

Product Description

- ◆ Zero Crossing or Random-on Switching
- ◆ Ratings from 15A~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	T	(XXX)
KSN Series	Load Voltage 240: 240VAC 380: 380VAC 480: 480VAC 600: 600VAC	Control Mode D: DC Control A: AC Control	Load Current ⁽²⁾ 15: 15Amp 25: 25Amp 40: 40Amp 60: 60Amp 80: 80Amp 100: 100Amp 125: 125Amp	Output Mode T: TRIAC Output ⁽³⁾ None: SCR Output	Switching Mode Blank: Zero Crossing R: Random-on	Blank: With RC N: Without RC	L: LED	Protection Type T: TVS Protection Blank: Without Protection	Customized Code

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

(3) 380V version is Triac output, 15A version is Triac output, 25A/40A version are available with SCR or Triac output, 60A/80A/100A/125A are all SCR Output.

Technical Specifications

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

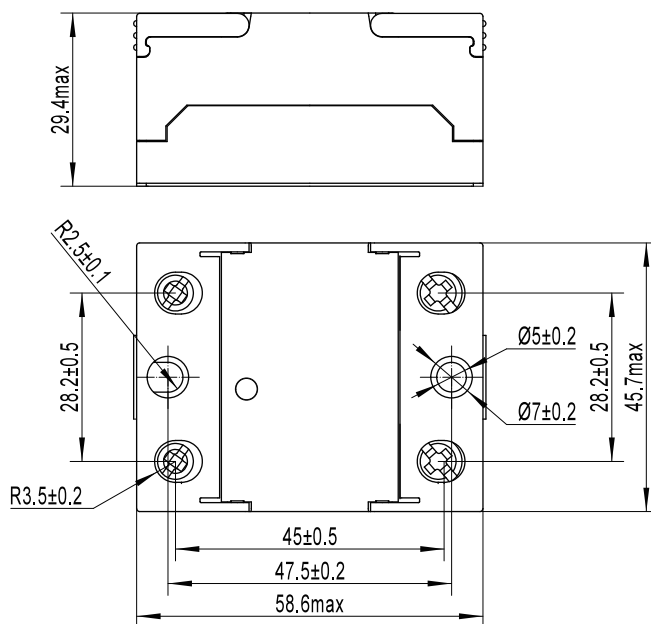
Output Specifications (Ta=25°C)			
Load Voltage Range	240V	24-280VAC	
	380V	24-440VAC	
	480V	24-530VAC	
Maximum Turn-on Time	600V	24-660VAC	
	DC Control Zero-crossing	10ms	
	DC Control Random-on	1ms	
	AC Control	40ms	
Maximum Turn-off Time	DC Control	10ms	
	AC Control	20ms	
Maximum Surge Current (@10ms)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

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

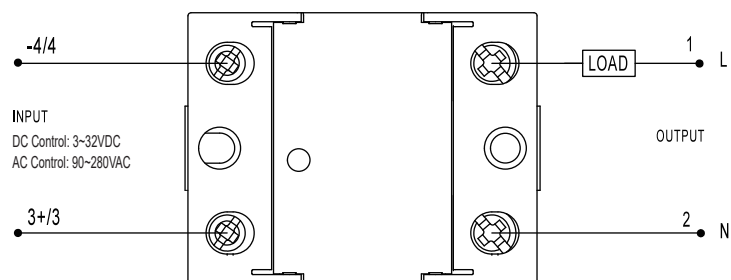
Applications

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

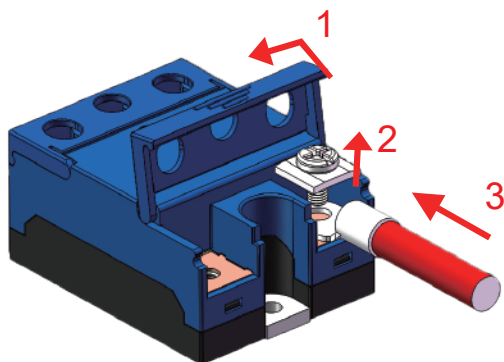
Outline Dimensions



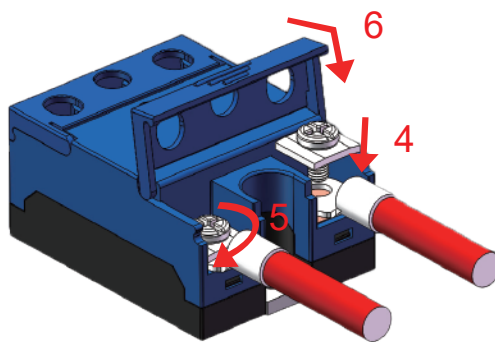
Wiring Diagram



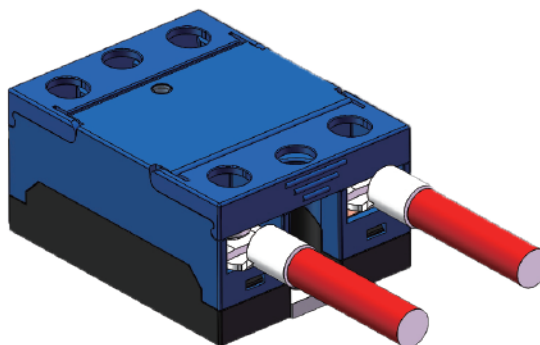
Wiring instruction:



Step 1



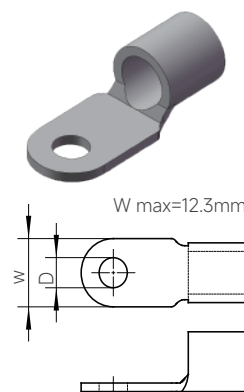
Step 2



Step 3

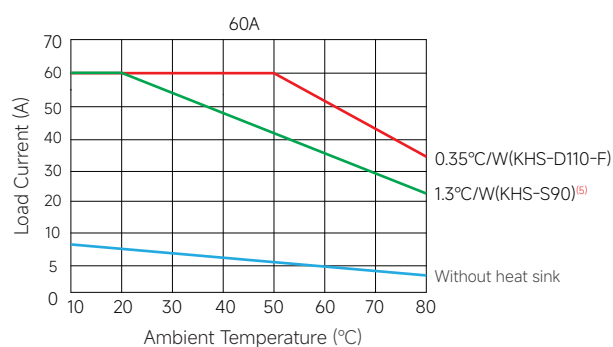
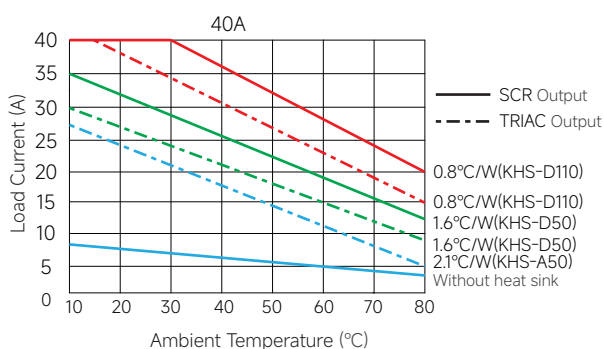
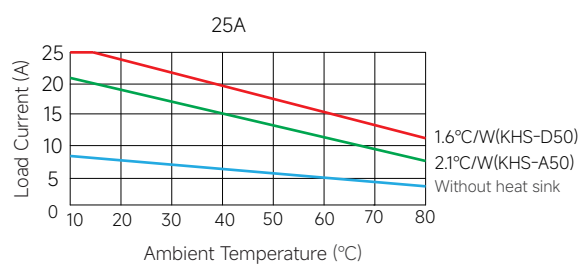
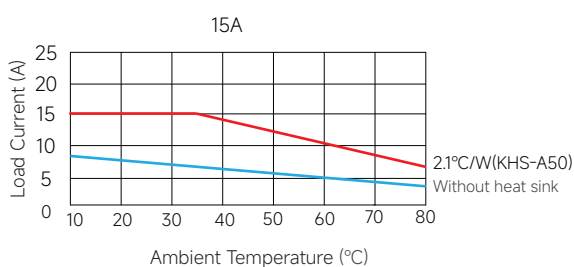
RECOMMENDATION FOR WIRING:

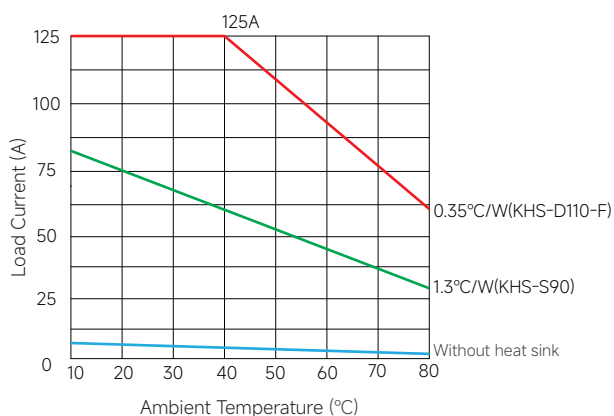
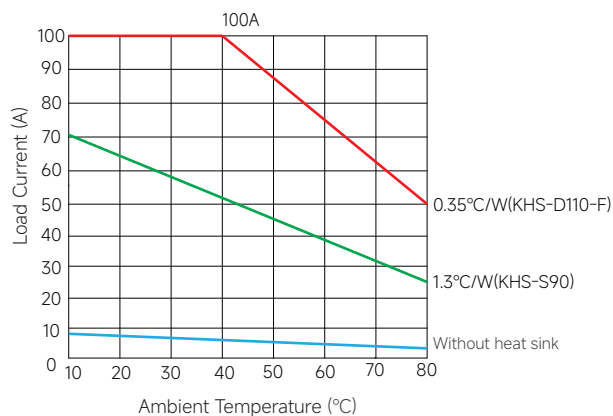
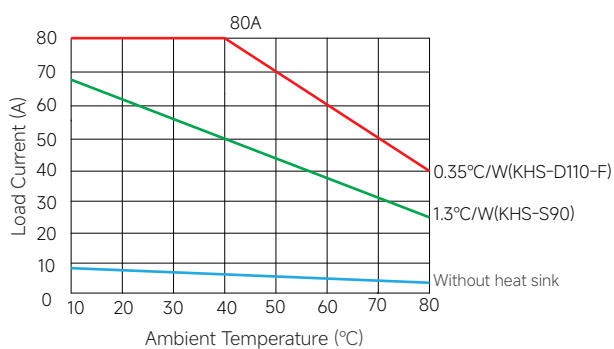
Load current (A)	Wire size (AWG)	Cross section area of wire (mm ²) ⁽⁴⁾	DIN 46234 terminal model	Terminal mounting hole size D (mm)	Terminal width W(mm)
15-20	12	2.5	4-6	4.3	8
			5-6	5.3	10
20-35	10	4	4-6	4.3	8
			5-6	5.3	10
25-32	10	6	4-6	4.3	8
			5-6	5.3	10
32-50	8	10	5-10	5.3	10
50-65	6	16	5-16	5.3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



Note: (4) When use the wire cross-sectional area greater than 25mm², we suggest to break it in to two smaller wires and connect them back to back superimposed.

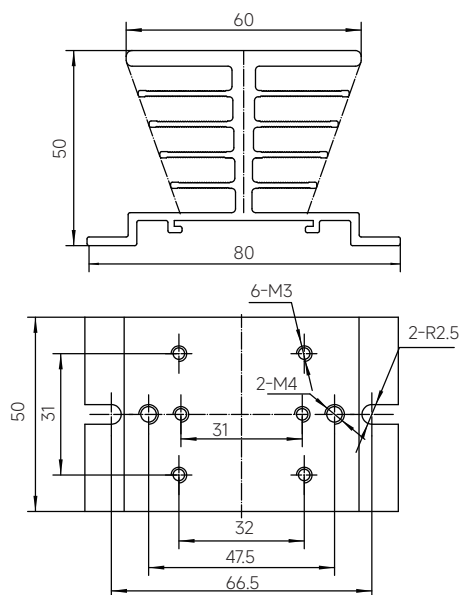
Thermal Derating Curve



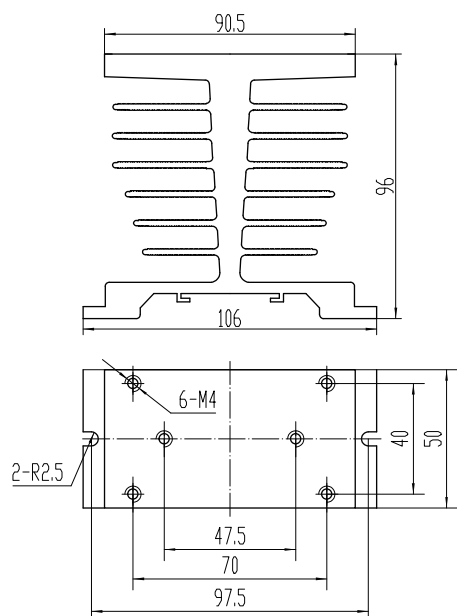


Note: (5) The standard installation direction for the 1.3 °C/W (KHS-S90) radiator is to install the exhaust hole vertically up and down. Installing in other directions will reduce the heat dissipation effect of the radiator.

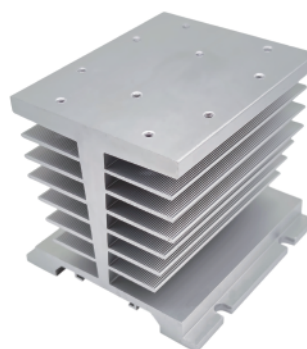
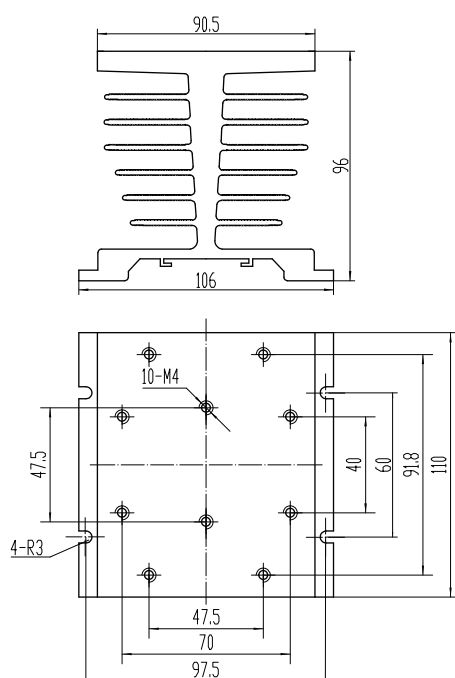
The above temperature curve is configured with radiator models as follows:



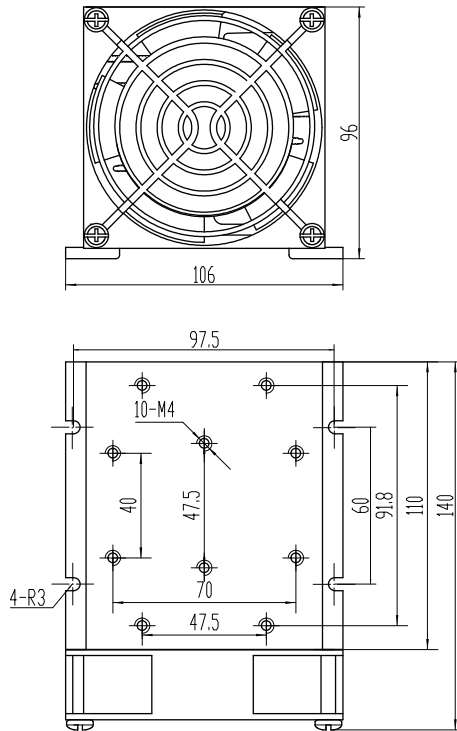
KHS-A50



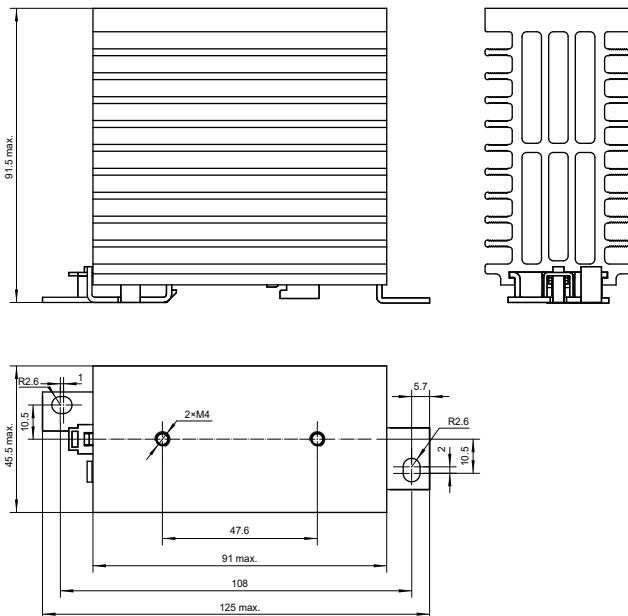
KHS-D50



KHS-D110



KHS-D110-F



KHS-S90

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.