

TBX-1326 High-Voltage Terminal Block

This guide describes how to install and use the TBX-1326 high-voltage terminal block with the SCXI-1162, the SCXI-1163, the SCXI-1162HV, and the SCXI-1163R modules.

Introduction

The TBX-1326 high-voltage terminal block is a DIN rail-mountable terminal block that connects to an SCXI module front connector with an SH48-48-B cable. The TBX-1326 mounts on most European standard DIN EN mounting rails.

The TBX-1326 terminal block has 48 screw terminals for easy signal connections. The terminals labeled *VCC* on the TBX-1326 terminal block are not used with the SCXI-1162HV or the SCXI-1163R. The terminals labeled *GND* are not used on the SCXI-1162. The screw terminals are arranged in eight groups of six terminals, called *banks*. Each group is isolated from the other groups. The six terminals in a group consist of a *VCC* (positive supply voltage), a ground (*GND*), and four channels. Use of these terminals is module dependent and is summarized in the following table:

Table 1. TBX-1326 Terminal Use with SCXI Modules

Terminals	SCXI Modules			
	SCXI-1162	SCXI-1162HV	SCXI-1163	SCXI-1163R
VCC	Power/reference voltage	Not used	Power supply (5 ± 0.5 V referenced to GND)	Not used
GND	Not used	Ground reference	Ground	Common pole
CHAN(x)	Digital input	Input signal	Digital output	Relay inputs

What You Need to Get Started

- TBX-1326 high-voltage terminal block kit
 - TBX-1326 high-voltage terminal block
 - TBX-1326 High-Voltage Terminal Block Installation Guide*
 - 1/8 in. flathead screwdriver
- SCXI chassis
- SCXI-1162, SCXI-1163, SCXI-1162HV, or SCXI-1163R module and documentation
- SH48-48-B cable assembly
- Long-nose pliers
- 3/16 in. wrench
- No. 1 Phillips-head screwdriver

Installation

Perform the following steps to mount the SH48-48-B cable assembly and connect the TBX-1326 to your SCXI module. Refer to Figures 1 and 2 as needed.

Warning: ***SHOCK HAZARD: Refer to the Signal Connection section BEFORE connecting signals. If signal wires are connected to the terminal block, dangerous voltages may exist even when the equipment is turned off.***

1. Turn off your SCXI chassis.
2. Turn off the computer that contains your data acquisition device or disconnect the device from your SCXI chassis.
3. Slide the SCXI module out of the SCXI chassis.
4. Unscrew the SCXI module cover grounding screw with a No. 1 Phillips-head screwdriver and remove the module cover (see Figure 1).

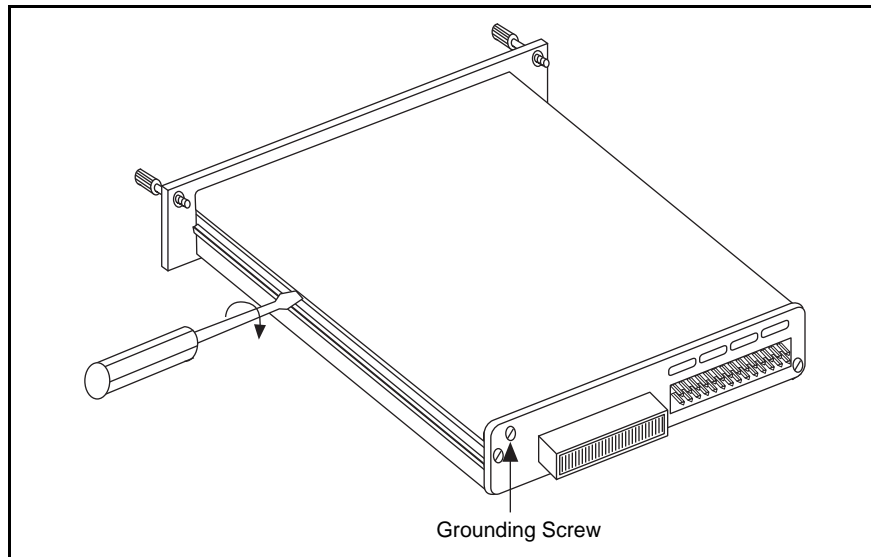


Figure 1. Removing the SCXI Module Cover

5. Place one jack screw as shown in Figure 2.
6. While holding the jack screw in place, insert the lockwasher and then the nut. Use long-nose pliers to do this.
7. Tighten the nut by holding it firmly and rotating the jack screw with a $\frac{3}{16}$ inch wrench.
8. Repeat steps 5 through 7 for the second jack screw.
9. Replace the SCXI module cover and tighten the grounding screw.

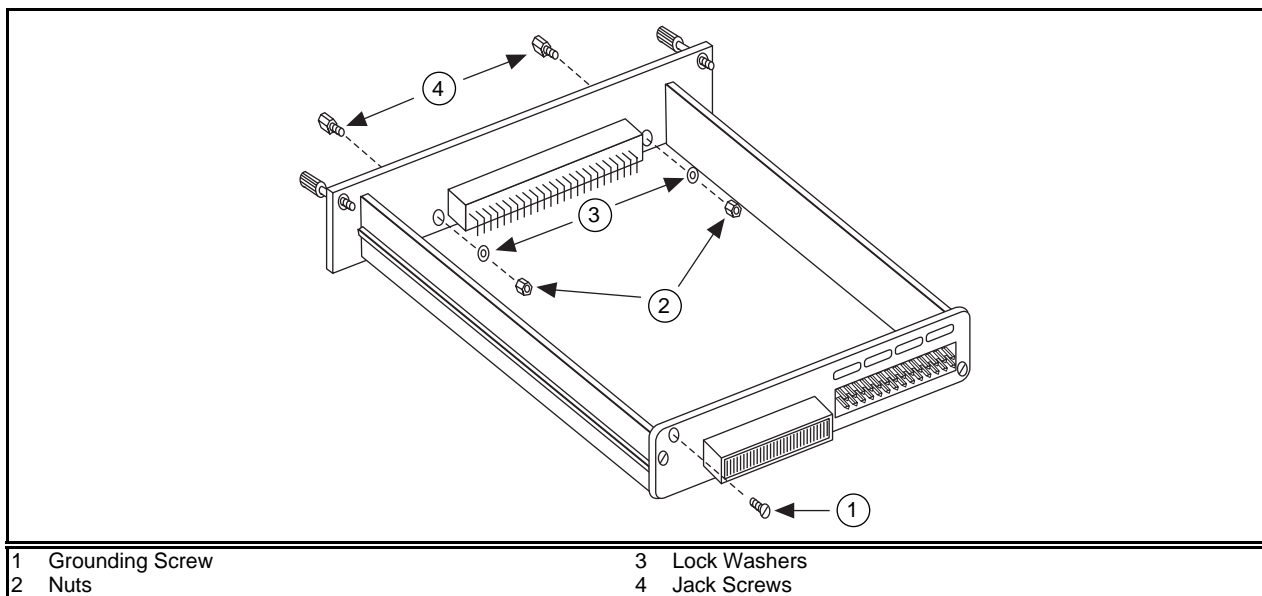


Figure 2. Preparing the SCXI Module for the Cable Assembly

10. Slide the SCXI module back into place in the SCXI chassis.
11. Verify that the four backshell mounting ears are in the position shown in Figure 3. If not, remove the backshell mounting ears and install them in the position shown.
12. Connect one end of the cable assembly to your SCXI module front connector and secure the SH48-48-B cable by tightening both backshell mounting screws.

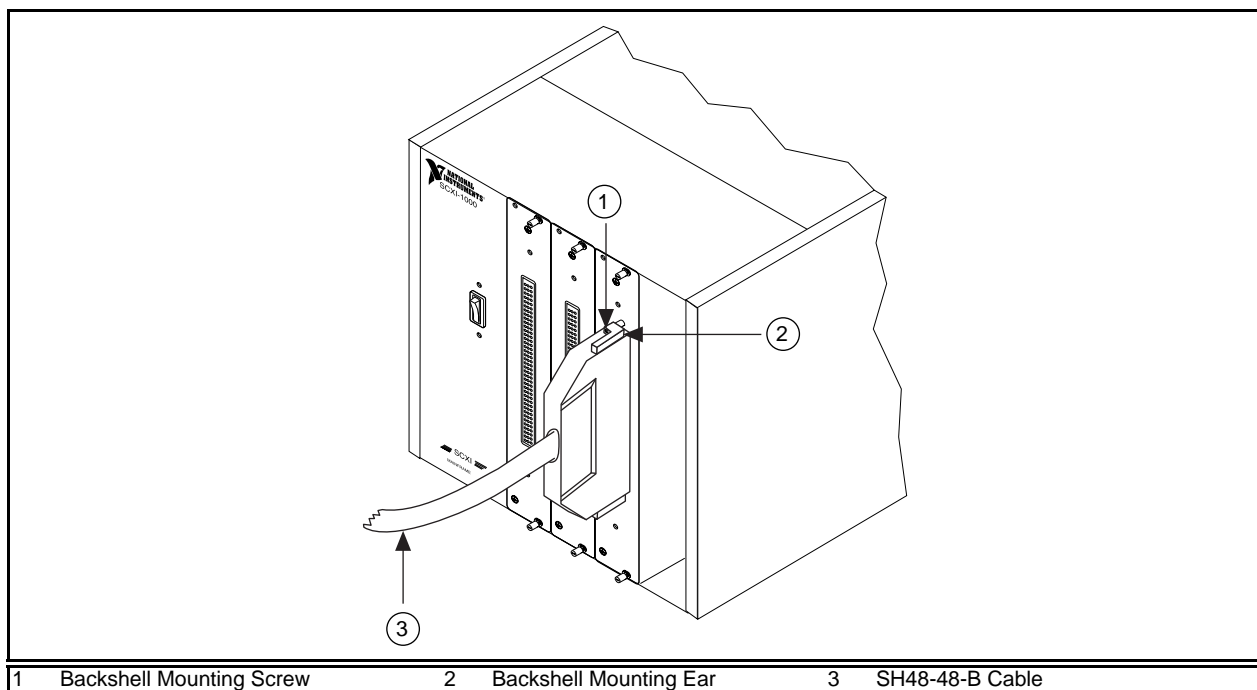


Figure 3. Connecting the SH48-48-B Cable to the SCXI Module

13. Connect the other end of the cable assembly to your TBX-1326 terminal block connector and secure the SH48-48-B cable by tightening both backshell mounting screws. See Figure 4.

See Figure 5 for the completed installation.

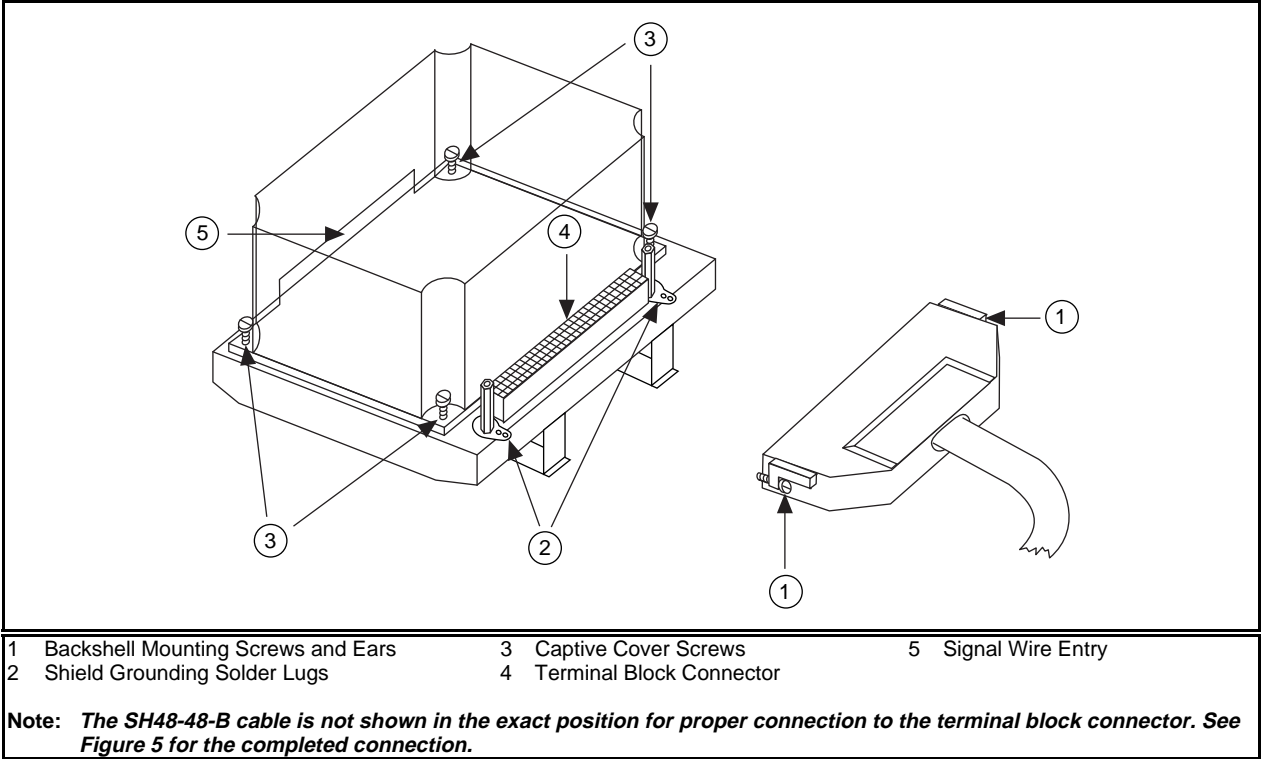


Figure 4. Connecting the SH48-48-B Cable to the TBX-1325 Terminal Block

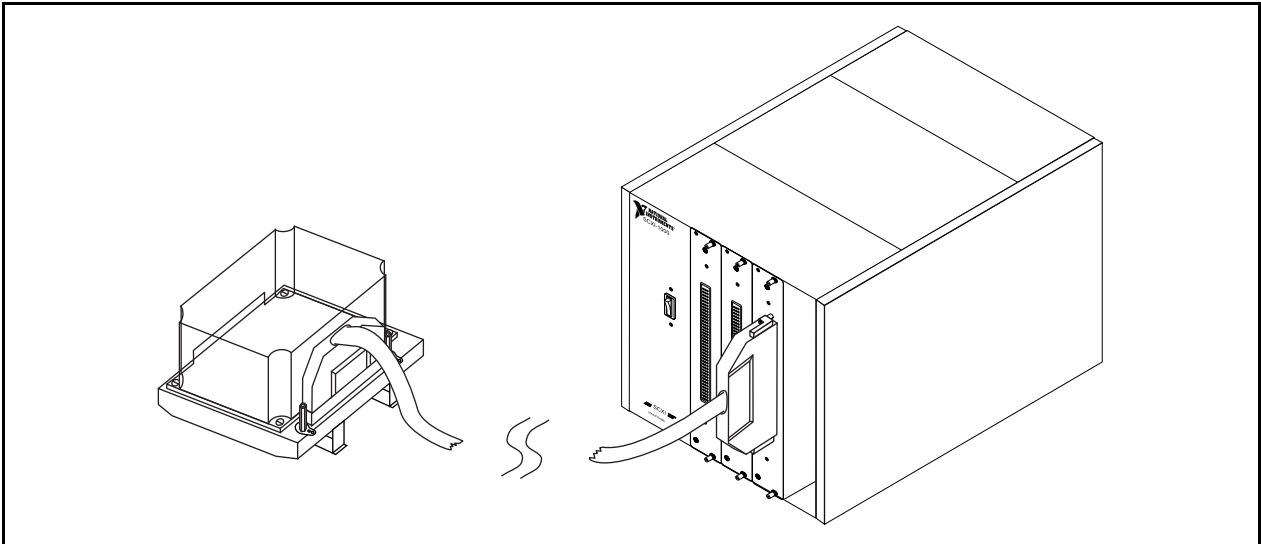


Figure 5. The Completed Installation

Rack Mounting

When you have completed the above installation instructions, you are ready to mount the TBX assembly in your rack. If you are using the National Instruments TBX Rack-Mount Assembly, refer to the *TBX Rack-Mount Installation Guide* for instructions. If you are not using this rack-mount assembly, perform the following steps to mount the TBX assembly directly onto your DIN rail.

1. Snap the TBX terminal block onto the DIN rail with a firm push.

To remove the TBX terminal block from the DIN rail, place a flathead screwdriver into the slot above the terminal block base and pry it from the rail.

2. Install the SCXI chassis using the appropriate chassis rack-mount kit.

Signal Connection

The following warnings contain important safety information concerning the use of hazardous voltage levels with TBX-1326 terminal blocks.

Warnings: ***SHOCK HAZARD: Only qualified personnel aware of the dangers involved should use the TBX-1326. If signal wires are connected to the terminal block, dangerous voltage levels may exist even when the equipment is turned off. Before you remove or work with any installed terminal block, disconnect the AC power line or any high-voltage sources (>30 Vrms and 42.4 V peak, or 60 VDC) that may be connected to the terminal block. National Instruments is NOT liable for any damages or injuries due to misuse of high-voltage signals connected to the terminal block.***

When using the terminal block with high voltage levels, you must insulate all signal wires appropriately to the highest voltage the terminal block may come in contact with. National Instruments is NOT liable for any damages or injuries resulting from inadequate signal wire insulation.

The operating common-mode voltage must not exceed 250 Vrms between banks or from any bank to earth.

Wiring Instructions

To connect your field signals to the TBX-1326 terminal block, refer to Figures 4 and 6 as you perform the following instructions:

1. Remove the TBX-1326 terminal block cover by unscrewing the four captive cover screws in the cover corners. These screws stay attached to the cover without falling out.
2. Connect the signal wires to the screw terminals, making sure you connect a VCC and a GND to every bank you use if the SCXI module you are using requires it.

Note: *The board has corresponding rows labeled A, B, and C to help you make the correct connections, as shown in Figure 6, item 2.*

Refer to your SCXI module user manual for examples of how to connect to field signals and loads. Allow your signal wires to exit through the terminal block cover opening.

3. Replace the TBX-1326 terminal block cover and tighten the captive cover screws.

Note: *This terminal block does not provide strain relief for field signal wires. Add strain relief, insulation, and padding for your field signal wires, if necessary.*

The installation and signal connection are now complete. Figure 6 shows the TBX-1326 parts locator diagram.

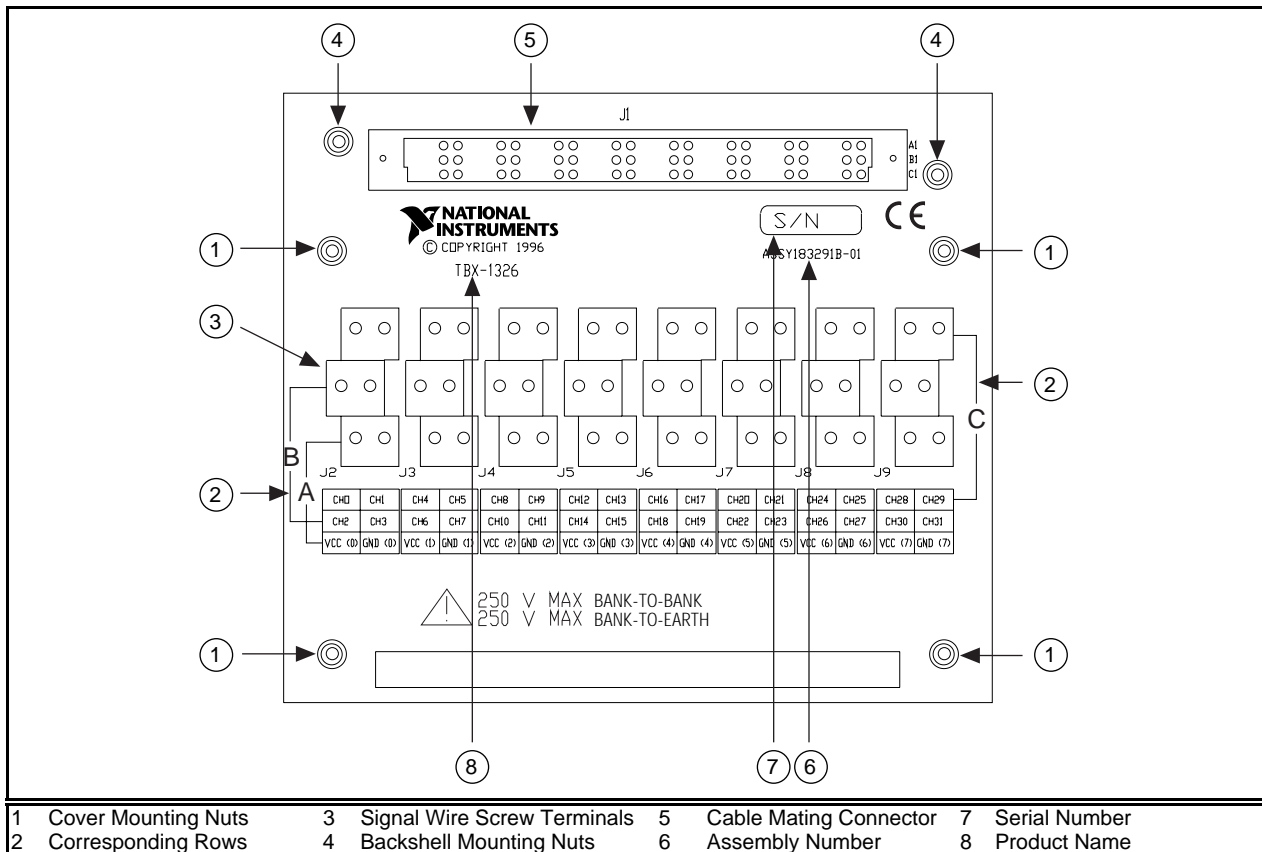


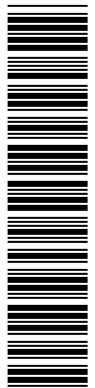
Figure 6. TBX-1326 Parts Locator Diagram

Specifications

Common-mode isolation.....250 Vrms between banks, and bank to earth

Compatible DIN rails.....DIN EN 50 022
DIN EN 50 035

Terminal block dimensions.....12.7 x 7.62 x 11.18 cm (5 x 3 x 4.4 in.)



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