



TangentBlue I/O Modules

TB 3501/2501 cRIO/sbRIO SPI/I²C Module

CUSTOMIZATION

Request a custom driver for your application.

DESIGN

Need an I/O module for National Instruments' cRIO, FlexRIO or R Series targets? Get TangentBlue to design it for you!

SOLUTIONS

Request a turnkey system or subsystem using TangentBlue and National Instruments products.

For more information on our products or services please visit us on the web at:
www.tangentblue.com



Features

Sensor interface for embedded applications

- Sensor interface for embedded and robotics applications
- SPI Master
 - 3 or 4 wire operation
 - Up to 6 SPI slave devices
 - Sensor power (1 mA)
- I²C Master
 - SCL and SDA pull-up resistors
 - Standard, Fast, and Fast+ mode communication
 - Sensor power (1 mA)
- Bus Voltages
 - 3.3V or 5V, software configurable
- TB 2501: without module enclosure for sbRIO systems

Overview

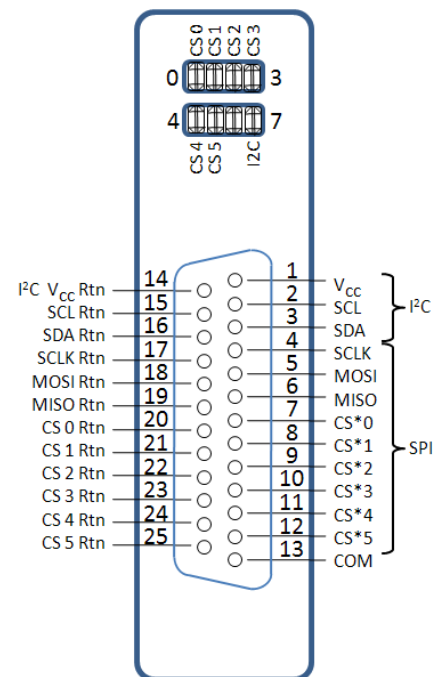
The TB 3501/2501 is a bus master for up to six SPI devices and a variable number of I²C devices. It is compatible with National Instruments' CompactRIO, Single-board RIO and PCI/PXI R Series LabVIEW FPGA targets, and is ideal for communicating with sensors and other ICs over short distances in robotics and other embedded applications.

Front Panel

The DB-25 front panel connector provides connections for SPI and I²C data and clock signals, and six SPI chip select lines. The connector includes independent return connections for each I/O line for improved signal integrity at faster communication speeds. A twisted pair ribbon cable is available separately.

The TB 3501/2501 provides bus power for low power sensors. For SPI, unused chip select lines can serve as the power supply. A total of 1 mA is available for each bus.

Front panel LEDs indicate bus activity on the I²C bus and for each of the SPI chip selects.



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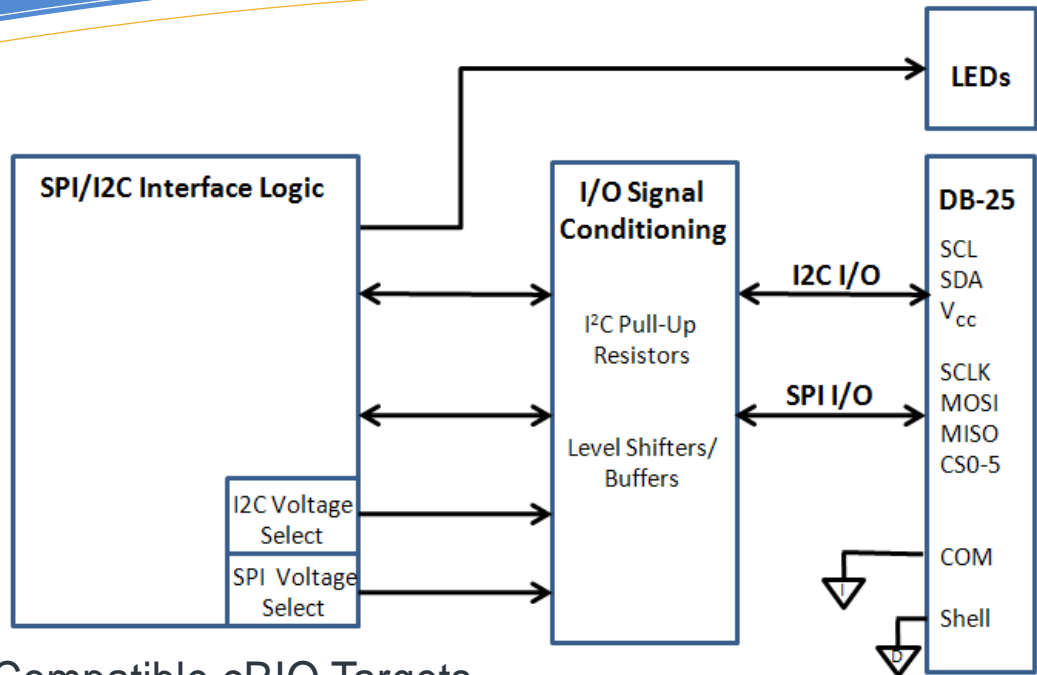
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Compatible cRIO Targets

- NI 90xx CompactRIO (cRIO) controller + NI 91xx reconfigurable chassis
- NI 907x Integrated CompactRIO system
- NI 78xxR R Series + 9151R expansion chassis
- NI 96xx Single-Board RIO (sbRIO)

Development System Requirements

- Windows XP or Vista, or Windows 7
- LabVIEW and LabVIEW FPGA for Windows version 8.6 or later

Specifications

- I/O Isolation: 2,500V
- Ambient temperature: cRIO: 0 - 45°C, sbRIO 0 - 70°C
- Humidity: 10 - 90%, non-condensing

Accessories (sold separately)

- Twisted pair ribbon cable assembly with DB-25 connector

AVAILABLE SERVICES

- Phone Support
- Driver Customization
- New I/O Designs
- Extended Warranty



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