COMPREHENSIVE SERVICES

We offer competitive repair and calibration services, as well as easily accessible documentation and free downloadable resources.

SELL YOUR SURPLUS

We buy new, used, decommissioned, and surplus parts from every NI series. We work out the best solution to suit your individual needs.

Sell For Cash Get Credit Receive a Trade-In Deal

OBSOLETE NI HARDWARE IN STOCK & READY TO SHIP

We stock New, New Surplus, Refurbished, and Reconditioned NI Hardware.



Bridging the gap between the manufacturer and your legacy test system.

0

1-800-915-6216



www.apexwaves.com

sales@apexwaves.com

All trademarks, brands, and brand names are the property of their respective owners.

Request a Quote



TB-2650

INSTALLATION INSTRUCTIONS NI TB-2648/2649/2650/2651

Terminal Blocks for the NI PXI/PXIe-2531

このドキュメントには、日本語ページも含まれています。

Introduction

The NI TB-2648/2649/2650/2651 terminal blocks configure your NI PXI/PXIe-2531 (NI 2531) in one of the following topologies.

Table 1. NI 2531 Configurations Created with the NI TB-2648/2649/2650/2651

NI Terminal Block	NI 2531Configured Topologies
NI TB-2648	1-wire 4 × 128 matrix
NI TB-2649	1-wire dual 4 × 64 matrix
NI TB-2650	1-wire 8 × 64 matrix
NI TB-2651	1-wire dual 8 × 32 matrix

Refer to the NI PXI/PXIe-2531 Specifications for terminal block specifications when used with the NI PXI/PXIe-2531.

Make sure you have the following:

- NI TB-2648/2649/2650/2651 terminal block
- #1 Phillips screwdriver



Caution Refer to the *Read Me First: Safety and Electromagnetic Compatibility* document at ni.com/manuals for important safety and compliance information.



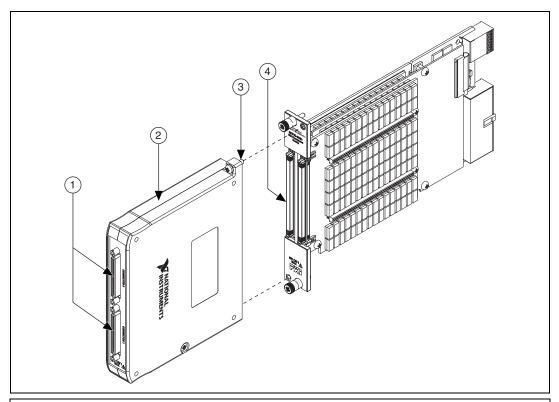
Note Refer to the *Accessories* section for accessories to connect signals from your terminal block to your system.



Install the Terminal Block

To connect your terminal block to the NI 2531 switch module, refer to Figure 1 and complete the following steps:

- Connect the NI 2531 front connector to its mating connector on the terminal block. 1.
- 2. Tighten the top and bottom screws on the back of the terminal block rear panel to hold it securely in place.



NI TB-2648 Front Connectors

NI TB-2648

Screws

NI 2531 Front Connectors

Figure 1. Installing the NI TB-2648/2649/2650/2651 Terminal Block

Connecting Signals



Note Refer to the Accessories section for recommended NI accessories for connecting signals to vour terminal block.

To connect signals to the terminal block, refer to Figures 2 through 5 for the pinout of your terminal block and complete the following steps:

- Connect a compatible cable to the terminal block.
- 2. Connect the cable to your device under test, either directly or via a connector block such as the NI TBX-68.

1	Top Connector		Bottom Connector			
R3	68 34	R1	R3	68 34	R1	
R2	67 33	R0	R2	67 33	R0	
C32	66 32	CO	C96	66 32	C64	
C33	65 31	C1	C97	65 31	C65	
C34	64 30	C2	C98	64 30	C66	
C35	63 29	C3	C99	63 29	C67	
C36	62 28	C4	C100	62 28	C68	
C37	61 27	C5	C101	61 27	C69	
C38	60 26	C6	C102	60 26	C70	
C39	59 25	C7	C103	59 25	C71	
C40	58 24	C8	C104	58 24	C72	
C41	57 23	C9	C105	57 23	C73	
C42	56 22	C10	C106	56 22	C74	
C43	55 21	C11	C107	55 21	C75	
C44	54 20	C12	C108	54 20	C76	
C45	53 19	C13	C109	53 19	C77	
C46	52 18	C14	C110	52 18	C78	
C47	51 17	C15	C111	51 17	C79	
C48	50 16	C16	C112	50 16	C80	
C49	49 15	C17	C113	49 15	C81	
C50	48 14	C18	C114	48 14	C82	
C51	47 13	C19	C115	47 13	C83	
C52	46 12	C20	C116	46 12	C84	
C53	45 11	C21	C117	45 11	C85	
C54	44 10	C22	C118	44 10	C86	
C55	43 9	C23	C119	43 9	C87	
C56	42 8	C24	C120	42 8	C88	
C57	41 7	C25	C121	41 7	C89	
C58	40 6	C26	C122	40 6	C90	
C59	39 5	C27	C123	39 5	C91	
C60	38 4	C28	C124	38 4	C92	
C61	37 3	C29	C125	37 5	C93	
C62	36 2	C30	C126	36 2	C94	
C63	35 1	C31	C127	35 1	C95	
((
)			′	

Figure 2. NI TB-2648 Terminal Block Signal Connections (1-Wire 4×128 Matrix)

Te	op Connecto	r	Bottom Connector			
B0R3	68 34	B0R1	B1R3	68 34	B1R1	
B0R2	67 33	B0R0	B1R2	67 33	B1R0	
B0C32	66 32	B0C0	B1C32	66 32	B1C0	
B0C33	65 31	B0C1	B1C33	65 31	B1C1	
B0C34	64 30	B0C2	B1C34	64 30	B1C2	
B0C35	63 29	B0C3	B1C35	63 29	B1C3	
B0C36	62 28	B0C4	B1C36	62 28	B1C4	
B0C37	61 27	B0C5	B1C37	61 27	B1C5	
B0C38	60 26	B0C6	B1C38	60 26	B1C6	
B0C39	59 25	B0C7	B1C39	59 25	B1C7	
B0C40	58 24	B0C8	B1C40	58 24	B1C8	
B0C41	57 23	B0C9	B1C41	57 23	B1C9	
B0C42	56 22	B0C10	B1C42	56 22	B1C10	
B0C43	55 21	B0C11	B1C43	55 21	B1C11	
B0C44	54 20	B0C12	B1C44	54 20	B1C12	
B0C45	53 19	B0C13	B1C45	53 19	B1C13	
B0C46	52 18	B0C14	B1C46	52 18	B1C14	
B0C47	51 17	B0C15	B1C47	51 17	B1C15	
B0C48	50 16	B0C16	B1C48	50 16	B1C16	
B0C49	49 15	B0C17	B1C49	49 15	B1C17	
B0C50	48 14	B0C18	B1C50	48 14	B1C18	
B0C51	47 13	B0C19	B1C51	47 13	B1C19	
B0C52	46 12	B0C20	B1C52	46 12	B1C20	
B0C53	45 11	B0C21	B1C53	45 11	B1C21	
B0C54	44 10	B0C22	B1C54	44 10	B1C22	
B0C55	43 9	B0C23	B1C55	43 9	B1C23	
B0C56	42 8	B0C24	B1C56	42 8	B1C24	
B0C57	41 7	B0C25	B1C57	41 7	B1C25	
B0C58	40 6	B0C26	B1C58	40 6	B1C26	
B0C59	39 5	B0C27	B1C59	39 5	B1C27	
B0C60	38 4	B0C28	B1C60	38 4	B1C28	
B0C61	37 3	B0C29	B1C61	37 5	B1C29	
B0C62	36 2	B0C30	B1C62	36 2	B1C30	
B0C63	35 1	B0C31	B1C63	35 1	B1C31	
			(
		1)	

Figure 3. NI TB-2649 Terminal Block Signal Connections (1-Wire Dual 4×64 Matrix)

-	Top Connector		Во	Bottom Connector		
)	,			
R3	68 34	R1	R3	68	34	R1
R2	67 33	R0	R2	67	33	R0
RESERVED	66 32	C0	RESERVED	66	32	C32
RESERVED	65 31	C1	RESERVED	65	31	C33
RESERVED	64 30	C2	RESERVED	64	30	C34
RESERVED	63 29	СЗ	RESERVED	63	29	C35
RESERVED	62 28	C4	RESERVED	62	28	C36
RESERVED	61 27	C5	RESERVED	61	27	C37
RESERVED	60 26	C6	RESERVED	60	26	C38
RESERVED	59 25	C7	RESERVED	59	25	C39
RESERVED	58 24	C8	RESERVED	58	24	C40
RESERVED	57 23	C9	RESERVED	57	23	C41
RESERVED	56 22	C10	RESERVED	56	22	C42
RESERVED	55 21	C11	RESERVED	55	21	C43
RESERVED	54 20	C12	RESERVED	54	20	C44
RESERVED	53 19	C13	RESERVED	53	19	C45
RESERVED	52 18	C14	RESERVED	52	18	C46
RESERVED	51 17	C15	RESERVED	51	17	C47
RESERVED	50 16	C16	RESERVED	50	16	C48
RESERVED	49 15	C17	RESERVED	49	15	C49
RESERVED	48 14	C18	RESERVED	48	14	C50
RESERVED	47 13	C19	RESERVED	47	13	C51
RESERVED	46 12	C20	RESERVED	46	12	C52
RESERVED	45 11	C21	RESERVED	45	11	C53
RESERVED	44 10	C22	RESERVED	44	10	C54
RESERVED	43 9	C23	RESERVED	43	9	C55
RESERVED	42 8	C24	RESERVED	42	8	C56
RESERVED	41 7	C25	RESERVED	41	7	C57
RESERVED	40 6	C26	RESERVED	40	6	C58
RESERVED	39 5	C27	RESERVED	39	5	C59
R7	38 4	C28	R7	38	4	C60
R6	37 3	C29	R6	37	5	C61
R5	36 2	C30	R5	36	2	C62
R4	35 1	C31	R4	35	1	C63

Figure 4. NI TB-2650 Terminal Block Signal Connections (1-Wire 8×64 Matrix)

Т	r	Bottom Connector			
,			,		
B0R3	68 34	B0R1	B1R3	68 34	B1R1
B0R2	67 33	B0R0	B1R2	67 33	B1R0
RESERVED	66 32	B0C0	RESERVED	66 32	B1C0
RESERVED	65 31	B0C1	RESERVED	65 31	B1C1
RESERVED	64 30	B0C2	RESERVED	64 30	B1C2
RESERVED	63 29	B0C3	RESERVED	63 29	B1C3
RESERVED	62 28	B0C4	RESERVED	62 28	B1C4
RESERVED	61 27	B0C5	RESERVED	61 27	B1C5
RESERVED	60 26	B0C6	RESERVED	60 26	B1C6
RESERVED	59 25	B0C7	RESERVED	59 25	B1C7
RESERVED	58 24	B0C8	RESERVED	58 24	B1C8
RESERVED	57 23	B0C9	RESERVED	57 23	B1C9
RESERVED	56 22	B0C10	RESERVED	56 22	B1C10
RESERVED	55 21	B0C11	RESERVED	55 21	B1C11
RESERVED	54 20	B0C12	RESERVED	54 20	B1C12
RESERVED	53 19	B0C13	RESERVED	53 19	B1C13
RESERVED	52 18	B0C14	RESERVED	52 18	B1C14
RESERVED	51 17	B0C15	RESERVED	51 17	B1C15
RESERVED	50 16	B0C16	RESERVED	50 16	B1C16
RESERVED	49 15	B0C17	RESERVED	49 15	B1C17
RESERVED	48 14	B0C18	RESERVED	48 14	B1C18
RESERVED	47 13	B0C19	RESERVED	47 13	B1C19
RESERVED	46 12	B0C20	RESERVED	46 12	B1C20
RESERVED	45 11	B0C21	RESERVED	45 11	B1C21
RESERVED	44 10	B0C22	RESERVED	44 10	B1C22
RESERVED	43 9	B0C23	RESERVED	43 9	B1C23
RESERVED	42 8	B0C24	RESERVED	42 8	B1C24
RESERVED	41 7	B0C25	RESERVED	41 7	B1C25
RESERVED	40 6	B0C26	RESERVED	40 6	B1C26
RESERVED	39 5	B0C27	RESERVED	39 5	B1C27
B0R7	38 4	B0C28	B1R7	38 4	B1C28
B0R6	37 3	B0C29	B1R6	37 5	B1C29
B0R5	36 2	B0C30	B1R5	36 2	B1C30
B0R4	35 1	B0C31	B1R4	35 1	B1C31
`		J			J
	\sim			\sim	

Figure 5. NI TB-2651 Terminal Block Signal Connections (1-Wire Dual 8 \times 32 Matrix)

Accessories



Caution NI products typically must be operated with shielded cables and accessories to ensure compliance with Electromagnetic Compatibility (EMC) requirements. To determine if shielded cables or accessories are required for the product that the NI TB-2648/2649/2650/2651 will be used with, refer to the EMC specifications in the product's specifications document. If shielded cables or accessories are required for EMC compliance, do not use unshielded cables or accessories unless they are installed in a shielded enclosure with properly designed and shielded input/output ports, and are connected to the NI product using a shielded cable. If unshielded cables or accessories are not properly installed and shielded, the EMC specifications for the product are no longer guaranteed.

Table 2. Accessories for the NI TB-2648/2649/2650/2651

Accessory	Manufacturer	Part Number
NI TBX-68 unshielded, I/O connector block with DIN-rail mounting	National Instruments	777141-01
NI SHC68-68 shielded cable (1 m)	National Instruments	191945-01
NI SHC68-68 shielded cable (2 m)	National Instruments	191945-02

