

Overheat Relay Protector Specifications and Models



Overview

Thermal Overload Relay Selection Guide: Heating Types & Reset ModesMaster thermal overload relay selection. Compare bimetallic vs. eutectic alloy technolog.

Key Takeaways

Overheat relay protectors safeguard motors from overheating by monitoring current or temperature and disconnecting the circuit when limits are exceeded, with models available in thermal, thermistor, and electronic types. Types of Overheat Relay Protectors1. Thermal Overload Relays: These relays use heat-sensitive elements to mimic motor heating.

They are widely used in industrial applications for standard motor protection. Bimetallic strips bend predictably when heated by motor current, triggering a mechanical trip to disconnect the motor. They can have manual or automatic reset options and cover current ranges from 0.

11-16 A and motor power from 0. 06-5. 5 kW depending on the model (Schneider Electric).

2.

Thermistor-



Based Relays: Thermistor relays, such as Siemens SIRIUS 3RN2, monitor the motor winding temperature directly using PTC sensors. When the rated temperature is reached, the resistance increases sharply, causing the relay to trip. These relays are suitable for hazardous areas and provide precise protection even under heavy starting or inadequate cooling conditions.

3. Electronic Relays: Electronic or microprocessor-based relays offer precise monitoring of current and temperature, often with adjustable trip points, diagnostics, and communication capabilities. They are ideal for high-precision or critical industrial applications.

Key Specifications

Current Range: Typically 0.1–80 A for ABB TA series; 0.11–16 A for Schneider Electric thermal relays.

Motor Power Coverage: From small motors (0.06 kW) to heavy-duty industrial motors (up to 5.5 kW or higher).

Reset Modes: Manual reset, automatic reset, or remote reset depending on the model. **Mounting:** Many relays mount directly onto contactors for compact installation (ABB TA2X series). **Protection Features:** Overheating, phase loss, abnormal load, and in some models, hazardous area compliance (ATEX).

Popular Models
ABB TA Series: TA2X range for 0.1–80 A, reliable and flexible, mounts on ABB contactors.
Motogard Series 150: Uses PTC thermistors with snap-action response for rugged environments.

Siemens SIRIU

S 3RN2: Thermistor-based, direct winding temperature monitoring, ATEX-approved.

Schneider Electric Thermal Relays: Manual or automatic reset, 0.11–16 A, suitable for small to medium motors.

Selection Considerations

When choosing an overheat relay protector, consider: Motor type and power rating
 Current range and trip accuracy
 Reset mechanism (manual vs automatic)
 Environmental conditions (hazardous areas, temperature extremes)
 Mounting compatibility with existing contactors or motor starters. By matching the relay type and specifications to your motor and operational requirements, you can ensure reliable protection, prevent downtime, and extend motor lifespan.

Article Content

Thermal Overload Relay Selection Guide: Heating Types & Reset Modes

Master thermal overload relay selection. Compare bimetallic vs. eutectic alloy technologies, understand Class 10/20/30 trip curves, and decide between manual vs. automatic reset

Thermal Overload Relays Information

Thermal overload relays are economic electromechanical protection devices for the main circuit. They offer reliable protection for motors in the event of overload or

NR8 Thermal Overload Relay Datasheet & Manual

What is the purpose of the NR8 Thermal Overload Relay? It protects three-phase AC motors from overload and phase loss, preventing overheating and equipment

Overload Relay Choices for Motor Protection

They are a cost-effective way to protect your electrical equipment investment. The solid state design of the CEP7 overload relay, offered in two models, provides ambient temperature compensation,

SIRIUS 3RN2 Relays brochure

With SIRIUS 3RN2, you can rest assured that production systems will be monitored reliably, even under difficult conditions. SIRIUS 3RN2 thermistor motor protection relays are the ideal choice, even for

Motor Protection Overload Relays

Protect your electrical circuits from overheating with Schneider Electric UK's thermal overload relays. Ensure safety and prevent equipment malfunctions with our

Motogard Relay Models

Motogard Over-Temperature Protection Systems provide immediate overheating protection for: motors, equipment enclosures, semiconductor heatsinks, sleeve bearings, and other related machinery.

Thermal overload relays

Thermal overload relays are economic electromechanical protection devices for the main circuit. They offer reliable protection for motors in the event of overload or phase failure. The thermal overload

J7TC Series Thermal overload relay/Features

New lineup of ON/OFF controllable Low Voltage Switching Gears supports total motor application, in addition to inverters and servos. Please click image to enlarge (open in a new window).

What is an Overheat Protection Device?

The overheat protector is an automatic control device that achieves equipment safety protection through temperature monitoring. Its core function is to cut off the circuit or trigger the

Overheat Protection and Thermal Class for Motors and Fans

AC Motors Some AC motors do not have an overheat protective function. They are designed so that, when combined with an inverter, overheat protection is provided by the electrothermal function of the

Thermal overload relays | EPPC | ABB

Hazardous area Thermal overload relays Motor protection for overload and phase failure Thermal overload relays are economic electromechanical protection devices for the main circuit. They offer

Comprehensive Guide to Overload Relays: Motor

This guide provides a detailed overview of overload relays, including their role in protecting motors from overheating, common causes of motor overload, key

Thermistor motor protection relays

The CM-MSx thermistor motor protection relays are used to monitor the temperature of motors equipped with PTC temperature sensors.

Reference Manual Protection Equipment

Short-circuit protection Fuses or motor starter protectors must be used for short-circuit protection. For assignments of the corresponding short-circuit protection devices to the 3RU11 thermal overload

Protection Relays | Mitsubishi Electric Automation

Motor Protection Relays without Phase Failure Protection Protects motors against overload and locked rotor, securing safe operation. Standard model complies with Japanese and many international

Thermal Overload Relays Information

Electrical Rating Relay electrical specs include current range, trip information, phase, and control voltage. Tripping is used to describe the circuit interrupting

Overload Relay

We offer high quality of Thermal Overload Relay that are highly sophisticated and efficient for Industrial purposes. For more, contact us.

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

