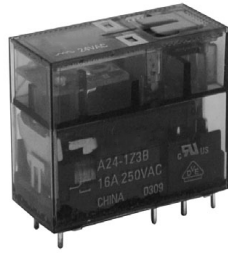




HLR-115FP-16

Miniature high power relay



Features

- Contact switching capability: 16A for 1Z, 8A for 2Z
- The voltage between the coil and the contact is 5k V and the creepage distance is 8mm
- Meet VDE0700/0631 enhanced insulation requirements
- With manual test button, electrical, mechanical indicator board
- A variety of outlets are available

RoHS compliant

Contact parameters

Contact form	1Z	2Z
Contact resistance ⁽¹⁾	≤100mΩ (1A 6VDC)	
Contact material	AgNi	
Rated load (resistance)	16A 250VAC	8A 250VAC
Maximum switching voltage	440VAC	
Maximum switching current	16A	8A
Maximum switching power	4000VA	2000VA
Mechanical durability	Dc specification: 5 x 10 ⁶ times Communication specifications: 1 x 10 ⁶ times Type 1Z3B: 3 x 10 ⁴ times,	
Electrical durability	(NO: 16A 250VAC, Resistive load, 70% 1s on 9s off) Type 2Z4B: 5 x 10 ⁴ times (NO: 8A 250VAC, Resistive load, 70% 1s on 9s off)	

Note: (1) The preceding values are initial values.

Performance parameters

Insulation resistance	1000MΩ (500VDC)	
Dielectric withstand voltage	Between coil and contact	5000VAC 1min
	Disconnect between contacts	1000VAC 1min
	Between contact groups	2500VAC 1min
Operating time (at rated voltage)	≤15ms(Dc type)	
Release time (at rated voltage)	≤8ms(Dc type)	
Coil temperature rise (at rated voltage)	≤60K(Dc type) ≤85K(Ac type)	
strike ⁽²⁾	stability	98m/s ²
	intensity	980m/s ²
Vibration ⁽²⁾	Constant opening	10Hz ~ 150Hz 10g
	Normally closed end	Length direction: 10Hz ~ 150Hz 2g Other directions: 10Hz ~ 150Hz 5g
Humidity	5% ~ 85% RH	
Temperature range	-40°C ~ 70°C	
Outlet form	Printed plate	
Weight	About 16g	
Installation distance	5mm, Socket installation	

Note : (1) The above values are initial values;
(2) refers to non-length direction indicators;
(3) UL Insulation grade: Class A

Coil parameters

Rated coil power	Dc type: About 400mW; Ac type: About 0.75VA
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Note: The above values do not include electrical indicating loop power consumption for relay operation.

Coil specification sheet

23°C

Dc type

Rated voltage VDC	Operating voltage VDC ⁽¹⁾	Release voltage VDC ⁽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%)

Note : (1) The above values are initial values;

(2) The maximum voltage refers to the maximum voltage value that the relay coil can withstand in a short time;

(3) For products with rated voltage ≥48V, in order to protect the coil from damage, in the test and application, there must be measures to inhibit the coil from generating overvoltage (such as: parallel diodes in the coil, etc.).

Ac type (50Hz)

Rated voltage VAC	Operating voltage VAC ⁽¹⁾	Release voltage VAC ⁽¹⁾	Coil current mA	Coil DC impedance 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%)

Note : (1) The above values are initial values.

Safety certification

UL/CUL	1Z3B	16A 250VAC 70°C
	2Z4B	8A 250VAC 70°C
VDE	1Z3B	16A 250VAC 70°C
	2Z4B	8A 250VAC 70°C

Note : (1) For loads whose temperature is not indicated in the table, the ambient temperature is room temperature;
(2) The above only lists some typical loads of the product certification, the detailed test conditions of each load are different, so the number of electrical durability is not the same, if you need to know the details, please contact our company.



Order mark example

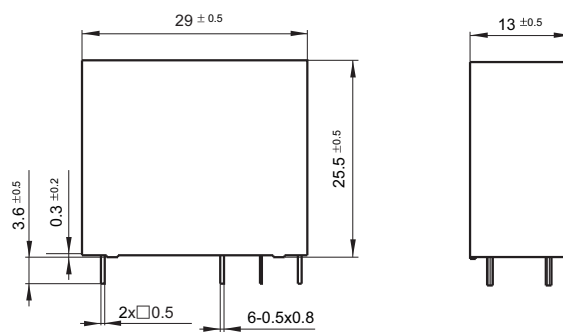
	HLR-115FP-16/	024	-1Z	3	B	(XXX)
Relay type						
Coil voltage	012 ~ 110: 12, 24, 48, 110VDC A24 ~ A230: 24, 115, 230VAC					
Contact form	1Z: A set of transformations 2Z: Two sets of conversions					
Structural form	3: 5.0mm a group of 16A 4: 5.0mm two groups of 8A					
Contact material	B: AgNi					
Property number ⁽²⁾	XXX: Customer's special request None: Standard type					

Note : (1) Dust cover type relay can not be used in polluted environment (containing a certain amount of H₂S, SO₂, NO₂, dust and other pollutants);
(2) The special requirements of customers shall be identified by the form of feature number after review by our company.

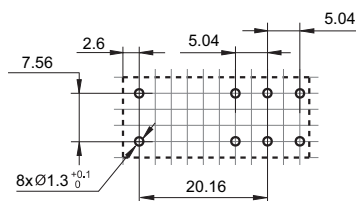
Outline drawing, wiring diagram, mounting hole dimensions

Unit: mm

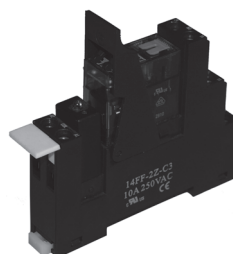
External drawing



Mounting hole size (Bottom view)



Rail type socket installation



Printed panel socket mounting



Note:

- (1) The pin marking size of the product outline diagram is the size before tin dipping (it will be larger after tin dipping), and the installation hole size is the recommended design size of the PCB hole. The specific design size of the PCB hole can be mapped and adjusted according to the actual product;
- (2) No dimensional tolerance is noted in the outline size of the product part, when the outline size is less than 1mm, the tolerance is ± 0.2 mm; When the overall size is between (1 and 5)mm, the tolerance is ± 0.3 mm; When the overall size is >5 mm, the tolerance is ± 0.4 mm;
- (3) The size tolerance of the mounting hole is ± 0.1 mm;
- (4) The mesh width is 2.52mm.

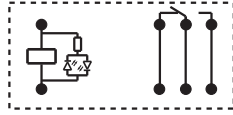


Outline drawing, wiring diagram, mounting hole dimensions

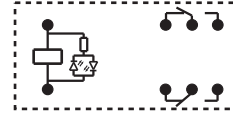
Unit: mm

Wiring diagram (Bottom view)

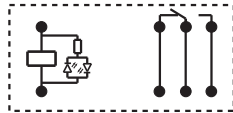
HLR-115FP-16/ □□□ -1Z3B



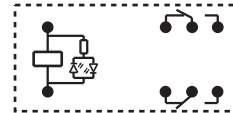
HLR-115FP-16/ □□□ -2Z4B



HLR-115FP-16/ A□□□ -1Z3B

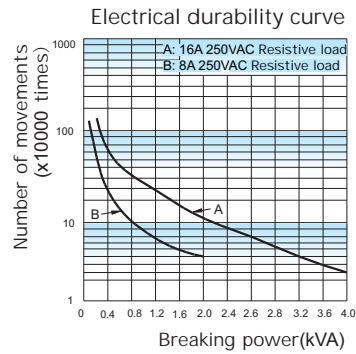
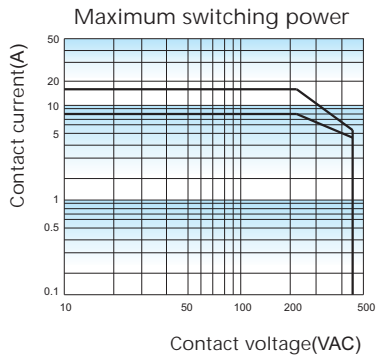


HLR-115FP-16/ A□□□ -2Z4B

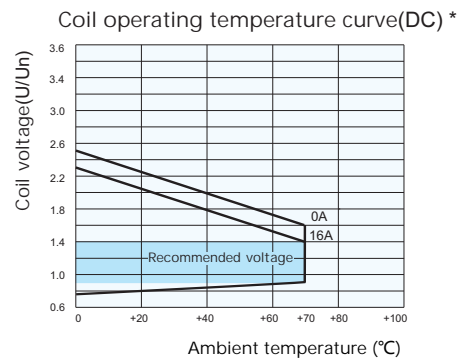
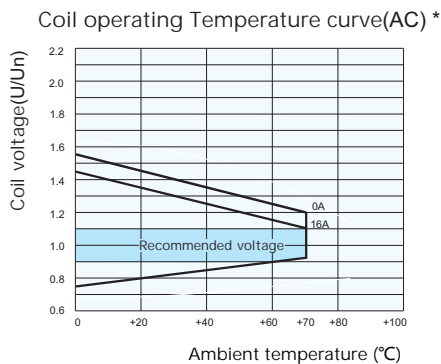


Note: DC coil voltage specifications can provide diode direct parallel module, but the coil outlet pin will have a positive and negative electrode.

Performance curve



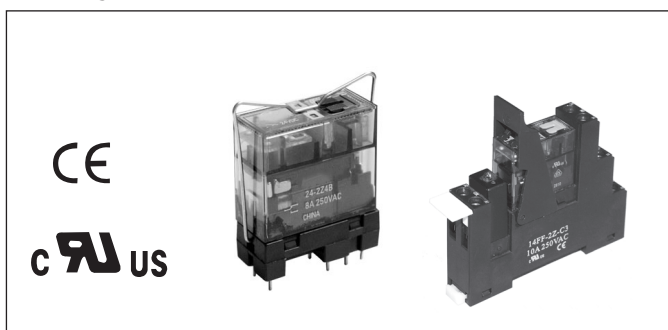
Note:
 1. Curve A refers to type 1Z3B
 Curve B refers to type 2Z4B
 2. Test conditions:
 NO end, dust cover type, room temperature, 1s through 9s off.



Note: * During the use of the relay, if the excitation voltage exceeds the rated voltage, the electrical durability of the relay will be reduced. In the recommended voltage range, the effect on electrical durability will be less. The insulation of the relay coil may be damaged if the upper limit specified by the curve in the figure is exceeded.



Relay socket



Features


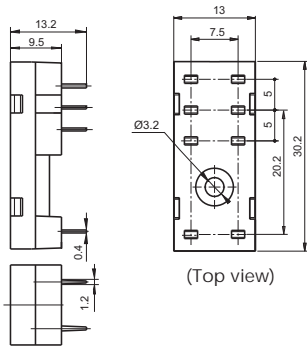
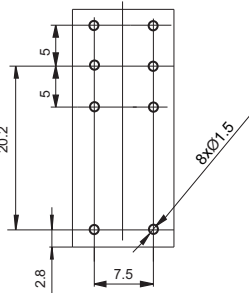

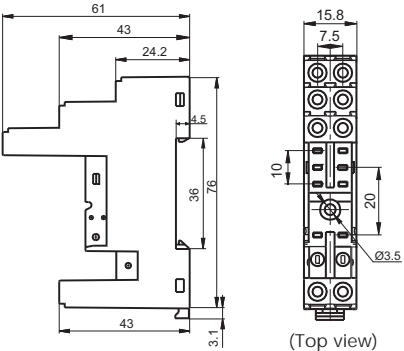
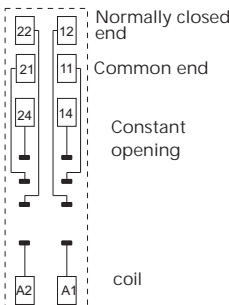

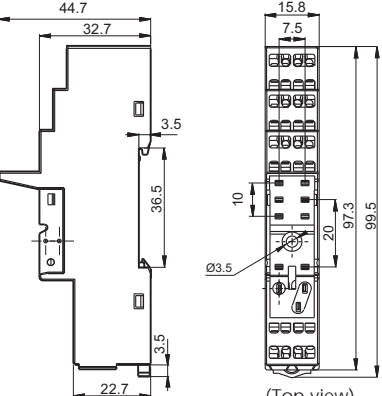
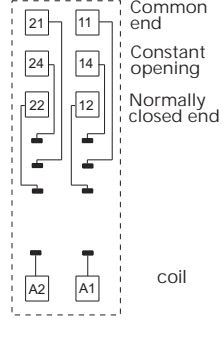
- Dielectric voltage up to 5000VAC(I/O), insulation resistance 1000M
- PCB type, screw type, rail type installation forms are available
- Sockets with finger protection are available
- A variety of plug-in modules are available for power-on indication, line protection and other functions

Performance parameter

Socket type	Rated voltage	Rated current	Ambient temperature	Medium withstand voltage min.	Screw torque	Strip wire length
14FF-2Z-A1	250VAC	10A	-40 °C ~ 70°C	5000VAC	—	—
14FF-2Z-C3	250VAC	10A	-40 °C ~ 70°C	5000VAC	0.6N·m	7mm
14FF-2Z-C4	250VAC	10A	-40 °C ~ 70°C	5000VAC	—	9mm

Outline drawing, wiring diagram, mounting hole dimensions

Unit: mm

Socket (If you need the parts in the picture, please order separately)	Overall dimension	Wiring diagram/mounting hole dimensions	Optional accessories
<p>14FF-2Z-A1</p>  <p>Printed plate outlet, Printed plate or screw mounting. Applicable to Type 3, type 4 relay specifications When the relay is type 3, the load ends of the 2 groups of sockets must be connected in parallel</p>	 <p>(Top view)</p>	 <p>(Top view)</p>	Metal circlip 14FF-H3
<p>14FF-2Z-C3</p>  <p>Screw outlet, Rail or screw mounting, With finger protection structure Applicable to Type 3, type 4 relay specifications When the relay is type 3, the "21"- "11", "24"- "14", "22"- "12" of the socket shall be connected in parallel</p>	 <p>(Top view)</p>	 <p>(Top view)</p>	Plastic circlip 14FF-H6 Sign Board 14FF-M1 Plug-in module HLRAA ~ HLRHU* coil
<p>14FF-2Z-C4</p>  <p>Spring outlet, Rail mounting, With finger protection structure Applicable to Type 3, type 4 relay specifications When the relay is type 3, the socket "21"- "11", "24"- "14", "22"- "12" shall be connected in parallel</p>	 <p>(Top view)</p>	 <p>(Top view)</p>	Plastic circlip 14FF-H6 Sign Board 14FF-M1 Plug-in module HLRAA ~ HLRHU* coil

Note : (1) * If you need to use plug-in modules, please refer to the corresponding product manual.
 (2) The figure shows the socket and accessories. If you need accessories, please order by model or consult our sales staff.

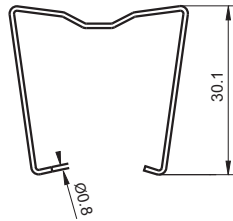


Size of relevant parts (optional)

Unit: mm

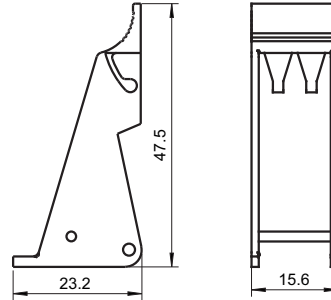
Circlip

14FF-H3(Metal circlip)



Note: Applicable to HLR-115FP-16, HLR14FW, HLR140FF.

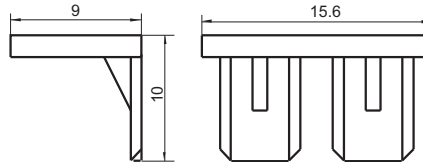
14FF-H6 (Plastic circlip)



Note: Applicable to HLR-115FP-16, HLR14FF, HLR14FW, HLR140FF, etc.

Sign Board

14FF-M1



Points for attention when selecting the socket:

1. Please select the appropriate relay socket according to the actual installation environment, the number of relay contacts and the position of the relay outlet. If you have any questions during the selection process, please contact us for more technical support:
2. The socket that can install the identification card is equipped with a standard sign plate, and other related accessories must be selected separately. Please indicate the model of the selected relay socket and related accessories when ordering.
3. The above only lists the typical sockets and related accessories for HLR115FP relay products, if you have special requirements, please contact us:
4. Main dimensions (length, width, height) 50mm, tolerance is $\pm 1\text{mm}$; When the overall size is between (20~50)mm, the tolerance is $\pm 0.5\text{mm}$; When the overall size is between 20mm and less, the tolerance is $\pm 0.3\text{mm}$.
5. For guide rail installation, it is recommended to use DIN standard 35x7.5x1mm, 35x15x1mm standard guide rail.