NI TB-2666 Installation Instructions

Terminal Block for the NI PXI-2566

This guide describes how to install and connect signals to the National Instruments TB-2666 terminal block. Refer to the *NI Switches Getting Started Guide* to determine when to install the terminal block.

Introduction

The TB-2666 terminal block installs in front of the PXI-2566 switch module and has screw terminals that provide access to each of the 16 relays. Connections for the trigger output and trigger input signals also are available.

⚠️ **Caution** This terminal block is rated for Measurement Category I and intended to carry signal voltages no greater than 150 V. This module can withstand up to 800 V impulse voltage. Do not use this module for connection to signals or for measurements within Categories II, III, or IV. Do not connect to MAINS supply circuits (for example, wall outlets) of 115 or 230 VAC. Refer to the *NI Switches Getting Started Guide* for more information on measurement categories.

When hazardous voltages (>42.4 V_{pk}/60 VDC) are present on any relay terminal, safety low-voltage (≤42.4 V_{pk}/60 VDC) cannot be connected to any other relay terminal.

Conventions

The following conventions are used in this guide:

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.

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

NATIONAL INSTRUMENTS™

1. Unpack the Terminal Block

The terminal block is shipped in an antistatic package to prevent electrostatic discharge (ESD) that can damage several components in the terminal block. To avoid such damage when you handle the terminal block, take the following precautions:

⚠️ **Caution** *Never* touch the exposed pins of connectors.

- Ground yourself using a grounding strap or by touching a grounded object.
- Touch the antistatic package to a metal part of the chassis before you remove the terminal block from the package.

Remove the terminal block from the package and inspect the terminal block for loose components or any sign of damage. Notify NI if the terminal block appears damaged in any way. Do *not* install a damaged terminal block on a switch terminal block.

Store the terminal block in the antistatic package when not in use.

2. Verify the Components

Make sure you have the following:

❑ TB-2666 terminal block

❑ PXI chassis

❑ PXI-2566 switch module

❑ 1/8 inch flathead screwdriver

❑ Wire cutter

❑ Wire insulation stripper

3. Connect Signals

To connect signals to the terminal block, complete the following steps:

1. Prepare the signal wire by stripping the insulation no more than 3/16 of an inch.

2. Remove the terminal block top cover screws with a flathead screwdriver.

3. Gently lift the terminal block top cover off the terminal block.

4. Loosen the two 10-32 × 3/4 inch screws on the strain-relief bar, leaving plenty of space for the signal cables.

5. Pull the signal cables at least one foot through the strain-relief opening shown in Figure 1.

6. Connect the safety earth ground to the safety ground lug.

7. Connect the wires to the terminals by inserting the stripped end of the wire into the terminal. Secure the connection by tightening the screw for each terminal. When connecting the signals, refer to the connection diagram in Figure 2.

8. Tighten the two 10-32 × 3/4 inch screws on the strain-relief bar, leaving enough space for your signal wires.

9. Replace the terminal block top cover to the terminal block.

10. Secure the terminal block top cover with the top cover screws.
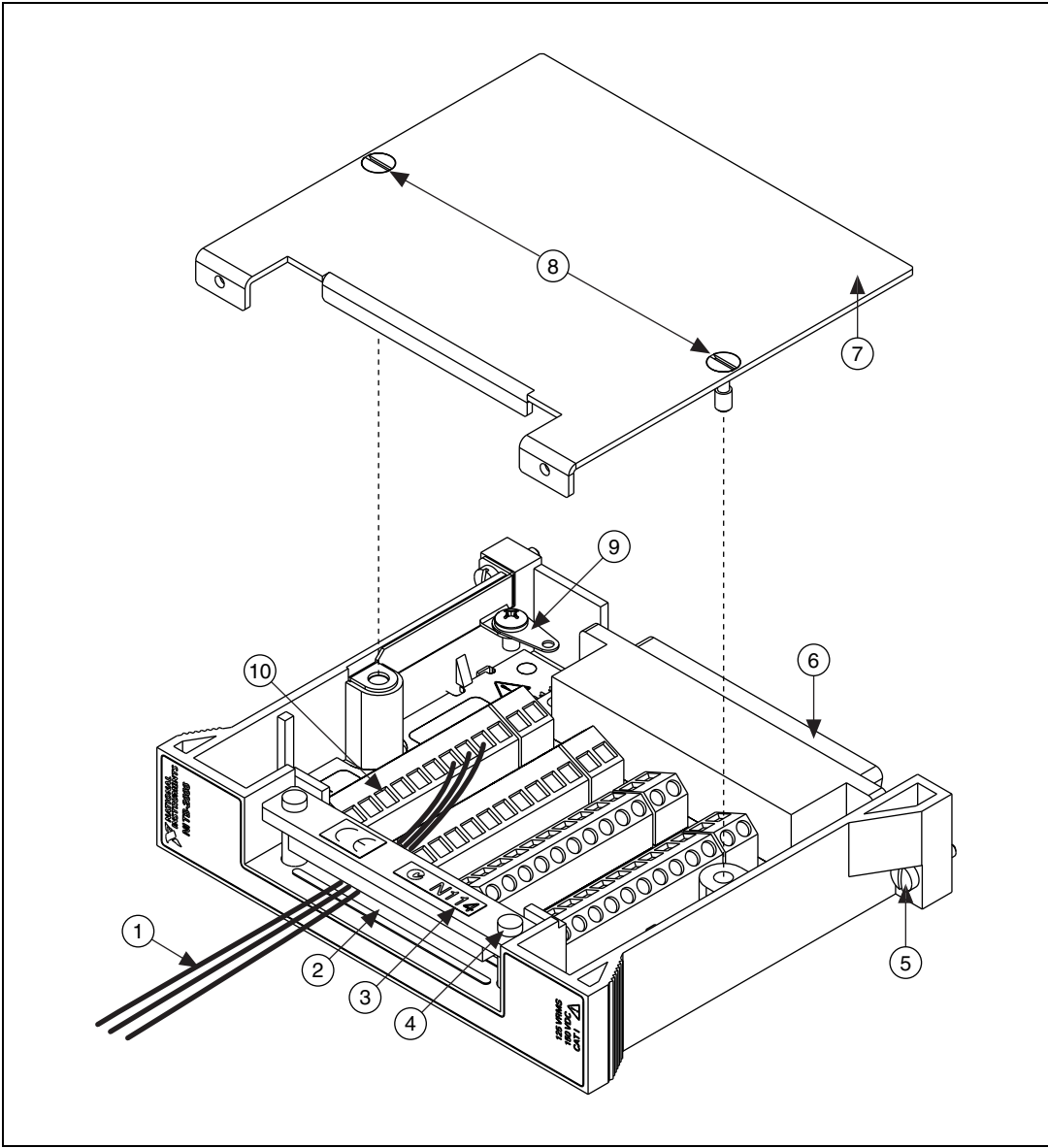
1	Signal Wires	6	Rear Connector
2	Strain-Relief Opening	7	Terminal Block Top Cover
3	Strain-Relief Bar	8	Top Cover Screws
4	10-32 × 3/4 Inch Screw	9	Safety Ground Lug
5	Chassis Screws	10	Screw Terminals

Figure 1. TB-2666 Terminal Block

CE NATIONAL INSTRUMENTS ⚠ ⓒN114

NI PXI-2666 Screw Terminal Reference

CH 3			CH 2			CH 1			CH 0		
NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC

150 VDC / 125 VRMS MAX

CH 7			CH 6			CH 5			CH 4		
NO	COM	NC	NO	COM	NC	NO	COM	NC	NO	COM	NC

NC	COM	NO	NC	COM	NO	NC	COM	NO	NC	COM	NO
CH 11			CH 8			CH 9			CH 10		

150 VDC / 125 VRMS MAX

NC	COM	NO	NC	COM	NO	NC	COM	NO	NC	COM	NO
CH 12			CH 13			CH 14			CH 15		

62 POSITION DSUB CONNECTOR

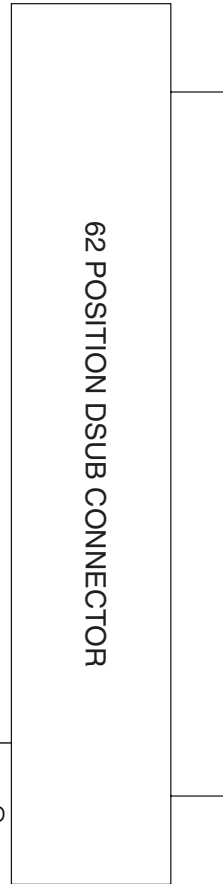3.3 V TRIGGERING   5.5 V MAX
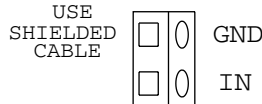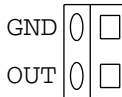
GND
OUT

USE SHIELDED CABLE

GND
IN

Figure 2. TB-2666 Terminal Block Signal Connections

4. Install the Terminal Block

To connect the TB-2666 terminal block to the PXI-2566 front panel, complete the following steps:

1. Connect the PXI-2566 front connector to its mating connector on the terminal block.

2. Tighten the top and bottom chassis screws on the back of the terminal block rear panel to hold it securely in place.
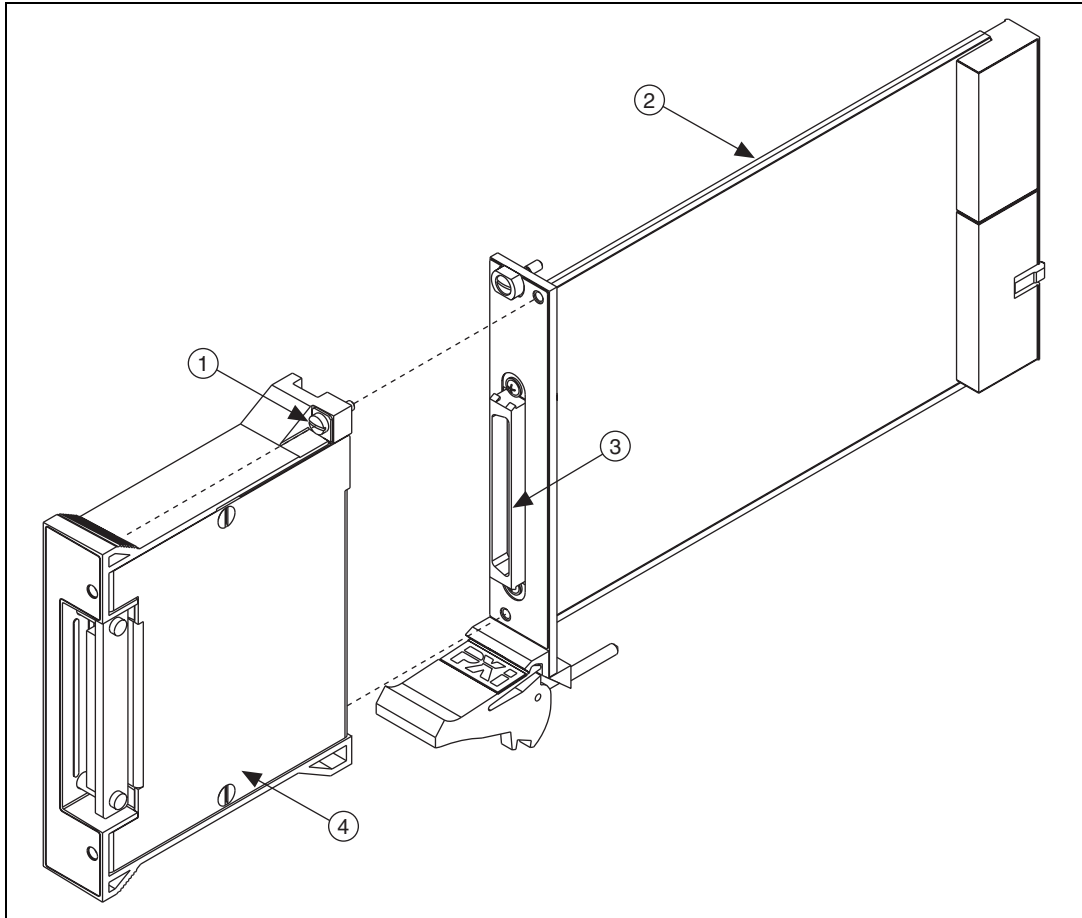
| 1 | Chassis Screw | 3 | Front Connector |
| 2 | PXI-2566 | 4 | TB-2666 |

Figure 3. Installing the TB-2666 Terminal Block

Compliance and Certifications

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 3111-1, UL 61010B-1
- CAN/CSA C22.2 No. 1010.1

Note For UL and other safety certifications refer to the product label or visit ni.com.

Electromagnetic Compatibility

Emissions .... EN 55011 Class A at 10 m
FCC Part 15A above 1 GHz

Immunity .... EN 61326:1997 + A2:2001,
Table 1

EMC/EMI .... CE, C-Tick and FCC Part 15
(Class A) Compliant

Note For EMC compliance, you *must* operate this device with shielded cabling.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

Low-Voltage Directive (safety) 73/23/EEC

Electromagnetic Compatibility
Directive (EMC) 89/336/EEC

Note Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, click **Declarations of Conformity Information** at ni.com/hardref.nsf/.