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INSTALLATION INSTRUCTIONS

NI TB-2630

Terminal Block for the NI PXI-2530

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 guide describes how to install and connect signals to the National Instruments TB-2630 terminal block to configure your NI PXI-2530 switch module as one of the following:

- 128 × 1 1-wire multiplexer
- 64 × 1 2-wire multiplexer
- 32 × 1 4-wire multiplexer
- Eight 16 × 1 1-wire multiplexers

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

Introduction

The TB-2630 terminal block installs in front of the PXI-2530 switch module. The TB-2630 has ribbon cable headers to connect signals to the switch. Screw terminals for the trigger input and trigger output signals also are available.

Conventions

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.

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	This icon denotes a caution, which advises you of precautions to take to avoid injury, data loss, or a system crash.
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. This font 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 Terminal Block

To avoid 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.

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2. Verify the Components

Make sure you have the following:

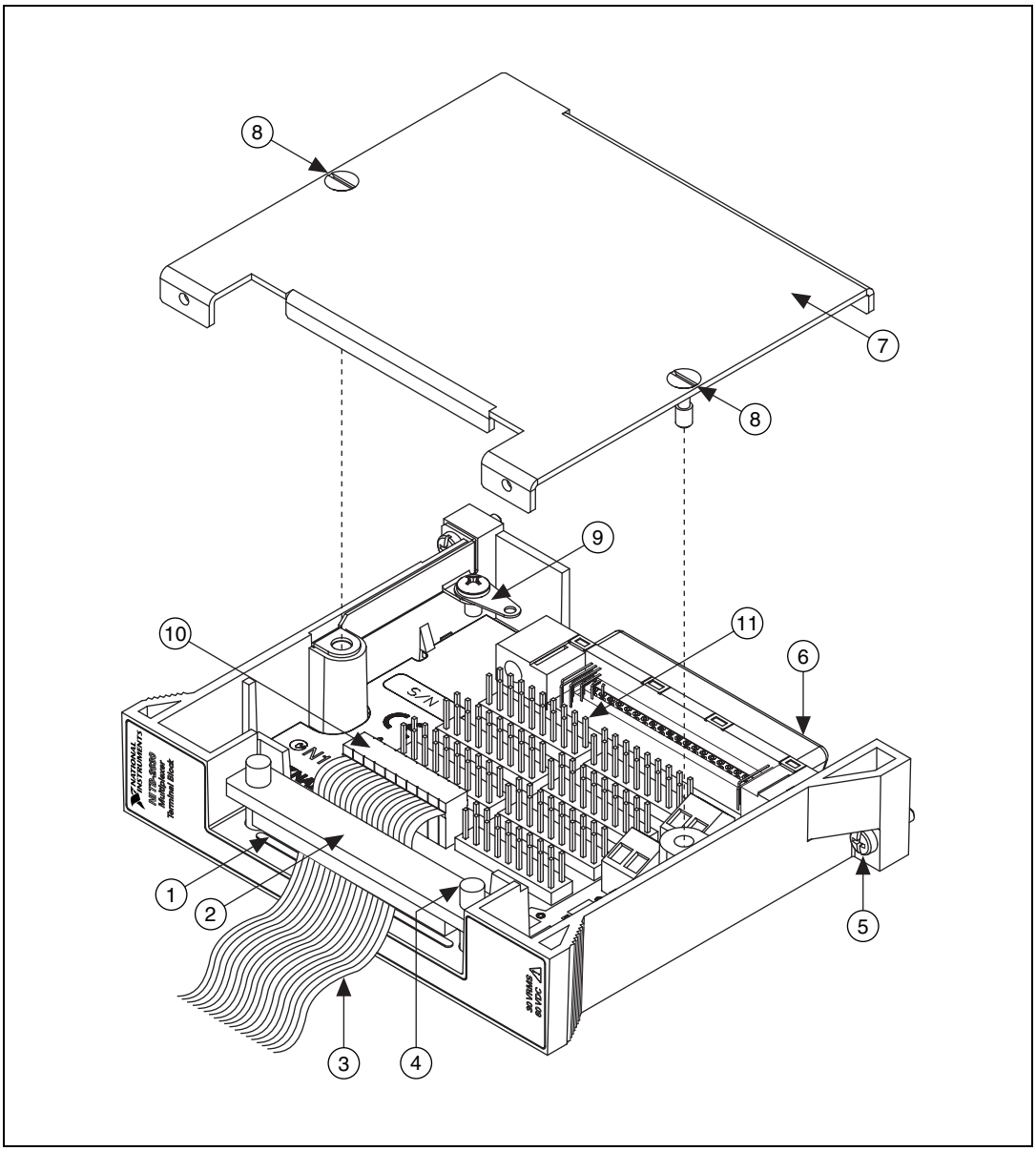
- ❑ NI TB-2630 terminal block
- ❑ PXI chassis
- ❑ NI PXI-2530 switch module
- ❑ 1/8 in. flathead screwdriver
- ❑ Eight 2 × 9, 0.100 in. pitch ribbon cable connectors (included)
- ❑ 18-conductor, 28 AWG, 0.050 in. pitch ribbon cable (not included)

3. Connect Signals

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

1. Remove the terminal block top cover screws with the flathead screwdriver.
2. Gently lift the terminal block top cover off the terminal block.
3. Loosen the two screws on the strain-relief assembly and remove the top strain-relief bar.
4. Prepare your ribbon cable by installing the 2 × 9 ribbon cable connectors onto separate 18-conductor ribbon cables.
5. Connect each ribbon cable to a header.
6. Replace the strain-relief bar and tighten the two screws on the strain-relief assembly to secure the cables.
7. Replace the terminal block top cover.
8. Secure the terminal block top cover with the top cover screws.

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1 Strain-Relief Opening	7 Terminal Block Top Cover
2 Strain-Relief Bar	8 Top Cover Screws
3 Ribbon Cable	9 Safety Ground Lug
4 Strain-Relief Screw	10 Ribbon Cable Connector
5 Chassis Screws	11 Ribbon Cable Header
6 Rear Connector	

Figure 1. TB-2630 Terminal Block

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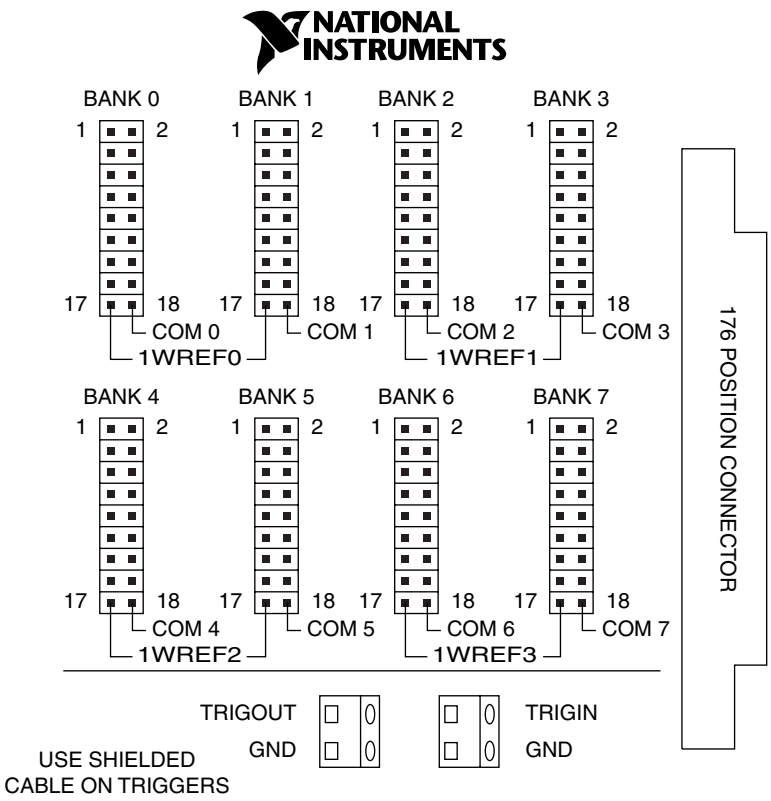


Figure 2. TB-2630 Terminal Block Signal Connections

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Table 1. 128 x 1, 1-Wire Topology Terminal Mapping

Software Name	Hardware Name	Software Name	Hardware Name	Software Name	Hardware Name
com0	BANK 0, PIN 18	ch42	BANK 2, PIN 11	ch85	BANK 5, PIN 6
ch0	BANK 0, PIN 1	ch43	BANK 2, PIN 12	ch86	BANK 5, PIN 7
ch1	BANK 0, PIN 2	ch44	BANK 2, PIN 13	ch87	BANK 5, PIN 8
ch2	BANK 0, PIN 3	ch45	BANK 2, PIN 14	ch88	BANK 5, PIN 9
ch3	BANK 0, PIN 4	ch46	BANK 2, PIN 15	ch89	BANK 5, PIN 10
ch4	BANK 0, PIN 5	ch47	BANK 2, PIN 16	ch90	BANK 5, PIN 11
ch5	BANK 0, PIN 6	ch48	BANK 3, PIN 1	ch91	BANK 5, PIN 12
ch6	BANK 0, PIN 7	ch49	BANK 3, PIN 2	ch92	BANK 5, PIN 13
ch7	BANK 0, PIN 8	ch50	BANK 3, PIN 3	ch93	BANK 5, PIN 14
ch8	BANK 0, PIN 9	ch51	BANK 3, PIN 4	ch94	BANK 5, PIN 15
ch9	BANK 0, PIN 10	ch52	BANK 3, PIN 5	ch95	BANK 5, PIN 16
ch10	BANK 0, PIN 11	ch53	BANK 3, PIN 6	ch96	BANK 6, PIN 1
ch11	BANK 0, PIN 12	ch54	BANK 3, PIN 7	ch97	BANK 6, PIN 2
ch12	BANK 0, PIN 13	ch55	BANK 3, PIN 8	ch98	BANK 6, PIN 3
ch13	BANK 0, PIN 14	ch56	BANK 3, PIN 9	ch99	BANK 6, PIN 4
ch14	BANK 0, PIN 15	ch57	BANK 3, PIN 10	ch100	BANK 6, PIN 5
ch15	BANK 0, PIN 16	ch58	BANK 3, PIN 11	ch101	BANK 6, PIN 6
ch16	BANK 1, PIN 1	ch59	BANK 3, PIN 12	ch102	BANK 6, PIN 7
ch17	BANK 1, PIN 2	ch60	BANK 3, PIN 13	ch103	BANK 6, PIN 8
ch18	BANK 1, PIN 3	ch61	BANK 3, PIN 14	ch104	BANK 6, PIN 9
ch19	BANK 1, PIN 4	ch62	BANK 3, PIN 15	ch105	BANK 6, PIN 10
ch20	BANK 1, PIN 5	ch63	BANK 3, PIN 16	ch106	BANK 6, PIN 11
ch21	BANK 1, PIN 6	ch64	BANK 4, PIN 1	ch107	BANK 6, PIN 12
ch22	BANK 1, PIN 7	ch65	BANK 4, PIN 2	ch108	BANK 6, PIN 13
ch23	BANK 1, PIN 8	ch66	BANK 4, PIN 3	ch109	BANK 6, PIN 14
ch24	BANK 1, PIN 9	ch67	BANK 4, PIN 4	ch110	BANK 6, PIN 15
ch25	BANK 1, PIN 10	ch68	BANK 4, PIN 5	ch111	BANK 6, PIN 16
ch26	BANK 1, PIN 11	ch69	BANK 4, PIN 6	ch112	BANK 7, PIN 1
ch27	BANK 1, PIN 12	ch70	BANK 4, PIN 7	ch113	BANK 7, PIN 2
ch28	BANK 1, PIN 13	ch71	BANK 4, PIN 8	ch114	BANK 7, PIN 3

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Table 1. 128 x 1, 1-Wire Topology Terminal Mapping (Continued)

Software Name	Hardware Name	Software Name	Hardware Name	Software Name	Hardware Name
ch29	BANK 1, PIN 14	ch72	BANK 4, PIN 9	ch115	BANK 7, PIN 4
ch30	BANK 1, PIN 15	ch73	BANK 4, PIN 10	ch116	BANK 7, PIN 5
ch31	BANK 1, PIN 16	ch74	BANK 4, PIN 11	ch117	BANK 7, PIN 6
ch32	BANK 2, PIN 1	ch75	BANK 4, PIN 12	ch118	BANK 7, PIN 7
ch33	BANK 2, PIN 2	ch76	BANK 4, PIN 13	ch119	BANK 7, PIN 8
ch34	BANK 2, PIN 3	ch77	BANK 4, PIN 14	ch120	BANK 7, PIN 9
ch35	BANK 2, PIN 4	ch78	BANK 4, PIN 15	ch121	BANK 7, PIN 10
ch36	BANK 2, PIN 5	ch79	BANK 4, PIN 16	ch122	BANK 7, PIN 11
ch37	BANK 2, PIN 6	ch80	BANK 5, PIN 1	ch123	BANK 7, PIN 12
ch38	BANK 2, PIN 7	ch81	BANK 5, PIN 2	ch124	BANK 7, PIN 13
ch39	BANK 2, PIN 8	ch82	BANK 5, PIN 3	ch125	BANK 7, PIN 14
ch40	BANK 2, PIN 9	ch83	BANK 5, PIN 4	ch126	BANK 7, PIN 15
ch41	BANK 2, PIN 10	ch84	BANK 5, PIN 5	ch127	BANK 7, PIN 16

Note In the 128 × 1, 1-wire topology, 1WREF0 (BANK 0–1, PIN 17) is connected to COM1 (BANK 1, PIN 18).

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Table 2. 64 x 1, 2-Wire Topology Terminal Mapping

Software Name	Hardware Name	
	+	–
com0	BANK 0, PIN 18	BANK 1, PIN 18
ch0	BANK 0, PIN 1	BANK 1, PIN 1
ch1	BANK 0, PIN 2	BANK 1, PIN 2
ch2	BANK 0, PIN 3	BANK 1, PIN 3
ch3	BANK 0, PIN 4	BANK 1, PIN 4
ch4	BANK 0, PIN 5	BANK 1, PIN 5
ch5	BANK 0, PIN 6	BANK 1, PIN 6
ch6	BANK 0, PIN 7	BANK 1, PIN 7
ch7	BANK 0, PIN 8	BANK 1, PIN 8
ch8	BANK 0, PIN 9	BANK 1, PIN 9
ch9	BANK 0, PIN 10	BANK 1, PIN 10
ch10	BANK 0, PIN 11	BANK 1, PIN 11
ch11	BANK 0, PIN 12	BANK 1, PIN 12
ch12	BANK 0, PIN 13	BANK 1, PIN 13
ch13	BANK 0, PIN 14	BANK 1, PIN 14
ch14	BANK 0, PIN 15	BANK 1, PIN 15
ch15	BANK 0, PIN 16	BANK 1, PIN 16
ch16	BANK 2, PIN 1	BANK 3, PIN 1
ch17	BANK 2, PIN 2	BANK 3, PIN 2
ch18	BANK 2, PIN 3	BANK 3, PIN 3
ch19	BANK 2, PIN 4	BANK 3, PIN 4
ch20	BANK 2, PIN 5	BANK 3, PIN 5
ch21	BANK 2, PIN 6	BANK 3, PIN 6
ch22	BANK 2, PIN 7	BANK 3, PIN 7
ch23	BANK 2, PIN 8	BANK 3, PIN 8
ch24	BANK 2, PIN 9	BANK 3, PIN 9
ch25	BANK 2, PIN 10	BANK 3, PIN 10
ch26	BANK 2, PIN 11	BANK 3, PIN 11
ch27	BANK 2, PIN 12	BANK 3, PIN 12
ch28	BANK 2, PIN 13	BANK 3, PIN 13

Software Name	Hardware Name	
	+	–
ch32	BANK 4, PIN 1	BANK 5, PIN 1
ch33	BANK 4, PIN 2	BANK 5, PIN 2
ch34	BANK 4, PIN 3	BANK 5, PIN 3
ch35	BANK 4, PIN 4	BANK 5, PIN 4
ch36	BANK 4, PIN 5	BANK 5, PIN 5
ch37	BANK 4, PIN 6	BANK 5, PIN 6
ch38	BANK 4, PIN 7	BANK 5, PIN 7
ch39	BANK 4, PIN 8	BANK 5, PIN 8
ch40	BANK 4, PIN 9	BANK 5, PIN 9
ch41	BANK 4, PIN 10	BANK 5, PIN 10
ch42	BANK 4, PIN 11	BANK 5, PIN 11
ch43	BANK 4, PIN 12	BANK 5, PIN 12
ch44	BANK 4, PIN 13	BANK 5, PIN 13
ch45	BANK 4, PIN 14	BANK 5, PIN 14
ch46	BANK 4, PIN 15	BANK 5, PIN 15
ch47	BANK 4, PIN 16	BANK 5, PIN 16
ch48	BANK 6, PIN 1	BANK 7, PIN 1
ch49	BANK 6, PIN 2	BANK 7, PIN 2
ch50	BANK 6, PIN 3	BANK 7, PIN 3
ch51	BANK 6, PIN 4	BANK 7, PIN 4
ch52	BANK 6, PIN 5	BANK 7, PIN 5
ch53	BANK 6, PIN 6	BANK 7, PIN 6
ch54	BANK 6, PIN 7	BANK 7, PIN 7
ch55	BANK 6, PIN 8	BANK 7, PIN 8
ch56	BANK 6, PIN 9	BANK 7, PIN 9
ch57	BANK 6, PIN 10	BANK 7, PIN 10
ch58	BANK 6, PIN 11	BANK 7, PIN 11
ch59	BANK 6, PIN 12	BANK 7, PIN 12
ch60	BANK 6, PIN 13	BANK 7, PIN 13
ch61	BANK 6, PIN 14	BANK 7, PIN 14

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Table 2. 64 x 1, 2-Wire Topology Terminal Mapping (Continued)

Software Name	Hardware Name	
	+	–
ch29	BANK 2, PIN 14	BANK 3, PIN 14
ch30	BANK 2, PIN 15	BANK 3, PIN 15
ch31	BANK 2, PIN 16	BANK 3, PIN 16

Software Name	Hardware Name	
	+	–
ch62	BANK 6, PIN 15	BANK 7, PIN 15
ch63	BANK 6, PIN 16	BANK 7, PIN 16

Table 3. 32 x 1, 4-Wire Topology Terminal Mapping

Software Name	Hardware Name			
	A+	A–	B+	B–
com0	BANK 0, PIN 18	BANK 1, PIN 18	BANK 4, PIN 18	BANK 5, PIN 18
ch0	BANK 0, PIN 1	BANK 1, PIN 1	BANK 4, PIN 1	BANK 5, PIN 1
ch1	BANK 0, PIN 2	BANK 1, PIN 2	BANK 4, PIN 2	BANK 5, PIN 2
ch2	BANK 0, PIN 3	BANK 1, PIN 3	BANK 4, PIN 3	BANK 5, PIN 3
ch3	BANK 0, PIN 4	BANK 1, PIN 4	BANK 4, PIN 4	BANK 5, PIN 4
ch4	BANK 0, PIN 5	BANK 1, PIN 5	BANK 4, PIN 5	BANK 5, PIN 5
ch5	BANK 0, PIN 6	BANK 1, PIN 6	BANK 4, PIN 6	BANK 5, PIN 6
ch6	BANK 0, PIN 7	BANK 1, PIN 7	BANK 4, PIN 7	BANK 5, PIN 7
ch7	BANK 0, PIN 8	BANK 1, PIN 8	BANK 4, PIN 8	BANK 5, PIN 8
ch8	BANK 0, PIN 9	BANK 1, PIN 9	BANK 4, PIN 9	BANK 5, PIN 9
ch9	BANK 0, PIN 10	BANK 1, PIN 10	BANK 4, PIN 10	BANK 5, PIN 10
ch10	BANK 0, PIN 11	BANK 1, PIN 11	BANK 4, PIN 11	BANK 5, PIN 11
ch11	BANK 0, PIN 12	BANK 1, PIN 12	BANK 4, PIN 12	BANK 5, PIN 12
ch12	BANK 0, PIN 13	BANK 1, PIN 13	BANK 4, PIN 13	BANK 5, PIN 13
ch13	BANK 0, PIN 14	BANK 1, PIN 14	BANK 4, PIN 14	BANK 5, PIN 14
ch14	BANK 0, PIN 15	BANK 1, PIN 15	BANK 4, PIN 15	BANK 5, PIN 15
ch15	BANK 0, PIN 16	BANK 1, PIN 16	BANK 4, PIN 16	BANK 5, PIN 16
ch16	BANK 2, PIN 1	BANK 3, PIN 1	BANK 6, PIN 1	BANK 7, PIN 1
ch17	BANK 2, PIN 2	BANK 3, PIN 2	BANK 6, PIN 2	BANK 7, PIN 2
ch18	BANK 2, PIN 3	BANK 3, PIN 3	BANK 6, PIN 3	BANK 7, PIN 3
ch19	BANK 2, PIN 4	BANK 3, PIN 4	BANK 6, PIN 4	BANK 7, PIN 4
ch20	BANK 2, PIN 5	BANK 3, PIN 5	BANK 6, PIN 5	BANK 7, PIN 5
ch21	BANK 2, PIN 6	BANK 3, PIN 6	BANK 6, PIN 6	BANK 7, PIN 6

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Table 3. 32 x 1, 4-Wire Topology Terminal Mapping (Continued)

Software Name	Hardware Name			
	A+	A–	B+	B–
ch22	BANK 2, PIN 7	BANK 3, PIN 7	BANK 6, PIN 7	BANK 7, PIN 7
ch23	BANK 2, PIN 8	BANK 3, PIN 8	BANK 6, PIN 8	BANK 7, PIN 8
ch24	BANK 2, PIN 9	BANK 3, PIN 9	BANK 6, PIN 9	BANK 7, PIN 9
ch25	BANK 2, PIN 10	BANK 3, PIN 10	BANK 6, PIN 10	BANK 7, PIN 10
ch26	BANK 2, PIN 11	BANK 3, PIN 11	BANK 6, PIN 11	BANK 7, PIN 11
ch27	BANK 2, PIN 12	BANK 3, PIN 12	BANK 6, PIN 12	BANK 7, PIN 12
ch28	BANK 2, PIN 13	BANK 3, PIN 13	BANK 6, PIN 13	BANK 7, PIN 13
ch29	BANK 2, PIN 14	BANK 3, PIN 14	BANK 6, PIN 14	BANK 7, PIN 14
ch30	BANK 2, PIN 15	BANK 3, PIN 15	BANK 6, PIN 15	BANK 7, PIN 15
ch31	BANK 2, PIN 16	BANK 3, PIN 16	BANK 6, PIN 16	BANK 7, PIN 16

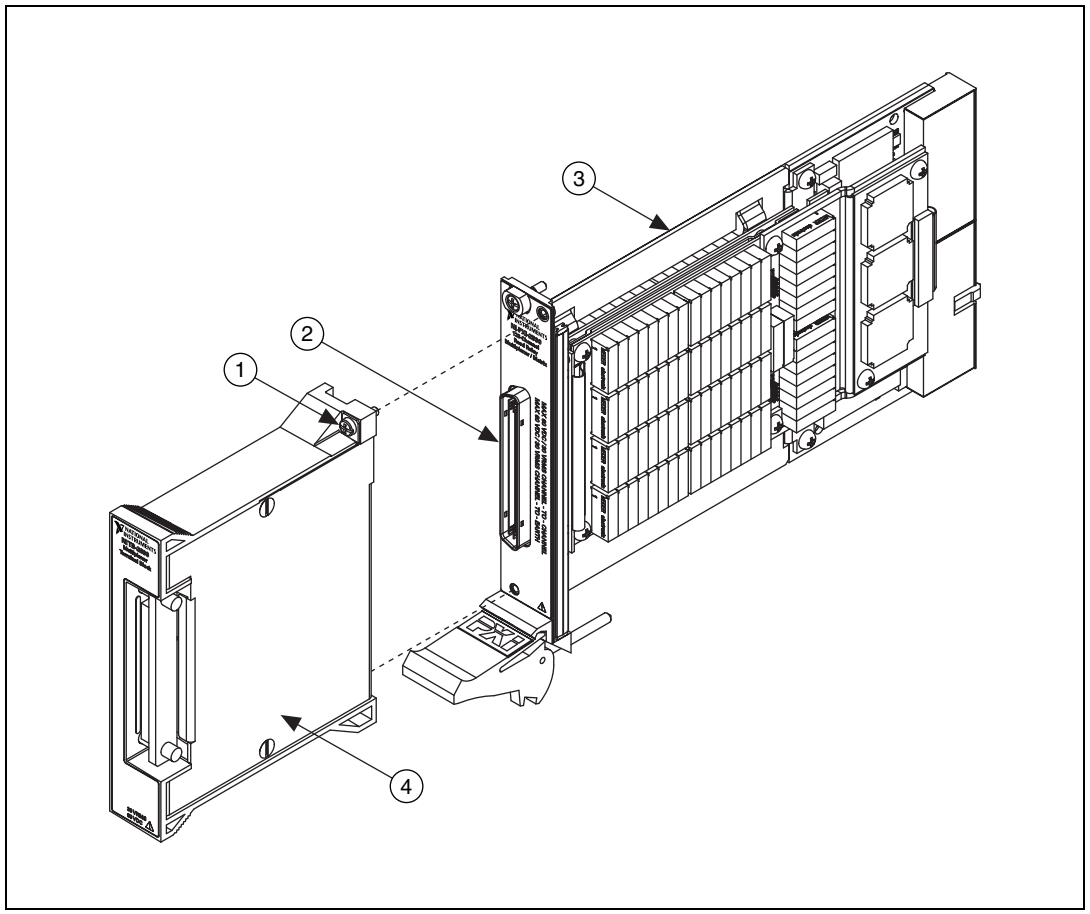
4. Install the Terminal Block

To connect the TB-2630 terminal block to the PXI-2530 front panel, complete the following steps.

Note The NI PXI-2530 should already be installed in a PXI chassis.

1. Plug the TB-2630 into the front connector of the PXI-2530.
2. Tighten the top and bottom chassis screws on the back of the terminal block rear panel to hold it securely in place.

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1	Chassis Screw	2	Front Connector	3	PXI-2530	4	TB-2630

Figure 3. Installing the TB-2630 Terminal Block

Accessories

When a double row ribbon cable connector is used, the pitch of the ribbon cable is half the pitch of the connector. For example, a 0.050 in. pitch ribbon cable uses a 0.100 in. pitch connector. Ribbon cable connector assemblies are typically defined by the pitch of the connector. Refer to Figure 4 for a diagram of a 0.100 in. pitch cable assembly with a 0.100 in. pitch connector and a 0.050 in. pitch ribbon cable.

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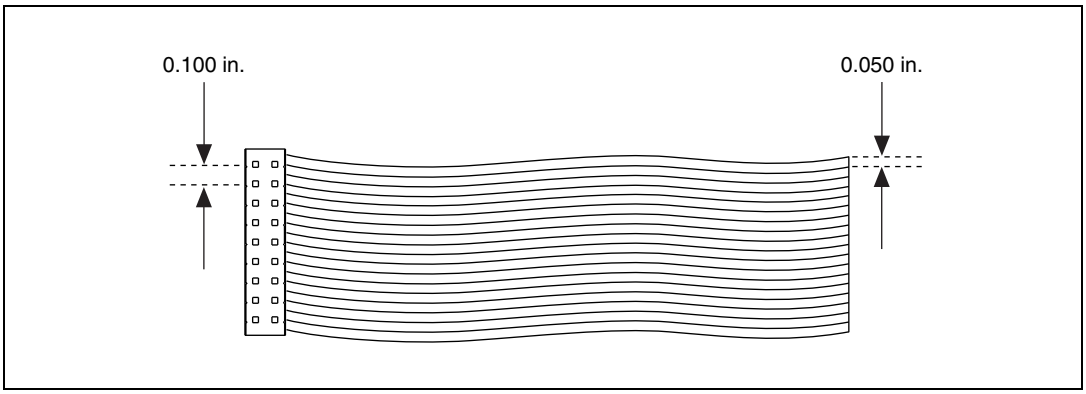


Figure 4. 0.100 in. Pitch Cable Assembly

The TB-2630 includes eight 2 × 9 0.100 in. pitch ribbon cable connectors. Refer to Table 4 for additional connectors that you can use with the TB-2630.

You can use any 0.050 in. pitch ribbon cable with the TB-2630. To use a ribbon cable with more than 18 conductors, remove the unwanted conductors before using. Refer to Table 4 for more information about the cable connector assembly.

Table 4. Third-Party Accessories for the TB-2630

Accessory	Manufacturer	Part Number
2 × 9 0.100 in. Pitch Ribbon Cable Connector	Samtec	IDD-09-HG
0.100 in. Pitch Cable Connector Assembly (0.100 in. Pitch Connector and 0.050 in. Pitch Ribbon Cable)	Samtec	IDSD-09 Series

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

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Note For UL and other safety certifications, refer to the product label or visit `ni.com/certification`, search by model number or product line, and click the appropriate link in the Certification column.

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, 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, visit `ni.com/certification`, search by model number or product line, and click the appropriate link in the Certification column.

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