

PCB & Reed Relays

DETAIL INFORMATION



► Introduction:

What is a printed circuit board relay?

Printed circuit board (PCB) relays are compact relay devices used for power management in control system designs which require the relay to be mounted directly on the printed circuit board.

Why use a printed circuit board relay?

Printed circuit board relays are used in applications where the relay needs to be small enough to make PCB mounting practical and easy enough to manufacture with the same machinery currently used in PCB assembly lines.



Magnecraft makes two kinds of PCB mounted relays:

Electromechanical PCB Relays

Higher ratings than reed relays and a smaller package than traditional plug-in relays.

Reed Relays

Fast, reliable low-level switching in a very small package.

► Industries & Applications



Automotive

- ABS
- Cruise control
- Doors
- Power steering
- Power windows
- Sunroofs



Electronics & Communication

- Cellular phones
- Computers
- Copiers
- Microphones
- Radio transmitters
- Speakers



Construction & Security

- Conveyor belts
- Elevators
- Emergency lamps
- Hoists
- Lifts
- Security alarms



HVAC & Refrigeration

- Air conditioners
- Blowers
- Compressors
- Motorized ducts/vents
- Refrigerators
- Space heaters



Domestic Appliances

- Coffee machines
- Dish washers
- Food Processors
- Microwaves
- Ovens
- Stoves
- Vacuum cleaners
- Washing machines



Industrial Automation

- Human/machine interfaces
- Motion controllers
- PLCs
- Power supplies
- Solder/wave reflow systems
- Variable speed drives

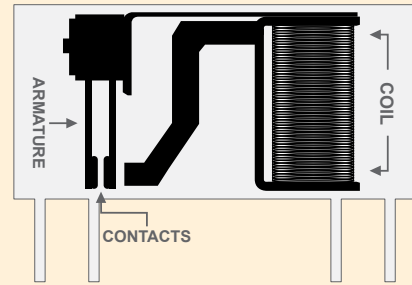
► **Electromechanical PCB Relays**

Electromechanical PCB relays consist of a coil, armature and contacts.

When power is applied to the coil, the resulting magnetic field causes the armature to move and the contacts to open or close.



Diagram of an Electromechanical PCB Relay



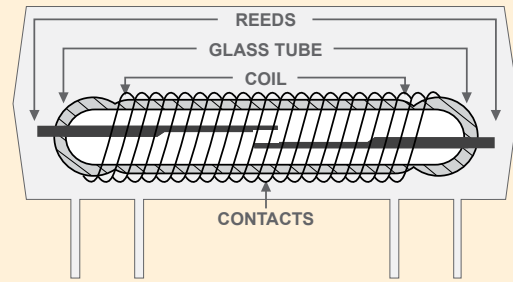
► **Reed Relays**

Reed relays consist of a coil wrapped around a sealed glass tube containing the reeds and contacts.

When power is applied to the coil, the resulting magnetic field causes the reeds to move and the contacts to close.

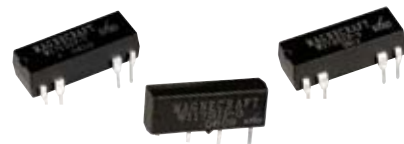
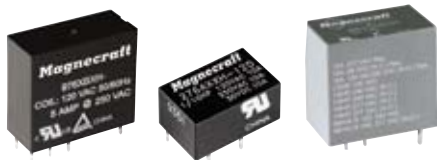


Diagram of a Reed Relay










► **Features & Benefits**

Electromechanical PCB Relays	Reed Relays
<p>High ratings Higher contact ratings than reed relays and smaller than traditional plug-in relays</p>	<p>Highly reliable Longer mechanical and electrical life than electromechanical relays</p>
<p>Versatile Electromechanical PCB relays have a wider range of form, fit and function than reed relays</p>	<p>Fast switching Can switch about ten times faster than an electromechanical relay with similar ratings</p>
<p>UL recognized Meets industry standards for product safety and compliance</p>	<p>Small size Small, industry standard packaging which does not require unique machinery to populate</p>
<p>RoHS Compliant Meets the requirements of hazardous substance restrictions</p>	<p>RoHS Compliant Meets the requirements of hazardous substance restrictions</p>



► **Magnecraft PCB & Reed Relays**

Series	Type	Contact Form(s)	Current Rating	Switching Voltage AC	Voltage DC	Minimum Switching	Response Time
 117SIP	Reed	SPST	0.5 A	120 VAC	200 VDC	10 mA	0.45 ms
 107DIP	Reed	SPST	0.5 A	120 VAC	100 VDC	10 mA	1 ms
 171DIP	Reed	SPST DPST	0.5 A	60 VAC 120 VAC	100 VDC	10 mA	1 ms
 172DIP	Reed	SPDT DPDT	0.25 A	60 VAC	100 VDC	10 mA	1 ms
 276	Electro-mechanical	SPDT SPST	7A 10 A	240 VAC	30 VDC	100 mA	10 ms
 976	Electro-mechanical	DPDT SPST	5 A 12 A 20 A	240 VAC	30 VDC	100 mA	10 ms
 49	Electro-mechanical	SPDT	3 A 5 A 10 A	150 VAC 120 VAC 277 VAC	28 VDC	100 mA	25 ms