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Guide for TWR-S12GN32

TOWER SYSTEM

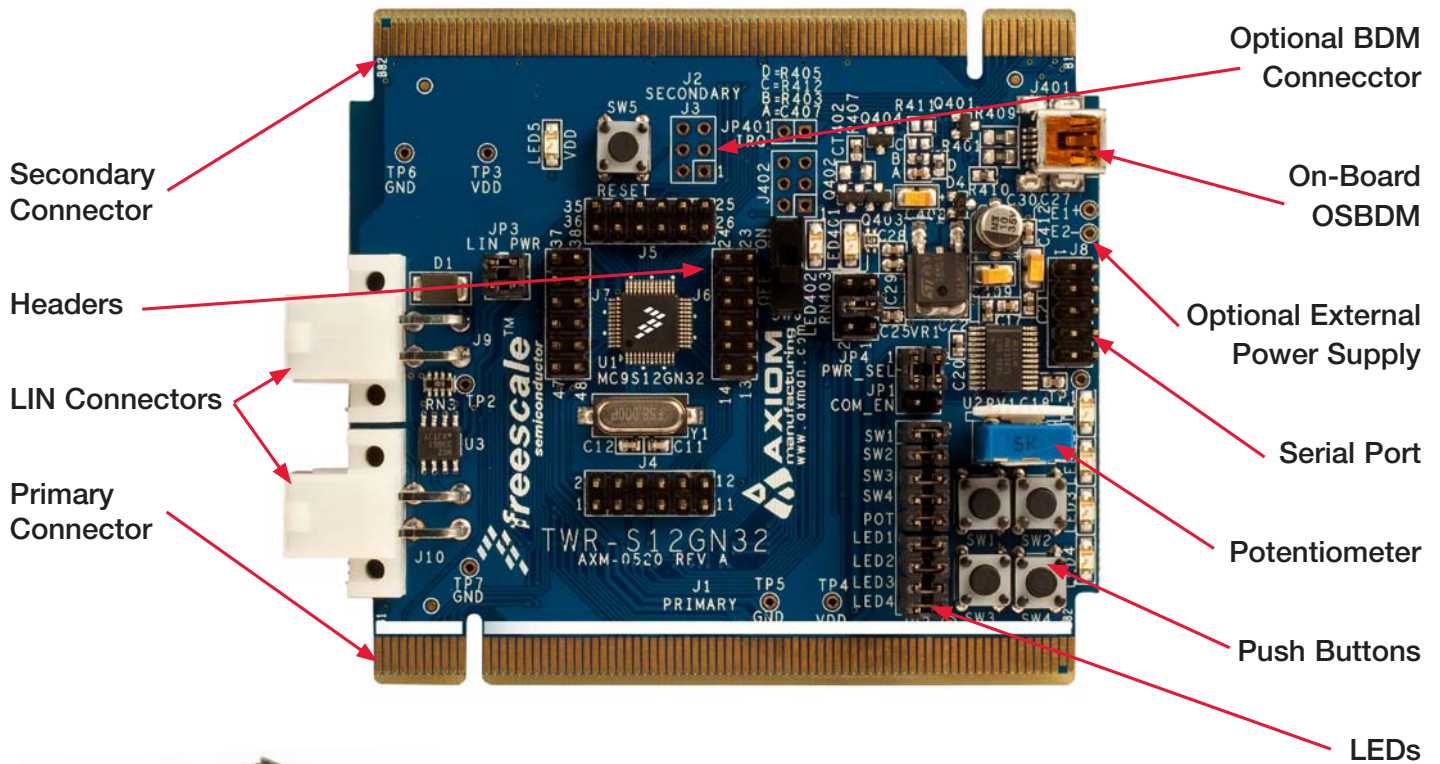


TWR-S12GN32

Scalable platform for automotive applications



Get to Know the TWR-S12GN32



TWR-S12GN32 Freescale Tower System

The TWR-S12GN32 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-S12GN32 Features

- S12GN32 series microcontroller (48-pin LQFP)
- On-board JTAG connection via open source OSBDM circuit using the MPC9S08JM 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

Step-by-Step Installation Instructions

In this Quick Start Guide, you will learn how to set up the TWR-S12GN32 board and run the default exercise.

STEP 1 Install Software and Tools

- Install CodeWarrior Development Studio for S12 v5.1 or later

A 30 evaluation license of CodeWarrior is included on the DVD for your convenience. For updates, please visit freescale.com/TWR-S12GN32.

STEP 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-S12GN32 board. Allow the PC to automatically configure the USB drivers if needed.



Using the Example Project

The pre-loaded example utilizes the TWR-S12GN32's push button switches, serial communications interface and LEDs. Once the board is plugged in you can control the bank of four LEDs by pushing one of the four on-board push buttons (SW1-4). Connect the included serial adapter to J8 and start a terminal in your computer (9600 bauds, eight data bits, one stop bit, no parity). You should see the keystrokes echoed by the device.



Learn More About the S12GN32

Release notes and documentation are available on the DVD and at freescale.com/S12G.

- The Processor Expert graphical initialization software included in your CodeWarrior installation will help reduce your time to market
- CodeWarrior for S12 with examples

TWR-S12GN32 Jumper Options

The following is a list of all jumper options.

Jumper	Option	Setting	Description
JP2	Option Header	1-2	Connect PAD4 pin to SW1
		3-4	Connect PAD5 pin to SW2
		5-6	Connect PAD6 pin to SW3
		7-8	Connect PAD7 pin to SW4
		9-10	Connect PAD10 to POT
		11-12	Connect PT2 pin to LED1
		13-14	Connect PT3 pin to LED2
		15-16	Connect PT4 pin to LED3
		17-18	Connect PT5 pin to LED4
JP1	COM_EN	3-5, 4-6	Connects target MCU SCI port to RS-232 PHY to enable LIN bus communications
		1-3, 2-4	Connects target MCU SCI port to LIN PHY to enable LIN bus communications
J3	BDM_PORT	1-2	Ground
		3-4	Reset
JP401	Bootloader	1-2	Not populated. Enables bootloader at startup.



TWR-S12GN32 Jumper Options *(continued from previous page)*

The following is a list of all jumper options.

Jumper	Option	Setting	Description
JP4	PWR_SEL	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 USB 5V (OSBDM)
		5-6	Selects the board to be powered from externally provided power source on E1 and E2
JP3	LIN_PWR	1-2	Connect LIN bus to +V input
		3-4	Enables LIN Master mode functionality



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Datasheet of TWR-S12GN32 - BOARD TOWER SYSTEM MC9S12GN32

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