

Product Description

- ◆ Zero Crossing or Random-on Switching
- ◆ Ratings from 15A to 125A @ 24-660VAC
- ◆ SCR Output or TRIAC Output
- ◆ DC or AC Input
- ◆ Dielectric Strength 4000VACrms
- ◆ LED Indication
- ◆ Panel mounted
- ◆ IP20 touch-safe housing



Note: (1)The 15A product is not UL certified, and the 25A and 40A TRIAC output are not UL certified, KSN380 series are not UL certified.

Product Selection

KSN	480	D	80	T	R	N	-L	M	(XXX)
KSN Series	Load Voltage 240:240VAC 380:380VAC 480:480VAC 600:600VAC	Control Voltage D:DC Control A:AC Control	Load Current <sup>(2)</sup> 15:15Amp 25:25Amp 40:40Amp 60:60Amp 80:80Amp 100:100Amp 125:125Amp	T:TRIAC Output <sup>(3)</sup> None:SCR Output	Switching Mode None:Zero Crossing R:Random-on	None:With RC N:Without RC	L:LED	M:MOV T:TVS without: No protection (Optional)	Customized

Note: (2)15A version is only available for 240V, 380V or 480V load voltage version.

(3)15A version is Triac output, 25A/40A version are available with SCR or Triac output, 60A/80A/100A/125A are all SCR Output.

Technical Specification

Input parameters (Ta=25℃)		
Control Voltage Range	DC Input	3-32VDC
	AC Input	90-280VAC
Must Turn-on Voltage	DC Input	3VDC
	AC Input	90VAC
Must Turn-off Voltage	DC Input	1VDC
	AC Input	15VAC
Maximum Input Current	DC Input	25mA (@32VDC)
	AC Input	35mA(@280VAC/50Hz)

Technical Specification

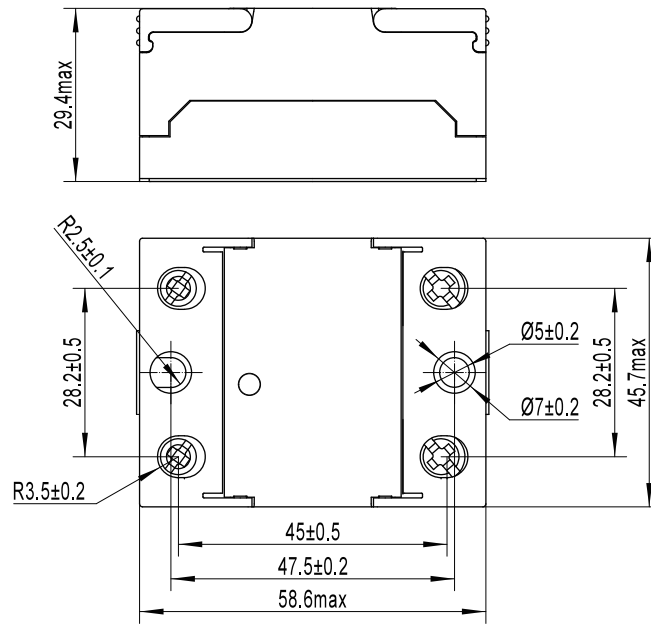
Output parameters (Ta=25°C)			
Load Voltage	240V	24-280VAC	
	380V	24-440VAC	
	480V	24-530VAC	
	600V	24-660VAC	
Maximum Turn-on Time	DC Input Zero-crossing	10ms	
	DC Input Random-on	1ms	
	AC Input	40ms	
Maximum Turn-off Time	DC Input	10ms	
	AC Input	20ms	
Maximum Surge Current [@10ms]	15A		150A
	25A	SCR Output	300A
		TRIAC Output	250A
	40A	SCR Output	500A
		TRIAC Output	400A
	60A		700A
	80A		800A
	100A		1500A
125A		2250A	
Maximum I <sup>2</sup> t For Fusing [@10ms]	15A		112A <sup>2</sup> s
	25A	SCR Output	450A <sup>2</sup> s
		TRIAC Output	312A <sup>2</sup> s
	40A	SCR Output	1250A <sup>2</sup> s
		TRIAC Output	880A <sup>2</sup> s
	60A		2450A <sup>2</sup> s
	80A		3200A <sup>2</sup> s
	100A		11250A <sup>2</sup> s
125A		25000A <sup>2</sup> s	
Transient Overvoltage	240V	600Vpk	
	380V	800Vpk	
	480V	1200Vpk	
	600V	1200Vpk	
Maximum Off-state Leakage Current [@ Rated Voltage]			3mA
	Without RC		0.1mA
Maximum On-state Voltage Drop [@ Rated Current]	Typical		1.25Vrms
	Maximum		1.5Vrms
Minimum Off-state dv/dt	SCR Output		500V/μs
	TRIAC Output		200V/μs
Operating Frequency Range	47Hz~63Hz		

General Specifications (Ta=25°C)			
Dielectric Strength (50/60Hz)	Input/Output	4000Vrms	
	Input, Output/Base	SCR Output	4000Vrms
		TRIAC Output	2500Vrms
Insulation Resistance (@500VDC)	100MΩ		
Min. Power Factor	0.5		
Min. Load Current	≥100mA		
Ambient Operating Temperature Range	-30°C ~ +80°C		
Ambient Storage Temperature Range	-30°C ~ +100°C		
Weight (Typical)	SCR Output	80g	
	TRIAC Output	75g	

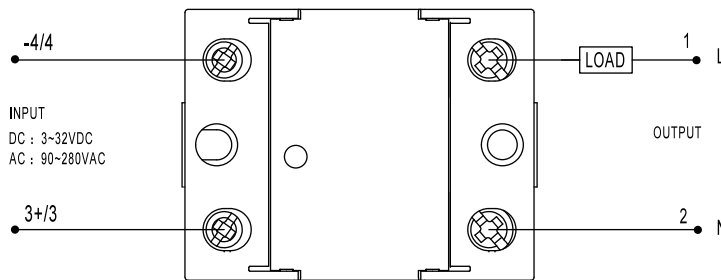
Applications

High-low Temperature Chamber, Food processing machinery, Plastics processing Machinery.

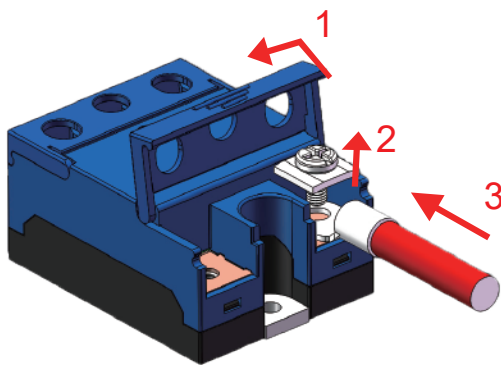
Installation



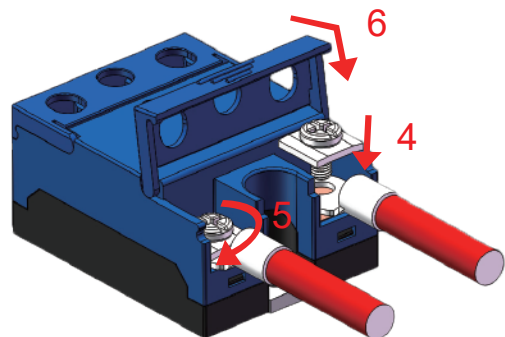
Connection Example



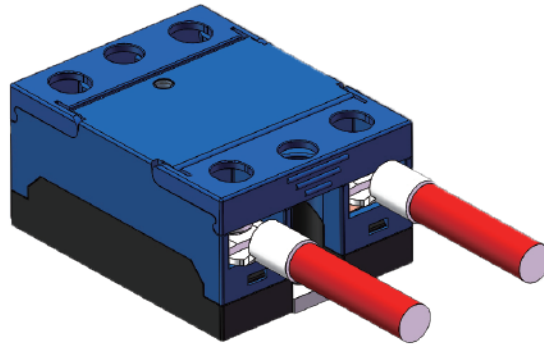
Wiring instruction:



Step 1



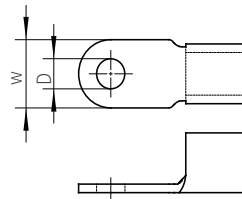
Step 2



Step 3

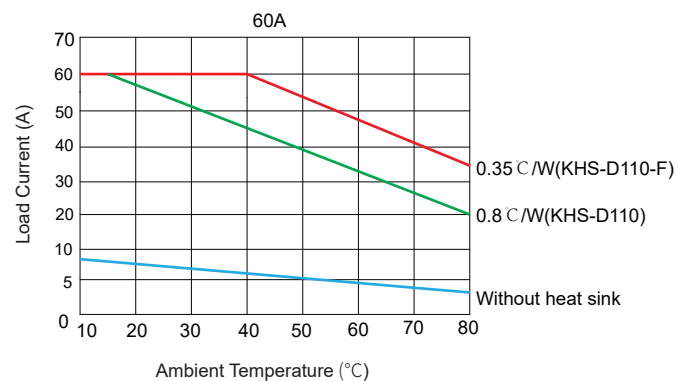
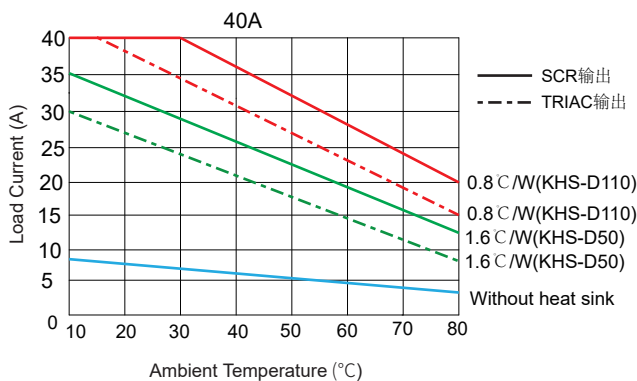
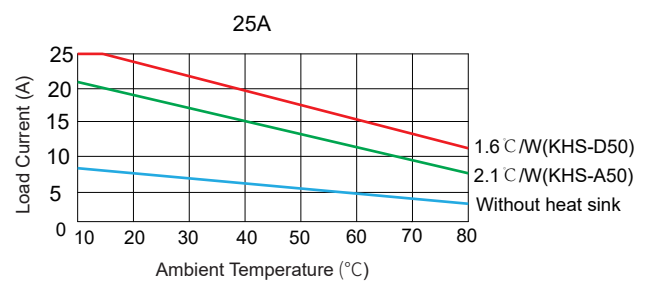
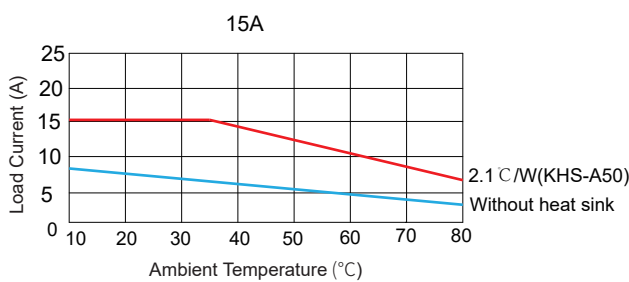
Recommendation for wiring:

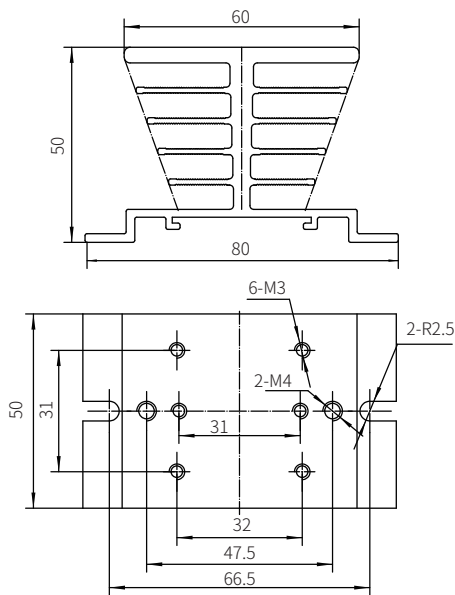
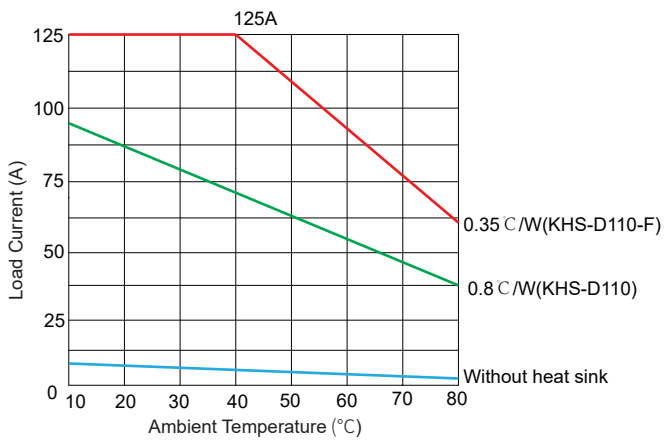
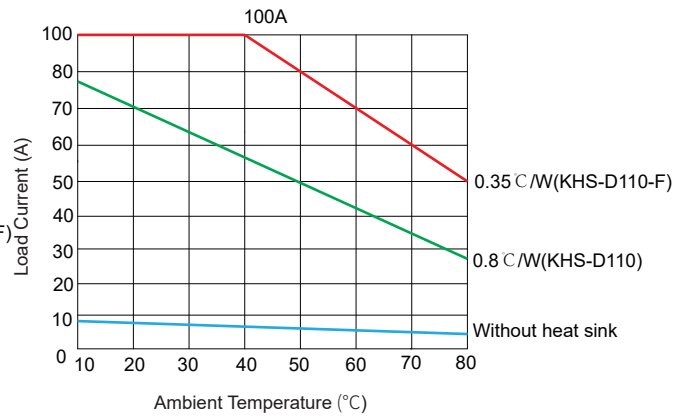
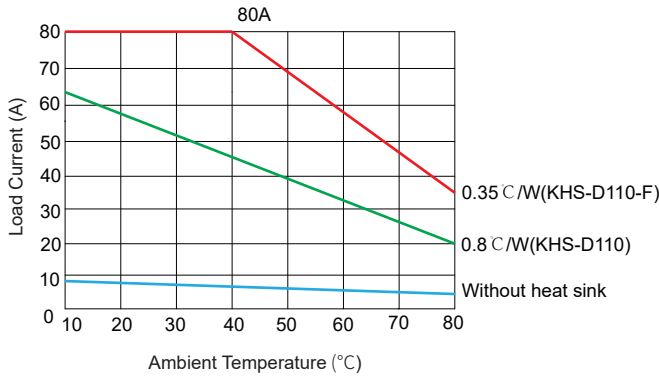
Load current (A)	Cross section area of wire (mm <sup>2</sup> )	Wire size (AWG)	DIN 46234 terminal model	Terminal mounting hole size D (mm)	Terminal width W(mm)
15-20	2.5	12	4-6	4.3	8
			5-6	5.3	10
20-35	4	10	4-6	4.3	8
			5-6	5.3	10
25-32	6	10	4-6	4.3	8
			5-6	5.3	10
32-50	10	8	5-10	5.3	10
50-65	16	6	5-16	5.3	11
65-85	25	4	5-25	5.3	12



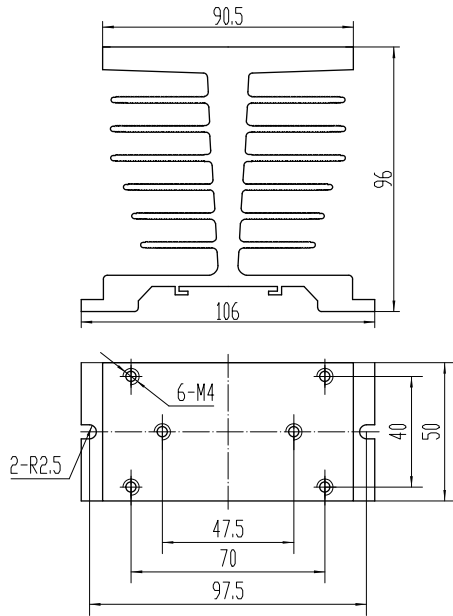
Note: When use the wire cross-sectional area greater than 25mm<sup>2</sup>, we suggest to break it in to two smaller wires and connect them back to back superimposed.

### Thermal Derating Curve

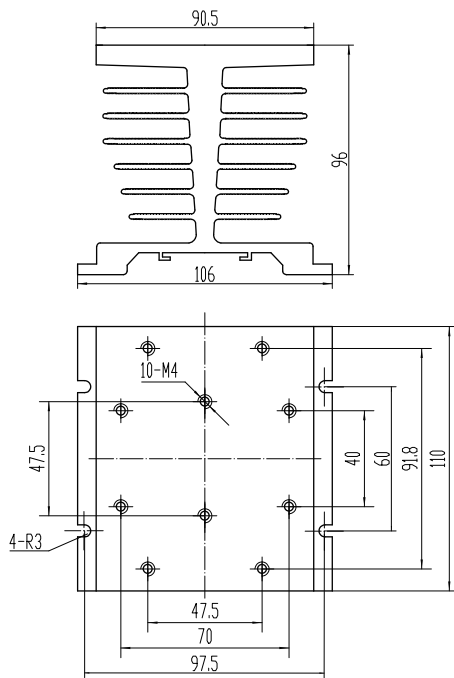




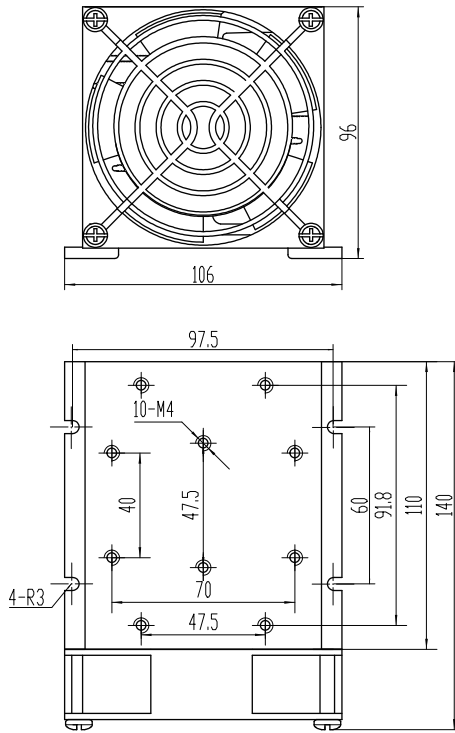
KHS-A50



KHS-D50



KHS-D110



KHS-D110-F

### General Notes

1. Relay must be mounted to proper sized heat sink based on thermal curves. Thermal grease or a thermal pad must be used between relay and heat sink and be torqued down to 18-20/2.0-2.2in-lb/Nm.
2. When connection wiring to SSR, please ensure screws are torqued down properly (input 13-15/1.5-1.7in-lb/Nm, output 18-20/2.0-2.2 in-lb/Nm).
3. SSR's carrying load capacity is related to the operation ambient temperature and heat dissipation condition, please refer to the Thermal Derating Curve for derating.

### Warnings

1. The product's side panels may be hot, allow the product to cool before touching.
2. Disconnect all power before installing or working with this equipment.
3. Verify all connections and replace all covers before turning on power.