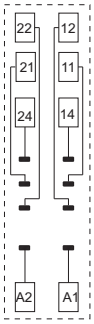
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Socket	Outline Dimensions	Wiring Diagram / PCB Layout	Components Available
14FF-2Z-A1  PCB terminal, PCB or Screw mounting			metallic retainer 14FF-H3
14FF-2Z-C2  Screw terminal DIN rail or Screw mounting With finger protection device			plastic retainer 14FF-H6 marker 14FF-M1 jumper 14FF-J1 plug-in module HFAA to HFHU*
14FF-2Z-C3  Screw terminal DIN rail or Screw mounting With finger protection device			plastic retainer 14FF-H6 marker 14FF-M1 jumper 14FF-J1 plug-in module HFAA to HFHU*

OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

Socket	Outline Dimensions	Wiring Diagram / PCB Layout	Components Available
14FF-2Z-C4  Spring-loaded terminal DIN rail mounting With finger protection device	 (Top View)	 NC COM NO COIL (Top View)	plastic retainer 14FF-H6 marker 14FF-M1 plug-in module HFAA to HFHU*

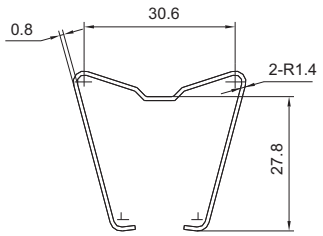
Notes: * Please refer to the product datasheet if plug-in module is required.

DIMENSION OF RELATED COMPOENT (AVAILABLE)

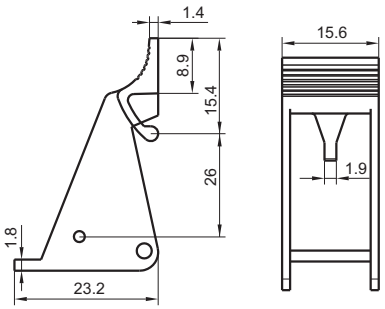
Unit: mm

Retainer

14FF-H3 (metallic retainer)

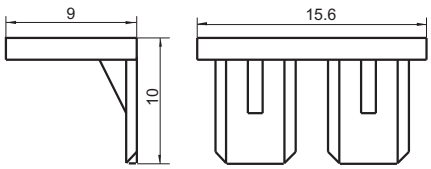


14FF-H6 (Plastic retainer)



Marker

14FF-M1

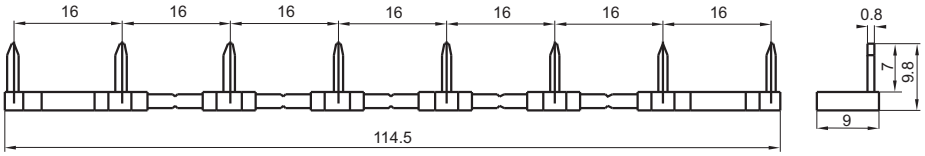


DIMENSION OF RELATED COMPOENT (AVAILABLE)

Unit: mm

Jumper

14FF-J1



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. Socket which can be mounted with markers is furnished with a marker; as for other 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 HF115FP relay. If you have any special requirements, please contact us.

Disclaimer

This datasheet is for the customers' reference. All the specifications are 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.