Quick Start Guide

TWR-S12G240
Scalable Platform for
Automotive Applications

freescale

Get to Know the TWR-S12G240

Primary Connector

External BDM Connector

CAN Connector

LIN Connectors

Secondary Connector

On-Board OSBDM

Serial Port (DB9 converter cable included)

LEDs

Push Buttons

Potentiometer

Optional External Power Supply
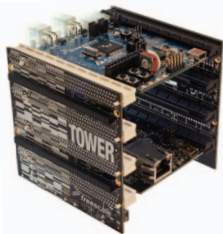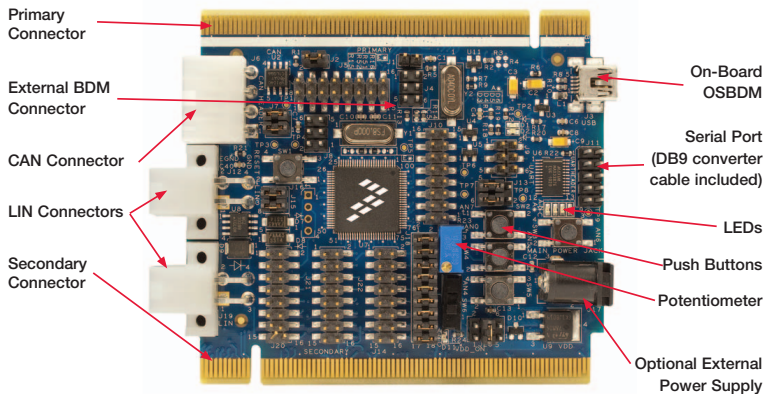
TWR-S12G240
Freescale Tower System

The TWR-S12G240 module is a single board computer as well as part of the Freescale Tower System, a modular development platform that enables rapid prototyping and tool re-use through reconfigurable hardware. Elevate your design to the next level and begin constructing your Tower System today.

TWR-S12G240 Features

- S12G240 series microcontroller (100-pin LQFP)

- On-board JTAG connection via open source OSBDM circuit using the MC9S08JM60 microcontroller

  - See **pemicro.com/osbdm** for source code

- High-speed CAN interface

- LIN interface

- Potentiometer with LP filter

- LED indicators

- RS-232 serial communication interface

- Support for USB Multilink Interface BDM

Step-by-Step Installation Instructions

In this quick start guide, you will learn how to set up the TWR-S12G240 board and run the default exercise.

1 Install Software and Tools

Install CodeWarrior Development Studio for S12 V5.1 or later

A 30-day evaluation license of CodeWarrior is included on the DVD for your convenience. For updates, please visit **freescale.com/TWR-S12G240**.

2 Connect the USB Cable

Connect one end of the USB cable to the PC and the other end to the mini-B connector on the TWR-S12G240 board. Allow the PC to automatically configure the USB drivers if needed.

3 Using the Example Project

The pre-loaded example project utilizes the TWR-S12G240's potentiometer, push button switches and LEDs. Once the board is plugged in you can adjust the potentiometer and the bank of four LEDs should illuminate/de-illuminate in response. Each LED will toggle when the corresponding push button is pressed.

4 Learn More About the S12G240

Read the release notes and documentation on the DVD and at **freescale.com/S12G240**.

• The Processor Expert graphical initialization software included in your CodeWarrior installation will help reduce your time to market

• CodeWarrior for S12 with examples

TWR-S12G240 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.

Jumper	Option	Setting	Description
J1	USB to BDM Interface	**1-2**	Drives IRQ/TPMCLK to ground
J2	CAN Enable	**1-2**	Enables CAN
J7	CANH - L	1-2	SPLIT termination to CAN-L line
		3-4	SPLIT termination to CAN-H line
J13	UART/LIN TRANSCEIVER	1-3	Connects PS1/TXD0 PS0 to TXD_LIN of LIN tranceiver
		3-5	Connects PS1/TXD0 PS0 to T1in of RS-232 tranceiver
		2-4	Connects PS0/RXD0 PS1 to RXD_LIN pf LIN tranceiver
		4-6	Connects PS0/RXD0 PS1 to R1 out of RS-232 tranceiver
J15	LIN INTERFACE	**1-2**	Drives LIN V+ to J12 and J19 pin 3 plugs. Supply to other nodes
		3-4	LIN tranceiver set as Master node

(continued from previous page)

Jumper	Option	Setting	Description
J18	USER SWs and LED Selection	**1-2**	Connect PAD4 pin to SW5
		3-4	Connect PAD5 pin to SW4
		5-6	Connect PAD6 pin to SW3
		7-8	Connect PAD7 pin to SW2
		9-10	Connect PAD0 to R23 potentiometer
		11-12	Connect PT4 pin to D3 LED
		13-14	Connect PT5 pin to D4 LED
		15-16	Connect PT6 pin to D5 LED
		17-18	Connect PT7 pin to D6 LED
J23	POWER Selection	**1-2**	Selects the board to be powered from the 3.3V elevator card rail
		3-4	Selects the board to be powered from the 5V USB connector
		5-6	External source selected as power source

Visit **freescale.com/TWR-S12G240** for information on the TWR-S12G240, including:

• TWR-S12G240 quick start guide
• TWR-S12G240 board schematics

For more information, visit freescale.com/Tower

Join the online Tower community at towergeeks.org