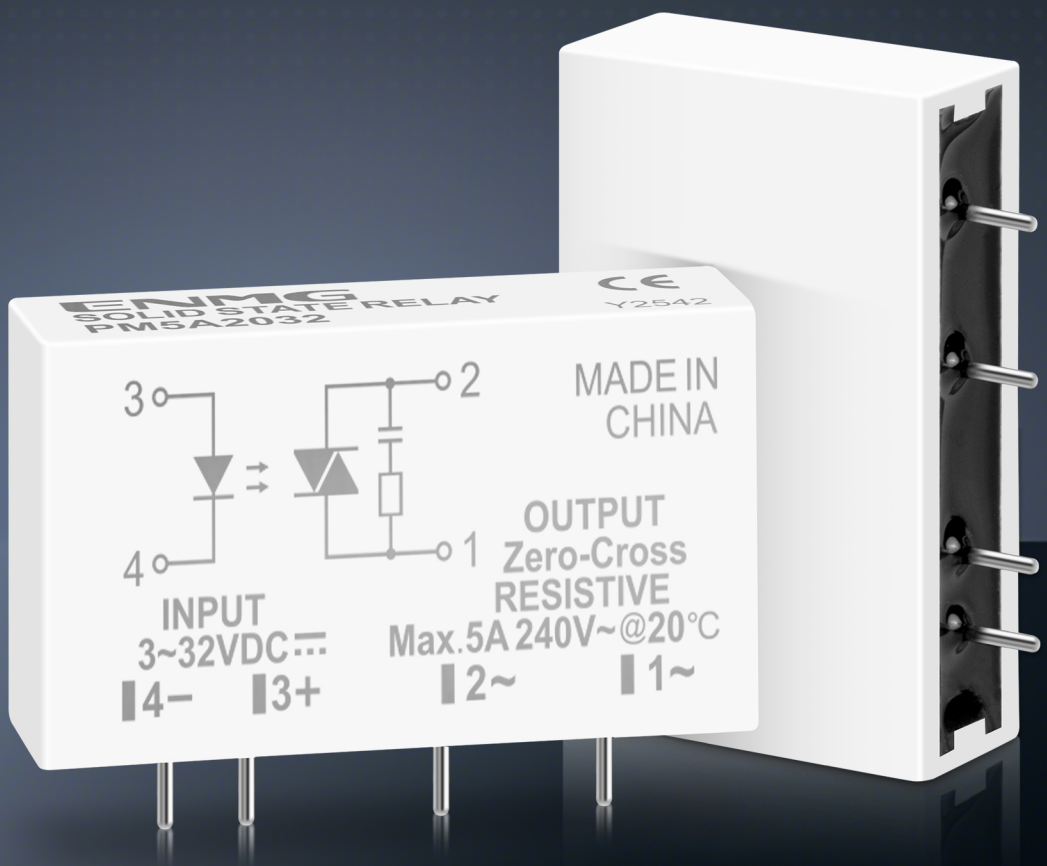
Alumina Ceramic Shell

Solid State Relay PM

Optocoupler Isolation | PCB Printing | Inductive Load



Upgrade from Plastic to Ceramic

New Generation Ceramic Solid State Relay

Abandon traditional plastics and adopt alumina ceramic materials as the housing for solid-state relays.

20+ Times

Enhanced Thermal Conductivity



Alumina Ceramic

Core Advantages of Alumina Ceramic Shells

Thermal conductivity increased by over 20 times

High Thermal Conductivity, High Insulation, High Reliability.

- **Alumina Ceramic:** An excellent thermal conductive material. Its thermal conductivity is usually between **20-30 W/(m·K)**, which is much higher than that of ordinary plastics.
- **Plastic Shell:** Extremely low thermal conductivity. It is usually around **0.2-0.3 W/(m·K)**.

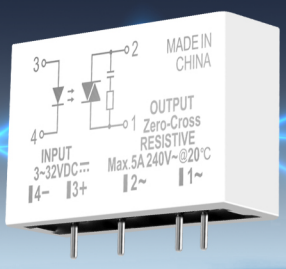
Core Significance

The core semiconductor devices (MOSFET, Triac) of solid-state relays generate a large amount of heat when they are turned on.The ceramic shell can quickly conduct the heat generated by the chip to its surface, and then dissipate the heat into the environment through convection and radiation, which greatly reduces the operating temperature of the chip.

Optocoupler Isolation

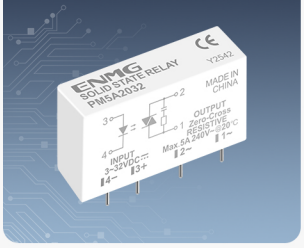
Sensitive Fast

No contacts, no noise, no sparks



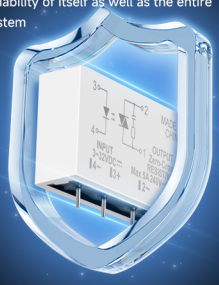
Space-saving

PCB Printing



Built-in RC Surge Absorption Snubber Circuit

The key design to address the challenges of inductive loads and enhance the reliability of itself as well as the entire system



EMC
Suitable for harsh operating environments

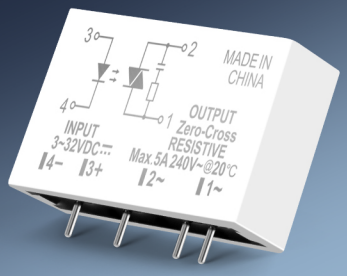
OEM / ODM

Customization

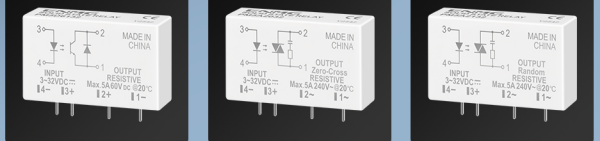
Constant Current Input 3~32VDC

Two Output Types

For DC, triodes are used;
For AC, triacs are used.



PM5D6132	PM5A2032	PM5A2132
DC-DC	DC-AC (Zero-Crossing Triggering)	DC-AC (Random Triggering)
	*Suitable for Resistive Loads	*Suitable for Inductive Loads



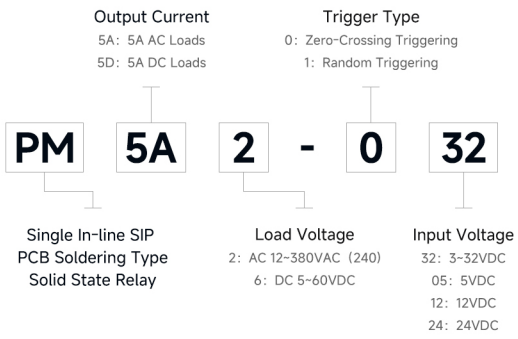
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Specifications

Model Description

The design of product models and ordering codes is intended to cover all possible specifications of this series of products, and they cannot be combined arbitrarily.If you have any questions during the first selection, please contact the technical service.

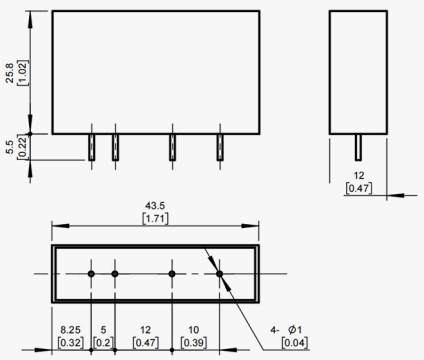


Product Selection Table

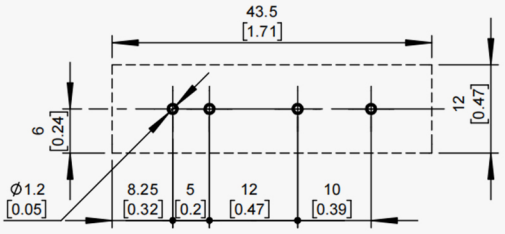
		AC Output		DC Output
	Model	PM5A2032	PM5A2132	PM5D6132
	Trigger Type	Zero-Crossing	Random	Basic Type
	On-Off Type	1NO		1NO
Input	Voltage Range	3~32VDC		3~32VDC
Input	Input Current	< 20mA		< 20mA
Input	Ensure a Reliable Operating Voltage	> 3VDC		> 3VDC
Input	Reliable Turn-Off Voltage	< 1VDC		< 1VDC
Output	Max.Allowable Load Current	5A		5A
Output	Load Voltage	240VAC(12~380VAC) 45~65Hz		5~60VDC
Output	Non-Repetitive Inrush Current	120A		16A
Output	Peak Withstand Voltage	600Vpeak		60Vpeak
Output	Forward Voltage Drop	Max 1.2V at 5A		Max 1.3V at 5A
Output	Leakage Current in Off-State	Max 3mA at 240VAC		Max 1mA at 60VDC
Output	Min.Load Current	20mA		0.02mA
Output	Operating/ Reset Time	Power Supply: 1/2 Cycle+1ms or Less (Random Type: 1ms or Less)		1ms or Less

Outline Dimensions / PCB Soldering Pads

Unit: mm, There may be deviations in the dimension data; please refer to the actual product.

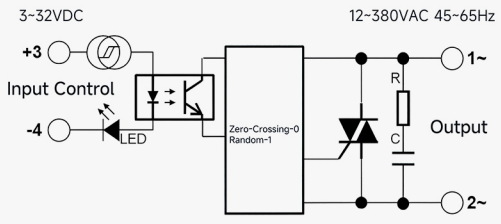


PCB Soldering Holes (Bottom View)

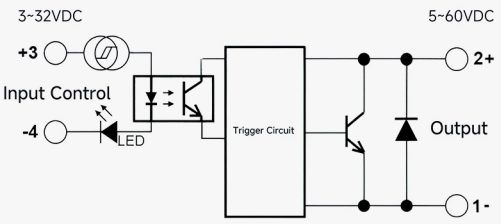


Internal Schematic Diagram

DC-AC (PM5A)



DC-DC (PM5D)



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Instructions

1. To prevent load short circuits, please select and equip with a dedicated fast-acting fuse for semiconductor protection;

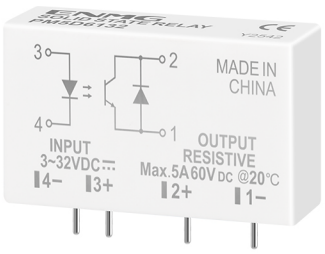
2. For inductive loads: select a dedicated model, keep adequate current margin, and install an overvoltage absorption device at the output. For highly inductive loads, choose the random type to prevent current asymmetry impacts.

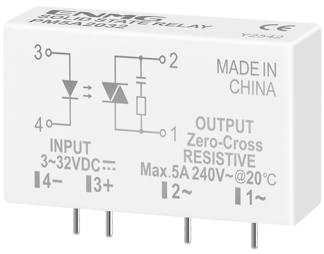
3. When the operating ambient temperature is above 40°C, derating operation is required, and full consideration should be given to ventilation and heat dissipation;

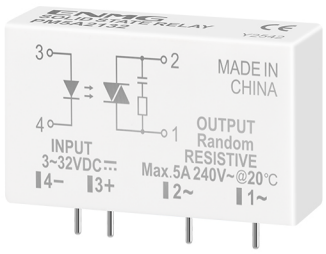
4. When the output terminal is turned off, due to the built-in RC snubber circuit, the main power terminal and the load output terminal are not completely isolated, and the output terminal and the load are still energized. Therefore, an isolating switch must be installed for the main power supply, and the main power supply should be disconnected during equipment maintenance and overhaul.

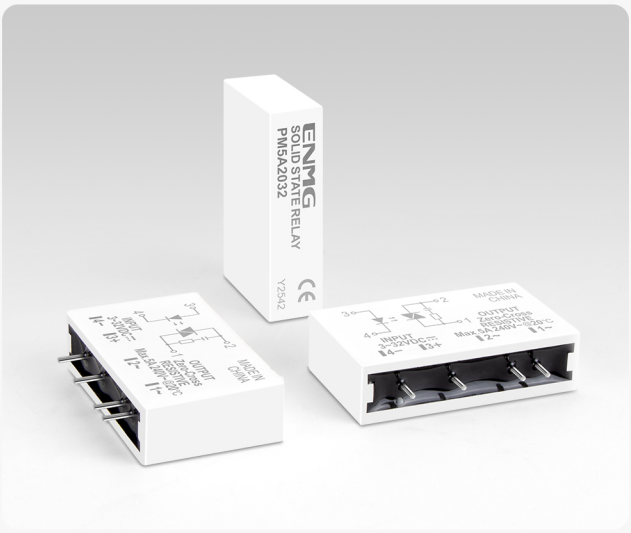
5. When soldering and installing the printed circuit board, please complete the process within 10 seconds at a temperature below 260°C;

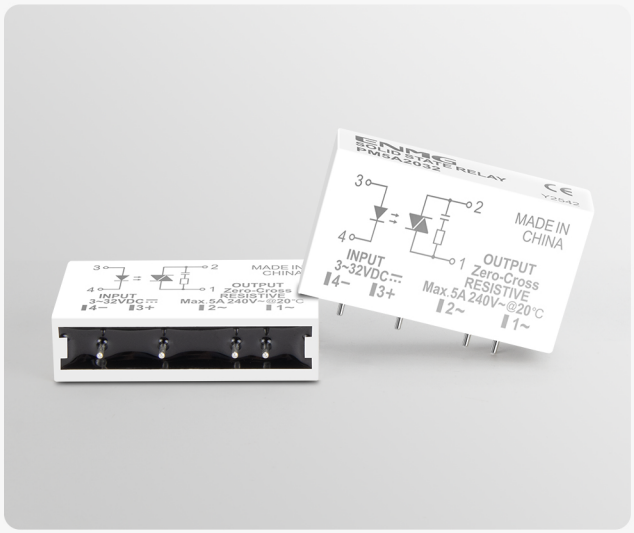
Appearance Display











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