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**TB-2640**

# INSTALLATION INSTRUCTIONS

# NI SCB-264X

## Shielded Connector Block for the NI PXI-2532

このドキュメントには、日本語ページも含まれています。

This document describes how to install and connect signals to the National Instruments SCB-264X shielded connector block. Use the NI SCB-264X to interface individual signal wires to the rows and columns of the NI PXI-2532 matrix.

The NI SCB-264X has five ribbon cable connectors for connecting to the NI TB-2640/2641/2642/2643/2644 (NI TB-264X) connector blocks and screw terminals for connecting signals. The NI SCB-264X supports all NI PXI-2532 topologies that are configured with the NI TB-264X. The NI SCB-264X can be used alone, or it can be rack-mounted using the included DIN rail-mounting kit.



**Note** References to the NI TB-264X in this document do not include the NI TB-2645. The NI TB-2645 is not compatible with the NI SCB-264X.

Refer to the *NI Switches Getting Started Guide* to determine when to install the NI SCB-264X. Visit [ni.com/switches](http://ni.com/switches) for information about other switching solutions.

# 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 **File»Page Setup»Options** directs you to pull down the **File** menu, select the **Page Setup** item, and select **Options** 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 symbol is marked on a product, refer to the *Read Me First: Safety and Electromagnetic Compatibility* document for information about precautions to take.

**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.

## 1. Unpack the Shielded Connector Block

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Remove the NI SCB-264X from the package and inspect it for loose components or any sign of damage. Notify NI if the NI SCB-264X appears damaged in any way.



**Caution** Do *not* install a damaged shielded connector block into your system.

## 2. Verify the Components

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To install and use the NI SCB-264X you need the following items:

- NI SCB-264X shielded connector block
- NI PXI-2532 switch module
- One of the NI TB-264X connector block accessories listed in Table 1
- Installation instructions for the NI TB-264X you are using, accessible at [ni.com/manuals](http://ni.com/manuals)
- Ribbon cables (not included)



**Note** Refer to Table 1 for information about ordering ribbon cables for the NI SCB-264X.

- 1/8 in. flathead screwdriver
- #1 Phillips screwdriver
- Long-nose pliers
- Wire cutter
- Wire insulation stripper

**Table 1.** Accessories for the NI SCB-264X

Accessory	Part Number
Row and column cable kit for the NI TB-264X terminal blocks	779346-01
NI TB-2640 shielded connector block (4 × 128 1-wire matrix)	779056-01
NI TB-2640 shielded connector block, with protection resistance	779056-02
NI TB-2641 shielded connector block (8 × 64 1-wire matrix)	779056-03
NI TB-2641 shielded connector block, with protection resistance	779056-04
NI TB-2642 shielded connector block (16 × 32 1-wire matrix)	779056-05
NI TB-2642 shielded connector block, with protection resistance	779056-06
NI TB-2643 shielded connector block (4 × 64 2-wire matrix or dual 4 × 64 1-wire matrix)	779056-07
NI TB-2643 shielded connector block, with protection resistance	779056-08
NI TB-2644 shielded connector block (8 × 32 2-wire matrix or dual 8 × 32 1-wire matrix)	779056-09
NI TB-2644 shielded connector block, with protection resistance	779056-10

### 3. Install the DIN-Rail Mounting Bracket (Optional)

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If you prefer DIN-rail mounting instead of stand-alone operation, the NI SCB-264X is packaged with an optional DIN-rail mounting bracket. The bracket can be installed horizontally or vertically to the bottom of the NI SCB-264X. To install the mounting bracket, align the bracket with the appropriate horizontal or vertical holes, and secure the bracket to the NI SCB-264X using the two included screws.

### 4. Connect the NI SCB-264X to the NI TB-264X

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The NI TB-264X connects to and configures the NI PXI-2532 switch module into different topologies. To use the NI SCB-264X, you *must* connect to the NI PXI-2532 through one of the NI TB-264X terminal block accessories listed in Table 1. To connect the NI SCB-264X to the NI TB-264X, refer to Figures 1 and 2 while completing the following steps:

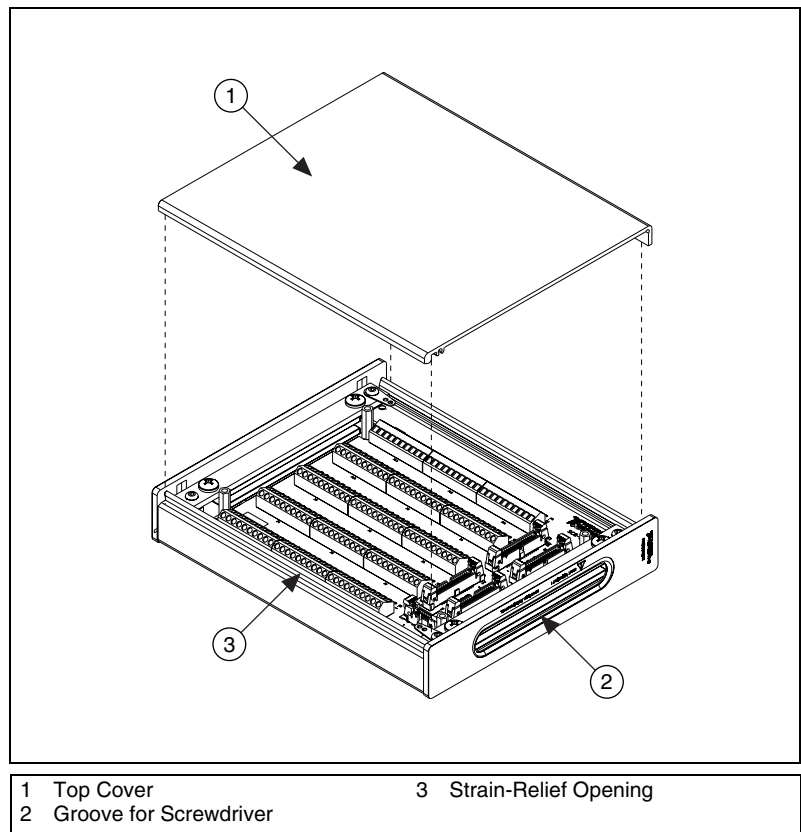
1. Gather the ribbon cables required for connecting the NI SCB-264X to the NI TB-264X. Depending on which NI TB-264X you are using, you may have up to four column cables (34-conductor ribbon cables with  $2 \times 17$  connectors) and one row cable (16-conductor ribbon cable with a  $2 \times 8$  connector). Refer to the installation instructions for your NI TB-264X for more information about the required cables.
2. Follow the steps in the NI TB-264X installation instructions to connect the ribbon cables to the NI TB-264X. Note the location of each cable in the NI TB-264X. Specifically, note whether the cable is connected to the J2 or J3 connector and whether it is connected to the lower or upper column connection board.
3. To access the ribbon cable connectors on the NI SCB-264X, insert a 1/8 in. flathead screwdriver into the groove on the edge of the NI SCB-264X.
4. Carefully turn the screwdriver counterclockwise until the top cover of the NI SCB-264X unsnaps.
5. Remove the top cover.
6. Inside the NI SCB-264X there are two strain-relief bars. Loosen the strain-relief screws on the strain-relief bar closest to the ribbon cable connectors.
7. Route the ribbon cables through the strain-relief opening.

- Attach the ribbon cables to the column and row ribbon cable connectors. To secure the cables, ensure that the locking mechanism engages.

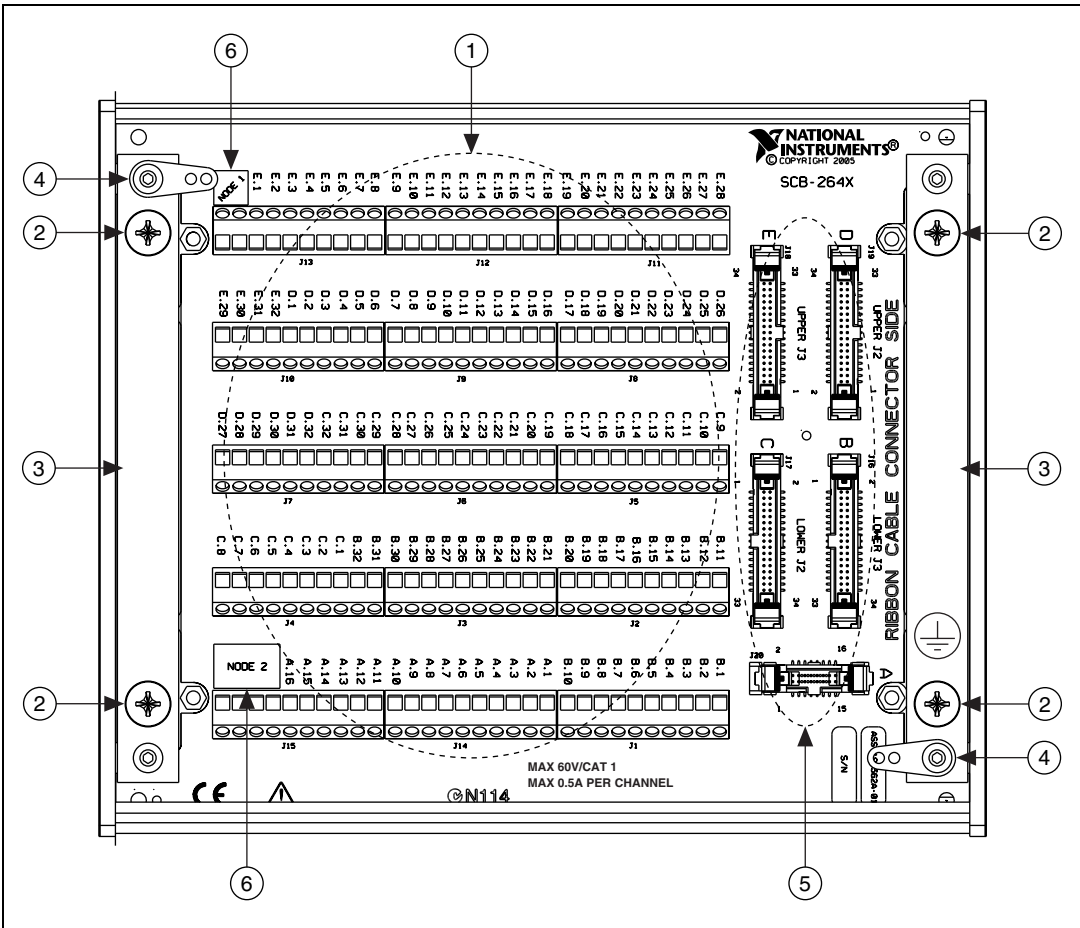


**Note** The installation location of each cable *must* be consistent with the connections made inside the NI TB-264X. Use the designators on the NI SCB-264X printed circuit board to ensure the correct location of each cable. *LOWER J2* and *LOWER J3* refer to the J2 and J3 connectors on the lower column connection board of the NI TB-264X; *UPPER J2* and *UPPER J3* refer to the J2 and J3 connectors on the upper column connection board of the NI TB-264X. If these connections are incorrect, Tables 2 through 10 are invalid.

- To connect signal wires to the NI SCB-264X, refer to step 5. [Connect Signals](#). Otherwise, replace the top cover, and refer to step 6. [Connect the NI TB-264X to the NI PXI-2532](#).



**Figure 1.** NI SCB-264X Shielded Connector Block



- |                        |                           |
|------------------------|---------------------------|
| 1 Screw Terminals      | 4 Safety Ground Lug       |
| 2 Strain-Relief Screws | 5 Ribbon Cable Connectors |
| 3 Strain-Relief Bar    | 6 Node Terminals          |

Figure 2. NI SCB-264X Parts Locator Diagram

# 5. Connect Signals

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To connect signals to the NI SCB-264X, refer to Figures 1 and 2 while completing the following steps:

1. Prepare the signal wire by stripping the insulation no more than 7 mm from the end of the wire.
2. Loosen the strain-relief screws on the strain-relief bar closest to the screw terminals.
3. Route the signal wires through the strain-relief opening.
4. Based on the NI TB-264X you are using, refer to the appropriate table (Tables 2 through 10) to determine which screw terminal to connect the signal wire.
5. Insert the stripped end of the wire fully into the terminal. Secure the wire by tightening the screw of the terminal.



**Caution** No bare wire should extend past the screw terminal. Exposed wire increases the risk of a short-circuit causing a failure.

6. Connect the protective earth (PE) ground to a safety ground lug.
7. Tighten the screws on the strain-relief assemblies to secure the cables.
8. Replace the top cover.



**Note** As illustrated in Figure 2, the NI SCB-264X contains six unused screw terminals, *Node 1* and *Node 2*, that you can use to assist in your signal/ground connections. Node 1 consists of two screw terminals that are connected to each other but are *not* connected to any other screw terminals; Node 2 consists of four screw terminals that are connected to each other but are *not* connected to any other screw terminals. Node 1 and Node 2 are *not* connected together. Use of the node terminals is optional.

Tables 2 through 8 illustrate the wiring configurations available for the NI SCB-264X.



**Table 2. 1-Wire 4 × 128 Configuration (NI TB-2640)**

SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name
E.28	C100	D.26	C70	C.09	C40	B.11	C10	B.01	C0
E.27	C101	D.25	C71	C.10	C41	B.12	C11	B.02	C1
E.26	C102	D.24	C72	C.11	C42	B.13	C12	B.03	C2
E.25	C103	D.23	C73	C.12	C43	B.14	C13	B.04	C3
E.24	C104	D.22	C74	C.13	C44	B.15	C14	B.05	C4
E.23	C105	D.21	C75	C.14	C45	B.16	C15	B.06	C5
E.22	C106	D.20	C76	C.15	C46	B.17	C16	B.07	C6
E.21	C107	D.19	C77	C.16	C47	B.18	C17	B.08	C7
E.20	C108	D.18	C78	C.17	C48	B.19	C18	B.09	C8
E.19	C109	D.17	C79	C.18	C49	B.20	C19	B.10	C9
E.18	C110	D.16	C80	C.19	C50	B.21	C20	A.01	R0
E.17	C111	D.15	C81	C.20	C51	B.22	C21	A.02	R1
E.16	C112	D.14	C82	C.21	C52	B.23	C22	A.03	R2
E.15	C113	D.13	C83	C.22	C53	B.24	C23	A.04	R3
E.14	C114	D.12	C84	C.23	C54	B.25	C24	A.05	NC
E.13	C115	D.11	C85	C.24	C55	B.26	C25	A.06	NC
E.12	C116	D.10	C86	C.25	C56	B.27	C26	A.07	NC
E.11	C117	D.09	C87	C.26	C57	B.28	C27	A.08	NC
E.10	C118	D.08	C88	C.27	C58	B.29	C28	A.09	NC
E.09	C119	D.07	C89	C.28	C59	B.30	C29	A.10	NC
E.08	C120	D.06	C90	C.29	C60	B.31	C30	A.11	NC
E.07	C121	D.05	C91	C.30	C61	B.32	C31	A.12	NC
E.06	C122	D.04	C92	C.31	C62	C.01	C32	A.13	NC
E.05	C123	D.03	C93	C.32	C63	C.02	C33	A.14	NC
E.04	C124	D.02	C94	D.32	C64	C.03	C34	A.15	NC
E.03	C125	D.01	C95	D.31	C65	C.04	C35	A.16	NC
E.02	C126	E.32	C96	D.30	C66	C.05	C36	Node 2	NC <sup>2</sup>
E.01	C127	E.31	C97	D.29	C67	C.06	C37	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.30	C98	D.28	C68	C.07	C38	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.29	C99	D.27	C69	C.08	C39	Node 2	NC <sup>2</sup>

NC denotes a channel with no connection.

<sup>1</sup> The two Node 1 terminals are connected.

<sup>2</sup> The four Node 2 terminals are connected.

**Table 3. 1-Wire 8 × 64 Configuration (NI TB-2641)**

SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name
E.28	NC	D.26	NC	C.09	C40	B.11	C10	B.01	C0
E.27	NC	D.25	NC	C.10	C41	B.12	C11	B.02	C1
E.26	NC	D.24	NC	C.11	C42	B.13	C12	B.03	C2
E.25	NC	D.23	NC	C.12	C43	B.14	C13	B.04	C3
E.24	NC	D.22	NC	C.13	C44	B.15	C14	B.05	C4
E.23	NC	D.21	NC	C.14	C45	B.16	C15	B.06	C5
E.22	NC	D.20	NC	C.15	C46	B.17	C16	B.07	C6
E.21	NC	D.19	NC	C.16	C47	B.18	C17	B.08	C7
E.20	NC	D.18	NC	C.17	C48	B.19	C18	B.09	C8
E.19	NC	D.17	NC	C.18	C49	B.20	C19	B.10	C9
E.18	NC	D.16	NC	C.19	C50	B.21	C20	A.01	R0
E.17	NC	D.15	NC	C.20	C51	B.22	C21	A.02	R1
E.16	NC	D.14	NC	C.21	C52	B.23	C22	A.03	R2
E.15	NC	D.13	NC	C.22	C53	B.24	C23	A.04	R3
E.14	NC	D.12	NC	C.23	C54	B.25	C24	A.05	R4
E.13	NC	D.11	NC	C.24	C55	B.26	C25	A.06	R5
E.12	NC	D.10	NC	C.25	C56	B.27	C26	A.07	R6
E.11	NC	D.09	NC	C.26	C57	B.28	C27	A.08	R7
E.10	NC	D.08	NC	C.27	C58	B.29	C28	A.09	NC
E.09	NC	D.07	NC	C.28	C59	B.30	C29	A.10	NC
E.08	NC	D.06	NC	C.29	C60	B.31	C30	A.11	NC
E.07	NC	D.05	NC	C.30	C61	B.32	C31	A.12	NC
E.06	NC	D.04	NC	C.31	C62	C.01	C32	A.13	NC
E.05	NC	D.03	NC	C.32	C63	C.02	C33	A.14	NC
E.04	NC	D.02	NC	D.32	NC	C.03	C34	A.15	NC
E.03	NC	D.01	NC	D.31	NC	C.04	C35	A.16	NC
E.02	NC	E.32	NC	D.30	NC	C.05	C36	Node 2	NC <sup>2</sup>
E.01	NC	E.31	NC	D.29	NC	C.06	C37	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.30	NC	D.28	NC	C.07	C38	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.29	NC	D.27	NC	C.08	C39	Node 2	NC <sup>2</sup>

NC denotes a channel with no connection.

<sup>1</sup> The two Node 1 terminals are connected.

<sup>2</sup> The four Node 2 terminals are connected.

**Table 4. 1-Wire 16 × 32 Configuration (NI TB-2642)**

SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name
E.28	NC	D.26	NC	C.09	NC	B.11	C10	B.01	C0
E.27	NC	D.25	NC	C.10	NC	B.12	C11	B.02	C1
E.26	NC	D.24	NC	C.11	NC	B.13	C12	B.03	C2
E.25	NC	D.23	NC	C.12	NC	B.14	C13	B.04	C3
E.24	NC	D.22	NC	C.13	NC	B.15	C14	B.05	C4
E.23	NC	D.21	NC	C.14	NC	B.16	C15	B.06	C5
E.22	NC	D.20	NC	C.15	NC	B.17	C16	B.07	C6
E.21	NC	D.19	NC	C.16	NC	B.18	C17	B.08	C7
E.20	NC	D.18	NC	C.17	NC	B.19	C18	B.09	C8
E.19	NC	D.17	NC	C.18	NC	B.20	C19	B.10	C9
E.18	NC	D.16	NC	C.19	NC	B.21	C20	A.01	R0
E.17	NC	D.15	NC	C.20	NC	B.22	C21	A.02	R1
E.16	NC	D.14	NC	C.21	NC	B.23	C22	A.03	R2
E.15	NC	D.13	NC	C.22	NC	B.24	C23	A.04	R3
E.14	NC	D.12	NC	C.23	NC	B.25	C24	A.05	R4
E.13	NC	D.11	NC	C.24	NC	B.26	C25	A.06	R5
E.12	NC	D.10	NC	C.25	NC	B.27	C26	A.07	R6
E.11	NC	D.09	NC	C.26	NC	B.28	C27	A.08	R7
E.10	NC	D.08	NC	C.27	NC	B.29	C28	A.09	R8
E.09	NC	D.07	NC	C.28	NC	B.30	C29	A.10	R9
E.08	NC	D.06	NC	C.29	NC	B.31	C30	A.11	R10
E.07	NC	D.05	NC	C.30	NC	B.32	C31	A.12	R11
E.06	NC	D.04	NC	C.31	NC	C.01	NC	A.13	R12
E.05	NC	D.03	NC	C.32	NC	C.02	NC	A.14	R13
E.04	NC	D.02	NC	D.32	NC	C.03	NC	A.15	R14
E.03	NC	D.01	NC	D.31	NC	C.04	NC	A.16	R15
E.02	NC	E.32	NC	D.30	NC	C.05	NC	Node 2	NC <sup>2</sup>
E.01	NC	E.31	NC	D.29	NC	C.06	NC	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.30	NC	D.28	NC	C.07	NC	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.29	NC	D.27	NC	C.08	NC	Node 2	NC <sup>2</sup>

NC denotes a channel with no connection.

<sup>1</sup> The two Node 1 terminals are connected.

<sup>2</sup> The four Node 2 terminals are connected.

**Table 5. 2-Wire 4 × 64 Configuration (NI TB-2643)**

SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name
E.28	C50+	D.26	C35+	C.09	C20+	B.11	C5+	B.01	C0+
E.27	C50-	D.25	C35-	C.10	C20-	B.12	C5-	B.02	C0-
E.26	C51+	D.24	C36+	C.11	C21+	B.13	C6+	B.03	C1+
E.25	C51-	D.23	C36-	C.12	C21-	B.14	C6-	B.04	C1-
E.24	C52+	D.22	C37+	C.13	C22+	B.15	C7+	B.05	C2+
E.23	C52-	D.21	C37-	C.14	C22-	B.16	C7-	B.06	C2-
E.22	C53+	D.20	C38+	C.15	C23+	B.17	C8+	B.07	C3+
E.21	C53-	D.19	C38-	C.16	C23-	B.18	C8-	B.08	C3-
E.20	C54+	D.18	C39+	C.17	C24+	B.19	C9+	B.09	C4+
E.19	C54-	D.17	C39-	C.18	C24-	B.20	C9-	B.10	C4-
E.18	C55+	D.16	C40+	C.19	C25+	B.21	C10+	A.01	R0+
E.17	C55-	D.15	C40-	C.20	C25-	B.22	C10-	A.02	R0-
E.16	C56+	D.14	C41+	C.21	C26+	B.23	C11+	A.03	R1+
E.15	C56-	D.13	C41-	C.22	C26-	B.24	C11-	A.04	R1-
E.14	C57+	D.12	C42+	C.23	C27+	B.25	C12+	A.05	R2+
E.13	C57-	D.11	C42-	C.24	C27-	B.26	C12-	A.06	R2-
E.12	C58+	D.10	C43+	C.25	C28+	B.27	C13+	A.07	R3+
E.11	C58-	D.09	C43-	C.26	C28-	B.28	C13-	A.08	R3-
E.10	C59+	D.08	C44+	C.27	C29+	B.29	C14+	A.09	NC
E.09	C59-	D.07	C44-	C.28	C29-	B.30	C14-	A.10	NC
E.08	C60+	D.06	C45+	C.29	C30+	B.31	C15+	A.11	NC
E.07	C60-	D.05	C45-	C.30	C30-	B.32	C15-	A.12	NC
E.06	C61+	D.04	C46+	C.31	C31+	C.01	C16+	A.13	NC
E.05	C61-	D.03	C46-	C.32	C31-	C.02	C16-	A.14	NC
E.04	C62+	D.02	C47+	D.32	C32+	C.03	C17+	A.15	NC
E.03	C62-	D.01	C47-	D.31	C32-	C.04	C17-	A.16	NC
E.02	C63+	E.32	C48+	D.30	C33+	C.05	C18+	Node 2	NC <sup>2</sup>
E.01	C63-	E.31	C48-	D.29	C33-	C.06	C18-	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.30	C49+	D.28	C34+	C.07	C19+	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.29	C49-	D.27	C34-	C.08	C19-	Node 2	NC <sup>2</sup>

NC denotes a channel with no connection.

<sup>1</sup> The two Node 1 terminals are connected.

<sup>2</sup> The four Node 2 terminals are connected.

**Table 6.** Dual 4 × 64 Configuration (NI TB-2643)

SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name
E.28	B0C50	D.26	B0C35	C.09	B0C20	B.11	B0C5	B.01	B0C0
E.27	B1C50	D.25	B1C35	C.10	B1C20	B.12	B1C5	B.02	B1C0
E.26	B0C51	D.24	B0C36	C.11	B0C21	B.13	B0C6	B.03	B0C1
E.25	B1C51	D.23	B1C36	C.12	B1C21	B.14	B1C6	B.04	B1C1
E.24	B0C52	D.22	B0C37	C.13	B0C22	B.15	B0C7	B.05	B0C2
E.23	B1C52	D.21	B1C37	C.14	B1C22	B.16	B1C7	B.06	B1C2
E.22	B0C53	D.20	B0C38	C.15	B0C23	B.17	B0C8	B.07	B0C3
E.21	B1C53	D.19	B1C38	C.16	B1C23	B.18	B1C8	B.08	B1C3
E.20	B0C54	D.18	B0C39	C.17	B0C24	B.19	B0C9	B.09	B0C4
E.19	B1C54	D.17	B1C39	C.18	B1C24	B.20	B1C9	B.10	B1C4
E.18	B0C55	D.16	B0C40	C.19	B0C25	B.21	B0C10	A.01	B0R0
E.17	B1C55	D.15	B1C40	C.20	B1C25	B.22	B1C10	A.02	B1R0
E.16	B0C56	D.14	B0C41	C.21	B0C26	B.23	B0C11	A.03	B0R1
E.15	B1C56	D.13	B1C41	C.22	B1C26	B.24	B1C11	A.04	B1R1
E.14	B0C57	D.12	B0C42	C.23	B0C27	B.25	B0C12	A.05	B0R2
E.13	B1C57	D.11	B1C42	C.24	B1C27	B.26	B1C12	A.06	B1R2
E.12	B0C58	D.10	B0C43	C.25	B0C28	B.27	B0C13	A.07	B0R3
E.11	B1C58	D.09	B1C43	C.26	B1C28	B.28	B1C13	A.08	B1R3
E.10	B0C59	D.08	B0C44	C.27	B0C29	B.29	B0C14	A.09	NC
E.09	B1C59	D.07	B1C44	C.28	B1C29	B.30	B1C14	A.10	NC
E.08	B0C60	D.06	B0C45	C.29	B0C30	B.31	B0C15	A.11	NC
E.07	B1C60	D.05	B1C45	C.30	B1C30	B.32	B1C15	A.12	NC
E.06	B0C61	D.04	B0C46	C.31	B0C31	C.01	B0C16	A.13	NC
E.05	B1C61	D.03	B1C46	C.32	B1C31	C.02	B1C16	A.14	NC
E.04	B0C62	D.02	B0C47	D.32	B0C32	C.03	B0C17	A.15	NC
E.03	B1C62	D.01	B1C47	D.31	B1C32	C.04	B1C17	A.16	NC
E.02	B0C63	E.32	B0C48	D.30	B0C33	C.05	B0C18	Node 2	NC <sup>2</sup>
E.01	B1C63	E.31	B1C48	D.29	B1C33	C.06	B1C18	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.30	B0C49	D.28	B0C34	C.07	B0C19	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.29	B1C49	D.27	B1C34	C.08	B1C19	Node 2	NC <sup>2</sup>

NC denotes a channel with no connection.

<sup>1</sup> The two Node 1 terminals are connected.

<sup>2</sup> The four Node 2 terminals are connected.

**Table 7. 2-Wire 8 × 32 Configuration (NI TB-2644)**

SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name
E.28	NC	D.26	NC	C.09	C20+	B.11	C5+	B.01	C0+
E.27	NC	D.25	NC	C.10	C20-	B.12	C5-	B.02	C0-
E.26	NC	D.24	NC	C.11	C21+	B.13	C6+	B.03	C1+
E.25	NC	D.23	NC	C.12	C21-	B.14	C6-	B.04	C1-
E.24	NC	D.22	NC	C.13	C22+	B.15	C7+	B.05	C2+
E.23	NC	D.21	NC	C.14	C22-	B.16	C7-	B.06	C2-
E.22	NC	D.20	NC	C.15	C23+	B.17	C8+	B.07	C3+
E.21	NC	D.19	NC	C.16	C23-	B.18	C8-	B.08	C3-
E.20	NC	D.18	NC	C.17	C24+	B.19	C9+	B.09	C4+
E.19	NC	D.17	NC	C.18	C24-	B.20	C9-	B.10	C4-
E.18	NC	D.16	NC	C.19	C25+	B.21	C10+	A.01	R0+
E.17	NC	D.15	NC	C.20	C25-	B.22	C10-	A.02	R0-
E.16	NC	D.14	NC	C.21	C26+	B.23	C11+	A.03	R1+
E.15	NC	D.13	NC	C.22	C26-	B.24	C11-	A.04	R1-
E.14	NC	D.12	NC	C.23	C27+	B.25	C12+	A.05	R2+
E.13	NC	D.11	NC	C.24	C27-	B.26	C12-	A.06	R2-
E.12	NC	D.10	NC	C.25	C28+	B.27	C13+	A.07	R3+
E.11	NC	D.09	NC	C.26	C28-	B.28	C13-	A.08	R3-
E.10	NC	D.08	NC	C.27	C29+	B.29	C14+	A.09	R4+
E.09	NC	D.07	NC	C.28	C29-	B.30	C14-	A.10	R4-
E.08	NC	D.06	NC	C.29	C30+	B.31	C15+	A.11	R5+
E.07	NC	D.05	NC	C.30	C30-	B.32	C15-	A.12	R5-
E.06	NC	D.04	NC	C.31	C31+	C.01	C16+	A.13	R6+
E.05	NC	D.03	NC	C.32	C31-	C.02	C16-	A.14	R6-
E.04	NC	D.02	NC	D.32	NC	C.03	C17+	A.15	R7+
E.03	NC	D.01	NC	D.31	NC	C.04	C17-	A.16	R7-
E.02	NC	E.32	NC	D.30	NC	C.05	C18+	Node 2	NC <sup>2</sup>
E.01	NC	E.31	NC	D.29	NC	C.06	C18-	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.30	NC	D.28	NC	C.07	C19+	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.29	NC	D.27	NC	C.08	C19-	Node 2	NC <sup>2</sup>

NC denotes a channel with no connection.

<sup>1</sup> The two Node 1 terminals are connected.

<sup>2</sup> The four Node 2 terminals are connected.

**Table 8.** Dual 8 × 32 Configuration (NI TB-2644)

SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name	SCB-264X Name	Channel Name
E.28	NC	D.26	NC	C.09	B0C20	B.11	B0C5	B.01	B0C0
E.27	NC	D.25	NC	C.10	B1C20	B.12	B1C5	B.02	B1C0
E.26	NC	D.24	NC	C.11	B0C21	B.13	B0C6	B.03	B0C1
E.25	NC	D.23	NC	C.12	B1C21	B.14	B1C6	B.04	B1C1
E.24	NC	D.22	NC	C.13	B0C22	B.15	B0C7	B.05	B0C2
E.23	NC	D.21	NC	C.14	B1C22	B.16	B1C7	B.06	B1C2
E.22	NC	D.20	NC	C.15	B0C23	B.17	B0C8	B.07	B0C3
E.21	NC	D.19	NC	C.16	B1C23	B.18	B1C8	B.08	B1C3
E.20	NC	D.18	NC	C.17	B0C24	B.19	B0C9	B.09	B0C4
E.19	NC	D.17	NC	C.18	B1C24	B.20	B1C9	B.10	B1C4
E.18	NC	D.16	NC	C.19	B0C25	B.21	B0C10	A.01	B0R0
E.17	NC	D.15	NC	C.20	B1C25	B.22	B1C10	A.02	B1R0
E.16	NC	D.14	NC	C.21	B0C26	B.23	B0C11	A.03	B0R1
E.15	NC	D.13	NC	C.22	B1C26	B.24	B1C11	A.04	B1R1
E.14	NC	D.12	NC	C.23	B0C27	B.25	B0C12	A.05	B0R2
E.13	NC	D.11	NC	C.24	B1C27	B.26	B1C12	A.06	B1R2
E.12	NC	D.10	NC	C.25	B0C28	B.27	B0C13	A.07	B0R3
E.11	NC	D.09	NC	C.26	B1C28	B.28	B1C13	A.08	B1R3
E.10	NC	D.08	NC	C.27	B0C29	B.29	B0C14	A.09	B0R4
E.09	NC	D.07	NC	C.28	B1C29	B.30	B1C14	A.10	B1R4
E.08	NC	D.06	NC	C.29	B0C30	B.31	B0C15	A.11	B0R5
E.07	NC	D.05	NC	C.30	B1C30	B.32	B1C15	A.12	B1R5
E.06	NC	D.04	NC	C.31	B0C31	C.01	B0C16	A.13	B0R6
E.05	NC	D.03	NC	C.32	B1C31	C.02	B1C16	A.14	B1R6
E.04	NC	D.02	NC	D.32	NC	C.03	B0C17	A.15	B0R7
E.03	NC	D.01	NC	D.31	NC	C.04	B1C17	A.16	B1R7
E.02	NC	E.32	NC	D.30	NC	C.05	B0C18	Node 2	NC <sup>2</sup>
E.01	NC	E.31	NC	D.29	NC	C.06	B1C18	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.30	NC	D.28	NC	C.07	B0C19	Node 2	NC <sup>2</sup>
Node 1	NC <sup>1</sup>	E.29	NC	D.27	NC	C.08	B1C19	Node 2	NC <sup>2</sup>

NC denotes a channel with no connection.

<sup>1</sup> The two Node 1 terminals are connected.

<sup>2</sup> The four Node 2 terminals are connected.

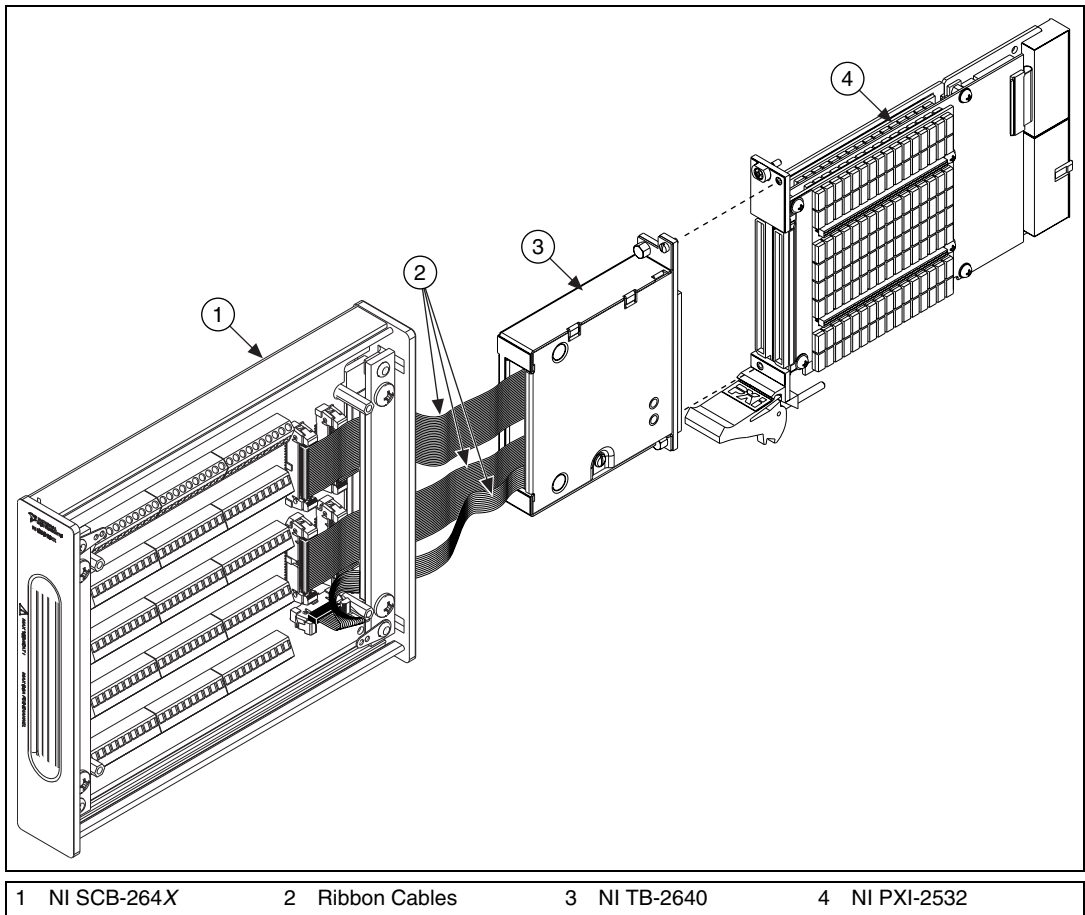
## 6. Connect the NI TB-264X to the NI PXI-2532

To connect the NI TB-264X to the NI PXI-2532, refer to the appropriate installation instructions for your NI TB-264X.

Figure 3 illustrates the NI SCB-264X connected to the NI PXI-2532 through the NI TB-2640.



**Note** The number of ribbon cables required and the cable connections will differ for each NI TB-264X.



**Figure 3.** NI SCB-264X Connections Using the NI TB-2640



# Specifications

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This section lists additional specifications for the NI SCB-264X used with the NI PXI-2532. All specifications are subject to change without notice. Visit [ni.com/manuals](http://ni.com/manuals) for the most current specifications.

## Input Characteristics

All input characteristics are DC, AC<sub>pk</sub>, or a combination unless otherwise specified.

### Maximum switching voltage

Channel-to-channel.....60 V

Channel-to-ground.....60 V, CAT I

Maximum current (per channel) .....0.5 A

DC path resistance .....<2.0  $\Omega$  + cable resistance