

Product Description

- ◆ Load Current: 25A、40A、60A、80A、100A、125A
- ◆ SCR Output or TRIAC Output
- ◆ Control Mode: 4-20mA
- ◆ Phase-Shift Control Output
- ◆ LED Indicator
- ◆ RoHS Compliant



Product Selection

CRA	380	I	25	P	(XXX)
CRA Series	Load Voltage 380: 176~440VAC 480: 300~530VAC	Control Mode I: 4~20mA	Load Current 25: 25Amp 40: 40Amp 60: 60Amp 80: 80Amp 100: 100Amp 125: 125Amp	Output Type P: Phase-Shift Control Output	Customized Code

Available Part Numbers⁽¹⁾

Control Mode	25A	40A	60A	80A	100A	125A
I: 4~20mA	CRA380I25P	CRA380I40P	CRA380I60P CRA480I60P	CRA380I80P CRA480I80P	CRA380I100P CRA480I100P	CRA380I125P CRA480I125P

注: (1) CRA380I25P and CRA380I40P are TRIAC outputs, while other models are SCR outputs.

Load Voltage Calculation Formula

Control Mode	Load Voltage ⁽²⁾
I: 4~20mA	$U_{LOAD} = U_{AC} \times (I_{CON} - 4) / 16$

注: (2)) U_{LOAD} indicates the voltage at both ends of the load, and U_{AC} indicates the power grid voltage,
 $V_{CONTROL}$ indicates the control voltage, I_{CON} indicates the control current.

Technical Specifications

Input Specifications (Ta=25°C)	Condition	Symbol	Model	Min	Typ	Max	Unit
Control Current ⁽³⁾		I_c		4		20	mA
Turn-on Current		$I_{c on}$				4.6	mA
Turn-off Current		$I_{c off}$		3.8			mA
Input Impedance	@20mA				290		Ω

Note: (3) Current control type, the drive voltage should be more than 10V.

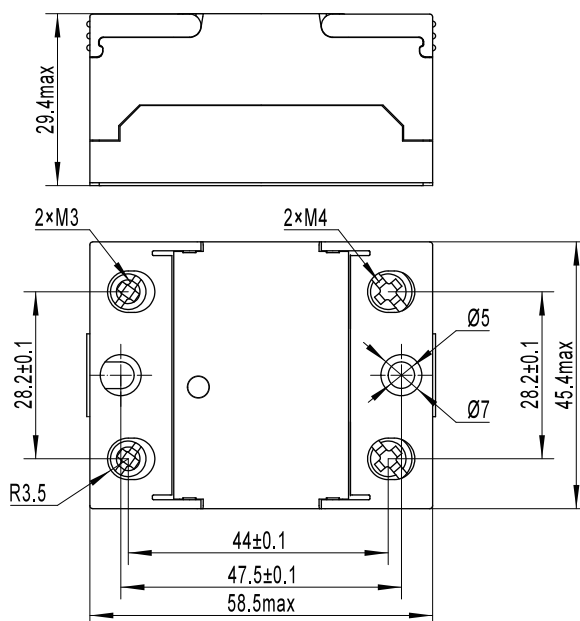
Output Specifications (Ta=25°C)	Condition	Symbol	Model	Min	Typ	Max	Unit
Load Voltage		U_e	380	176		440	VAC
			480	300		530	VAC
Off-State Leakage Current	@220VAC/50Hz	I_{lk}				5	mA
Operational Frequency		f		47		63	Hz
Output Power				0		99	%
Transient Overvoltage		U_p	380		800		Vpk
			480		1200		Vpk
Non-repetitive Surge Current	@10ms	I_{TSM}	25A		250		Apk
			40A		400		Apk
			60A		700		Apk
			80A		800		Apk
			100A		1500		Apk
			125A		2250		Apk
Maximum I^2t for Fusing	@10ms	I^2t	25A		312		A ² s
			40A		800		A ² s
			60A		2450		A ² s
			80A		3200		A ² s
			100A		11250		A ² s
			125A		25000		A ² s
Minimum Off-State dv/dt		dv/dt			500		V/ μ s

General Specifications (Ta=25°C)	Condition	Symbol	Model	Min	Typ	Max	Unit
Dielectric Strength	50/60Hz, Input/Output	V_{iso}			4000		Vrms
	50/60Hz, Input/Output/Base				2500		Vrms
Insulation Resistance	@500VDC	R_{iso}			1000		M Ω
Operating Temperature		T_{OPR}		-40		+80	°C
Storage Temperature		T_{SPR}		-40		+100	°C
Weight					80		g
LED Indication			Green	When the product is connected, LED lights up			

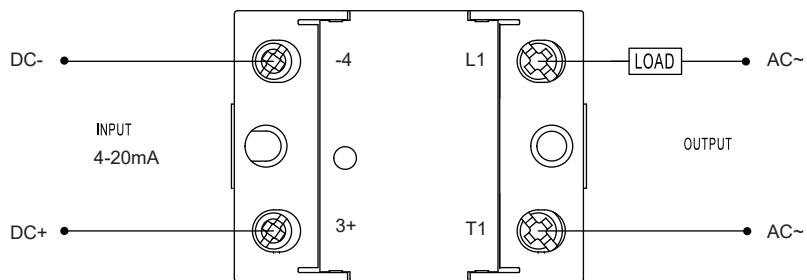
Applications

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

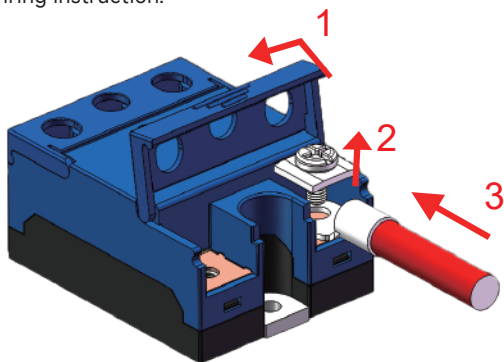
Outline Dimensions



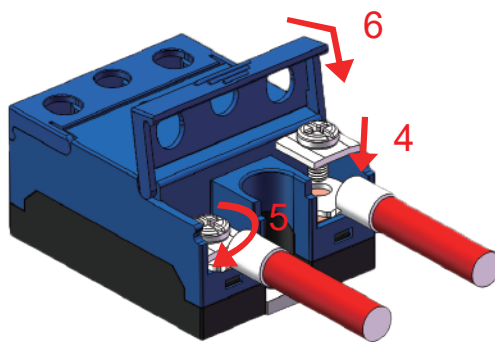
Wiring Diagram



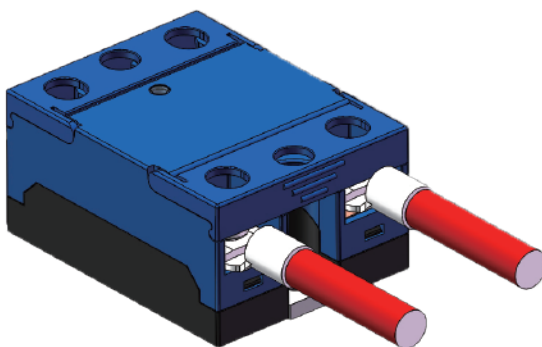
Wiring instruction:



Step 1



Step 2



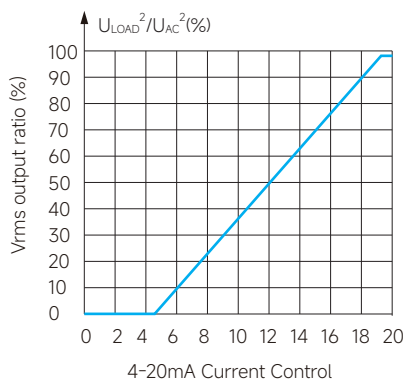
Step 3

Recommendation for wiring:

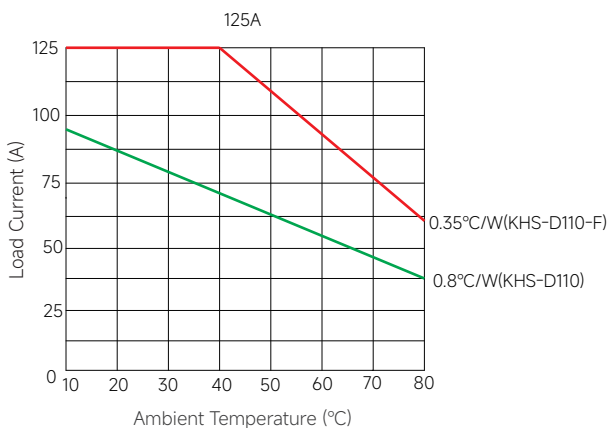
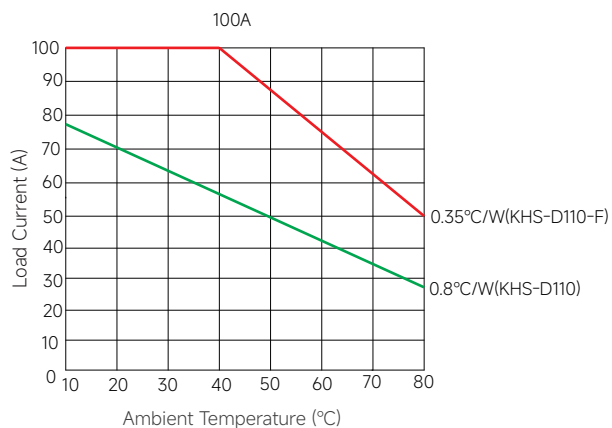
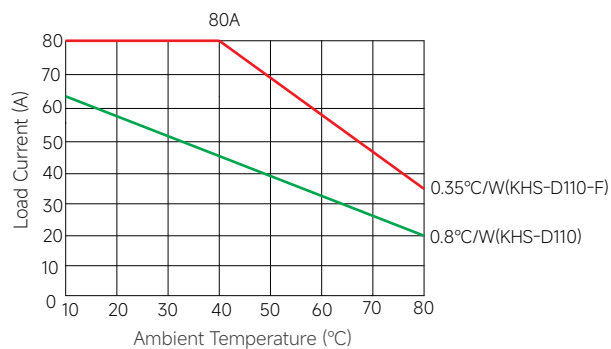
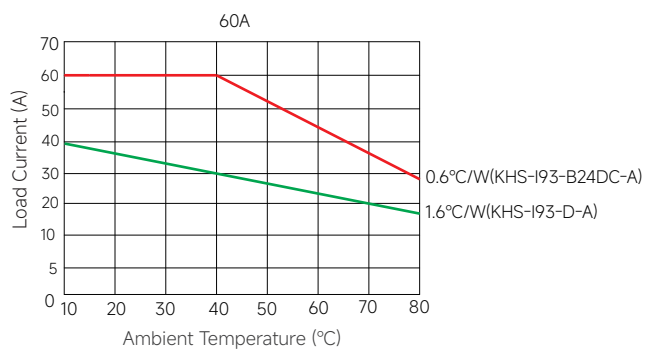
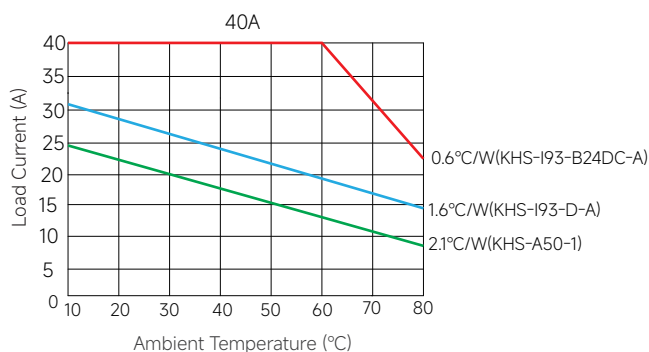
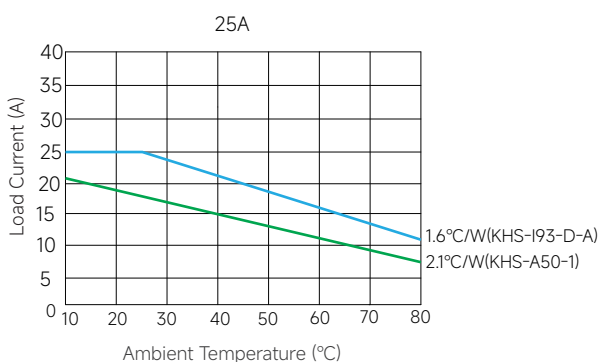
Load current (A)	Wire size (AWG)	Cross section area of wire (mm ²) ⁽⁴⁾	DIN 46234 terminal model	Terminal mounting hole size D (mm)	Terminal width W(mm)	
15-20	12	2.5	4-6	4.3	8	
			5-6	5.3	10	
20-35	10	4	4-6	4.3	8	
			5-6	5.3	10	
25-32	10	6	4-6	4.3	8	
			5-6	5.3	10	
32-50	8	10	5-10	5.3	10	
50-65	6	16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

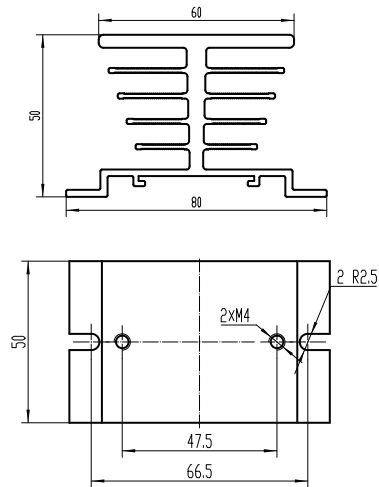
Output / Proportional Control Features



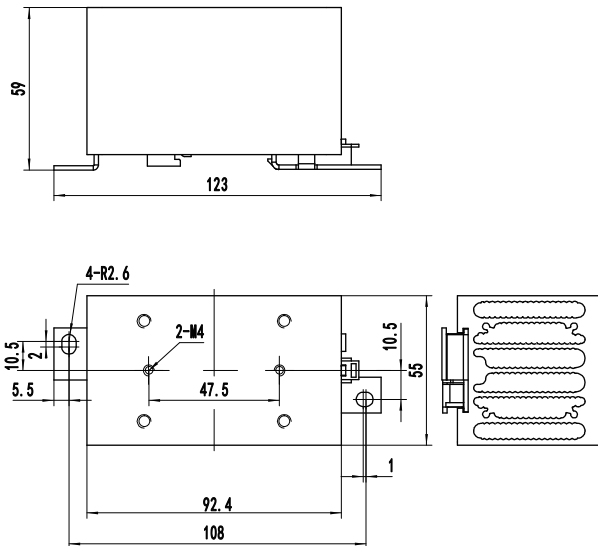
Thermal Derating Curve



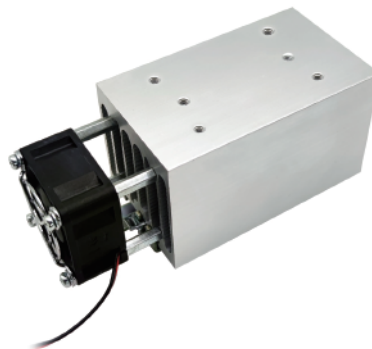
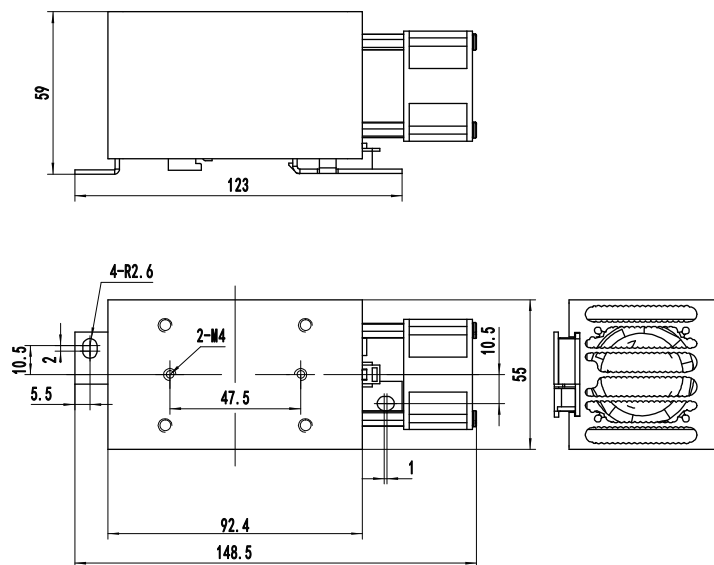
The above temperature curve is configured with radiator models as follows:



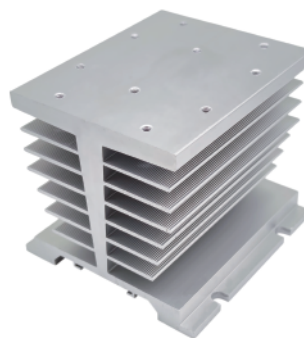
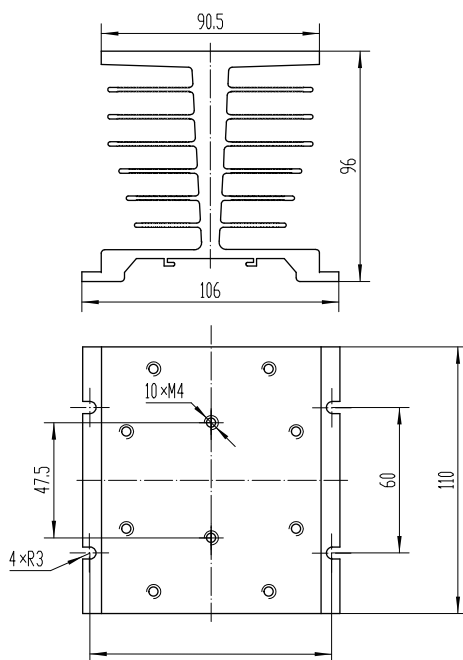
KHS-A50-1



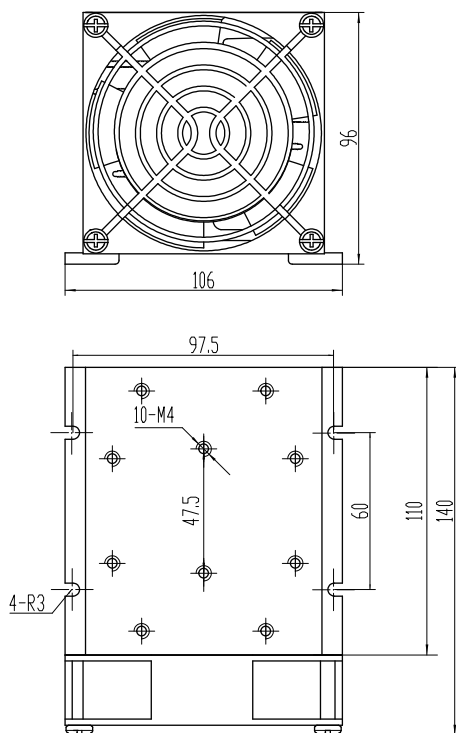
KHS-I93-D-A



KHS-I93-B24DC



KHS-D110



KHS-D110-F

General Notes

1. Relay must be mounted to proper sized heatsink based on thermal curves. Thermal grease or a thermal pad must be used between relay and heatsink.
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. The relay terminal should ensure reliable connection. Otherwise, it may cause the overheating of relay and lead to the damage.
4. 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.
5. Use M4 screws when assembling relays and heatsinks



Warnings

1. The product 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.