An Introduction to Freescale MCUs

For motor control

Freescale is a leading supplier of embedded controllers with a strong legacy of offering solutions for motor control applications. Our broad portfolio of MCUs spans across 8-, 16- and 32-bit platforms, featuring low-power, analog, control and communications hardware.

Freescale 8-bit HC(R)S08 MCU portfolio

Our portfolio of 8-bit MCUs provides a wide range of highly functional solutions for low- to mid-range industrial and automotive motor control applications. From tiny RS08 devices to highly functional S08 controllers combining timers and analog integration along with a range of connectivity and HMI peripherals, 8-bit MCUs are an ideal solution for simple, cost-sensitive motor control applications. Within the S08 family there is a wide range of 5-volt options that offer more durability and reliability in harsh industrial environments, meeting appliance safety standard IEC60730. Our 5-volt S08 families offer exceptional EFT/ESD performance.

16- and 32-bit DSCs

Freescale DSCs combine DSP speed with MCU control for the ideal industrial motion control solution. These flexible 16- and 32-bit devices are particularly well suited for electric motor control with timers and analog peripherals specifically designed to meet the requirements of the most demanding motor control application. With a range of solutions from cost-effective options in small flash and package combinations to highly integrated and optimized options, our DSC solutions can tailor almost any motor control application.

Kinetis MCUs Based on the 32-bit ARM® Cortex™-M Core

32-bit Kinetis MCUs represent the most scalable portfolio of ARM Cortex-M core-based MCUs in the industry. There are more than 300 MCUs in the portfolio spanning the entry-level Kinetis L MCUs based on the ARM Cortex™-M0+ core and Kinetis K series MCUs based on the ARM Cortex™-M4 core with IP compatibility across the range as well as pin compatibility across parts offered within the same portfolio. Enabled by innovative 90 nm thin film storage (TFS) flash technology with unique FlexMemory (configurable embedded EEPROM), Kinetis MCUs feature the latest low-power innovations and high-performance, high-precision mixed-signal capability. Kinetis MCUs are supported by market-leading enablement from Freescale and our ecosystem partners. The Kinetis line is suitable for a wide range of low- to mid-range motor control applications.

PX Series MCUs Based on the 32-bit Power Architecture® Core

The PX series of MCUs based on the Power Architecture core provide unmatched performance, comprehensive enablement and ruggedized safety features for the most complex industrial control applications, including motor drives, motion control, power generation, clinical medical, robotics and more. Options exist for both single- and multicore implementation with up to 600 DMIPS of performance. The family offers up to 4 MB of integrated flash memory, while an embedded safety architecture helps meet challenging safety, reliability and environmental requirements. Runtime software, a development platform for rapid prototyping, and advanced debug and system modelling tools ensure easy development. We offer 32-bit Qorivva MCUs based on Power Architecture technology specifically tailored for automotive applications, offering the same levels of performance and functionality.

It's More Than Just Silicon

Freescale is dedicated to providing semiconductor solutions that build value into your products. When you purchase from us, you're buying more than just an embedded processor. You're getting access to a broad ecosystem of technical support services, development tools and training—all designed to make your job easier and your end products better. In this brochure, you will learn more about the resources we are providing beyond our MCUs that you can harness through your design effort.

Our Commitment to Long-Term Supply

Freescale is committed to ensuring our products are available for our customers through the entire lifetime of their systems. To that extent, Freescale commits to a minimum product cycle of 10, and in some cases, 15 years for our MCUs targeting the industrial, automotive and medical markets. For product longevity terms and conditions, and to obtain a list of available products, visit **freescale.com/productlongevity**.

How to Reach Us:

For more information, visit freescale.com/motorcontrol