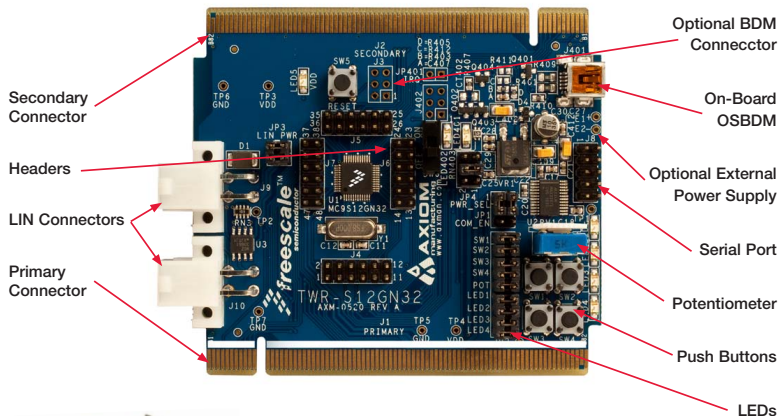


TWR-S12GN32

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.

STEP
3

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.

STEP
4

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

To learn more, please visit freescale.com/Tower or freescale.com/TWR-S12GN32.

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