



Eaton inductors provide control and magnetic shielding in motor drivers for industrial automation

Motor control is critical for electric motors utilized in a host of industrial applications such as HVAC, assembly lines, conveyor systems, machine tools, booster pumps, refrigeration compressors, and control valves for pump flow. Suitable motor control allows for programmable start/stop operation, overload, short-circuit, overcurrent protection, automatic speed/torque regulation, and more.

Motor drivers act as interfaces between electric motors and their respective control circuits. They comprise a control board containing several chips or transistors that deliver the adequate current and voltages required to drive electric motors. These devices are widely used by standard machinery builders, warehouse automation/material handling systems builders, packaging machine builders, etc.

Essential requirements for industrial components include performance stability under a wide range of temperatures, the capability to withstand high shock and vibration, and low EMI. Other requirements are long lifetimes (many industrial automation systems have full duty cycles), tight tolerances, and compliance with international standards for electronic components (IEC, UL, NEMA, etc.).

Eaton DR inductors and VP inductors and transformers provide reliable motor power regulation and EMI shielding in motor driver systems for industrial automation.

Eaton's DR product line of inductors are compact footprint, high power density surface mount components. They offer inductances ranging from 0.33 μ H to 1000 μ H with peak current

rating ranging from 0.25 A to 56 A and frequency up to 1 MHz. Eaton DR inductors comprise ferrite core material in a shielded drum core construction.

When integrated into motor drivers, DR inductors can reliably shield electric motors from noise intrusion. They maintain excellent performance in operating temperatures anywhere from -40°C to $+125^{\circ}\text{C}$ (ambient plus self-temperature rise). Eaton DR inductors are manufactured using eco-friendly materials that help minimize the environmental impact of electronic waste. DR inductors are halogen and lead free and RoHS and REACH compliant.

Eaton VERSA-PAC® (VP) inductors and transformers are low-profile, high power density, surface mount components offering over 500 distinct transformer and inductance

configurations, depending on the pin connection layout on printed circuit boards (PCBs). Each product features a 6-winding construction and utilize ferrite core material.

Eaton VP inductors and transformers produce very low radiated noise with operating power from 1 W to 70 W and frequency up to 1 MHz. The VP transformers allow for reliable power step-up/step-down and conversion (AC/DC) in motor drivers that drive electric motors, and VP inductors ensure excellent EMI shielding in electric motors. Eaton VP inductors and transformers achieve excellent performance in operating temperatures anywhere from -40°C to $+125^{\circ}\text{C}$ (ambient plus self-temperature rise) and are RoHS and REACH compliant.

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