

Industrial Automation Solutions

Industrial Communication with Sitara™ AM335x ARM® Cortex™-A8 Microprocessors

Design Fact Sheet



Overview

The Sitara™ AM335x ARM® Cortex™-A8 microprocessors from Texas Instruments Incorporated (TI) are the industry's first low-power ARM Cortex-A8 devices to incorporate multiple industrial communication protocols on a single chip. The six pin-to-pin and software-compatible devices in this generation of processors, along with industrial hardware development tools, software and analog complements, provide a total industrial system solution. Using this solution, developers can get to market faster with their industrial automation designs, including input/output (I/O) devices, human machine interface (HMI) and programmable logic controllers (PLCs).

Supported industrial communication protocols and applications

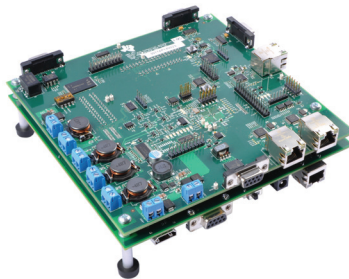
The Sitara AM335x ARM Cortex-A8 microprocessors include a programmable real-time unit (PRU) interface created specifically to enable real-time industrial communications capability (master and slave) supporting popular protocols:

Designers can take advantage of the pin-to-pin and software compatibility of the Sitara AM335x ARM Cortex-A8 microprocessors and design several end equipments with the devices that best fit their industrial automation need, such as:



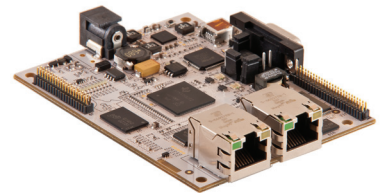
- **Drives and I/O-level devices:** AM3357 and AM3356 ARM microprocessors offer a low-performance 275-MHz solution
- **Industrial PLC applications:** AM3357 and AM3359 ARM microprocessors offer high performance up to 720 MHz
- **HMI products:** AM3354, AM3358 and AM3359 ARM microprocessors offer an on-chip 3D graphics accelerator

Industrial communication tools and software



▲ Industrial Development Kit available for \$895 USD.

- **AM3359 Industrial Development Kit (IDK)** (TMDXIDK3359) from TI is available for \$895 USD. The IDK is an extensive development platform enabling customers to evaluate all popular industrial communications and motor control applications. IDK has many different evaluation features such as 512 MB of DDR2 memory, dual motor drivers, digital I/O, a C2000™ Piccolo™ microcontroller with integrated analog-to-digital converters, a Stellaris® ARM Cortex-M3 microcontroller, USB, Ethernet, SPI, I²C and much more.
- **AM3359 Industrial Communications Engine (ICE)** (TMDXICE3359) from TI is



▲ Industrial Communications Engine available for \$99 USD.

available for \$99 USD. It is a pocket-sized, cost-optimized and form-factor optimized reference design for I/O devices and sensors needing to add industrial communications quickly and easily.

- **AM335x Evaluation Module (EVM)** (TMDXEV3358) from TI is available for \$995 USD. The EVM is perfect for HMI products and includes a 7" LCD touch-screen as well as other needed industrial interfaces and drivers.

Free, production-ready, certified system solution software for industrial automation protocols, including:

- Industrial design-specific demos and collateral
- Applications notes
- Videos to make development easy
- Physical and data link layer implementations of many industrial communications
- Software frameworks for SYS/BIOS™ real-time kernel
- Applications stacks for industrial communication standards

For more information

To learn more about TI's industrial communication devices, please visit www.ti.com/automation.

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