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**TB-2725**

# INSTALLATION GUIDE

# TB-2725 Terminal Block

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[ni.com/manuals](http://ni.com/manuals)

This guide describes how to install and use the National Instruments TB-2725 terminal block with the NI PXI-4224 modules. The TB-2725 has 16 screw terminals for easy connection of up to eight pairs of input signals, and one SMB connector for external triggering.

## Conventions

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The following conventions are used in this guide:

»

The » symbol leads you through nested menu items and dialog box options to a final action. The sequence **Options»Settings»General** directs you to pull down the **Options** menu, select the **Settings** item, and select **General** from the last dialog box.



This icon denotes a note, which alerts you to important information.



This icon denotes a caution, which advises you of precautions to take to avoid injury, data loss, or a system crash. When this icon is marked on the product, refer to the *Read Me First: Safety and Electromagnetic Compatibility* document, shipped with the product, for precautions to take.



When this symbol is marked on a product, it denotes a warning advising you to take precautions to avoid electrical shock.



When this symbol is marked on a product, it denotes a component that may be hot. Touching this component may result in bodily injury.

**bold**

Bold text denotes items that you must select or click in the software, such as menu items and dialog box options. Bold text also denotes parameter names.

*italic*

Italic text denotes variables, emphasis, a cross-reference, or an introduction to a key concept. Italic text also denotes text that is a placeholder for a word or value that you must supply.

monospace

Text in this font denotes text or characters that you should enter from the keyboard, sections of code, programming examples, and syntax examples. This font is also used for the proper names of disk drives, paths, directories, programs, subprograms, subroutines, device names, functions, operations, variables, filenames, and extensions.

## What You Need to Get Started

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To set up and use the TB-2725 terminal block, you need the following items:

- Hardware
  - TB-2725 terminal block
  - NI PXI-4224 module
  - PXI or PXI/SCXI combination chassis
  - Shielded cabling and sensors as required for your application
- Documentation
  - *TB-2725 Terminal Block Installation Guide*
  - *Read Me First: Safety and Electromagnetic Compatibility*
  - DAQ Getting Started guides
  - *SCXI Quick Start Guide*
  - *NI PXI-4224 User Manual*
  - PXI or PXI/SCXI combination chassis user manual



**Note** You can download needed documents from [ni.com/manuals](http://ni.com/manuals).

- Tools
  - Number 1 and 2 Phillips screwdriver
  - 1/8 in. flathead screwdriver
  - Long-nose pliers
  - Wire cutter
  - Wire insulation stripper

# Connecting the Signals

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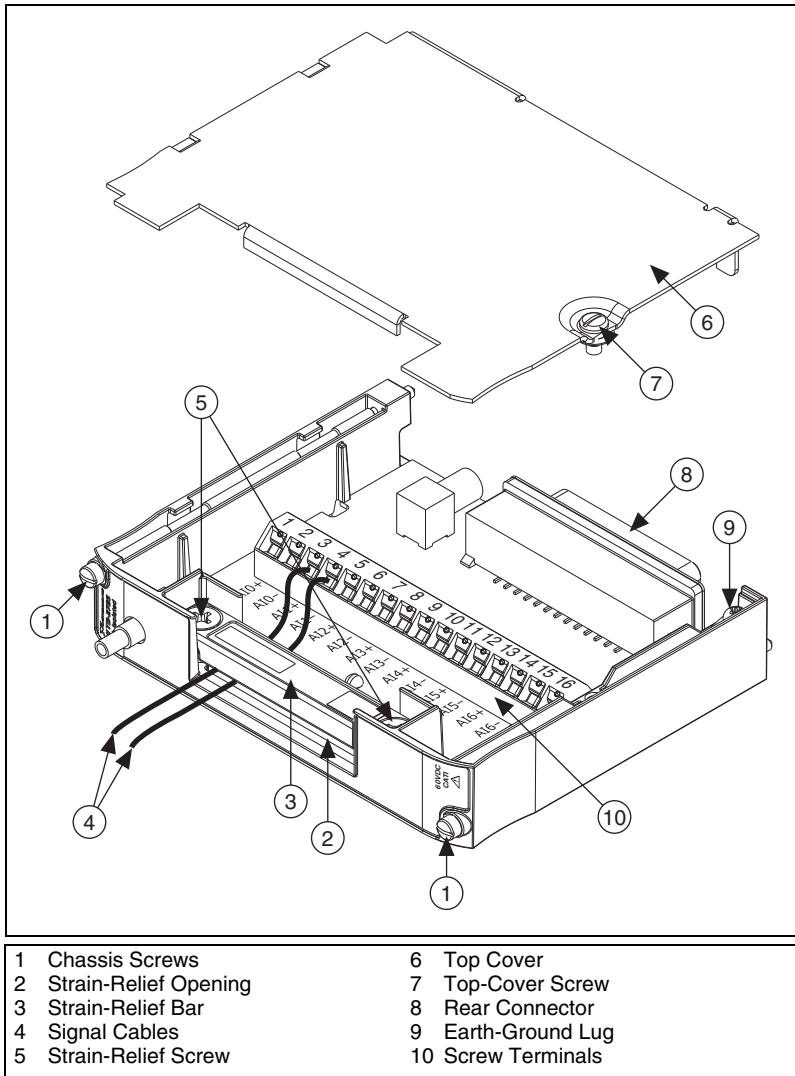
**Caution** To ensure the specified EMC performance, operate this product only with shielded cables and accessories.



**Note** Refer to the *Read Me First: Safety and Electromagnetic Compatibility* document before removing equipment covers or connecting or disconnecting any signal wires.

To connect signals to the TB-2725 terminal block, refer to Figure 1 while performing the following steps:

1. Unscrew the top-cover screw, and remove the top cover.
2. Loosen the strain-relief screws, and remove the strain-relief bar.
3. Prepare the signal wire (16 AWG to 26 AWG) of the shielded cable by stripping the insulation no more than 6.0 mm (0.24 in.).
4. Run the shielded cable through the strain-relief opening. If necessary, add insulation or padding.
5. Insert the stripped ends of the signal wires into the terminals. Make sure no bare wire extends from the terminal.
6. Connect the cable shield to the earth-ground lug.
7. Tighten the screws to a torque of 0.5 N · m to 0.6 N · m (4.4 lb · in. to 5.3 lb · in.).
8. Reinstall the strain-relief bar, and tighten the strain-relief screws.
9. Reinstall the top cover, and tighten the top-cover screws.
10. Refer to the *SCXI Quick Start Guide* for TB-2725 installation instructions.



**Figure 1.** TB-2725 Parts Locator Diagram

# Specifications

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All specifications are typical at 25 °C unless otherwise specified.

## Electrical

Coupling.....	DC <sup>1</sup>
Terminal-wire size .....	16 AWG to 26 AWG
Field-wiring connectors	
Number of screw terminals .....	16
Earth-ground lugs .....	1
Strain relief .....	Strain relief at terminal-block entrance

## Mechanical

Dimensions.....	10.4 cm × 8.9 cm × 1.8 cm (4.1 in. × 3.5 in. × 0.7 in.)
Weight.....	285 g (10 oz)

## Maximum Working Voltage

Maximum working voltage refers to the signal voltage plus the common-mode voltage.

Channel-to-earth.....	42.4 V <sub>peak</sub> , 60 VDC, Measurement Category I
Channel-to-channel .....	42.4 V <sub>peak</sub> , 60 VDC, Measurement Category I



**Caution** Do *not* use the TB-2725 for connections to signals or for measurements within Categories II, III, or IV.



**Caution** The protection provided by the TB-2725 can be impaired if it is used in a manner not described in this document.

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<sup>1</sup> In instrumentation terminology, *DC coupling* means that both DC and AC signals are passed.

## Environmental

Operating temperature .....0 °C to 50 °C

Storage temperature .....–20 °C to 70 °C

Humidity .....10% to 90% RH, noncondensing

Maximum altitude.....2,000 meters

Pollution Degree .....2

Indoor use only

## Safety Standards

This product meets the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1



**Note** For UL and other safety certifications, refer to the product label or the [Online Product Certification](#) section.

## Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61326-1 (IEC 61326-1): Class A emissions; Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- AS/NZS CISPR 11: Group 1, Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions



**Note** In the United States (per FCC 47 CFR), Class A equipment is intended for use in commercial, light-industrial, and heavy-industrial locations. In Europe, Canada, Australia and New Zealand (per CISPR 11) Class A equipment is intended for use only in heavy-industrial locations.



**Note** Group 1 equipment (per CISPR 11) is any industrial, scientific, or medical equipment that does not intentionally generates radio frequency energy for the treatment of material or inspection/analysis purposes.



**Note** For EMC declarations and certifications, and additional information, refer to the [Online Product Certification](#) section.

## CE Compliance

This product meets the essential requirements of applicable European Directives as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)

## Online Product Certification

Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for this product, visit [ni.com/certification](http://ni.com/certification), search by model number or product line, and click the appropriate link in the Certification column.

## Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *NI and the Environment* Web page at [ni.com/environment](http://ni.com/environment). This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

## Waste Electrical and Electronic Equipment (WEEE)



**EU Customers** At the end of the product life cycle, all products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers, National Instruments WEEE initiatives, and compliance with WEEE Directive 2002/96/EC on Waste and Electronic Equipment, visit [ni.com/environment/weee](http://ni.com/environment/weee).

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# Where to Go for Support

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The National Instruments Web site is your complete resource for technical support. At [ni.com/support](http://ni.com/support) you have access to everything from troubleshooting and application development self-help resources to email and phone assistance from NI Application Engineers.

National Instruments corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504.

National Instruments also has offices located around the world to help address your support needs. For telephone support in the United States, create your service request at [ni.com/support](http://ni.com/support) and follow the calling instructions or dial 512 795 8248. For telephone support outside the United States, visit the Worldwide Offices section of [ni.com/niglobal](http://ni.com/niglobal) to access the branch office Web sites, which provide up-to-date contact information, support phone numbers, email addresses, and current events.

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