



Eaton power magnetics products ensure EMI shielding for industrial process control



Industrial automation refers to the use of process control systems such as microcontrollers, robots, IoT systems, and more to handle various industrial operations. The primary purposes are to increase the output and efficiency of processes while minimizing errors due to human involvement.

Automation systems for industry utilize control circuits made of several electronic components to control the operation of electromechanical devices that perform various industrial processes. At car manufacturing plants, for example, robotic arms perform precise and repetitive tasks, assembling the various parts of the vehicle along production lines.

High efficiency, temperature stability, and the ability to withstand high mechanical

shock and vibration are critical requirements for these components due to harsh industrial environments. Eaton FP, MPI, HCM and HPAL power inductors can help to achieve higher efficiency, excellent temperature, shock and vibration stability, and EMI shielding in CPU power and Auxiliary power systems for industrial automation.

Eaton's FLAT-PAC (FP) power inductors are surface mount high current components suitable for multi-phase power supplies, cell balancing systems, and voltage regulator modules (VRMs) for CPU and control systems for industrial process automation.

The FP family of inductors are made of high frequency, low loss ferrite core material and are suitable for high power density applications, offering low direct

current resistance (DCR) with tight tolerance requirement. FP inductors operate at temperatures from -40 °C to +125 °C with minimal core losses, have high saturation currents, and can withstand high mechanical shock and vibration.

The MPI family of inductors from Eaton are high current and high power density components in a compact low profile, surface mount package. MPI inductors have inductances ranging from 0.1 μH to 22 μH , making them ideal for DC-DC converters having frequencies up to 3 MHz. They also provide EMI filtering up to resonant frequencies.

With a rugged construction made of pressed powder core material, Eaton MPI inductors have excellent temperature stability (-55 °C to +125 °C) and can withstand high mechanical shock and vibration.

Eaton's HCM and HPAL inductors are similar to the FP and MPI inductor families, offering high power density and a robust operating temperature range (-55 °C to +125 °C) for industrial applications. They have the highest inductances of all three product families (0.10 μH to 47 μH). The HCM and HPAL inductors have a special anti-rusting agent that helps prevent surface rusting due to humid environments.

Eaton manufactures its FP, MPI, HCM and HPAL inductors with eco-friendly materials. All three product families are lead-free, halogen-free, and RoHS and REACH compliant.

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