Redefining precision and reliability

Eaton’s complete line of monitoring and alternating relays
A complete family
A complete offering...

Eaton offers a complete line of logic components, including monitoring, alternating, general-purpose, machine tool and ground fault, and specialty relays, timers, power supplies and terminal blocks.

With a broad portfolio that includes everything from phase, voltage and current monitoring relays, to alternating relays for load optimization, Eaton offers the protection your system needs against premature equipment failure and danger to personnel caused by voltage faults, current conditions or excessive load requirements.

The breadth of relay options available, coupled with expansive motor control, logic and protection product lines, allows Eaton to show that it cares about your whole system, from control and protection, to wiring, termination and monitoring. If your application calls for a variety of logic components, remember that Eaton offers a broad range of standard products to meet almost any specification and the ability to customize those products to meet your specific application requirements. When you’re looking for a supplier you can trust, whose broad product offering will meet your machinery control needs, turn to Eaton.

Phase monitoring, D65 Series
Providing protection against voltage faults on three-phase systems, Eaton’s plug-in and surface-mount phase monitoring relays protect against a variety of voltage conditions.

- **Phase loss**
  Total loss of one or more of the three phases, and is also known as “single phasing.” It is typically caused by a blown fuse, broken wire or worn contact. This condition would result in a motor drawing locked rotor current during startup. In addition, a three-phase motor will continue to run after losing a phase, resulting in possible motor burnout.

- **Phase reversal**
  Reversing any two of the three-phases will cause a three-phase motor to run in the opposite direction, which may cause damage to machinery or injury to personnel. The condition usually occurs as a result of mistakes made during routine maintenance or when modifications are made to the circuit.

- **Phase unbalance**
  Unbalance of a three-phase system occurs when single-phase loads are connected so that one or two of the lines (phases) carry more or less of the load, causing motors to run at temperatures above approved ratings.

- **Undervoltage/overvoltage**
  When voltage in all three lines of a three-phase system drops/increases simultaneously.

Voltage monitoring, D65V Series
The monitoring of either AC single-phase (50/60 Hz) or DC voltages to protect equipment against voltage fault conditions can be achieved through the use of over/undervoltage or voltage band relays.

- **Overvoltage/undervoltage**
  Provide protection to equipment where either an overvoltage or undervoltage condition is potentially damaging. Overvoltage/undervoltage relays are designed to operate when the operating voltage reaches a preset value and drop out when the operating voltage drops to a level below the preset value.

- **Voltage band**
  Provide protection to equipment that is required to operate within an upper and lower voltage limit. As long as the operating voltage remains within an overvoltage and undervoltage range, the internal relay stays energized. If the operating voltage falls outside this range, the relay will drop out.
Current monitoring, D65C Series

Offering a reliable way to monitor AC single-phase currents for overcurrent or undercurrent conditions in three current ranges: 0.1–1 A, 0.5–5 A and 1–10 A. The current range can also be extended with the use of an external current transformer.

- **Standard (D65CE)**
  Can be used to detect either an overcurrent or undercurrent condition.

- **Overcurrent (D65CH)**
  Should be used to detect an overcurrent condition.

- **Undercurrent (D65CL)**
  Should be used to detect an undercurrent condition.

Alternating, D85 Series

Typically used in applications where the optimization of load usage is required, D85 alternating relays equalize the run time of two loads through the use of control switches (float switch, manual switch, timing relay, pressure switch, etc.). Each time the initiating switch is opened, the output relay contacts change state, thereby alternating the two loads. Also, in the case of excess load requirements, an alternating relay can be used to add additional capacity to the process.

Customization and custom-engineering

As with many products Eaton offers its customers, all of the monitoring and alternating relays in this extensive product portfolio are easily customized for specific application requirements—fixed settings (with or without knobs), remote adjustments, special pin configurations or performing a specific time delay function are just a few examples of the features available. If the standard product doesn’t meet your unique application needs, Eaton is committed to finding a solution. This is made easy as the many knowledgeable engineering and technical support engineers understand the intricacies of using these products in a wide variety of applications. They are committed to answering questions and tailoring solutions to fit your specific needs.

Your application requires specific solutions, designed to meet your exact specifications. Eaton prides itself on being able to solve your problems and keep your machinery and processes running efficiently and effectively by offering custom-engineered products that meet your specifications and project timing.

A true business partner designs application-specific solutions. No one does that better than Eaton.
At Eaton, we believe that power is a fundamental part of just about everything people do. Technology, transportation, energy and infrastructure—these are things the world relies on every day. That’s why Eaton is dedicated to helping our customers find new ways to manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. To improve people’s lives, the communities where we live and work, and the planet our future generations depend upon. Because that’s what really matters. And we’re here to make sure it works.

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