INSTALLATION INSTRUCTIONS

160-Pin Cable for the NI PXI-2530B

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 connect and use the National Instruments 160-pin shielded cable for the NI PXI-2530B which has a maximum voltage rating of 60 VDC/30 VRMS, CAT I.

Contents

About the Cable

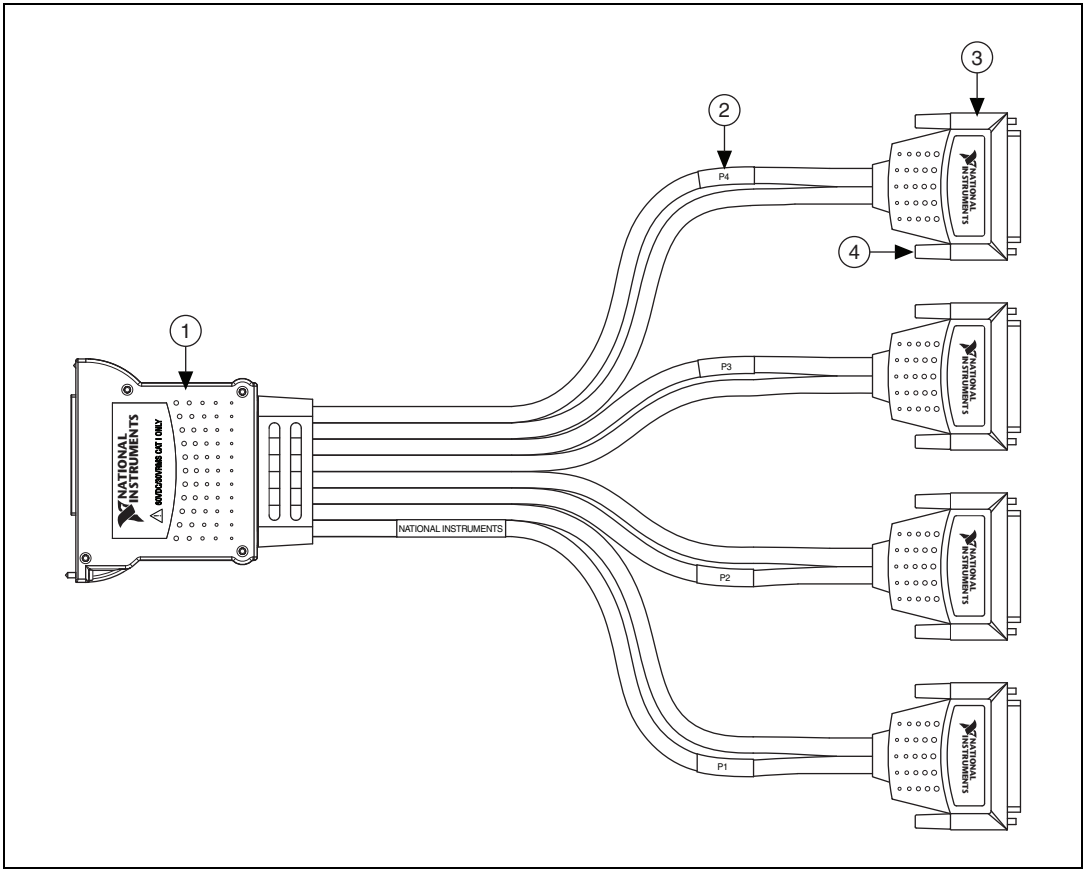
Use this shielded cable to connect the NI PXI-2530B switch module to your application. As illustrated in Figure 1, one end of the cable connects to the NI PXI-2530B, and the other end of the cable terminates with four 50-pin female D-SUB connectors. This cable is designed for use with the NI PXI-2530B and will not mate with the NI PXI-2530.

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

Note This cable is for multiplexer use only. Matrix topologies are not supported.

NATIONAL INSTRUMENTS

The following figure shows the 160-pin cable for the NI PXI-2530B.



1	160-Pin Cable for the NI PXI-2530B Backshell	3	50-Pin Female D-SUB Connector Backshells
2	Cable Leg Labels	4	Thumbscrews

Figure 1. 160-Pin Cable for the NI PXI-2530B

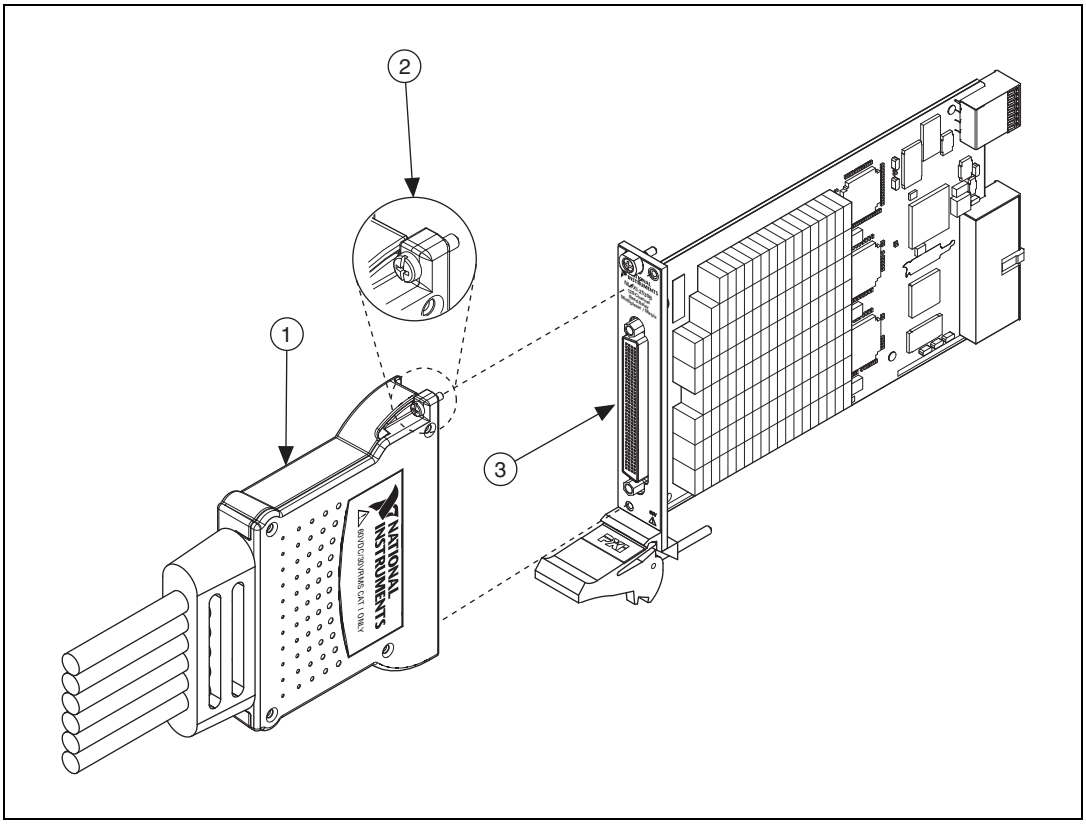
What You Need to Get Started

To use the cable, you need the following items:

- ❑ 160-pin cable for the NI PXI-2530B
- ❑ (Optional) Four NI TBX-50 screw terminal blocks
- ❑ NI PXI-2530B switch module and documentation
- ❑ #1 Phillips screwdriver

Complete the following steps to connect the cable to the NI PXI-2530B and your application.

1. Connect the cable backshell to the NI PXI-2530B connector on the switch module as shown in Figure 2.



1	Backshell	2	Chassis Screws	3	NI PXI-2530B Connector

Figure 2. Connecting the Cable to the NI PXI-2530B

2. Tighten the chassis screws on the cable.
3. Connect the D-SUB connectors on the cable to your application. Refer to Tables 1 through 4 in the *Cable Configuration* section to determine how to connect signals to your application. For screw terminal access, you can connect directly to NI TBX-50 terminal blocks.

Cable Configuration

The cable backshell and the four 50-pin female D-SUB connectors provide connection to the NI PXI-2530B and your application, respectively. Figures 3 and 4 show the pinouts for both connectors.

Use the pinouts and the pin assignments listed in Tables 1 through 4 to determine how to connect signals to your application.

Refer to the *NI Switches Help* for a complete listing of channel names and pinouts.

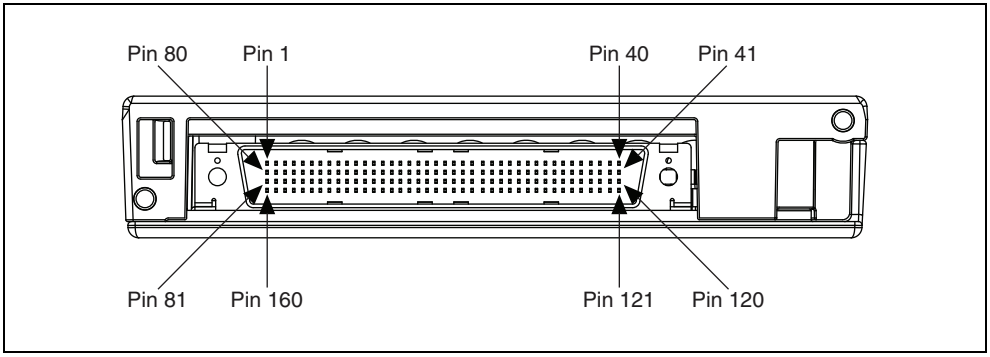


Figure 3. NI PXI-2530B Mating Connector

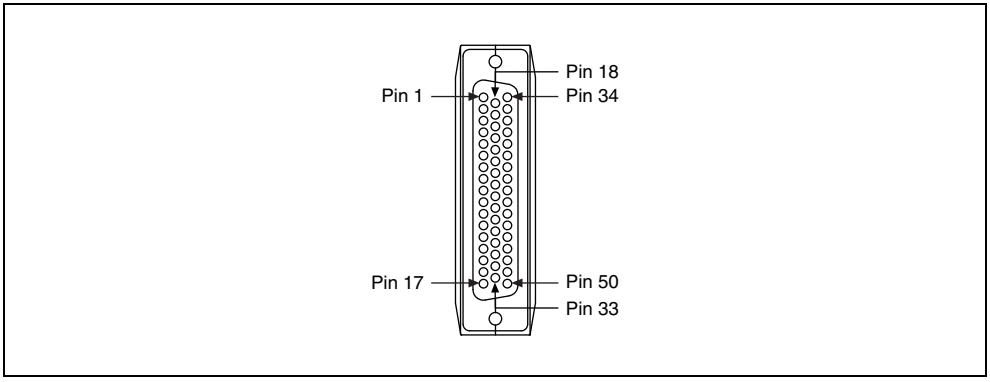


Figure 4. 50-Pin Female D-SUB Connector

Table 1. Pin Assignments for D-SUB Backshell P1

50-Pin D-SUB Backshell P1		
D-SUB Pin	**NI PXI-2530B Channel**	**Interface Connector Pin**
1	CH64	120
2	CH65	121
3	CH66	119
4	CH67	122
5	CH68	118
6	CH69	123
7	CH70	117
8	CH71	124
9	CH72	116
10	CH73	125
11	CH74	115
12	CH75	126
13	CH76	114
14	CH77	127
15	CH78	113
16	CH79	128
17	CH80	111
18	CH81	130
19	CH82	112
20	CH83	129
21	CH84	109
22	CH85	132
23	CH86	108
24	CH87	133
25	CH88	107
26	CH89	134
27	CH90	106
28	CH91	135
29	CH92	105
30	CH93	136

Table 1. Pin Assignments for D-SUB Backshell P1 (Continued)

50-Pin D-SUB Backshell P1		
D-SUB Pin	**NI PXI-2530B Channel**	**Interface Connector Pin**
31	CH94	104
32	CH95	137
33	OUT4	110
34	OUT5	131
35	1WREF2	103
36	No Connect	—
37	No Connect	—
38	No Connect	—
39	No Connect	—
40	No Connect	—
41	No Connect	—
42	No Connect	—
43	No Connect	—
44	No Connect	—
45	No Connect	—
46	No Connect	—
47	No Connect	—
48	No Connect	—
49	No Connect	—
50	No Connect	—
P1 Shell	GND	Shell

Table 2. Pin Assignments for D-SUB Backshell P2

50-Pin D-SUB Backshell P2		
D-SUB Pin	**NI PXI-2530B Channel**	**Interface Connector Pin**
1	CH0	41
2	CH1	40
3	CH2	42
4	CH3	39
5	CH4	43
6	CH5	38
7	CH6	44
8	CH7	37
9	CH8	45
10	CH9	36
11	CH10	46
12	CH11	35
13	CH12	47
14	CH13	34
15	CH14	48
16	CH15	33
17	CH16	50
18	CH17	31
19	CH18	49
20	CH19	32
21	CH20	52
22	CH21	29
23	CH22	53
24	CH23	28
25	CH24	54
26	CH25	27
27	CH26	55
28	CH27	26
29	CH28	56
30	CH29	25

Table 2. Pin Assignments for D-SUB Backshell P2 (Continued)

50-Pin D-SUB Backshell P2		
D-SUB Pin	**NI PXI-2530B Channel**	**Interface Connector Pin**
31	CH30	57
32	CH31	24
33	OUT0	51
34	OUT1	30
35	1WREF0	58
36	No Connect	—
37	No Connect	—
38	No Connect	—
39	No Connect	—
40	No Connect	—
41	No Connect	—
42	No Connect	—
43	No Connect	—
44	No Connect	—
45	No Connect	—
46	No Connect	—
47	No Connect	—
48	No Connect	—
49	No Connect	—
50	No Connect	—
P2 Shell	GND	Shell

Table 3. Pin Assignments for D-SUB Backshell P3

50-Pin D-SUB Backshell P3		
D-SUB Pin	**NI PXI-2530B Channel**	**Interface Connector Pin**
1	CH32	67
2	CH33	15
3	CH34	12
4	CH35	11
5	CH36	70
6	CH37	61
7	CH38	20
8	CH39	62
9	CH40	19
10	CH41	63
11	CH42	18
12	CH43	64
13	CH44	17
14	CH45	65
15	CH46	16
16	CH47	66
17	CH48	14
18	CH49	68
19	CH50	13
20	CH51	69
21	CH52	1
22	CH53	4
23	CH54	3
24	CH55	71
25	CH56	10
26	CH57	72
27	CH58	9
28	CH59	73
29	CH60	8
30	CH61	74

Table 3. Pin Assignments for D-SUB Backshell P3 (Continued)

50-Pin D-SUB Backshell P3		
D-SUB Pin	**NI PXI-2530B Channel**	**Interface Connector Pin**
31	CH62	7
32	CH63	75
33	OUT2	5
34	OUT3	76
35	1WREF1	6
36	No Connect	—
37	No Connect	—
38	No Connect	—
39	No Connect	—
40	No Connect	—
41	No Connect	—
42	No Connect	—
43	No Connect	—
44	No Connect	—
45	No Connect	—
46	No Connect	—
47	No Connect	—
48	No Connect	—
49	No Connect	—
50	No Connect	—
P3 Shell	GND	Shell

Table 4. Pin Assignments for D-SUB Backshell P4

50-Pin D-SUB Backshell P4		
D-SUB Pin	**NI PXI-2530B Channel**	**Interface Connector Pin**
1	CH96	94
2	CH97	149
3	CH98	91
4	CH99	150
5	CH100	146
6	CH101	100
7	CH102	141
8	CH103	99
9	CH104	142
10	CH105	98
11	CH106	143
12	CH107	97
13	CH108	144
14	CH109	96
15	CH110	145
16	CH111	95
17	CH112	147
18	CH113	93
19	CH114	148
20	CH115	92
21	CH116	85
22	CH117	81
23	CH118	157
24	CH119	90
25	CH120	151
26	CH121	89
27	CH122	152
28	CH123	88
29	CH124	153
30	CH125	87

Table 4. Pin Assignments for D-SUB Backshell P4 (Continued)

50-Pin D-SUB Backshell P4		
D-SUB Pin	**NI PXI-2530B Channel**	**Interface Connector Pin**
31	CH126	154
32	CH127	86
33	OUT6	156
34	OUT7	84
35	1WREF3	155
36	DGND	83
37	DGND	158
38	TRIGIN	159
39	TRIGOUT	82
40	No Connect	—
41	No Connect	—
42	No Connect	—
43	No Connect	—
44	No Connect	—
45	No Connect	—
46	No Connect	—
47	No Connect	—
48	No Connect	—
49	No Connect	—
50	No Connect	—
P4 Shell	GND	Shell

Maximum voltage .....60 VDC/30 VRMS, CAT I

Maximum current .....0.4 A

Caution Do *not* connect to MAINs supply circuits (e.g., wall outlets) of 115 or 230 VAC. Refer to the *Read Me First: Safety and Electromagnetic Compatibility* document at `ni.com/manuals` for more information about Measurement Categories.

Weight .....1206.6 g (42.6 oz)

Environment

Operating temperature .....0 °C to 55 °C

Storage temperature .....–20 °C to 70 °C

Relative humidity.....5% to 85%, noncondensing

Pollution Degree 2

Maximum altitude.....2,000 m

Indoor use only.

Safety

This product meets the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1

Accessories

Visit ni.com for information about the following accessory.

Caution 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 5. NI Accessory for the 160-Pin Cable for the NI PXI-2530B

Accessory	Part Number
NI TBX-50 unshielded terminal block, with screw connection and 50 position D-Subminiature pin strip	779305-01

Caution You must install mating connectors according to local safety codes and standards and according to the specifications provided by the connector manufacturer. You are responsible for verifying safety compliance of third-party connectors and their usage according to the relevant standard(s), including UL and CSA in North America and IEC and VDE in Europe.

Refer to Table 6 for information about third-party accessories.

Table 6. Third-Party Accessories for the 160-Pin Cable for the NI PXI-2530B

Accessory	Manufacturer	Part Number
VARIOFACE module, with screw connection and 50 position D-Subminiature pin strip	Phoenix Contact	FLKM-D50 SUB/S
VARIOFACE module, with screw connection and 50 position D-Subminiature pin strip	Phoenix Contact	FLKMS-D50 SUB/S
VARIOFACE module, with screw connection and 50 position D-Subminiature pin strip, with LED indicators	Phoenix Contact	FLKM-D50 SUB/S/LA
Right-angle 50 position male D-SUB connector*	Tyco	747497-4
* Small quantity orders are available from Digi-Key Corporation (part number A23398-ND).		