

MCX E24 microcontrollers

MCX E24 industrial and IoT (IIoT) microcontrollers (MCUs) deliver reliable performance for harsh environments, featuring scalable connectivity options, advanced safety features and robust 5V architecture. Designed to ensure high reliability and safety, the 5V robust MCU series thrives in harsh electrical noise environments, making it ideal for safe appliances and industrial applications.

The MCX E24 MCUs expands on the Kinetis E family, featuring the familiar Arm® Cortex®-M4F core supporting 3V to 5V power supply and enhanced memory configurations—offering up to 2 MB of Flash and 256 KB of SRAM. These improvements ensure powerful, flexible performance across a variety of use cases.

Additionally, the MCX E24 offers multiple connectivity options for local networks, including CAN FD, 10/100 Mbps Ethernet audio and low-power serial communication, enabling seamless integration into diverse systems.

Target applications

- HVAC
- Heat pumps, heaters
- Boilers
- Hydraulic system control unit, power tools
- Home energy storage
- Electric power trains
- Factory automation

Accelerate IEC61508 safety certification

Equipped with integrated ECC on all flash and SRAM memories, as well as internal registers for complete data integrity, the MCX E24 is built for IEC 61508 systems up to SIL2. It incorporates advanced safety features, including program flow monitoring, clock and power supervision and latent fault detection.



These capabilities, combined with comprehensive safety documentation, facilitate the development and certification of IEC61508-compliant safety applications and related industrial safety standards. Additionally, IEC60730 pre-certified software libraries accelerate certification processes for Class B safe appliances.

Designed and qualified for industrial applications

The MCX E24 offers robust operation with both 3V and 5V power rails, optimized for environments with harsh electrical noise and compatible with designs utilizing 5V sensors. Fully qualified for industrial settings, it supports 24/7 operation over a 10-year lifetime and can withstand temperatures up to 125 °C.

Featuring 8 FlexTimers for PWM acquisition and generation, the MCX E24 efficiently drives consumer and industrial motors with low power consumption, aided by multiple power modes. It can be seamlessly paired with motor control add-on boards to explore motor control algorithms provided in the MCUXpresso SDK.

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