

KS24

Solid State Relay



Features

- Photoelectric isolation
- LED status indicator
- Dielectric strength 4000V
- Zero-cross or random turn-on
- Built-in RC snubber circuit
- Removable protective cover available
- Panel mounting

Input Parameters (Ta=25°C)

Control voltage range	(4 ~ 32)VDC
Must turn-on voltage	4VDC
Must turn-off voltage	1VDC
Max. input current	35mA
Max. reverse protection voltage	-32VDC

Output Parameters (Ta=25°C)

Load voltage range	D-38: (48 ~ 440)VAC D-48: (48 ~ 530)VAC
Max.load current	D-38Z10: 10A D-38Z15: 15A D-38Z25: 25A D-□□Z40: 40A D-48Z50: 50A D-48Z60: 60A
Max.transient voltage	D-38: 800Vpk D-48: 1200Vpk
Frequency range	(47 ~ 63)Hz
Max.surge current (10ms)	D-38Z10: 100Apk D-38Z15: 150Apk D-38Z25: 250Apk D-□□Z40: 400Apk D-48Z50: 500Apk D-48Z60: 600Apk
Max.I ² t for fusing(10ms)	D-38Z10: 50A ² s D-38Z15: 112A ² s D-38Z25: 312A ² s D-□□Z40: 800A ² s D-48Z50: 1250A ² s D-48Z60: 1800A ² s
Max.on-state voltage drop	1.7Vr.m.s.
Min.load current	100mA
Max.off-state leakage current	10mA
Min.off-state dv/dt	D-38: 200V/μs D-48: 500V/μs
Max.turn-on time	Zero cross: 1/2cycle + 1ms Random: 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 (500VDC)
Max.capacitance (input to output)	10pF
operating temperature	-30°C ~ 80°C
Storage temperature	-30°C ~ 100°C
Ambient humidity	45% ~ 85% RH
Termination	Screw
Mounting model	Panel mounting
Unit weight	Approx 315g

APPLICATION(Ta = 25°C)

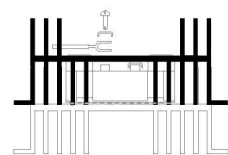
Relay load current	10A	15A	25A	40A	50A	60A
Motor power	0.75kW	1.1kW	1.5kW	3kW	4kW	5kW
Heatsink part number	HF92B-150A			HF92B-150C		
Cooling fan air flow	115CFM					

DESCRIPTION

The KS24 is a three-phase AC output relay (3PST-NO).The relay offer (4~32)VDC input control, with (48~530)VAC output voltage and outputs current at 10A, 15A, 25A, 40A or 60A and etc.This relay includes a LED indicator to provide input status information. There is a neutral terminal in phrase loss protection KS24 product to realize corresponding function. This product is used in three-phase motors, heaters and other controls. 4000VAC optical isolation between input and output. Switching modes are divided into zero cross turn-on type and random turn-on type.

INSTALLATION

- 1.Confirm the heat sink surface clean and smooth.
- 2.When mounting SSR on the heat sink surface, first apply some heat conductive grease to the baseplate surface of the SSR. Press the SSR firmly onto the heat sink to ensure a good seal. Screw the SSR baseplate.
- 3.Wire the screw terminals and securely tighten the screws.



PRECAUTIONS

1. The product datasheet shows the non-repetitive peak value of the surge current. Normally, use 1/2 of the non-repetitive peak surge current as the standard value. If the actual surge current may exceed the standard value, connect semiconductor fuses (such as Xi'an Kaiert's KS series product) to the SSR power side in series is required. At the same time, I^2t value of semiconductor fuses should be smaller than the SSR nominal value.
2. If the load may generate high shock voltage (such as motor), make sure that the SSR can withstand this transient voltage.
3. The product datasheet shows the non-repetitive peak value of the transient voltage. In practice, if the transient voltage may be larger than nominal value, a varistor should be mounted to the load terminal in parallel to prevent the SSR breakdown. The recommended varistor voltage range (750~1000)V.
4. For phase loss protection SSR, when three-phase power supply occurs phase missing (lack of one phase or two phases) or phase voltage are extremely unbalanced, the SSR would turn off the output current and the input LED indicator and then run into the self-locking state. We need to cut off the input power to reset relay. Using this kind of product, L1、L2、L3、N terminals should connect with three phase power, U、V、W terminal should connect with three phase load, otherwise phase loss protection function does not work.
5. Please pay more attention to actual load current and ambient temperature for SSR selection. When the SSR is used for full load operation, we'd better install an adequate heatsink or take other effective cooling measures. When the ambient temperature is high, please refer to the curve of Max. Load Current vs Ambient Temperature for derating.
6. Tighten the SSR terminal screws properly. If the screws are loose, the SSR will be damaged by heat generated from connections. Also excessive mounting torque may damage relay internal components. Recommended screw mounting torque as follows: output screw mounting torque range is (0.98~1.37)N·m, input screw mounting torque range is (0.58~0.98)N·m.
7. It's recommended to use the matched heatsink by Jinxinrong. If the user needs to use home-made heatsink, it's needed to ensure that the SSR base temperature does not exceed 85°C.
8. Since the SSR internal electronic components are assembled to a whole body by filling epoxy resin, excessive baseplate mounting torque may damage internal components. Therefore, we recommend using (0.98 ~ 1.37)N.m torque to fix the SSR.
9. Please do not use the relay beyond the descriptions in the datasheet. If it is a must to use it beyond descriptions, please contact Jinxinrong for more technical support.

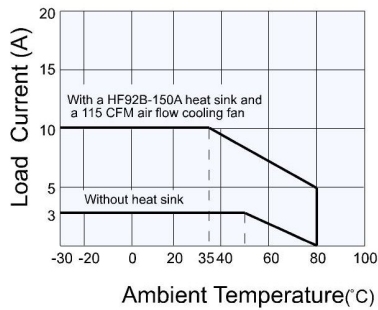
ORDERING INFORMATION

Type	KS24 / D- 38 Z 10 -Y L P (XXX)
Control voltage	D: (4 ~ 32)VDC
Load voltage	38: 380VAC 48: 480VAC
Zero cross function	Z: Zero cross turn on P: Random turn on
Load current	10: 10A 15: 15A 25: 25A 40: 40A 50: 50A 60: 60A
Overvoltage protection	Y: With Varistor protection Nil: Without Varistor protection
LED indicator	L: With LED
Phase loss protection	P: With phase loss protection Nil: Without phase loss protection
Customer special code	

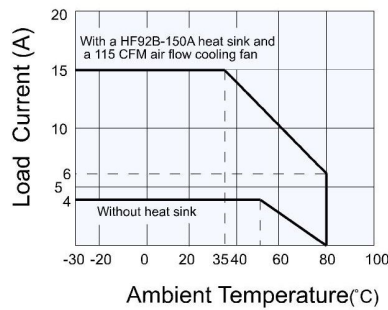
Notes: Available parts are: KS24/D-38□10-□□□, KS24/D-38□15-□□□, KS24/D-38□25-□□□, KS24/D-38□40-□□□, KS24/D-48Z40-□□□, KS24/D-48Z50-□□□, KS24/D-48Z60-□□□.

CHARACTERISTIC CURVES

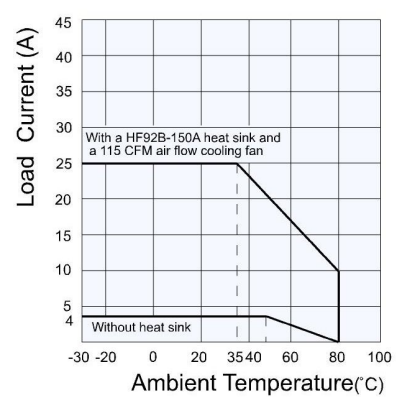
Max. Load Current vs. Ambient Temperature(10A)



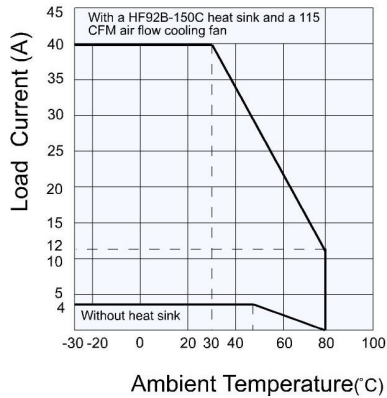
Max. Load Current vs. Ambient Temperature(15A)



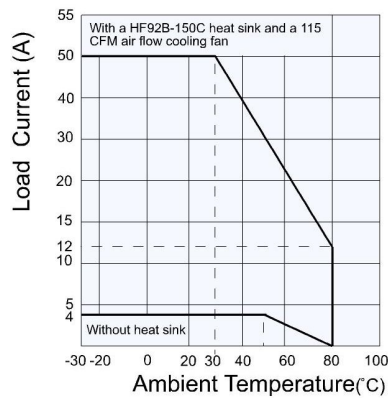
Max. Load Current vs. Ambient Temperature(25A)



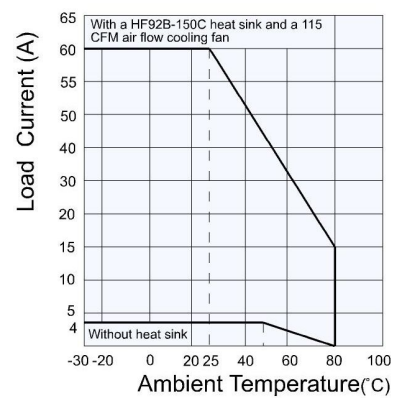
Max. Load Current vs. Ambient Temperature(40A)



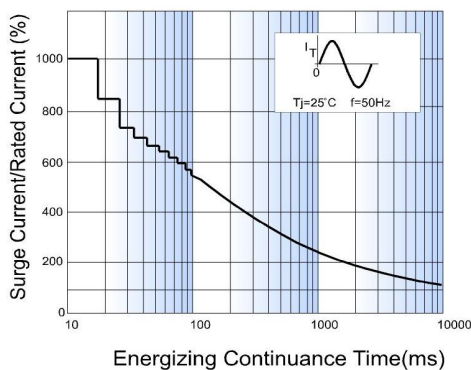
Max. Load Current vs. Ambient Temperature(50A)



Max. Load Current vs. Ambient Temperature(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. Jinxinrong 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 Jinxinrong for the technical service. However, it is the user's responsibility to determine which product should be used only.

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