

# HFS24

# THREE-PHASE SOLID STATE RELAY



### Features

- Photo isolation
- LED status indicator
- 4000V dielectric strength
- Zero cross or random turn-on
- Built-in snubber
- Removable finger proof cover available
- Panel mount
- Environmental friendly product (RoHS compliant)

### INPUT (TA = 25°C)

Control voltage range	4 to 32VDC
Must operate voltage	4VDC
Must release voltage	1VDC
Max. input current	35mA
Max. reverse protection voltage	-32VDC

### OUTPUT (TA = 25°C)

Load voltage range	D-380: 48 to 440VAC D-480: 48 to 530VAC
Load current range	D-□□□A10Z: 10A D-□□□A15Z: 15A D-□□□A25Z: 25A D-□□□A40Z: 40A D-□□□A60Z: 60A
Max. transient overvoltage	D-380: 800Vpk D-480: 1200Vpk
Max. surge current (10ms)	D-□□□A10Z: 100Apk D-□□□A15Z: 150Apk D-□□□A25Z: 250Apk D-□□□A40Z: 400Apk D-□□□A60Z: 600Apk
Max. I <sup>2</sup> t for fusing (10ms, A <sup>2</sup> s)	D-□□□A10Z: 50 D-□□□A15Z: 112 D-□□□A25Z: 312 D-□□□A40Z: 800 D-□□□A60Z: 1800
Max. on-state voltage drop	1.7Vrms
Min. load current	100mA
Max. leakage current	10mA
Min. off-state dv/dt	D-380: 200V/μs D-480: 500V/μs
Max. turn-on time	1/2cycle + 1ms
Max. turn-off time	1/2cycle + 1ms
Min. power factor	0.5

### GENERAL (TA = 25°C)

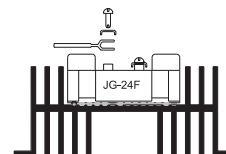
Dielectric strength (input to output)	4000VAC 50Hz/60Hz, 1min	
Insulation resistance	1000MΩ (at 500VDC)	
Max. capacitance (input to output)	8pF	
Ambient temperature	Operating	-30°C to 80°C
	Storage	-30°C to 100°C
Ambient humidity	45% to 85% RH	
Termination	Screw	
Mounting model	Panel mount	
Unit weight	Approx. 315g	

### DESCRIPTION

The HFS24 is three-phase AC output relay (3PST-NO). The relay offer 4 to 32VDC input control, with outputs rated at 10A, 15A, 25A, 40A or 60A. The relays include a LED indicator to provide input status information. All models include an internal snubber. The relays provide 4000VAC opto-isolation, between input and output. Encapsulation, thermally conductive epoxy.

### INSTALLATION

1. When mounting the relays side by side, provide a space equivalent to the width of a single SSR between two adjacent SSRs. Otherwise, reduce the load current flow to 1/2 to 1/3 of the rated current.
2. When mounting relays on heat sink surface, first apply a heat conductive grease to the metal back surface of the SSR. Press the SSR firmly onto the heat sink to ensure a good seal. Screw the SSR down to the heat sink.  
Next, wire the screw terminals and securely tighten the screws.



HONGFA RELAY

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

2008 Rev. 1.01

## PRECAUTIONS

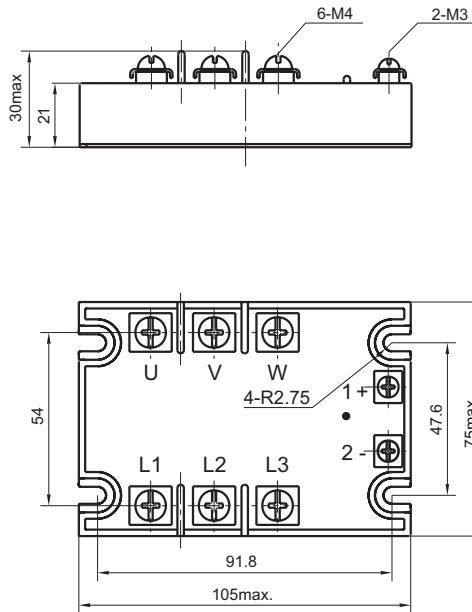
- Before connecting a load that generates a high surge current, such as a lamp load to the SSR, make sure that the SSR can withstand the surge current of the load.  
The product data sheet shows the non-repetitive peak value of the surge current that flows through the SSR. Normally, use 1/2 of the non-repetitive peak surge current as the standard value. If a surge current exceeding that value is expected, connect a quick-blowing fuse to protect the SSR.
- When using the HFS24 for an AC load with a peak voltage of more than 750V, connect the load terminals of the relay to an inrush absorber.

## ORDERING INFORMATION

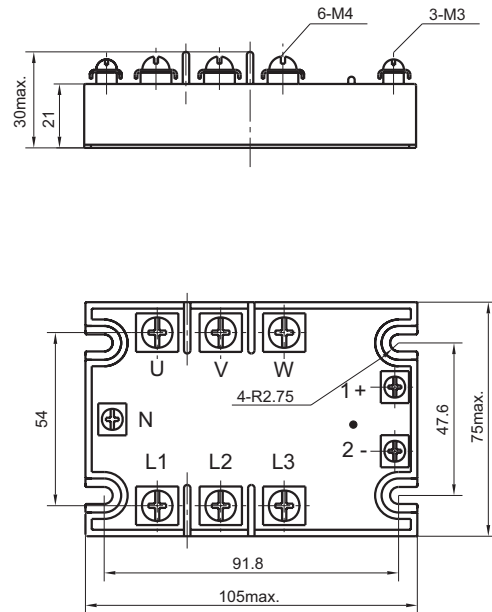
	<b>HFS24 /</b>	<b>D-</b>	<b>380</b>	<b>A</b>	<b>10</b>	<b>Z</b>	<b>S</b>	<b>-Y</b>	<b>L</b>	<b>P</b>	<b>3</b>	<b>(XXX)</b>
<b>Type</b>												
<b>Input voltage</b>	D: 4 to 32VDC											
<b>Load voltage</b>	380: 380V 480: 480V											
<b>Load voltage form</b>	A: AC											
<b>Load current</b>	10: 10A 15: 15A 25: 25A 40: 40A 50: 50A 60: 60A											
<b>Zero cross function</b>	Z: Zero cross turn-on P: Random turn-on											
<b>Output component</b>	S: SCR (Only for D-480A type) Nil: Triac (Only for D-380A type)											
<b>Varistor protection</b>	Y: With varistor protection Nil: Without varistor protection											
<b>LED indicator</b>	L: With LED											
<b>Phase loss protection</b>	P: With phase loss protection Nil: Without phase loss protection											
<b>Output number</b>	3: Three											
<b>Customer special code</b>												

Outline Dimensions

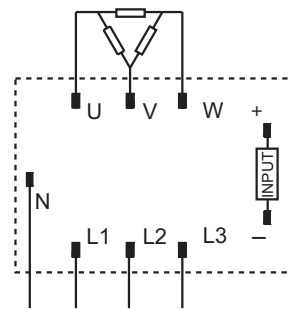
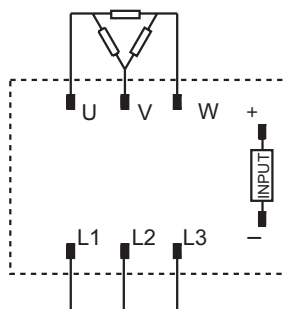
HFS24 (Non phase loss protection)



HFS24 (With phase loss protection)

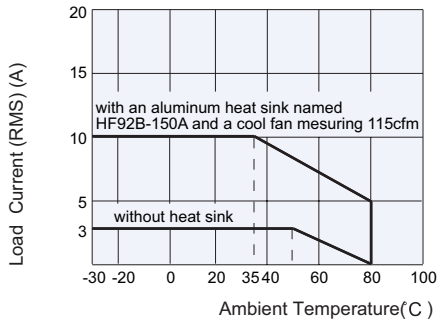


Wiring Diagram

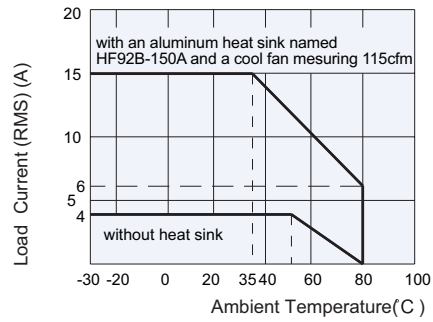


## CHARACTERISTIC CURVES

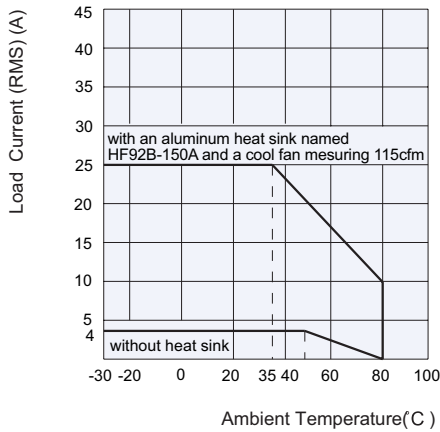
Max. Load Current vs. Ambient Temp. (10A)



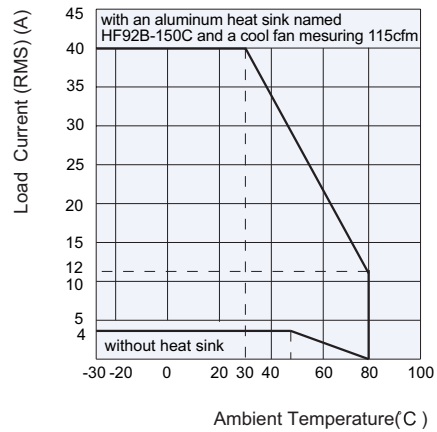
Max. Load Current vs. Ambient Temp. (15A)



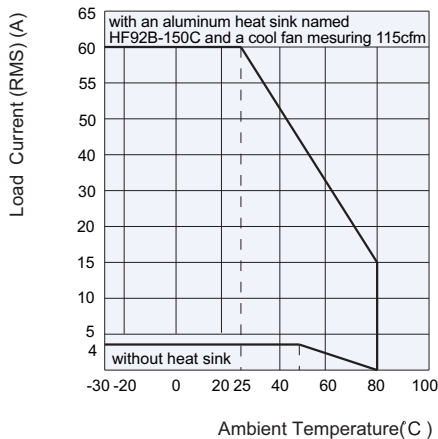
Max. Load Current vs. Ambient Temp. (25A)



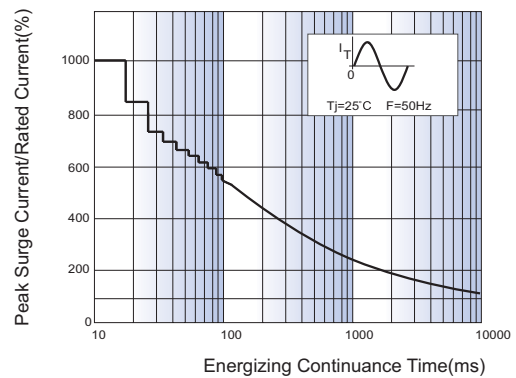
Max. Load Current vs. Ambient Temp. (40A)



Max. Load Current vs. Ambient Temp. (60A)



Max. Permissible Non-repetitive Peak Surge Current vs. Continuance Time



### 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.