

KEIxZ: Arm® Cortex®-M0+ 5V Main Stream MCU with NXP Touch and CAN Control

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KEIxZ MCUs are based on the Arm®Cortex®-M0+ core, running up to 96 MHz. These MCUs support up to 512 KB flash, 96 KB RAM, and a complete set of analog/digital features. The robust TSI module with up to 50 channels provides a high level of stability and accuracy to any HMI system. The 1-Msps ADC and FlexTimer modules provide an ideal solution for BLDC motor-control systems.

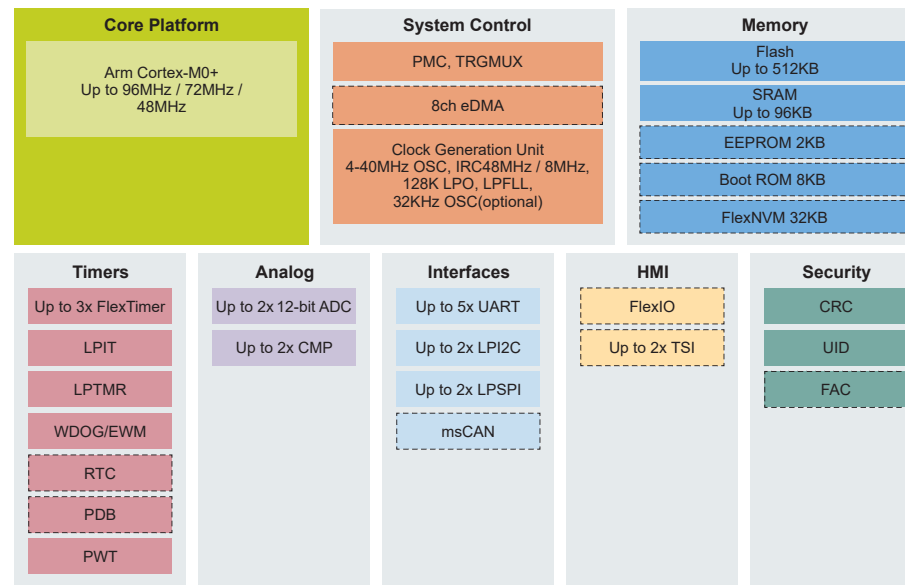
The MSCAN IP is ideal for the CAN node control and auto after car market applications.

This device is fully supported by NXP's MCUXpresso Software and Tools ([/design/design-center/software/development-software/mcuxpresso-software-and-tools-:MCUXPRESSO](#)), a comprehensive and cohesive set of free software development tools for Kinetis, LPC and i.MX RT microcontrollers. MCUXpresso SDK also includes project files for Keil MDK and IAR Embedded Workbench for Arm.

Product Details

Block Diagram

Kinetis KE1xZ MCU Family



Available on certain products within the family

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Features

- Up to 96 MHz Cortex-M0+ core supporting a broad range of processing bandwidth requirements while maintaining excellent cost-effectiveness, easy to use packages and a wide range of memory densities
- Enhanced robust IOs make sure the high performance under noisy environment

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- Implementation of CAN protocol – Version 2.0A/B, support both standards and extended data frames, up to 1Mbps data rate



FlexIO featured up to 8ch PWM supports 3-phase motor control with dead time insertion and fault detect
 (//www.nxp.com) **KE1xZ: Arm® Cortex®-M0+ 5V Main Stream MCU with NXP Touch and CAN Control**

- 1MSPS 12b ADC with up to 24ch input per module provides fast sampling rate for prompt data conversion and storage
- Analog comparator for fast response to external analog change
- Programmable delay block with flexible trigger system providing various interconnections for on-chip modules, ADC, DAC, FlexTimers, CMP, etc
- FlexIO provides flexibility for serial communication interface implementation
- Boot ROM provides on-chip boot code and serial port drivers that could save flash space and provide flexible boot options and in system programming support
- Faster time to market with comprehensive enablement solutions, including SDK (drivers, libraries, stacks), IDE, bootloader, RTOS, online community and more
- Supported by MCUXpresso SDK, IDE and Config Tools

Part numbers include: MKE12Z128VLF7, MKE12Z128VLH7, MKE12Z128VLL7, MKE12Z256VLF7, MKE12Z256VLH7, MKE12Z256VLL7, MKE12Z512VLH9, MKE12Z512VLL9, MKE13Z128VLF7, MKE13Z128VLH7, MKE13Z128VLL7, MKE13Z256VLF7, MKE13Z256VLH7, MKE13Z256VLL7, MKE13Z512VLH9, MKE13Z512VLL9, MKE14Z128VLH7, MKE14Z128VLL7, MKE14Z256VLH7, MKE14Z256VLL7, MKE14Z32VFP4, MKE14Z32VLD4, MKE14Z32VLF4, MKE14Z64VFP4, MKE14Z64VLD4, MKE14Z64VLF4, MKE15Z128VLH7, MKE15Z128VLL7, MKE15Z256VLH7, MKE15Z256VLL7, MKE15Z32VFP4, MKE15Z32VLD4, MKE15Z32VLF4, MKE15Z64VFP4, MKE15Z64VLD4, MKE15Z64VLF4, MKE16Z32VLD4, MKE16Z32VLF4, MKE16Z64VLD4, MKE16Z64VLF4, MKE17Z128VLF7, MKE17Z128VLH7, MKE17Z128VLL7, MKE17Z256VLF7, MKE17Z256VLH7, MKE17Z256VLL7, MKE17Z512VLH9, MKE17Z512VLL9.

Less ^

Applications

Automotive

Heating Ventilation and Air Conditioning (HVAC)
(/applications/automotive/body-and-vehicle-control/hvac:HEATING-VENTILATION-AIR-CONDITIONING)

Motorcycle Engine Control Unit (ECU) and Small Engine Control
(/applications/industrial/aerospace-and-mobile-robotics/motorcycle-engine-control-unit-ecu-and-small-engine-control:MOTORCYCLE-ECU-SMALL-ENGINE-CONTROL)

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Industrial

3-Phase AC Induction Motor (/applications/industrial/aerospace-and-mobile-robotics/3-phase-ac-induction-motor:AC-MOTORS)

Air Conditioning (AC) (/applications/smart-home/smart-appliance/air-conditioning-ac:AIR-CONDITIONING)

Automotive Gas Meter (/applications/industrial/power-and-energy/automotive-gas-meter:GAS-METER)

Brushless DC Motor (BLDC) Control (/applications/industrial/aerospace-and-mobile-robotics/brushless-dc-motor-bldc-control:BRUSHLESS-DC-MOTORS)

Building Safety (/applications/industrial/building-control/building-safety:BUILDING-SAFETY)

Circuit breaker

Electricity Grid and Distribution (/applications/industrial/power-and-energy/electricity-grid-and-distribution:ELECTRICITY-GRID-DISTRIBUTION)

Electricity Meter (/applications/industrial/power-and-energy/electricity-meter:ELECTRICITY-METER)

General 5V applications

Heat Metering (/applications/industrial/power-and-energy/heat-metering:HEAT-METERING)

Mobile

Hearables (/applications/mobile/wearables/hearables:HEARABLES)

Smart Watch (/applications/mobile/wearables/smart-watch:SMARTWATCH)

Smart City

Automatic Vehicle Identification (/applications/smart-city/transportation/automatic-vehicle-identification:AUTOMATIC-VEHICLE-ID)

Motion Control and Robotics (/applications/industrial/aerospace-and-mobile-robotics/motion-control-and-robotics:MOTION-CONTROL-ROBOTICS)

Motor Drives (/applications/industrial/factory-automation/motor-drives:MOTOR-DRIVES)

Motor/inverter control

Permanent Magnet Synchronous Motor (PMSM)
(/applications/industrial/aerospace-and-mobile-robotics/pmsm:PMSM-MOTORS)

Smart Lighting (/applications/smart-city/infrastructure/smart-lighting:SMART-LIGHTING-ASP)

Smart Power Socket and Light Switch (/applications/smart-home/home-control-and-security/smart-power-socket-and-light-switch:SMART-POWER-SOCKET-LIGHT)

Surround View (/pages/surround-view-:SURROUND-VIEW-PARK-ASSIST-SYSTEM)

Water Meter (/applications/industrial/power-and-energy/water-meter:WATER-METER)

Wristband (/applications/mobile/wearables/wristband:WRISTBAND)

Transport Ticketing (/applications/smart-city/transportation/transport-ticketing:TRANSPORT-TICKETING)

Smart Home

Home Control Panel (/applications/smart-home/smart-appliance/home-control-panel:HOME-CONTROL-PANEL)

Major Home Appliances (/applications/smart-home/smart-appliance/major-home-appliances:MAJOR-HOME-APPLIANCE)

Home Security and Surveillance (/applications/smart-home/home-security-and-surveillance:HOME-SECURITY-SURVEILLANCE)

Robotic Appliances (/applications/smart-home/smart-appliance/robotic-appliance:ROBOTIC-APPLIANCE)

Small and Medium Appliances (/applications/smart-home/smart-appliance/small-and-medium-appliances:SMALL-MEDIUM-APPLIANCE)

Documentation

Quick reference to our documentation types (/design/documentation/nxp-technical-documentation:NXP-TECHNICAL-DOCUMENTATION).

NXP (37)

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DATA SHEET

Kinetis KE17Z/13Z/12Z with up to 256 KB Flash (/docs/en/data-sheet/KE1xZP100M72SF1.pdf)

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DATA SHEET

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