

THE DIFFERENCE BETWEEN A CONTACTOR AND A MAGNETIC STARTER

Since the magnetic starter and contactor are very similar in appearance and have similar functions, it is very easy to mistakenly think that there is no difference between them. However, it is not the case!

Contactor and magnetic starter are two types of electric switches used to control electric motors. While they serve similar functions, there are some key differences between the two.

A contactor is an electrically controlled switch used for switching an electrical power circuit. It typically consists of a coil that, when energized, creates a magnetic field that pulls in a set of contacts, thus closing the circuit. Contactors are often used in applications where high-current switching is required, such as control of electric motors, lighting systems, or heating systems.

On the other hand, a magnetic starter is a specialized type of contactor used for starting and stopping electric motors. It includes a contactor as well as an overload relay, which is used to protect the motor from damage due to overloading. When the start button is pressed, the magnetic starter energizes the contactor coil, which closes the contacts and starts the motor.

The overload relay works by measuring the current that flows through the motor. If the current exceeds a preset level for a specified amount of time, the overload relay will trip and open the circuit. The preset level is typically set slightly above the motor's full load current, which is the maximum current the motor is designed to draw under normal operating conditions. By tripping the overload relay, the magnetic starter protects the motor from damage due to overloading, which can lead to overheating, insulation breakdown, and other problems.

In addition to overload protection, magnetic starters may also include other safety features, such as interlocks, which prevent the motor from being started accidentally or without proper safety precautions. For example, a magnetic starter may include a door interlock switch that prevents the starter from being energized unless the door to the motor control panel is closed. Other interlocks may be used to prevent the starter from being energized unless certain safety devices, such as emergency stop buttons or safety switches, are in the proper position.

Overall, magnetic starters provide a comprehensive solution for motor control applications, offering both the switching capability of a contactor and the protection of an overload relay. This makes them an ideal choice for applications where motor protection is critical, such as industrial environments where motors are subject to heavy loads and frequent start-stop cycles.

The main difference between a contactor and a magnetic starter is that the latter includes overload protection. While a contactor can be used to control a motor, it does not provide any protection against overloading. On the other hand, a magnetic starter includes an overload relay that is designed to protect the motor from damage due to overloading. Additionally, magnetic starters are often equipped with other safety features, such as interlocks, to ensure that the motor cannot be started accidentally or without proper safety precautions.

In summary, both contactors and magnetic starters are electric switches used to control electric motors, but magnetic starters include overload protection, making them more suitable for motor control applications where protection of the motor from damage due to overloading is important.