

Product Selection

- ◆ Load Current: 25A, 50A, 75A
- ◆ SCR Output
- ◆ Control Signal: 4-20mA, 0-5V, 0-10V
- ◆ Phase-shift Control Output
- ◆ LED Indicator
- ◆ RoHS Compliant



Ordering Information

KRF	240	I	25	P	(XXX)	-P
KRF Series	Load Voltage 240: 176~280VAC 480: 300~530VAC	Control Mode L : 0-5VDC H: 0-10VDC I : 4-20mA	Load Current 25: 25Amp 50: 50Amp 75: 75Amp	Output Type P: Phase-shift Output	Customer Code	Heat Sink P: KHS-P90 H: KHS-H90 IF24DC: KHS-I93-B24DC

Specification Selection

	Output Type	Control Mode	Load Current	Output Mode ⁽¹⁾
KRF Series	Phase-shift Output	L: 0-5VDC H: 0-10VDC I: 4-20mA	25Amp 50Amp 75Amp	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: $U_{load}^2 = U_{ac}^2 \times (I_{CON} - 4) / 16$

Note: (1) U_{load} indicates the voltage across the load, U_{ac} indicates the grid voltage, I_{con} indicates the control current, $V_{CONTROL}$ indicates the control voltage.

Specification Selection

	25A	50A	75A
L : 0-5VDC	KRF240L25P-P	KRF240L50P-H	KRF240L75P-IF24DC
	KRF480L25P-P	KRF480L50P-H	KRF480L75P-IF24DC
H: 0-10VDC	KRF240H25P-P	KRF240H50P-H	KRF240H75P-IF24DC
	KRF480H25P-P	KRF480H50P-H	KRF480H75P-IF24DC
I: 4-20mA	KRF240I25P-P	KRF240I50P-H	KRF240I75P-IF24DC
	KRF480I25P-P	KRF480I50P-H	KRF480I75P-IF24DC

Technical Specification

Input Circuit (Ta=25°C)				
Control Signal Parameters	Voltage Control	Auxiliary Power Supply Voltage range	10-32VDC	
		Control Voltage Range	L 0-5VDC H 0-10VDC	
		Turn on 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	Control Current Range	4-20mA
			Turn on Voltage	4.8mA Max.
			Turn off Voltage	3.6mA Min.
	Input Impedance		400Ω (typical) ⁽²⁾	

Note: (2) When it's current control, the drive voltage should be more than 10V(@20mA).

Output Circuit (Ta=25°C)		
Load Power Supply Voltage Range	240	176-280VAC
	480	300-530VAC
Maximum Surge Current(@10ms)	25A	250A
	50A	800A
	75A	800A
Maximum I ² t(@10ms)	25A	312A ² s
	50A	3200A ² s
	75A	3200A ² s
Maximum Transient Voltage	KRF240xxx Series	600Vpk
	KRF480xxx Series	1200Vpk
Output Power		0-99%
Operating Frequency Range		47-63Hz
Maximum Off-State Leakage Current		5mA(@220VAC/50Hz)
Minimum Off-State dv/dt		500V/μs

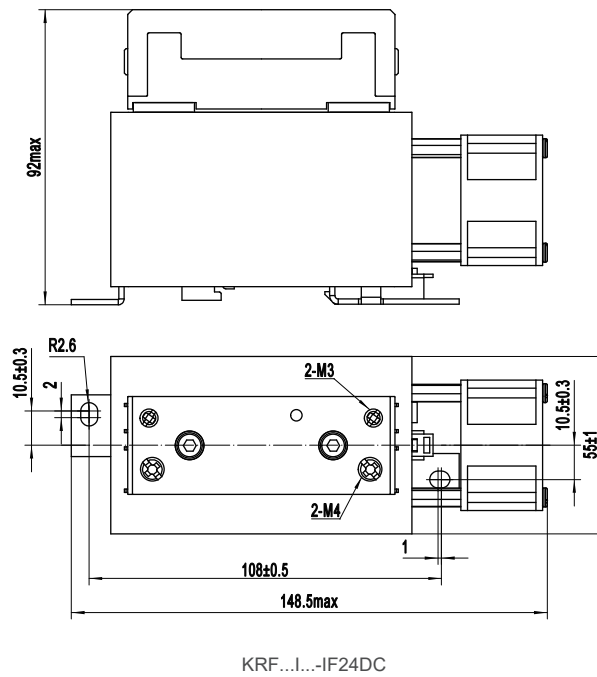
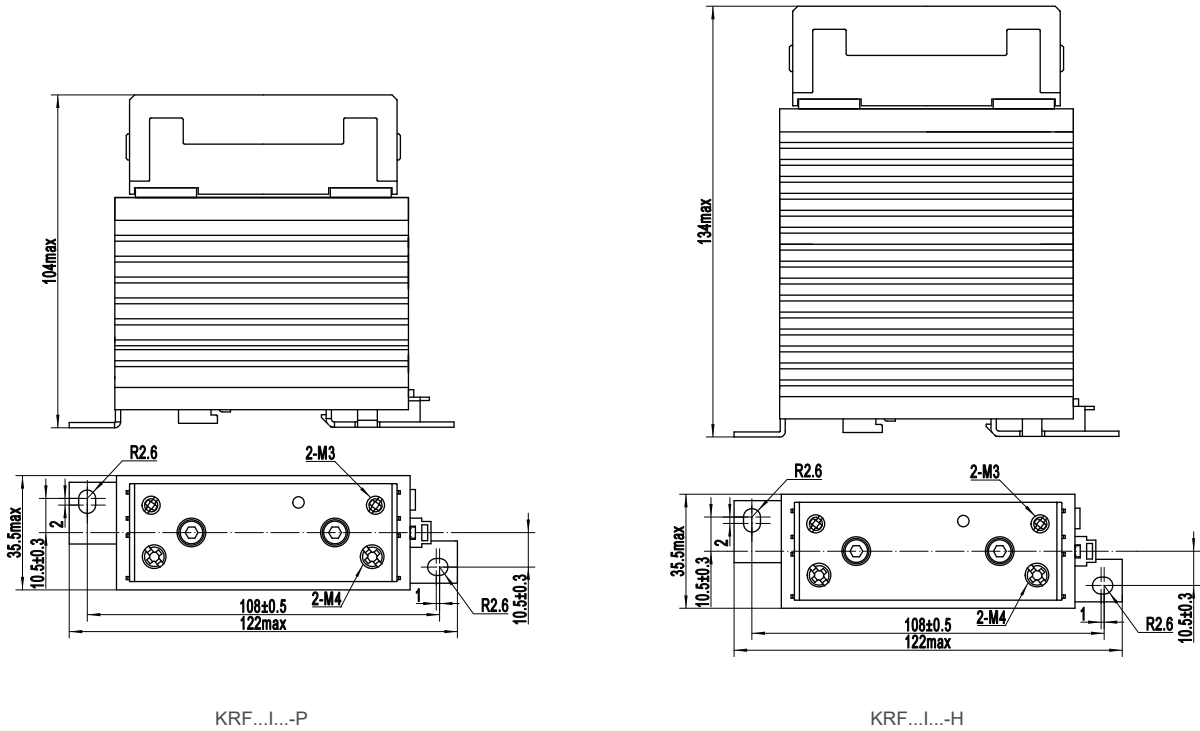
General Information (Ta=25°C)		
Dielectric Strength (50Hz/60Hz)	Input/Output	4000Vrms
	Input, output/Base	2500Vrms
Insulation Resistance (@500VDC)		1000MΩ
Ambient Operating Temperature Range		-30°C ~ +80°C
Ambient Storage Temperature Range		-30°C ~ +100°C
Weight (typical)	25A	308g
	50A	390g
	75A	485g
LED indicator	Connection indication	
LED (green)	When the product is connected, this LED lights up.	

Applications

High and low temperature cabinet, plastic machinery, incubator, dimming, solar panel string welding machine.

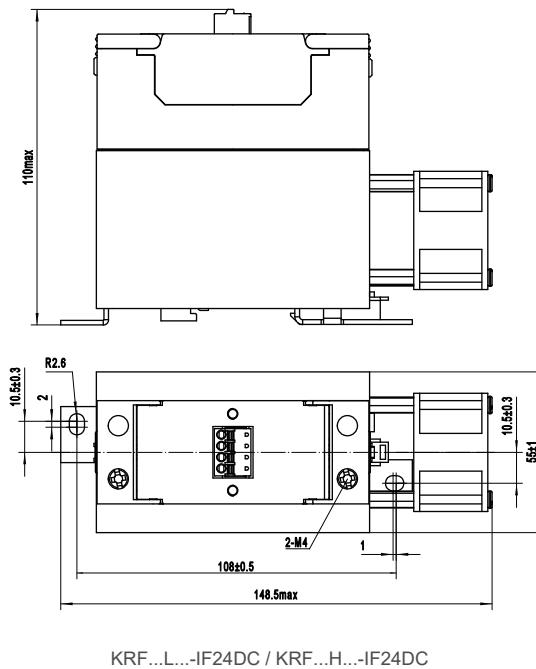
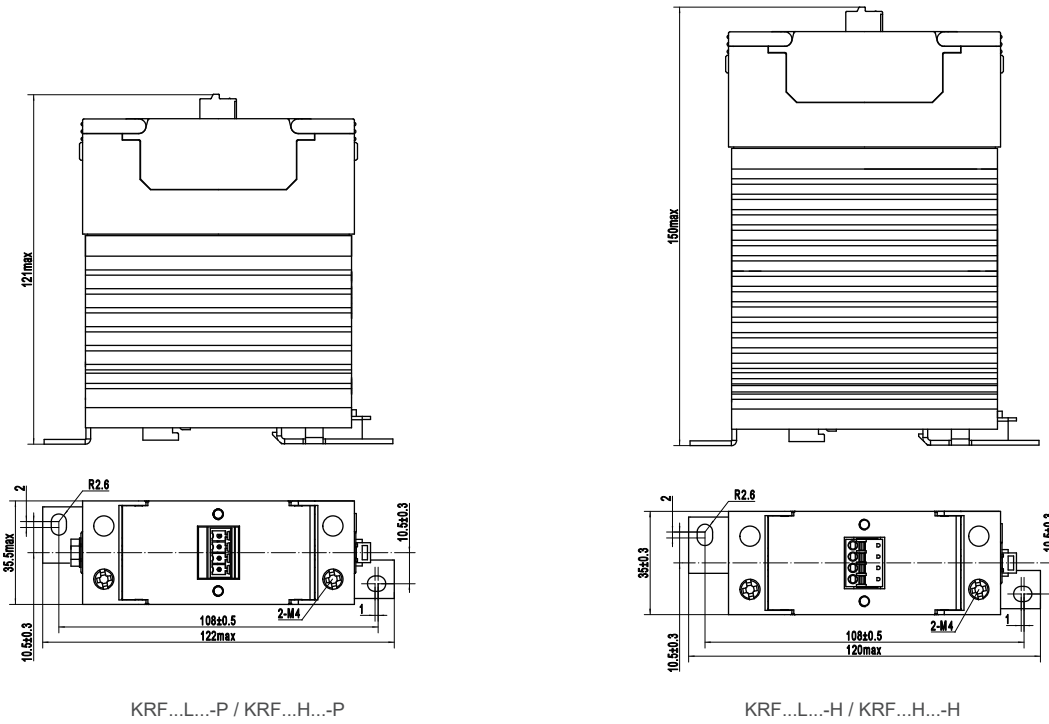
Outline Dimensions

Current Controlled Products



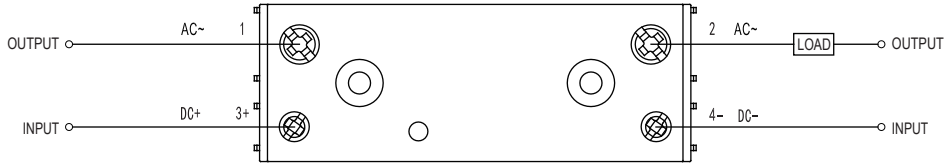
Outline Dimensions

Voltage Controlled Products

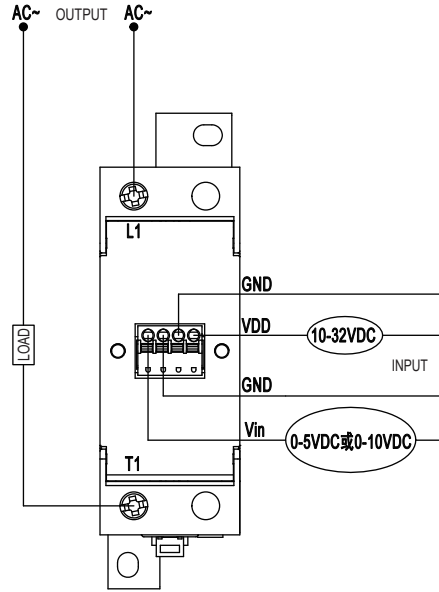


Wiring Diagram

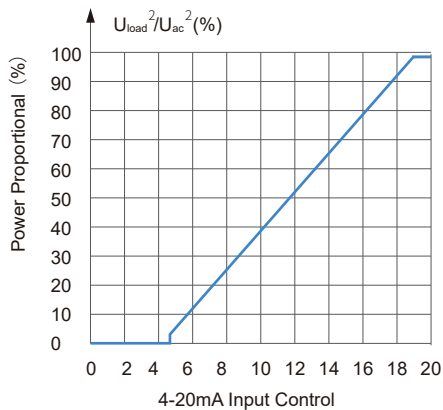
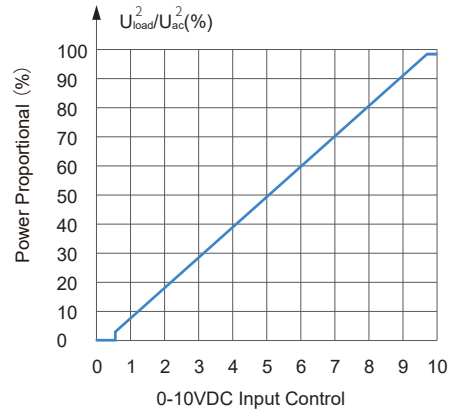
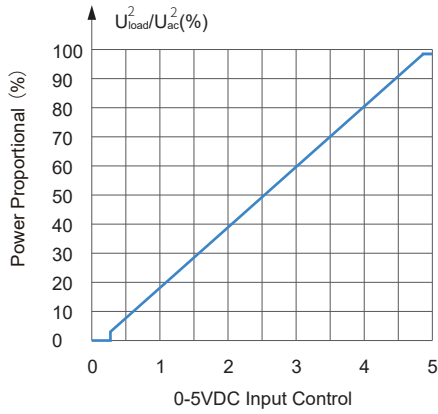
Current Controlled Products

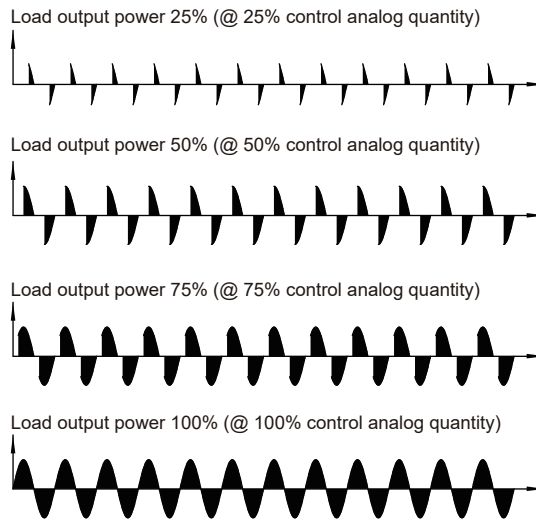


Voltage Controlled Products



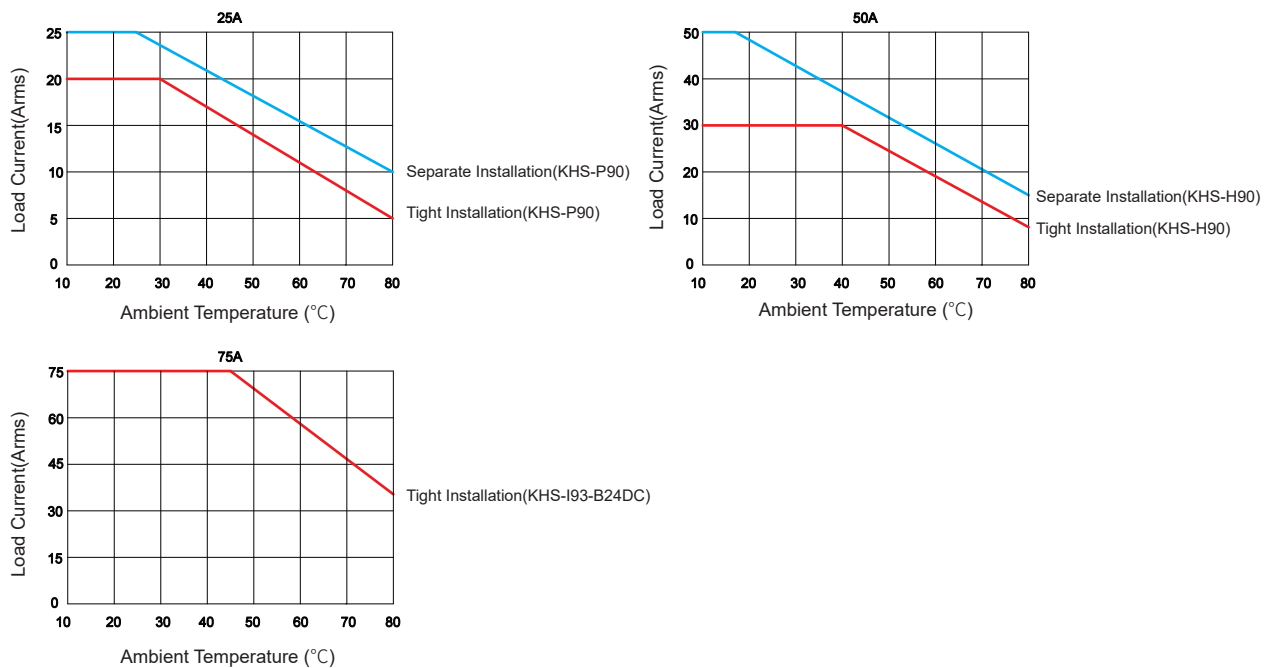
Thermal Derating Curve





Analog quantity and waveform diagram of voltage at both ends of the load

Thermal Derating Curve



Important Notice

1. The relay terminal should ensure reliable connection. Otherwise, it may cause the overheating of relay and lead to the damage.
2. The recommended installation torque of the input M3 terminal of the current controlled type is $(0.58 \sim 0.98) \text{ N} \cdot \text{m}$, and the recommended installation torque of the output M4 terminal is $(0.98 \sim 1.37) \text{ N} \cdot \text{m}$.
3. The diameter of the single-core or multi-core wire at the input end should be controlled between 0.2 and 1.5 mm^2 , and the strip length of the wire core should be controlled between 8 and 10 mm . After stripping the wire core, it needs to be stained with tin and then pressed, to avoid disconnection, the recommended installation torque of the output M4 terminal is $(0.98 \sim 1.37) \text{ N} \cdot \text{m}$.
4. When the operation temperature is high, please consider the derating as per the thermal curve.

Warnings

1. The base plate and sides of the relay will be hot during operation, please allow the relay to cool down before touching.
2. Disconnect all power before installing or using the relay.
3. Verify all connections are proper before turning on power.