

ELECTRONICA 2022

## MCUs for industrial applications with up to 10 CAN FD interfaces

At Electronica 2022, Infineon Technologies launched the XMC7000 micro-controller unit (MCU) family with up to 10 CAN FD interfaces. It is suitable for industrial applications including industrial drives, electrical vehicle (EV) charging, two-wheel electrical vehicles, and robotics.



The XMC7000 family is available now and is shown at Electronica 2022 (Source: Infineon)

The MCU series offers single and dual core options of 350-MHz 32-bit Arm Cortex-M7 and a 100-MHz 32-bit Arm Cortex-M0+, up to 8 MiB of embedded flash and 1 MiB of on-chip SRAM. The products operate from 2,7 V to 5,5 V and from -40 °C to +125 °C. It is suitable for power-critical applications based on its low-power modes, down to 8  $\mu$ A.

“Today’s modern industrial devices require increased compute performance and peripherals without compromising quality and robustness,” said Steve Tateosian, Vice President of Internet of Things, Compute, and Wireless Business Unit of Infineon. “Infineon’s new XMC7000 devices deliver on these requirements, specifically with the company’s system level expertise with software and tools for the industrial market. As a leader in micro-controllers, we are excited to extend this new family with innovative features for tomorrow’s industrial applications.”

The MCU family is an extension of the industrial control focused XMC family of MCUs with the added XMC7100 and XMC7200.

The XMC7100 includes 4 MiB Flash, 768 KiB RAM, and 250 MHz. The XMC7200 includes 8 MiB Flash, 1 MiB RAM, 350 MHz single- or dual-core in a 176-pin QFP or 272-pin BGA package.

### Up to 10 CAN FD channels

The XMC7000 is the latest device in Infineon’s industrial micro-controller portfolio, equipped with peripherals such as CAN FD to increase flexibility and to offer added value to the designer, explained the company. The product’s architecture is built on a 40-nm embedded flash process technology.

The XMC7100 provides up to eight and the XMC7200 up to 10 CAN FD channels. Both are compliant with ISO 11898-1:2015, support the requirements of Bosch CAN FD Specification version 1.0 for non-ISO CAN FD, and come with an available ISO 16845:2015 certificate.

The XMC7100 contains two CAN FD controller blocks, each supporting four CAN FD channels. The XMC7200 contains two CAN FD controller blocks, each supporting five CAN FD channels. All CAN FD controllers are compliant with the ISO 11898-1:2015 standard; an ISO 16845:2015 certificate is available. It also implements the time-triggered CAN (TTCAN) protocol specified in ISO 11898-4 (TTCAN protocol levels 1 and 2) completely in hardware. All functions concerning the handling of messages are implemented by the Rx and Tx handlers. The Rx handler manages message acceptance filtering, transfer of received messages from the CAN core to a message RAM, and provides receive-message status. The Tx handler is responsible for the transfer of transmit messages from the message RAM to the CAN core, and provides transmit-message status.

The MCUs are compatible with Infineon’s latest Modustoolbox 3.0 development platform which enables use cases including industrial, robotics, EV charging and other applications. The Modustoolbox 3.0 is compatible for embedded applications using Infineon products including PSoC, Airoc, Wi-Fi, Airoc Bluetooth, and EZ-PD PMG1 micro-controllers.

At the Electronica 2022 tradeshow in Munich, Germany, Infineon presents their solutions in hall C3, booth 502. Semiconductors contribute to the green and digital transformation in many ways and are at the heart of every networked application, stated the company.

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