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**SCXI-1334**

# NI SCXI-1334

## Terminal Block for the NI SCXI-1129

This guide describes how to install and connect signals to the National Instruments SCXI-1334 terminal block to configure the SCXI-1129 switch module as a  $4 \times 64$  matrix.

Screw terminals on the SCXI-1334 allow you to access the  $4 \times 64$  matrix. The SCXI-1334 also contains terminals for scanner advanced output and external input trigger signals, two 128-pin DIN connectors for connecting columns between modules, and 10-pin headers for connecting rows between modules using expansion cables.

Refer to the *NI Switches Getting Started Guide* to determine when to install the terminal block.

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## Unpacking the Kit

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**Caution** To prevent electrostatic discharge (ESD) from damaging the device, ground yourself using a grounding strap or by holding a grounded object, such as your computer chassis.

1. Touch the antistatic package to a metal part of the computer chassis.
2. Remove the device from the package and inspect the device for loose components or any other sign of damage.



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



**Note** Do not install a device if it appears damaged in any way.

3. Unpack any other items and documentation from the kit.

Store the device in the antistatic package when the device is not in use.

# Verifying the Components

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Make sure that you have the following components.

- SCXI-1334 terminal block
- SCXI chassis
- SCXI-1129 switch module
- 1/8 in. flathead screwdriver
- Numbers 1 and 2 Phillips screwdrivers
- Long-nose pliers
- Wire cutter
- Wire insulation stripper
- Matrix expansion plug (to expand the number of rows of a matrix)
- Matrix expansion cable (to expand the number of columns of a matrix)

## Connecting Signals

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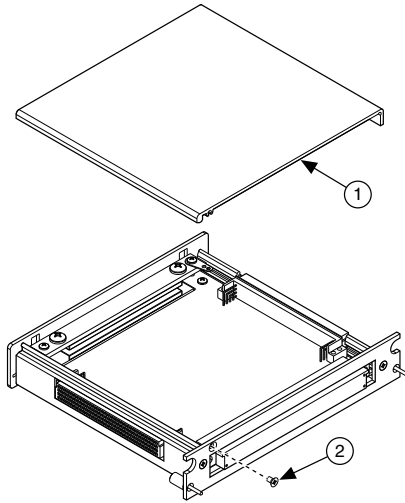
**Caution** This module is rated for Measurement Category I and intended to carry signal voltages no greater than 150 V. This module can withstand up to 800 V impulse voltage. Do not use this module for connection to signals or for measurements within Categories II, III, or IV. Do not connect to MAINS 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 Vpk/60 VDC) are present on any relay terminal, safety low-voltage (≤42.4 Vpk/60 VDC) cannot be connected to any other relay terminal

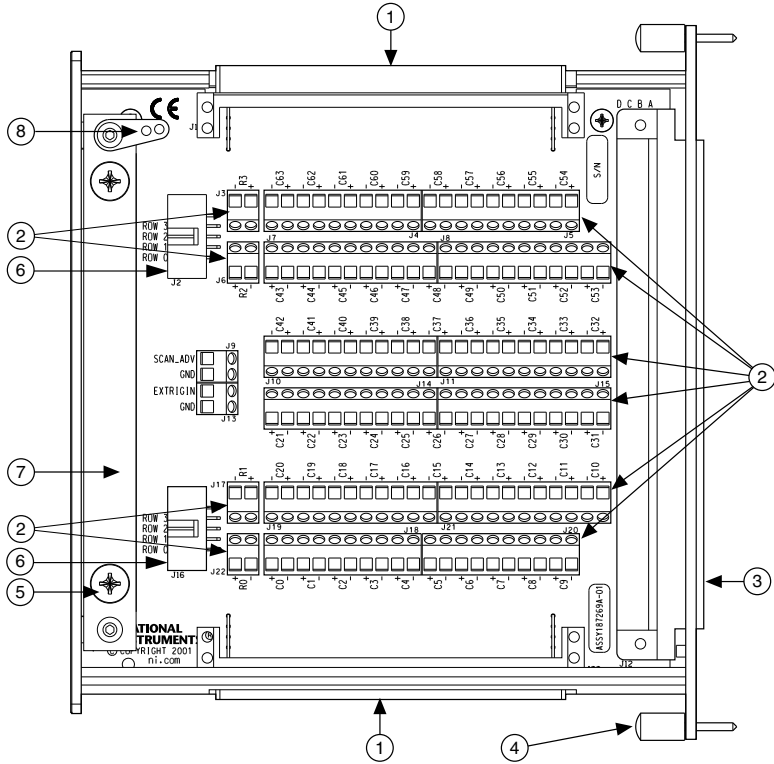
1. Prepare the signal wire by stripping the insulation no more than 7 mm from the end of the wire.
2. Remove the top cover screw.
3. Unsnap and remove the top cover.
4. Loosen the two strain-relief screws on the strain-relief bar.
5. Run the signal wires through the strain-relief opening.
6. Insert the stripped end of the wire fully into the terminal. Secure the wire by tightening the screw of the terminal. No bare wire should extend past the screw terminal. Exposed wire increases the risk of a short-circuit causing a failure.
7. Connect the safety earth ground to the safety ground lug.
8. Tighten the two screws on the strain-relief assembly to secure the cables.
9. Reinstall the top cover.
10. Replace the top cover screw.

**Figure 1. SCXI-1334 Top Cover Diagram**

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**Figure 2. SCXI-1334 Parts Locator Diagram**



- |                      |                        |
|----------------------|------------------------|
| 1. Column connectors | 5. Strain-Relief Screw |
| 2. Screw terminals   | 6. Row Connectors      |
| 3. Rear connector    | 7. Strain-Relief Bar   |
| 4. Thumbscrew        | 8. Safety Ground Lug   |

## Expanding the Number of Columns

The SCXI-1334 offers convenient methods for expanding the number of columns of a matrix using two or more SCXI-1334 terminal blocks.



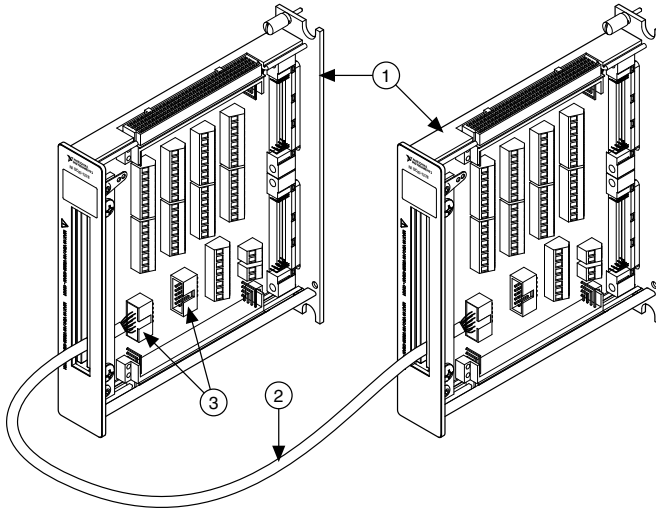
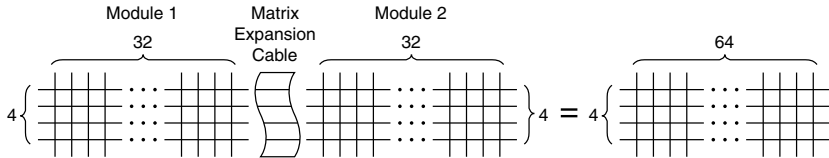
**Caution** When using matrix expansion cables, only connect terminal blocks of the same type together. Connecting different types of terminal blocks can damage the module or the equipment connected to the module. For example, you can connect two or more SCXI-1334 terminal blocks; however, do not connect the SCXI-1334 with any other type of terminal block.

To expand the number of columns of a matrix, complete the following steps:

1. Connect one end of the matrix expansion cable to a row connection cable terminal in one of the terminal blocks.
2. Connect the other end of the matrix expansion cable to a row connection cable terminal in another terminal block.

The following figure shows how to use a matrix expansion cable with SCXI terminal blocks to expand the number of columns of a 4×32 matrix, as an example. The matrix expansion cable connects rows to expand the number of columns.

**Figure 3.** Expanding the Number of Columns with the Matrix Expansion Cable



1. SCXI Terminal Blocks
2. Matrix Expansion Cable
3. Row Connection Cable Terminals

The SCXI-1334 configures the SCXI-1129 as a 4×64 matrix. Connecting two SCXI-1334 terminal blocks as described above creates a 4×128 matrix.

## Related Information

[Installing the Terminal Block](#) on page 6

Complete the following steps to connect the SCXI-1334 to the SCXI-1129 front panel.

# Installing the Terminal Block

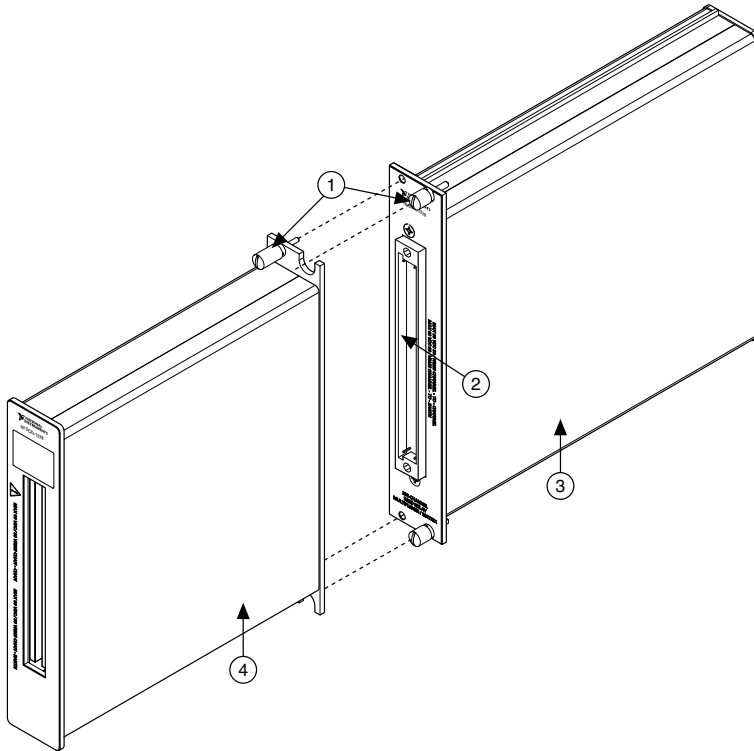
Complete the following steps to connect the SCXI-1334 to the SCXI-1129 front panel.



**Note** Install the SCXI-1129 if you have not already done so. Refer to the *NI Switches Getting Started Guide* for more information.

1. Plug the SCXI-1334 onto the front connector of the SCXI-1129.
2. Tighten the top and bottom thumbscrews on the terminal block rear panel to hold it securely in place.

**Figure 4.** Installing the SCXI-1334 Terminal Block



- |                    |              |
|--------------------|--------------|
| 1. Thumbscrews     | 3. SCXI-1129 |
| 2. Front Connector | 4. SCXI-1334 |

## Related Information

[Expanding the Number of Columns](#) on page 4

The SCXI-1334 offers convenient methods for expanding the number of columns of a matrix using two or more SCXI-1334 terminal blocks.

# Expanding the Number of Rows

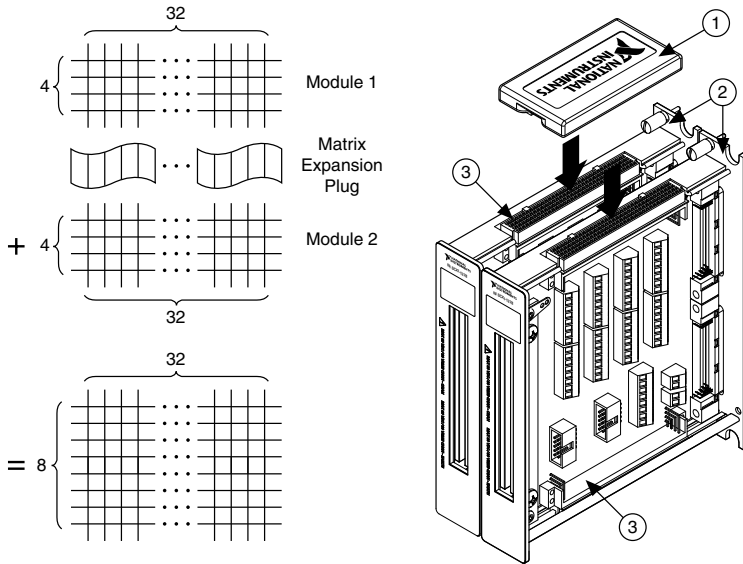
The SCXI-1334 offers convenient methods for expanding the number of rows of a matrix using two or more SCXI-1334 terminal blocks.



**Caution** When using matrix expansion plugs, only connect terminal blocks of the same type. Connecting different types of terminal blocks can damage the module or the equipment connected to the module. For example, you can connect two or more SCXI-1334 terminal blocks; however, do not connect the SCXI-1334 with any other type of terminal block.

1. Connect a matrix expansion plug to the top or bottom column connectors of the two terminal blocks.
2. Refer to the following figure for information about how to expand the number of rows. The figure demonstrates how to expand the number of rows of a 4 x 32 matrix as an example.

**Figure 5.** Expanding the Number of Rows with the Matrix Expansion Plug



1. Matrix Expansion Plug
2. Thumbscrews
3. Column Connectors

The SCXI-1334 configures the SCXI-1129 as a 4 x 64 matrix. Connecting the SCXI-1334 terminal blocks as described above creates an 8 x 64 matrix.



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