VXI-TB-1000 TERMINAL BOARD CARRIER

This guide describes how to connect signals and install the VXI-TB-1000 terminal board carrier with your VXI-DAQ module, including VXI-MIO, VXI-SC, and VXI-DIO modules.

Introduction

The VXI-TB-1000 is a carrier for VXI-TB Series terminal boards. You can configure these terminal boards to match any VXI-DAQ module configuration. The VXI-TB-1000 populated with terminal boards can easily accommodate thermocouples, RTDs, strain gauges, thermistors, millivolt sources, volt sources, and current-loop receivers.

What You Need to Get Started

You need the following items to set up and use your VXI-TB-1000 terminal board carrier:

- ❑ One or more VXI-TB-1000 terminal blocks
- ❑ One or more VXI-TB Series terminal boards
- ❑ *VXI-TB-1000 Terminal Board Carrier Installation Guide*
- ❑ VXIbus chassis
- ❑ One or more VXI-DAQ modules and documentation
- ❑ Phillips-head number 1 and number 2 screwdrivers
- ❑ 0.09 in. flathead screwdriver
- ❑ Long-nose pliers
- ❑ Wire cutter
- ❑ Wire insulation stripper

321528A-01˜ *March 1997*

If you are using high voltage (≥30 V_{rms} and 42.4 V_{peak} or 60 VDC), please read the following warnings:

Warning: ***If high voltages (≥ 30 V_{rms} and 42.4 V_{peak} or 60 VDC) are present, YOU MUST CONNECT THE SAFETY EARTH GROUND TO THE GROUNDING LUG. This complies with safety agency requirements from UL 1244 and IEC 1010 and protects against electric shock when the terminal block is not connected to the VXIbus chassis. To connect the safety earth ground to the grounding lug, run an earth ground wire in the cable from the signal source to the terminal block. National Instruments is NOT liable for any damages or injuries resulting from inadequate safety earth ground connections.***

Equipment described in this guide must be used in an Installation Category II environment per IEC 664. This category requires local level supply mains-connected installation. Do not use this equipment to measure voltages higher than 300 V.

SHOCK HAZARD: Only qualified personnel aware of the dangers involved should open this unit. Disconnect all power before removing the cover. If signal wires are connected to the module or terminal block, dangerous voltages may exist even when the equipment is turned off. Before you remove any installed terminal block, disconnect the AC power line or any high voltage sources (≥30 V_{rms} and 42.4 V_{peak} or 60 VDC) that may be connected to the terminal block.

When using the terminal block with high common-mode voltages, you MUST insulate your signal wires to prevent electric shock by using 300 V wire minimum. National Instruments is NOT liable for any damages or injuries resulting from inadequate signal wire insulation.

The chassis GND terminals on the terminal block are for grounding high-impedance sources such as floating source (1 mA maximum). Do NOT use these terminals as safety earth grounds.

Installing Your Terminal Board

Perform the following steps to install the terminal board. The numbers in parentheses refer to items in Figure 1.

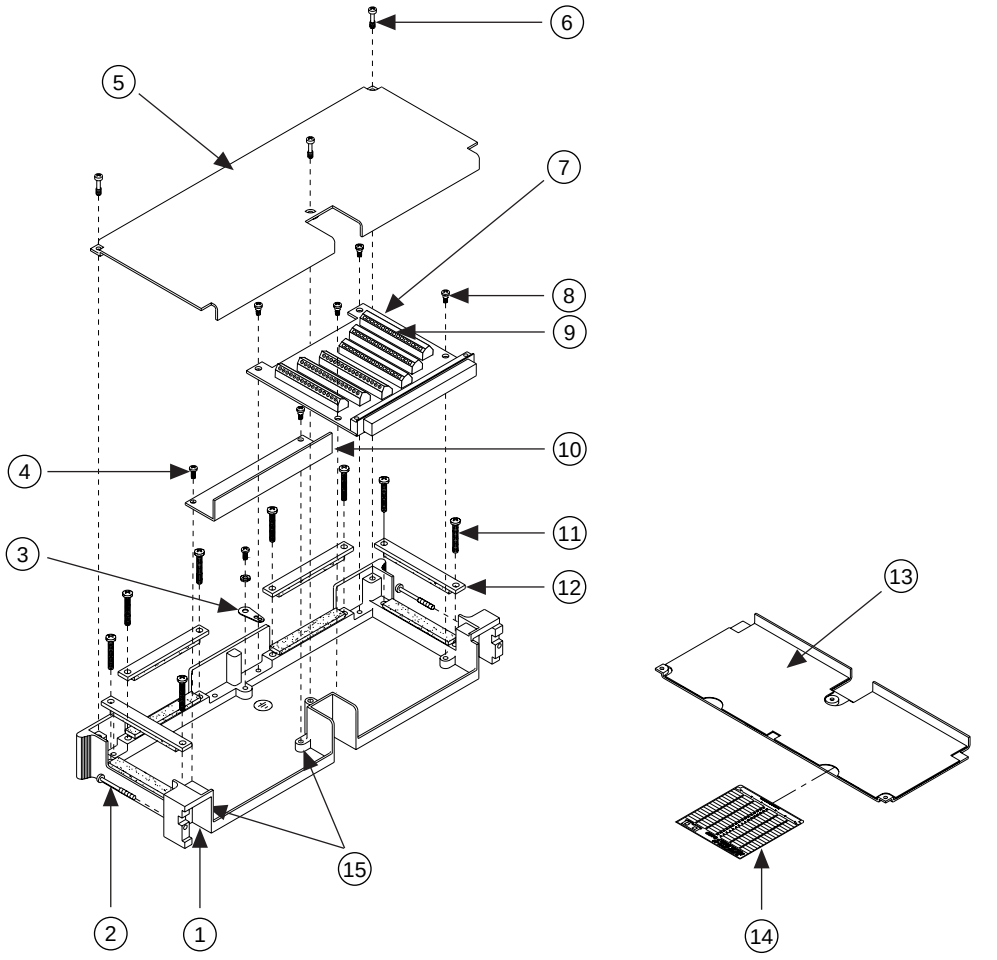
1. Loosen the three cover screws (6) with a Phillips-head number 1 screwdriver. These screws stay attached to the cover (5) without falling out.
2. Remove the cover (5). You now have access for installation.
3. Place the terminal board (7) into the appropriate half of the terminal board carrier.
4. Install and tighten the four board screws (8), included with the board, using a Phillips-head number 1 screwdriver.
5. If you are using only one terminal board, you need to install the safety shield (10) included with the VXI-TB-1000. Place the safety shield over the screw bosses (15) and tighten the two safety shield screws (4), included with the shield, to the screw bosses.

Warning: ***You must install this safety shield to prevent access to high-voltage signals.***

6. Install the user help card (14) into the raised slots of the cover insulator (13).

You are now ready to make your signal connections.

Figure 1 shows the VXI-TB-1000 terminal board carrier parts locator diagram.



1	Handle Recess Area	5	Cover	9	Screw Terminal	13	Cover Insulator
2	Mounting Screw	6	Cover Screw	10	Safety Shield	14	User Help Card
3	Grounding Lug	7	Terminal Board	11	Strain-Relief Bar Screw	15	Screw Bosses
4	Safety Shield Screw	8	Board Screw	12	Strain Relief Bar		

Figure 1. VXI-TB-1000 Parts Locator Diagram

Signal Connection

Perform the following steps to connect the signals to the terminal block. The numbers in parentheses refer to items in Figure 1.

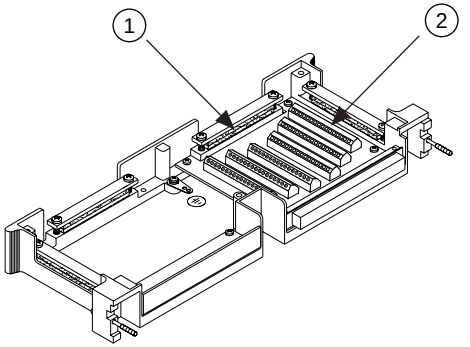
1. To access the screw terminals (9), remove the terminal block cover (5) by loosening the three cover screws (6) with a Phillips-head number 1 screwdriver. These screws stay attached to the cover without falling out.
2. Choose the wire opening (see Figure 2) through which your signal wires will pass and loosen the appropriate strain-relief bar screws (11) with a Phillips-head number 2 screwdriver. You can completely remove the strain-relief bar (12) for easier access.
3. Use a wire cutter and wire insulation stripper to strip the wire ends as necessary to connect them to screw terminals.
4. Loosen the screws in the screw terminals (9) with a 0.09 in. flathead screwdriver.
5. Insert the stripped wires into the screw terminals. Tighten the screws with a 0.09 in. flathead screwdriver.
6. Replace the strain-relief bar, if necessary, and tighten the strain-relief bar screws.

☞ **Note:** ***If the strain-relief bar screws protrude past the bottom of the terminal block, replace the screws with 6-32 Phillips panhead screws that are shorter than 3/4 in.***

7. Replace the terminal block cover and tighten the cover screws.

You can now connect the terminal block to the VXI-DAQ module front panel connector.

Figure 2 shows the screw terminal board inside the uncovered VXI-TB-1000 terminal board carrier with one terminal board.



1 Wire Opening	2 Screw Terminal Board

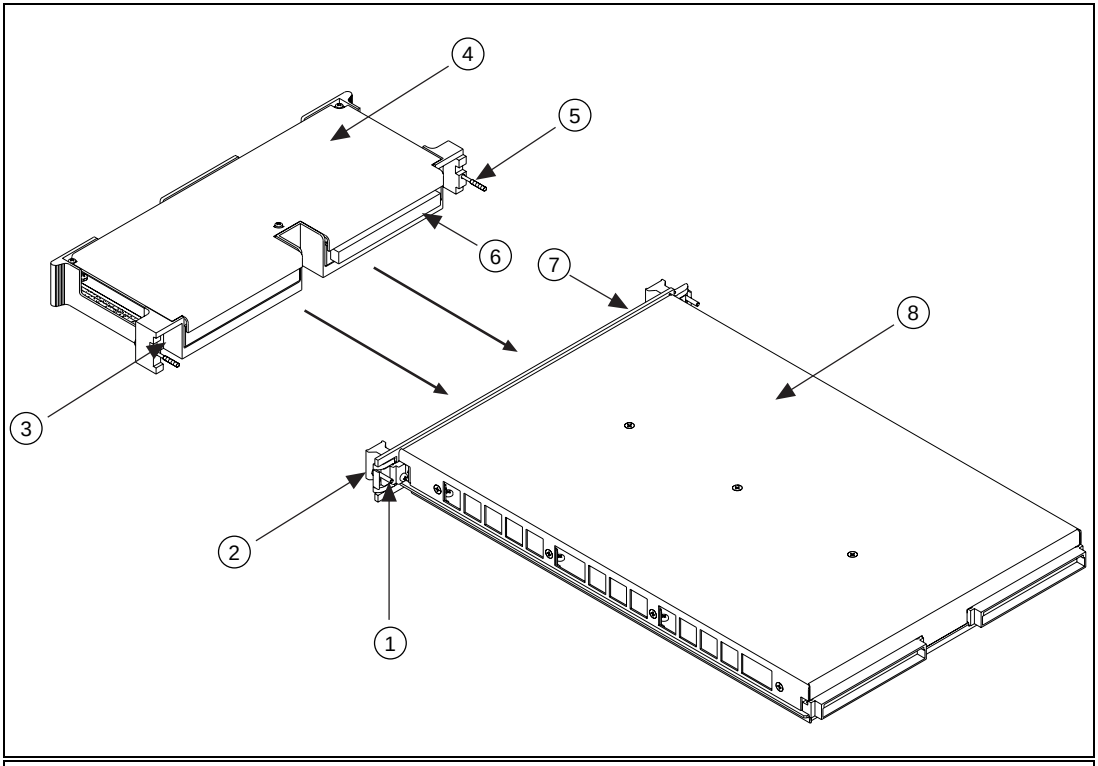
Figure 2. VXI-TB-1000 Screw Terminal Board

Installing Your Terminal Block

Perform the following steps to connect the terminal block to the VXI-DAQ module front panel connector. The numbers in parentheses refer to items in Figure 3.

☞ **Note:** ***Before attaching the terminal block onto the VXI-DAQ module front panel connector, make sure the VXI-DAQ module attachment screws (1) are tightened to the VXIbus chassis.***

1. Guide the terminal block onto the VXI-DAQ module front panel connector (7) by aligning the terminal block handle recess area (3) to the ejector handles (2) on the VXI-DAQ module.
2. Connect the VXI-DAQ module front panel connector to its mating connector (6) on the terminal block.
3. Tighten the top and bottom mounting screws (5) on the back of the terminal block to hold it securely in place.



1	Attachment Screw	3	Handle Recess Area	5	Mounting Screw	7	Front Panel Connector
2	Ejector Handle	4	VXI-TB-1000	6	Mating Connector	8	VXI-DAQ Module

Figure 3. Installing the Terminal Block on the VXI-DAQ Module