AM3359 Industrial Communications Engine (ICE) Status: ACTIVE

TMDXICE3359

Description/Features Technical Documents Support & Community Order Now

Description

The AM3359 Industrial Communications Engine (ICE) is a development platform targeted for systems that specifically focus on the industrial communications capabilities of the Sitara AM335x generation of ARM® Cortex™-A8 microprocessors (MPUs).

The AM335x ARM Cortex-A8 microprocessors integrate the Programmable Real-time Unit (PRU) that has been architected to implement the real-time communication technologies used in a broad range of industrial automation equipment. It enables low foot print designs with minimal external components and with best in class low power performance.

The AM3359 ARM MPU based ICE enables customers to easily incorporate industrial communication standards such as EtherCAT, PROFIBUS, Ethernet/IP, PROFINET, POWERLINK, SERCOS-III, CANOpen, and more in their industrial automation products. The ICE includes the hardware and software resources required for physical and data link layer implementations for several industrial communications standards and allows customers to focus on application level aspects of their systems. To further simplify the developmental activities, the ICE also includes copies of software frameworks such as the SYS/BIOS real-time kernel, application stacks for industrial communication standards, and sample applications that enable compelling demonstrations of the capabilities of the ICE. Complete software tool chain is included to jump start software development efforts and worldwide technical support is available to help with any future needs.

Target Applications

The ICE hardware and included software is designed to help integrate the industrial communications interfaces in a broad range of industrial systems. Some of these are listed below.

- Industrial communication modules
- Industrial communication interfaces for sensors and input/output (I/O) systems
- Industrial communication gateways
- Industrial drives with integrated communications
- Motor feedback systems

Block Diagram

A high level block diagram of the Industrial Communications Engine is shown to the right provides an overview connectivity options available on the ICE.

Features

Hardware Specifications

- Processor
  - Sitara AM3359 ARM Cortex-A8 MPU
- Memory
  - Serial SPI Flash
  - NOR Flash
  - Dual-port RAM (optional)
  - Micro-SD
- Industrial interfaces
  - PROFIBUS
  - CAN
  - Ethernet interfaces for real-time Ethernet
- Connectivity
  - SPI
  - UART
  - Parallel I/O to dual port RAM (optional)
- Debug
  - JTAG via USB port
  - Debug UART via USB port

Software and Tools

The software components included in the ICE are listed below:

- Open source SYS/BIOS real-time kernel with boot loader
- Starter-ware library of peripheral drivers
- Sample industrial input/output applications over communication protocols such as PROFIBUS and EtherCAT
- Evaluation versions of stacks for industrial communication protocols such as PROFIBUS and EtherCAT to facilitate software development
- Code Composer Studio integrated development environment (IDE) v5
- Code Composer Studio integrated development environment (IDE) v5.x

System Requirements

For evaluation of sample industrial applications:

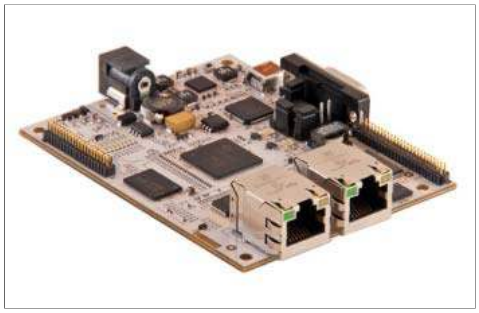
- AM3359 Industrial Communications Engine(ICE)
- EtherCAT/PROIBUS master/PLC equipment to communication with the TI ICE (not included)
- Power supply
- Cables

For development of customer application:

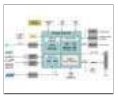
- AM3359 Industrial Communications Engine(ICE)
- Windows XP/7 based workstation
- Industrial Software Development Kit (download available on the Industrial SDK page)
- Code Composer Studio IDE v5.x (download available on the CCS download page)
- Power supply
- Cables

What's Included

Ethernet Cable
ICE circuit board
Power supply (24V) with universal pin adapter and power cables
Quick Start Guide
USB Cable



TMDXICE3359 board

Order Now

Part Number	Texas Instruments	Status	Price (US$)	Host	OS	Current Version	Version Date
TMDXICE3359: AM3359 Industrial Communications Engine (ICE)	TI eStore	ACTIVE		PC	Microsoft - Windows XP/7	v1.0	22 NOV 2011

Technical Documents

White Papers (2)

Title	Abstract	Type	Size (KB)	Date	Views
EtherCAT® on Sitara™ AM335x ARM® Cortex™-A8 Microprocessors (Rev. B)		PDF	605	17 Jan 2012	4,046
Profibus on AM335x and AM1810 Sitara ARM Microprocessor White Paper (Rev. A)		PDF	2679	17 Nov 2011	2,515

More Literature (4)

Title	Abstract	Type	Size (KB)	Date	Views
ARM MPU AM3359 Industrial Communications Engine (ICE) Layout		ZIP	2198	17 Jan 2012	114
ARM MPU AM3359 Industrial Communications Engine (ICE) Schematic		ZIP	688	17 Jan 2012	180
TI simplifies industrial designs with multiple, on-chip industrial communication (Rev. A)		PDF	721	21 Nov 2011	2,743
Industrial Communication Design Fact Sheet		PDF	386	17 Nov 2011	2,721

Related Products

Name	Part Number	Tool Type
Code Composer Studio (CCStudio) Integrated Development Environment (IDE) v5	CCSTUDIO	Code Composer Studio(TM) IDE
AM3359 Industrial Development Kit (IDK)	TMDXIDK3359	Development Platforms

Name	Part Number	Software Type
Sitara™ SYS/BIOS Industrial Software Development Kit (SDK) for ARM® Cortex™ A8 based Processors	SYSBIOSSDK-IND-SITARA	Software Development Kit (SDK)

Part Number	Name	Product Family
AM3359	ARM Cortex-A8 Microprocessor	Sitara ARM Cortex-A8 and ARM9 Microprocessors

Videos

New Sitara(TM) AM335x ARM(R) Industrial development platform

Learn about how Texas Instruments is making the development for industrial applications on the Sitara(TM) AM335x ARM(R) Cortex(TM)-A8 microprocessor quick and easy. To get to production quickly, customers need complete certified system solutions and development

Posted: 21-Nov-2011

Duration: 2:56

Views: 439

Tags: sitara, am335x, arm, cortex-a8, am3359, am3357, idk, ice, industrial communications, plc, motor control, ethercat,

Evaluate TI's full-featured application development platform featuring Sitara™ AM335x

Related Videos

New Sitara(TM) AM335x ARM(R) Industrial development platform

AM335x ARM(R) MPUs - simplifying industrial designs

Support and Community

Blogs

Develop on the next generation MSP430 for single-phase metering applications

The MSP430F673x/F672x series is the first MSP430 SoC to target utility metering with a 24-bit Sigma-delta converter, industry's largest 320-segment LCD controller and battery backup system. Did we say industry's largest segmented LCD controller...

Posted to Smart Grid Blog on 25 Jan 2012
smart grid, microcontroller, MSP430, MCU, microcontrollers, 430, Software, development tools, single-phase, MSP 430

Develop on the next generation MSP430 for single-phase metering applications

The MSP430F673x/F672x series is the first MSP430 SoC to target utility metering with a 24-bit Sigma-delta converter, industry's largest 320-segment LCD controller and battery backup system. Did we say industry's largest segmented LCD controller...

Posted to The Official MSP430 Blog on 24 Jan 2012
MCU, Microcontroller, MSP430, MSP 430, 430, Software, development tools, microcontrollers, smart grid, single-phase

C3P-Ho-Ho-Ho: MSP430 powers a holiday sound and light show

Check out this post from our friends over at hackaday.com. It seems Zach, a Hackaday hobbyist and MSP430 fan, figured out a way to program an MSP430 to operate the lights on his Christmas tree in response to the notes of the "Star Wars Main Theme"...

Posted to The Official MSP430 Blog on 22 Dec 2011
MSP430, development tools, msp430f2012

See more blogs

Customer Tags

No Tags are Available for this Part Number

Create a Tag