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Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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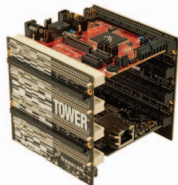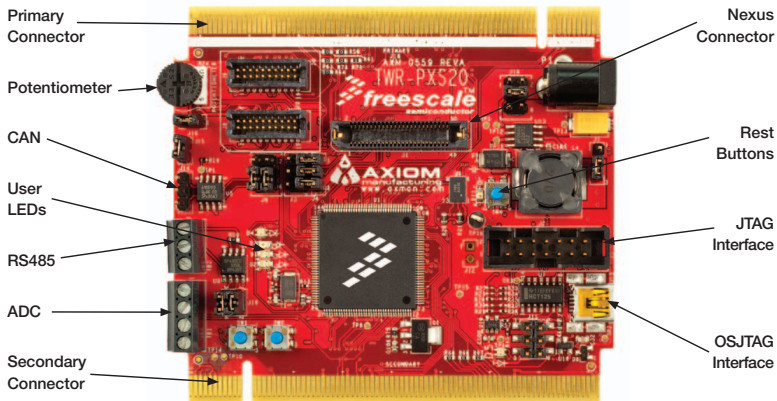
Quick Start Guide

TWR-PXS2010
Dual Core Power Architecture MCU for
Industrial Control and Safety Applications

![freescale logo]

Get to Know the TWR-PXS2010

Primary
Connector

Potentiometer

CAN

User
LEDs

RS485

ADC

Secondary
Connector

Nexus
Connector

Rest
Buttons

JTAG
Interface

OSJTAG
Interface

TWR-PXS2010
Freescale Tower System

The TWR-PXS2010 module is part of the Freescale Tower System portfolio,
a modular development platform that enables rapid prototyping and tool re-use
through reconfigurable hardware. Elevate your design to the next level with this
industrial power house by building your Tower System today.

TWR-PXS2010 Features

- Dual e200z4 CPU architecture
- Dual processing spheres including: CPU, DMA, interrupt controller, crossbar and MPU for logic level fault detection
- Two statically configurable modes of operation: Lockstep operation (redundant processing and calculations) and Dual Parallel Mode (independent core operation)
- Fault Collection Unit, which monitors and manages fault events
- Error correction coding on RAM and flash memory allows detection/correction of memory errors
- Designed to address safety requirements outlined in IEC61508 (SIL3)
- A SafeAssure Solution

SafeAssure Program:
Functional Safety. Simplified.

Freescale's SafeAssure functional safety program is designed to help system manufacturers more easily achieve system compliance with functional safety standards: International Standards Organization (ISO) 26262 and International Electrotechnical Commission (IEC) 61508. The program highlights Freescale solutions —hardware and software—that are optimally designed to support functional safety implementations and come with a rich set of enablement collateral.
For more information, go to: **freescale.com/safeassure**

Step-by-Step Installation Instructions

In this quick start guide, you will learn how to set up the TWR-PXS2010 module and run the included demonstration software. For more detailed information, please see the user manual found on the included DVD or at **freescale.com/TWR-PXS20**.

1 Connecting TWR-SER

Insert the TWR-PXS2010 and TWR-SER boards into the primary and secondary elevator board. The "primary" and "secondary" cards for each module are indicated along the card edges.

2 Powering TWR-PXS2010

Connect the TWR-PXS2010 board to a computer or a wall charger using the provided USB cable. Additionally, the USB connector on the primary elevator or OSJTAG connector can be used to power up the board.

3 Using the Serial to USB Bridge

The Freescale MC9S08JM60 serial to USB bridge solution provides a RS-232 equivalent connection to the host computer through the USB communications device class. When plugged in and powered, the USB connection will enumerate as a COM port on the PC. To determine the COM port number for the connection, right click on the My Computer icon and select "Manage," click Device Manager, find and expand ports (COM and LPT).

Note: For Windows XP 64 bit users please connect DB9 connector to the TWR-SER card.

4 Installing the Software Driver

When the cable is plugged in for the first time, the Found New Hardware Wizard will start. Select the option Install from a list or specific location (Advanced), then select "Next." Select the CDC Virtual Serial Port Folder which is available on the DVD or at **freescale.com/TWR-PXS20**. The Wizard will find the updated driver within the folder and install it.

5 Configuring a Communication Terminal

Open Microsoft HyperTerminal or a terminal program of your choice. Create a new connection and use the COM port from step 4. Use the following settings:

- Bits per Second: 115200
- Data Bits: 8
- Parity: None
- Stop Bit: 1
- Flow Control: None

6 Running Demonstration Code

Press the RESET button on the board and follow the output information on the terminal screen. The installed program will display example outputs from the device and allow you to interact with the user buttons and board LEDs.

Additional Software and Tools

- MQX Real Time OS
- Green Hills Software MULTI IDE
- Serial Bootloader Utility
- CodeWarrior v10.x Eclipse Development Studio
- OSJTAG Virtual Serial Port Using USB
- Rapid Application Initialization And Documentation Tool (RAppID)
- FreeMASTER Run-time Debugging Tool

TWR-PXS2010 Jumper Options

The following is a list of all jumper options. The default installed jumper settings are shown in white text within the blue boxes.

General Jumper Configuration

Jumper	Function
J15	Enable/Disable CAN terminator resistor
J10	Enable/Disable potentiometer
J12	Enable/Disable OSJTAG interface bootloader mode
J19	Enable/Disable RS485 half duplex control lines

Power Supply

Jumper	Position	Function
J5	1-2	3.3 voltage is coming directly from the 3.3 voltage regulator on the primary elevator
	2-3	3.3 voltage provided by on-board circuitry

Boot Assistance Module (BAM) Configuration

Jumper	Position	Function
J3	1-2	FAB connected to VDD
	3-4	ABS0 connected to VDD
	5-6	ABS1 connected to VDD
J4	J4-1, J3-2	FAB connected to GND
	J4-2, J3-4	ABS0 connected to GND
	J4-3, J3-6	ABS1 connected to GND

CAN Configuration

Jumper	Position	Function
J6	2-4 & 1-3	CAN0 is connected to CAN0 module on primary elevator
	4-6 & 3-5	CAN0 is connected to the on-board CAN transceiver

Visit **freescale.com/TWR-PXS20** for the latest information on the TWR-PXS20 module, including:

- Board database: schematics, layout and BOM
- User manual
- Quick start guide
- Software BSPs and CodeWarrior
- Demos and tutorial
- Fact sheet

Support

Visit **freescale.com/support** for a list of phone numbers within your region.

Warranty

Visit **freescale.com/warranty** for complete warranty information.

For more information, visit freescale.com/Tower

Join the online Tower community at towergeeks.org