



Module for TWR-S12GN32

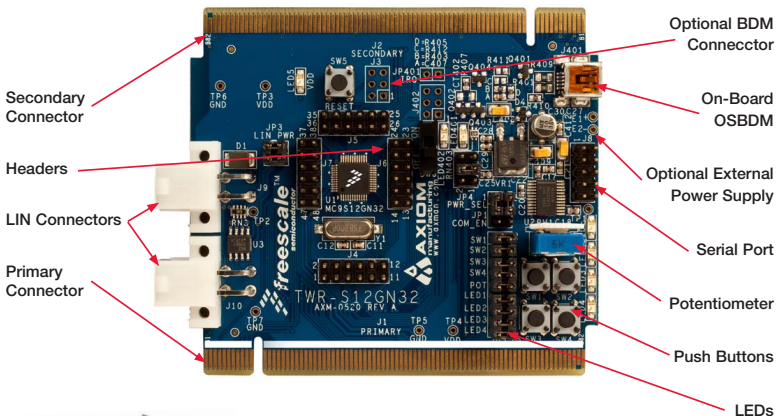
TOWER SYSTEM



## TWR-S12GN32

Scalable platform for  
automotive applications





# TWR-S12GN32

## Freescal 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](http://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](http://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](http://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.



## 17-512-32 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](http://freescale.com/Tower)** or **[freescale.com/TWR-S12GN32](http://freescale.com/TWR-S12GN32)**.

Freescall, the Freescall logo and CodeWarrior are trademarks or registered trademarks of Freescall Semiconductor, Inc. Reg. U.S. Pat. & Tm. Off. Processor Expert is a trademark of Freescall Semiconductor, Inc. All other product or service names are the property of their respective owners.  
© 2011 Freescall Semiconductor, Inc.

Doc Number: TWRS12GN32QSG / REV 0  
Agile Number: 926-26647 / REV A





# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

NXP:

TWR-S12GN32