

**Product Description**

- ◆ Phase-Shift Control Output
- ◆ SCR Output
- ◆ Control Signal: 0-5VDC, 0-10VDC, 4-20mA or PWM
- ◆ Load Current: 25A, 40A, 60A , 80A
- ◆ LED Indicator
- ◆ RoHS Compliant



**Ordering Information**

<b>KYR</b>	<b>P</b>	<b>240</b>	<b>L</b>	<b>25</b>	<b>P</b>	<b>M</b>	<b>(XXX)</b>
KYR Series	Output Type P: Power Proportional Output	Load Voltage 240: 176~280VAC 480: 300~530VAC	L : 0-5VDC H : 0-10VDC I : 4-20mA W: PWM	Load Current 25: 25Amp 40: 40Amp 60: 60Amp 80: 80Amp	P: IP20 Safety Cover	M: MOV(Optional)	Customized Code

Note: Can be customized according to customer requirements for special models of products.

**Model**

	Output Type	Control Mode	Load Current	Output Type <sup>(1)</sup>
KYR Series	Power Proportional Output	L : 0-5VDC H : 0-10VDC I : 4-20mA W: PWM(@100ms cycle)	25Amp 40Amp 60Amp 80Amp	Voltage Control: $U_{load}^2 = U_{ac}^2 \times V_{CONTROL} / 5$ Voltage Control: $U_{load}^2 = U_{ac}^2 \times V_{CONTROL} / 10$ Current Control: $U_{load}^2 = U_{ac}^2 \times (I_{CON} - 4) / 16$ PWM Control: $U_{load}^2 = U_{ac}^2 \times \text{Duty cycle}$

**NOTE:** (1)  $U_{load}$  indicates the voltage at both ends of the load, and  $U_{ac}$  indicates the power grid voltage.

	25A	40A	60A	80A
L:0-5VDC	KYRP240L25P KYRP480L25P	KYRP240L40P KYRP480L40P	KYRP240L60P KYRP480L60P	KYRP240L80P KYRP480L80P
H:0-10VDC	KYRP240H25P KYRP480H25P	KYRP240H40P KYRP480H40P	KYRP240H60P KYRP480H60P	KYRP240H80P KYRP480H80P
I :4-20mA	KYRP240I25P KYRP480I25P	KYRP240I40P KYRP480I40P	KYRP240I60P KYRP480I60P	KYRP240I80P KYRP480I80P
W: PWM	KYRP240W25P KYRP480W25P	KYRP240W40P KYRP480W40P	KYRP240W60P KYRP480W60P	KYRP240W80P KYRP480W80P

General Specifications

Input Specifications (Ta=25°C)				
Auxiliary Power Supply Voltage Range		10-32VDC		
Auxiliary Power Supply Current		≤25mA		
Input Control	Voltage Control	Control Voltage Range	L	0-5VDC
			H	0-10VDC
		Open Voltage	L	0.15VDC Max.
			H	0.25VDC Max.
		Turn-off Voltage	L	0.05VDC Min.
			H	0.1VDC Min.
	Input Impedance	L	30kΩ Typical.	
		H	60kΩ Typical.	
	Current Control <sup>(2)</sup>	Control Current Range	4-20mA	
		Open Current	4.6mA Max.	
Turn-off Current		3.8mA Min.		
Input Impedance		400Ω Typical. <sup>(1)</sup>		
PWM Control <sup>(3)</sup>	Period	100ms		
	Amplitude	4-32VDC		
	Input Current	≤15mA		

Note: (2) When "I" option is used, the drive voltage should be more than 10V.  
(3) Control mode such as other cycles of PWM requirements, can be customized.

Output Specifications (Ta=25°C)		
Load Voltage Range	240	176-280VAC
	480	300-530VAC
Maximum Surge Current (@10ms)	25A	250A
	40A	500A
	60A	700A
	80A	1000A
Maximum I <sup>2</sup> t (@10ms)	25A	312A <sup>2</sup> s
	40A	1250A <sup>2</sup> s
	60A	2450A <sup>2</sup> s
	80A	5000A <sup>2</sup> s
Maximum Transient Overvoltage	KYR240xxxP Series	600Vpk
	KYR480xxxP Series	1200Vpk
MOV Varistor Voltage Range	KYR240xxxPM Series	423-517V
	KYR480xxxPM Series	819-1001V
Output Power	0-99%	
Operational Frequency Range	47-63Hz	
Maximum Off-State Leakage Current@Rated Load Voltage	5mA(@220VAC/50Hz)	
Minimum Off-State dv/dt@Maximum Rated Voltage	500V/μs	

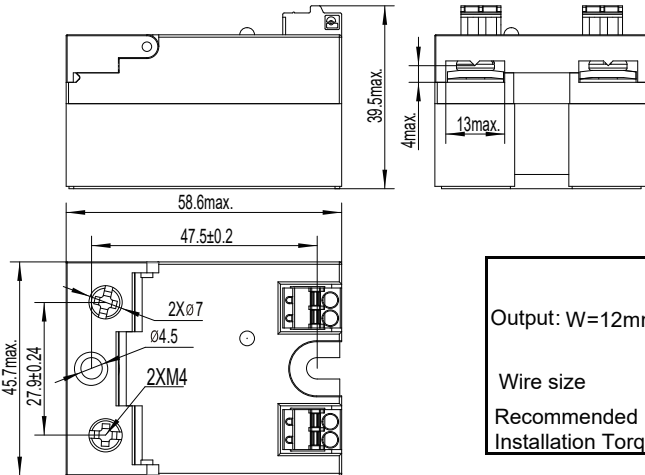
General Specifications (Ta=25°C)		
Dielectric Strength (50/60Hz)	Input/Output	4000Vrms
	Input, output/Base	2500Vrms
Minimum Insulation Resistance (@500VDC)	1000MΩ	
Ambient Temperature Range	-30°C ~ +80°C	
Storage Temperature Range	-30°C ~ +100°C	
Weight (Typical)	120g	
LED (Green)	When the product is connected, LED lights up.	

Applications


Temperature chamber, plastic machinery, incubator, dimmer, solar panel welding machine, and etc.

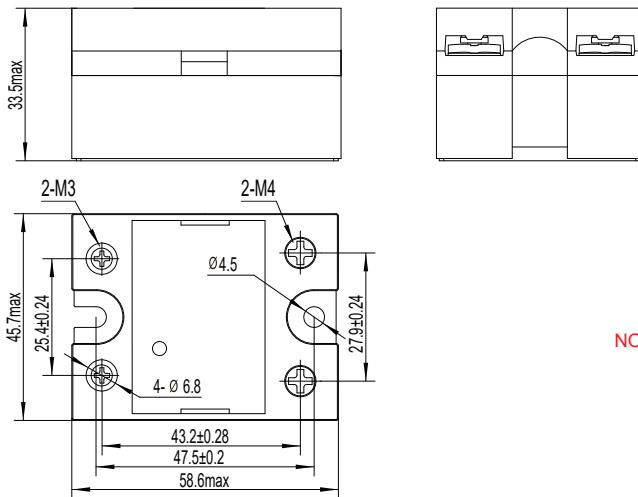
Outline Dimensions

Unit: mm






Voltage Control

Output: W=12mm max	
Wire size	Output: max.1.5mm <sup>2</sup>
Recommended Installation Torque	Input: max. 7mm <sup>2</sup>
	Output: 0.98 - 1.37 N·m

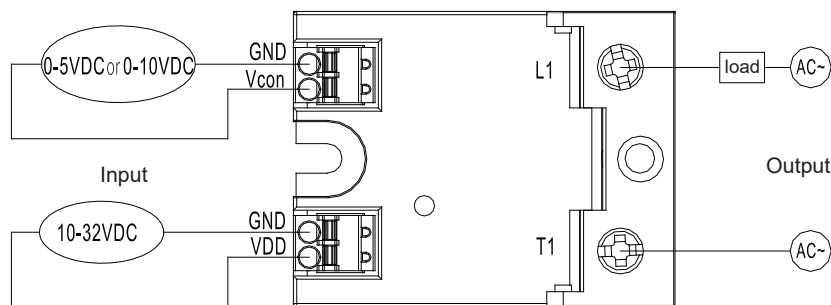


Current Control

		
Output	Input	(4)
Ring terminal dimensions	Wire Dimension	Input : max.3mm <sup>2</sup>
Input: W=9.5mm max.		Output: max.7mm <sup>2</sup>
Output: W=12mm max.	Torque	Input: 0.58 - 0.98 N·m
		Output: 0.98 - 1.37 N·m

**NOTE: (4)**When SSR is connected to the cold rolled copper nose of TYPE TO1, the IP20 protection cover shall be removed first.After wiring is completed, install the IP20 protection cover.

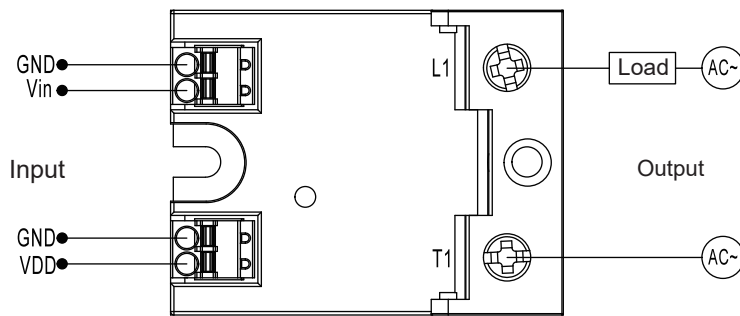
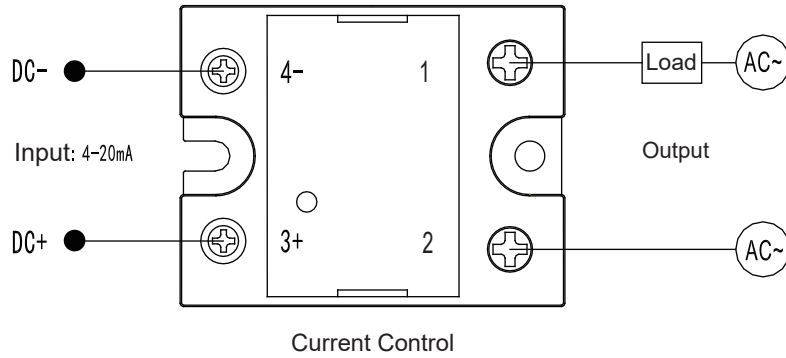
Wiring Diagram



Voltage Control (5)

**Note: (5)** The auxiliary power supply GND and the input control GND should be connected internally to the earth ground; if the external control signal and the power supply are not connected together to the earth ground, then both should be connected to each GND respectively.

Wiring Diagram



VDD: connects to the positive terminal of the auxiliary power supply ranging from 10 to 32VDC

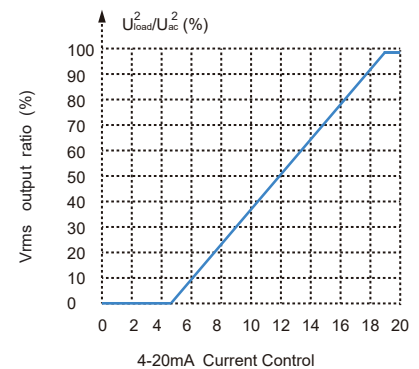
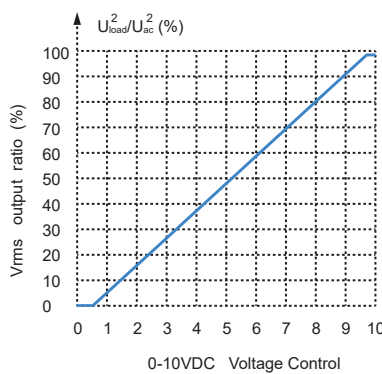
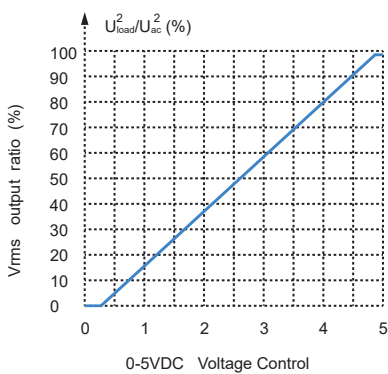
Vin: Connect to PWM output positive terminal

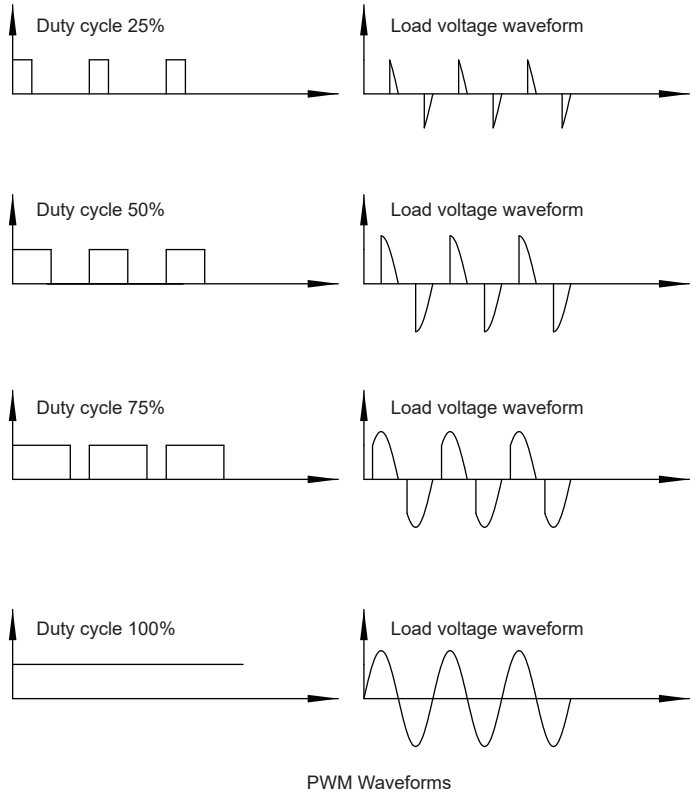
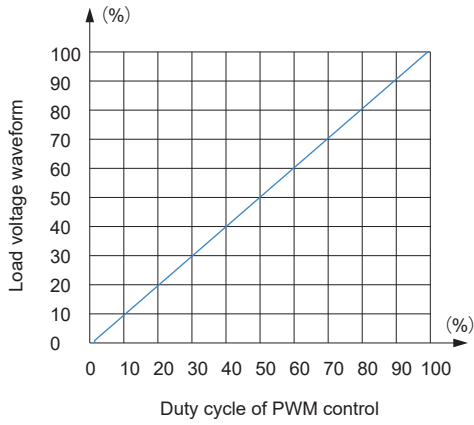
GND: The auxiliary power supply GND and the control signal GND are shorted in common ground, for example, the external control signal and the power supply are not in common ground

If yes, connect the GND signals of the two devices respectively.

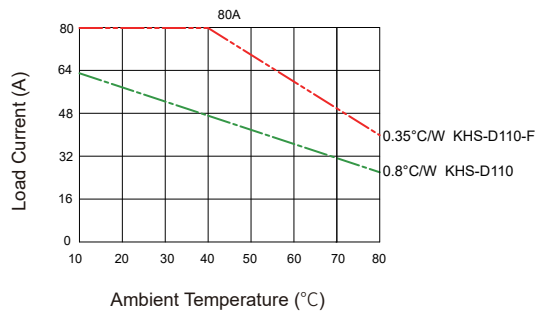
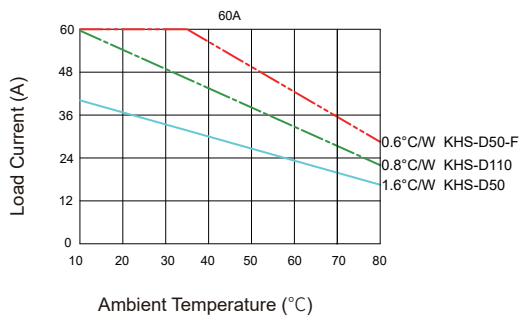
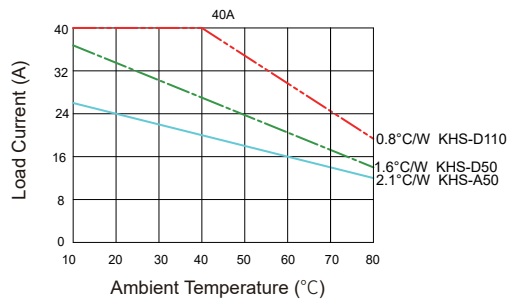
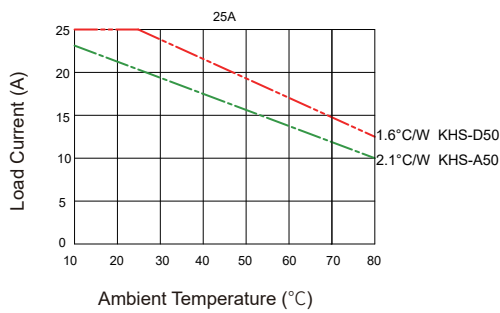
PWM Control

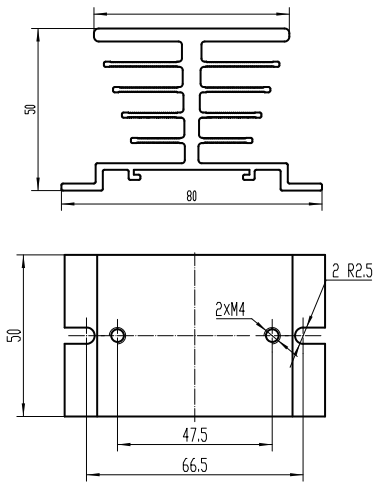
Output/Proportional Control Features



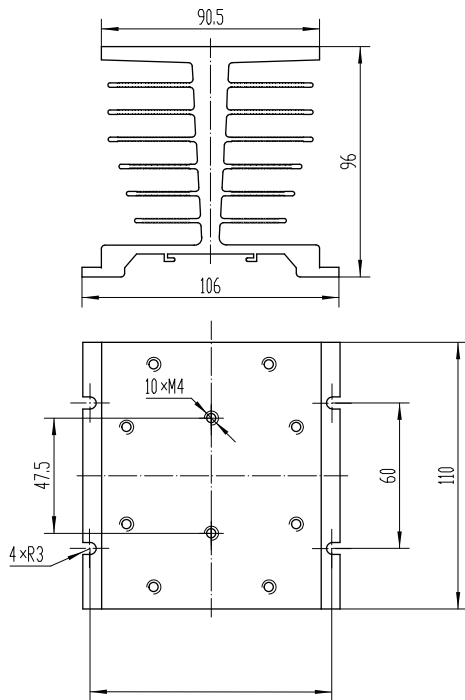


**Thermal Derating Curve**

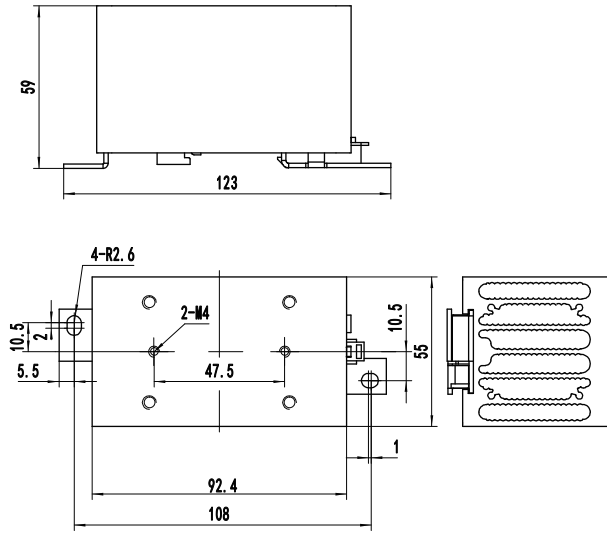




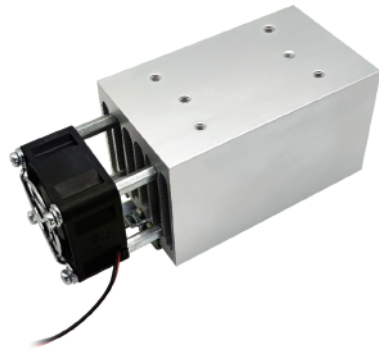
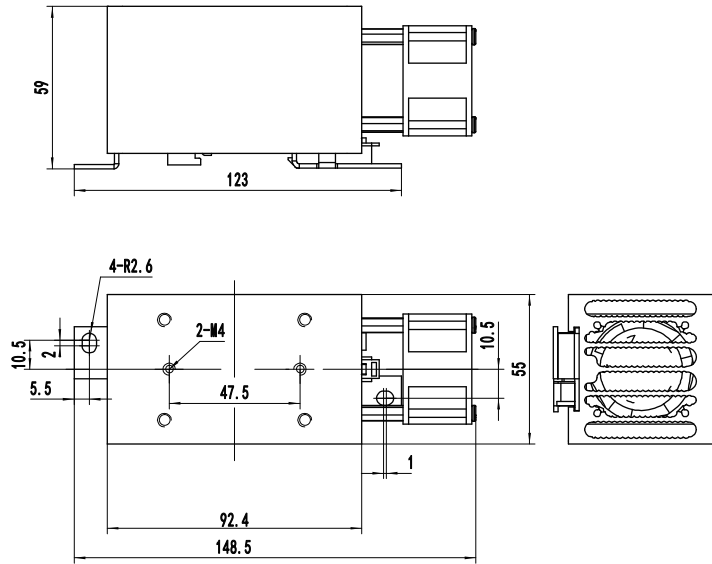
KHS-A50-1



KHS-D110



KHS-I93-D-A



KHS-I93-B24DC

### General Notes

1. When the operation temperature is above 25 °C, please consider the derating as per the Thermal Derating Curve.
2. The relay terminal should ensure reliable connection. Otherwise, it may lead the damage to the relay because of the overheating. The recommended installation torque for screw fast connection terminals is 0.5N·m, the recommended installation torque for M3 terminals is (0.58 ~ 0.98) N·m, and the recommended installation torque for M4 terminals is (0.98 ~ 1.37) N·m.
3. Please ensure reliable grounding when using the SSR.

### ! 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.