ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

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

Find the *National Instruments SH68-68-EPM* at our website: *Click HERE*

INSTALLATION INSTRUCTIONS

160-Pin DIN Cable

for the NI PXI-2520, NI PXI-2521, NI PXI-2522, NI PXI-2523, and NI PXI-2510

This guide describes how to connect and use the National Instruments 160-Pin DIN shielded cable, which has a maximum voltage rating of 150 V, CAT I. Use this cable to connect the NI PXI-2520/2521/2522/2523 (NI 252x) or NI PXI-2510 (NI 2510) switch modules to your application.

Caution The protection provided by the 160-Pin DIN cable can be impaired if it is used in a manner not described in this document.

The 160-Pin DIN cable for NI 252x and NI 2510 is available in three configurations:

- SH160DIN-4XDB50F-2A
- SH160DIN-160DIN-2A
- SH160DIN-BARE WIRE-2A

Contents

What You Need to Get Started 2
Getting Started with the 160-Pin DIN Cable 2
    Connectors 5
Cable Configurations 5
    SH160DIN-4XDB50F-2A Cable 6
    SH160DIN-160DIN-2A Cable 14
    SH160DIN-BARE WIRE-2A Cable 21
Specifications 30
    Environment 30
Accessories 30
Compliance and Certifications 31
    Safety 31
    CE Compliance 31
    Online Product Certification 31
    Environmental Management 32
    Where to Go for Support 32

NATIONAL INSTRUMENTS

What You Need to Get Started

To use the cable, you need the following items:

☐ 160-Pin DIN cable

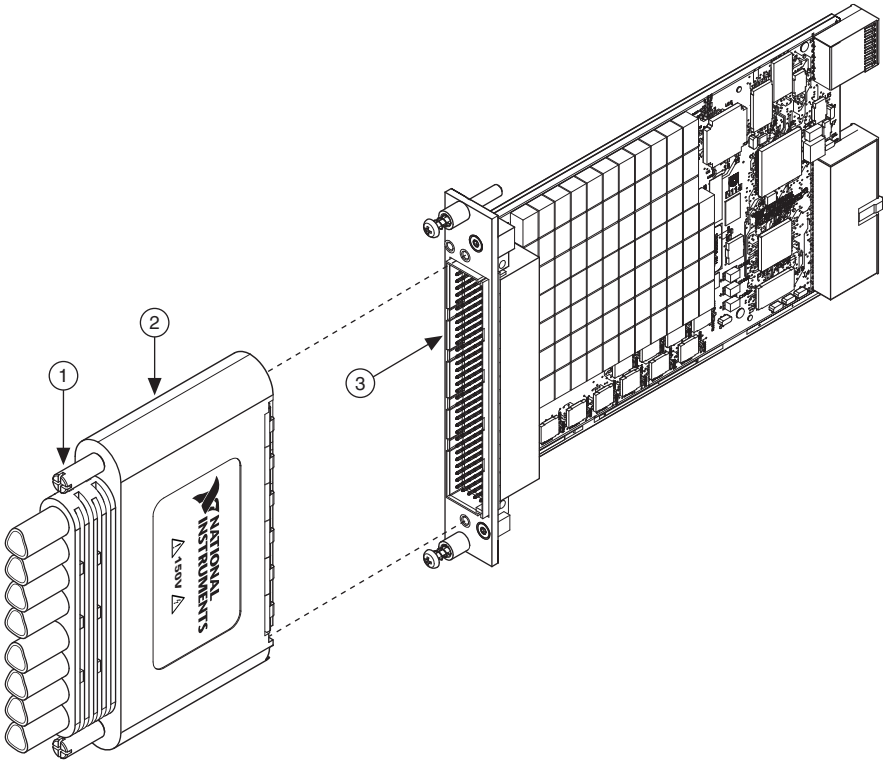
☐ NI PXI-252x or NI PXI-2510 switch module and documentation

Getting Started with the 160-Pin DIN Cable

Complete the following steps to connect the cable to the NI 252x or NI 2510 and your application. Refer to Figures 2 through 4 for illustrations of the cable, and refer to Figures 5 and 6 for illustrations of the connectors.

1. Connect the 160-Pin DIN connector to the NI 252x connector or NI 2510 connector on the switch module as shown in Figure 1.

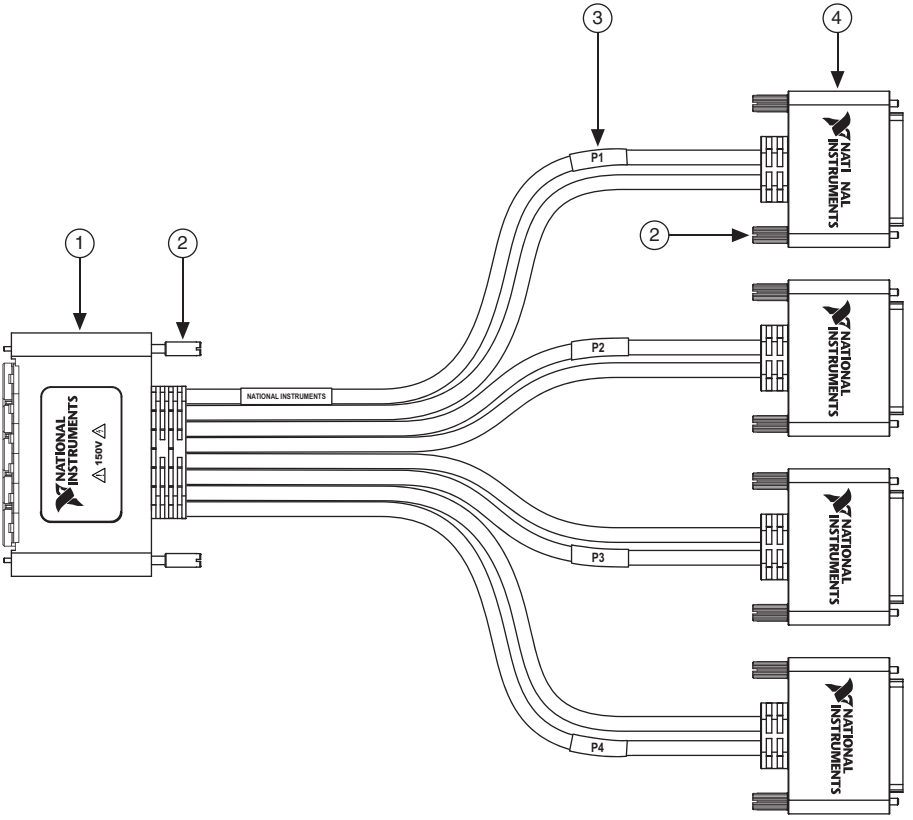
Figure 1. Connecting the 160-Pin DIN Connector to the NI 2520



1	Thumbscrews	2	160-Pin DIN Connector	3	NI PXI 2520 Connector

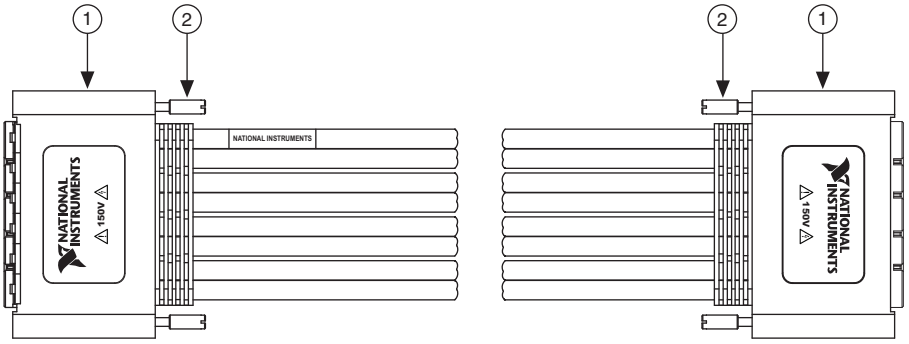
2. Tighten the thumbscrews on the cable.
3. Complete one of the following steps and refer to Tables 4 through 9 in the *Cable Configurations* section to determine how to connect signals to your application.
   - Connect the D-SUB connectors on the cable to your application. For screw terminal access, you can connect directly to NI TBX-50 terminal blocks.
   - Connect the second 160-Pin DIN connector on the cable to your application.
   - Connect the unterminated wires to your application.

Figure 2. SH160DIN-4XDB50F-2A Cable



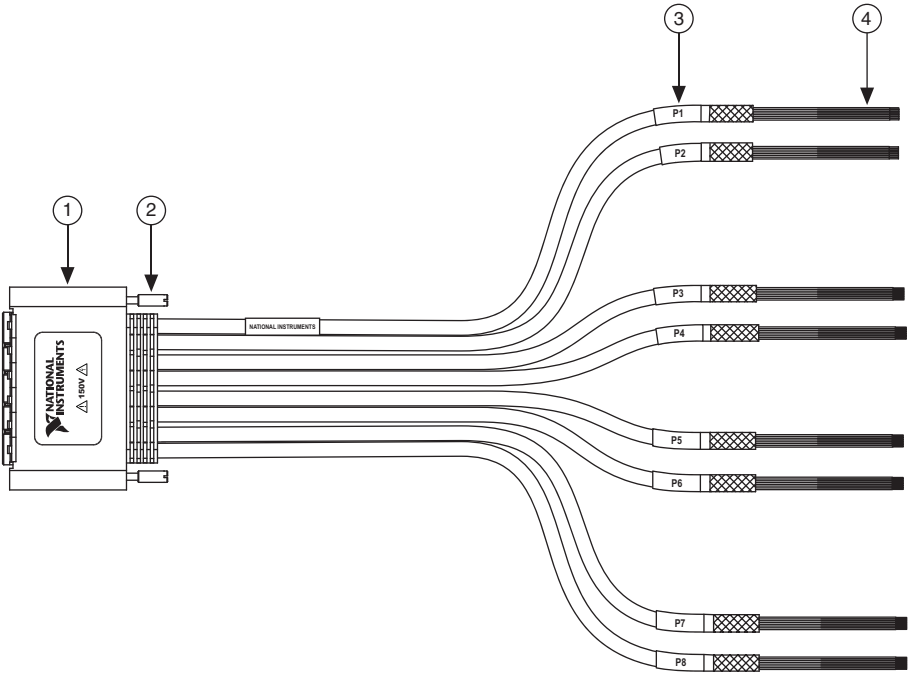
1	160-Pin DIN Connector	3	Cable Leg Labels
2	Thumbscrews	4	50-Pin Female D-SUB Connectors

Figure 3. SH160DIN-160DIN-2A Cable



1	160-Pin DIN Connectors	2	Thumbscrews

Figure 4. SH160DIN-BARE WIRE-2A Cable



1	160-Pin DIN Connector	3	Cable Leg Labels
2	Thumbscrews	4	20 Unterminated, Tinned, and Stripped Wires

Connectors

The cable connects a 160-Pin female DIN connector (DIN 160 connector) to the following:

- Four 50-pin female D-SUB connectors
- A second 160-Pin DIN connector
- Eight bundles, legs P1-P8, of unterminated, tinned, and stripped wires

The 160-Pin DIN connector provides connection to the NI 252x and NI 2510. The 50-pin female D-SUB connectors, second 160-Pin DIN connector, and unterminated cables provide connection to your application. Figures 5 and 6 show the pinouts for the 160-Pin DIN connectors and the 50-pin female D-SUB connectors.

Figure 5. 160-Pin DIN Mating Connector

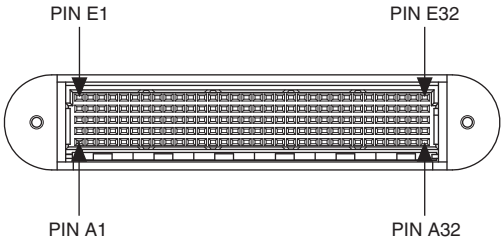
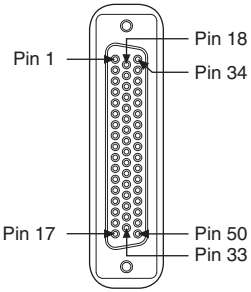


Figure 6. 50-Pin Female D-SUB Connector



Cable Configurations

The 160-Pin DIN cable is available in three configurations:

- SH160DIN-4XDB50F-2A
- SH160DIN-160DIN-2A
- SH160DIN-BARE WIRE-2A

The following sections describe each of the configurations.

SH160DIN-4XDB50F-2A Cable

The SH160DIN-4XDB50F-2A cable is recommended for connecting the NI 252x or NI 2510 to your system. One end of the cable terminates with a 160-Pin DIN connector. The other end of the cable terminates with four 50-pin female D-SUB connectors.

Use the pinouts and the pin assignments listed in Tables 1 through 4 to determine how to connect signals to your application using the SH160DIN-4XDB50F-2A cable.

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

Table 1. Pin Assignment for SH160DIN-4XDB50F-2A Connector P1

50-Pin D-SUB Connector P1						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
1	COM 17	CH 7+	NO 11	COM 6+	CH 15	A25
2	CH 17	CH 7-	COM 11	COM 6-	CH 14	B25
3	COM 18	CH 8+	NC 11	COM 7+	CH 13	C25
4	CH 18	CH 8-	COM 13	COM 7-	CH 12	D25
5	CH 19	CH 9-	COM 14	NO 5-	B2	E25
6	COM 15	COM 7+	NO 10	NO 6+	DUT 15	A26
7	CH 15	COM 7-	COM 10	NO 6-	DUT 14	B26
8	COM 16	COM 8+	NC 10	NO 7+	DUT 13	C26
9	CH 16	COM 8-	NC 13	NO 7-	DUT 12	D26
10	COM 19	CH 9+	NC 14	NO 5+	B1	E26
11	COM 12	CH 5+	NO 7	NC 3+	CH 11	A27
12	CH 12	CH 5-	COM 7	NC 3-	CH 10	B27
13	COM 13	CH 6+	NC 7	NC 4+	CH 9	C27
14	CH 13	CH 6-	NC 8	NC 4-	CH 8	D27
15	CH 14	COM 9-	NC 9	NC 0-	B0	E27
16	COM 10	COM 5+	NO 6	COM 3+	DUT 11	A28
17	CH 10	COM 5-	COM 6	COM 3-	DUT 10	B28
18	COM 11	COM 6+	NC 6	COM 4+	DUT 9	C28
19	CH 11	COM 6-	COM 8	COM 4-	DUT 8	D28
20	COM 14	COM 9+	COM 9	NC 0+	No Connect	E28

Table 1. Pin Assignment for SH160DIN-4XDB50F-2A Connector P1 (Continued)

50-Pin D-SUB Connector P1						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
21	COM 7	CH 2+	NO 5	NO 3+	CH 7	A29
22	CH 7	CH 2-	COM 5	NO 3-	CH 6	B29
23	COM 8	CH 3+	NC 5	NO 4+	CH 5	C29
24	CH 8	CH 3-	NO 8	NO 4-	CH 4	D29
25	CH 9	CH 4-	NO 9	COM 0-	A3	E29
26	COM 5	COM 2+	NO 2	NC 1+	DUT 7	A30
27	CH 5	COM 2-	COM 2	NC 1-	DUT 6	B30
28	COM 6	COM 3+	NC 2	NC 2+	DUT 5	C30
29	CH 6	COM 3-	NC 3	NC 2-	DUT 4	D30
30	COM 9	CH 4+	NC 4	COM 0+	A2	E30
31	COM 2	CH 0+	NO 1	COM 1+	CH 3	A31
32	CH 2	CH 0-	COM 1	COM 1-	CH 2	B31
33	COM 3	CH 1+	NC 1	COM 2+	CH 1	C31
34	CH 3	CH 1-	COM 3	COM 2-	CH 0	D31
35	CH 4	COM 4-	COM 4	NO 0-	A1	E31
36	COM 0	COM 0+	NO 0	NO 1+	DUT 3	A32
37	CH 0	COM 0-	COM 0	NO 1-	DUT 2	B32
38	COM 1	COM 1+	NC 0	NO 2+	DUT 1	C32
39	CH 1	COM 1-	NO 3	NO 2-	DUT 0	D32
40	COM 4	COM 4+	NO 4	NO 0+	A0	E32
41	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
42	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
43	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
44	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
45	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
46	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect

Table 1. Pin Assignment for SH160DIN-4XDB50F-2A Connector P1 (Continued)

50-Pin D-SUB Connector P1						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
47	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
48	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
49	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
50	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect

Table 2. Pin Assignment for SH160DIN-4XDB50F-2A Connector P2

50-Pin D-SUB Connector P2						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
1	COM 37	CH 17+	NO 25	NO 13+	CH 31	A17
2	CH 37	CH 17-	COM 25	NO 13-	CH 30	B17
3	COM 38	CH 18+	NC 25	NO 14+	CH 29	C17
4	CH 38	CH 18-	NO 28	NO 14-	CH 28	D17
5	CH 39	CH 19-	NO 29	COM 10-	No Connect	E17
6	COM 35	COM 17+	NO 22	NC 11+	DUT 31	A18
7	CH 35	COM 17-	COM 22	NC 11-	DUT 30	B18
8	COM 36	COM 18+	NC 22	NC 12+	DUT 29	C18
9	CH 36	COM 18-	NC 23	NC 12-	DUT 28	D18
10	COM 39	CH 19+	NC 24	COM 10+	No Connect	E18
11	COM 32	CH 15+	NO 21	COM 11+	CH 27	A19
12	CH 32	CH 15-	COM 21	COM 11-	CH 26	B19
13	COM 33	CH 16+	NC 21	COM 12+	CH 25	C19
14	CH 33	CH 16-	COM 23	COM 12-	CH 24	D19
15	CH 34	COM 19-	COM 24	NO 10-	No Connect	E19
16	COM 30	COM 15+	NO 20	NO 11+	DUT 27	A20
17	CH 30	COM 15-	COM 20	NO 11-	DUT 26	B20

Table 2. Pin Assignment for SH160DIN-4XDB50F-2A Connector P2 (Continued)

50-Pin D-SUB Connector P2						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
18	COM 31	COM 16+	NC 20	NO 12+	DUT 25	C20
19	CH 31	COM 16-	NO 23	NO 12-	DUT 24	D20
20	COM 34	COM 19+	NO 24	NO 10+	No Connect	E20
21	COM 27	CH 12+	NO 17	NC 8+	CH 23	A21
22	CH 27	CH 12-	COM 17	NC 8-	CH 22	B21
23	COM 28	CH 13+	NC 17	NC 9+	CH 21	C21
24	CH 28	CH 13-	NO 18	NC 9-	CH 20	D21
25	CH 29	CH 14-	NO 19	NC 5-	No Connect	E21
26	COM 25	COM 12+	NO 16	COM 8+	DUT 23	A22
27	CH 25	COM 12-	COM 16	COM 8-	DUT 22	B22
28	COM 26	COM 13+	NC 16	COM 9+	DUT 21	C22
29	CH 26	COM 13-	COM 18	COM 9-	DUT 20	D22
30	COM 29	CH 14+	COM 19	NC 5+	No Connect	E22
31	COM 22	CH 10+	NO 15	NO 8+	CH 19	A23
32	CH 22	CH 10-	COM 15	NO 8-	CH 18	B23
33	COM 23	CH 11+	NC 15	NO 9+	CH 17	C23
34	CH 23	CH 11-	NC 18	NO 9-	CH 16	D23
35	CH 24	COM 14-	NC 19	COM 5-	No Connect	E23
36	COM 20	COM 10+	NO 12	NC 6+	DUT 19	A24
37	CH 20	COM 10-	COM 12	NC 6-	DUT 18	B24
38	COM 21	COM 11+	NC 12	NC 7+	DUT 17	C24
39	CH 21	COM 11-	NO 13	NC 7-	DUT 16	D24
40	COM 24	COM 14+	NO 14	COM 5+	B3	E24
41	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
42	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
43	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect

Table 2. Pin Assignment for SH160DIN-4XDB50F-2A Connector P2 (Continued)

50-Pin D-SUB Connector P2						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
44	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
45	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
46	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
47	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
48	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
49	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
50	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect

Table 3. Pin Assignment for SH160DIN-4XDB50F-2A Connector P3

50-Pin D-SUB Connector P3						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
1	COM 57	CH 27+	NO 37	NC 18+	CH 47	A9
2	CH 57	CH 27-	COM 37	NC 18-	CH 46	B9
3	COM 58	CH 28+	NC 37	NC 19+	CH 45	C9
4	CH 58	CH 28-	NO 38	NC 19-	CH 44	D9
5	CH 59	CH 29-	NO 39	NC 15-	DUT 64	E9
6	COM 55	COM 27+	NO 36	COM 18+	DUT 47	A10
7	CH 55	COM 27-	COM 36	COM 18-	DUT 46	B10
8	COM 56	COM 28+	NC 36	COM 19+	DUT 45	C10
9	CH 56	COM 28-	COM 38	COM 19-	DUT 44	D10
10	COM 59	CH 29+	COM 39	NC 15+	No Connect	E10
11	COM 52	CH 25+	NO 35	NO 18+	CH 43	A11
12	CH 52	CH 25-	COM 35	NO 18-	CH 42	B11
13	COM 53	CH 26+	NC 35	NO 19+	CH 41	C11
14	CH 53	CH 26-	NC 38	NO 19-	CH 40	D11
15	CH 54	COM 29-	NC 39	COM 15-	No Connect	E11

Table 3. Pin Assignment for SH160DIN-4XDB50F-2A Connector P3 (Continued)

50-Pin D-SUB Connector P3						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
16	COM 50	COM 25+	NO 32	NC 16+	DUT 43	A12
17	CH 50	COM 25-	COM 32	NC 16-	DUT 42	B12
18	COM 51	COM 26+	NC 32	NC 17+	DUT 41	C12
19	CH 51	COM 26-	NO 33	NC 17-	DUT 40	D12
20	COM 54	COM 29+	NO 34	COM 15+	BUS B	E12
21	COM 47	CH 22+	NO 31	COM 16+	CH 39	A13
22	CH 47	CH 22-	COM 31	COM 16-	CH 38	B13
23	COM 48	CH 23+	NC 31	COM 17+	CH 37	C13
24	CH 48	CH 23-	COM 33	COM 17-	CH 36	D13
25	CH 49	CH 24-	COM 34	NO 15-	No Connect	E13
26	COM 45	COM 22+	NO 30	NO 16+	DUT 39	A14
27	CH 45	COM 22-	COM 30	NO 16-	DUT 38	B14
28	COM 46	COM 23+	NC 30	NO 17+	DUT 37	C14
29	CH 46	COM 23-	NC 33	NO 17-	DUT 36	D14
30	COM 49	CH 24+	NC 34	NO 15+	BUS A	E14
31	COM 42	CH 20+	NO 27	NC 13+	CH 35	A15
32	CH 42	CH 20-	COM 27	NC 13-	CH 34	B15
33	COM 43	CH 21+	NC 27	NC 14+	CH 33	C15
34	CH 43	CH 21-	NC 28	NC 14-	CH 32	D15
35	CH 44	COM 24-	NC 29	NC 10-	No Connect	E15
36	COM 40	COM 20+	NO 26	COM 13+	DUT 35	A16
37	CH 40	COM 20-	COM 26	COM 13-	DUT 34	B16
38	COM 41	COM 21+	NC 26	COM 14+	DUT 33	C16
39	CH 41	COM 21-	COM 28	COM 14-	DUT 32	D16
40	COM 44	COM 24+	COM 29	NC 10+	No Connect	E16
41	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect

Table 3. Pin Assignment for SH160DIN-4XDB50F-2A Connector P3 (Continued)

50-Pin D-SUB Connector P3						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
42	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
43	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
44	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
45	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
46	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
47	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
48	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
49	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
50	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect

Table 4. Pin Assignment for SH160DIN-4XDB50F-2A Connector P4

50-Pin D-SUB Connector P4						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
1	COM 77	CH 37+	NO 51	NO 25-	CH 63	A1
2	CH 77	CH 37-	COM 51	COM 25-	CH 62	B1
3	COM 78	CH 38+	NC 51	NC 25-	CH 61	C1
4	CH 78	CH 38-	NC 52	No Connect	CH 60	D1
5	CH 79	CH 39-	No Connect	No Connect	Reserved	E1
6	COM 75	COM 37+	NO 50	NO 25+	DUT 63	A2
7	CH 75	COM 37-	COM 50	COM 25+	DUT 62	B2
8	COM 76	COM 38+	NC 50	NC 25+	DUT 61	C2
9	CH 76	COM 38-	NO 52	No Connect	DUT 60	D2
10	COM 79	CH 39+	COM 52	No Connect	CH 67	E2
11	COM 72	CH 35+	NO 47	NC 23+	CH 59	A3
12	CH 72	CH 35-	COM 47	NC 23-	CH 58	B3

Table 4. Pin Assignment for SH160DIN-4XDB50F-2A Connector P4 (Continued)

50-Pin D-SUB Connector P4						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
13	COM 73	CH 36+	NC 47	NC 24+	CH 57	C3
14	CH 73	CH 36-	NO 48	NC 24-	CH 56	D3
15	CH 74	COM 39-	NO 49	NC 20-	DUT 67	E3
16	COM 70	COM 35+	NO 46	COM 23+	DUT 59	A4
17	CH 70	COM 35-	COM 46	COM 23-	DUT 58	B4
18	COM 71	COM 36+	NC 46	COM 24+	DUT 57	C4
19	CH 71	COM 36-	COM 48	COM 24-	DUT 56	D4
20	COM 74	COM 39+	COM 49	NC 20+	CH 66	E4
21	COM 67	CH 32+	NO 45	NO 23+	CH 55	A5
22	CH 67	CH 32-	COM 45	NO 23-	CH 54	B5
23	COM 68	CH 33+	NC 45	NO 24+	CH 53	C5
24	CH 68	CH 33-	NC 48	NO 24-	CH 52	D5
25	CH 69	CH 34-	NC 49	COM 20-	DUT 66	E5
26	COM 65	COM 32+	NO 42	NC 21+	DUT 55	A6
27	CH 65	COM 32-	COM 42	NC 21-	DUT 54	B6
28	COM 66	COM 33+	NC 42	NC 22+	DUT 53	C6
29	CH 66	COM 33-	NC 43	NC 22-	DUT 52	D6
30	COM 69	CH 34+	NC 44	COM 20+	CH 65	E6
31	COM 62	CH 30+	NO 41	COM 21+	CH 51	A7
32	CH 62	CH 30-	COM 41	COM 21-	CH 50	B7
33	COM 63	CH 31+	NC 41	COM 22+	CH 49	C7
34	CH 63	CH 31-	COM 43	COM 22-	CH 48	D7
35	CH 64	COM 34-	COM 44	NO 20-	DUT 65	E7
36	COM 60	COM 30+	NO 40	NO 21+	DUT 51	A8
37	CH 60	COM 30-	COM 40	NO 21-	DUT 50	B8
38	COM 61	COM 31+	NC 40	NO 22+	DUT 49	C8

Table 4. Pin Assignment for SH160DIN-4XDB50F-2A Connector P4 (Continued)

50-Pin D-SUB Connector P4						
D-SUB Pin	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
39	CH 61	COM 31-	NO 43	NO 22-	DUT 48	D8
40	COM 64	COM 34+	NO 44	NO 20+	CH 64	E8
41	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
42	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
43	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
44	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
45	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
46	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
47	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
48	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
49	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect
50	No Connect	No Connect	No Connect	No Connect	No Connect	No Connect

SH160DIN-160DIN-2A Cable

The SH160DIN-160DIN-2A cable is recommended for connecting the NI 252x or NI 2510 to a system that terminates with a male 160-Pin DIN connector.

Use the pinouts and the pin assignments listed in Table 5 to determine how to connect signals to your application using the SH160DIN-160DIN-2A cable.

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

Table 5. Pin Assignment for the SH160DIN-160DIN-2A Cable

160DIN Mating Connector					
NI PXI-2520	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**160 DIN P1/P2 Pin**
COM 77	CH 37+	NO 51	NO 25-	CH 63	A1
CH 77	CH 37-	COM 51	COM 25-	CH 62	B1
COM 78	CH 38+	NC 51	NC 25-	CH 61	C1
CH 78	CH 38-	NC 52	No Connect	CH 60	D1

Table 5. Pin Assignment for the SH160DIN-160DIN-2A Cable (Continued)

160DIN Mating Connector					
NI PXI-2520	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**160 DIN P1/P2 Pin**
CH 79	CH 39-	No Connect	No Connect	Reserved	E1
COM 75	COM 37+	NO 50	NO 25+	DUT 63	A2
CH 75	COM 37-	COM 50	COM 25+	DUT 62	B2
COM 76	COM 38+	NC 50	NC 25+	DUT 61	C2
CH 76	COM 38-	NO 52	No Connect	DUT 60	D2
COM 79	CH 39+	COM 52	No Connect	CH 67	E2
COM 72	CH 35+	NO 47	NC 23+	CH 59	A3
CH 72	CH 35-	COM 47	NC 23-	CH 58	B3
COM 73	CH 36+	NC 47	NC 24+	CH 57	C3
CH 73	CH 36-	NO 48	NC 24-	CH 56	D3
CH 74	COM 39-	NO 49	NC 20-	DUT 67	E3
COM 70	COM 35+	NO 46	COM 23+	DUT 59	A4
CH 70	COM 35-	COM 46	COM 23-	DUT 58	B4
COM 71	COM 36+	NC 46	COM 24+	DUT 57	C4
CH 71	COM 36-	COM 48	COM 24-	DUT 56	D4
COM 74	COM 39+	COM 49	NC 20+	CH 66	E4
COM 67	CH 32+	NO 45	NO 23+	CH 55	A5
CH 67	CH 32-	COM 45	NO 23-	CH 54	B5
COM 68	CH 33+	NC 45	NO 24+	CH 53	C5
CH 68	CH 33-	NC 48	NO 24-	CH 52	D5
CH 69	CH 34-	NC 49	COM 20-	DUT 66	E5
COM 65	COM 32+	NO 42	NC 21+	DUT 55	A6
CH 65	COM 32-	COM 42	NC 21-	DUT 54	B6
COM 66	COM 33+	NC 42	NC 22+	DUT 53	C6
CH 66	COM 33-	NC 43	NC 22-	DUT 52	D6
COM 69	CH 34+	NC 44	COM 20+	CH 65	E6
COM 62	CH 30+	NO 41	COM 21+	CH 51	A7

Table 5. Pin Assignment for the SH160DIN-160DIN-2A Cable (Continued)

160DIN Mating Connector					
NI PXI-2520	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**160 DIN P1/P2 Pin**
CH 62	CH 30-	COM 41	COM 21-	CH 50	B7
COM 63	CH 31+	NC 41	COM 22+	CH 49	C7
CH 63	CH 31-	COM 43	COM 22-	CH 48	D7
CH 64	COM 34-	COM 44	NO 20-	DUT 65	E7
COM 60	COM 30+	NO 40	NO 21+	DUT 51	A8
CH 60	COM 30-	COM 40	NO 21-	DUT 50	B8
COM 61	COM 31+	NC 40	NO 22+	DUT 49	C8
CH 61	COM 31-	NO 43	NO 22-	DUT 48	D8
COM 64	COM 34+	NO 44	NO 20+	CH 64	E8
COM 57	CH 27+	NO 37	NC 18+	CH 47	A9
CH 57	CH 27-	COM 37	NC 18-	CH 46	B9
COM 58	CH 28+	NC 37	NC 19+	CH 45	C9
CH 58	CH 28-	NO 38	NC 19-	CH 44	D9
CH 59	CH 29-	NO 39	NC 15-	DUT 64	E9
COM 55	COM 27+	NO 36	COM 18+	DUT 47	A10
CH 55	COM 27-	COM 36	COM 18-	DUT 46	B10
COM 56	COM 28+	NC 36	COM 19+	DUT 45	C10
CH 56	COM 28-	COM 38	COM 19-	DUT 44	D10
COM 59	CH 29+	COM 39	NC 15+	No Connect	E10
COM 52	CH 25+	NO 35	NO 18+	CH 43	A11
CH 52	CH 25-	COM 35	NO 18-	CH 42	B11
COM 53	CH 26+	NC 35	NO 19+	CH 41	C11
CH 53	CH 26-	NC 38	NO 19-	CH 40	D11
CH 54	COM 29-	NC 39	COM 15-	No Connect	E11
COM 50	COM 25+	NO 32	NC 16+	DUT 43	A12
CH 50	COM 25-	COM 32	NC 16-	DUT 42	B12
COM 51	COM 26+	NC 32	NC 17+	DUT 41	C12

Table 5. Pin Assignment for the SH160DIN-160DIN-2A Cable (Continued)

160DIN Mating Connector					
NI PXI-2520	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**160 DIN P1/P2 Pin**
CH 51	COM 26-	NO 33	NC 17-	DUT 40	D12
COM 54	COM 29+	NO 34	COM 15+	BUS B	E12
COM 47	CH 22+	NO 31	COM 16+	CH 39	A13
CH 47	CH 22-	COM 31	COM 16-	CH 38	B13
COM 48	CH 23+	NC 31	COM 17+	CH 37	C13
CH 48	CH 23-	COM 33	COM 17-	CH 36	D13
CH 49	CH 24-	COM 34	NO 15-	No Connect	E13
COM 45	COM 22+	NO 30	NO 16+	DUT 39	A14
CH 45	COM 22-	COM 30	NO 16-	DUT 38	B14
COM 46	COM 23+	NC 30	NO 17+	DUT 37	C14
CH 46	COM 23-	NC 33	NO 17-	DUT 36	D14
COM 49	CH 24+	NC 34	NO 15+	BUS A	E14
COM 42	CH 20+	NO 27	NC 13+	CH 35	A15
CH 42	CH 20-	COM 27	NC 13-	CH 34	B15
COM 43	CH 21+	NC 27	NC 14+	CH 33	C15
CH 43	CH 21-	NC 28	NC 14-	CH 32	D15
CH 44	COM 24-	NC 29	NC 10-	No Connect	E15
COM 40	COM 20+	NO 26	COM 13+	DUT 35	A16
CH 40	COM 20-	COM 26	COM 13-	DUT 34	B16
COM 41	COM 21+	NC 26	COM 14+	DUT 33	C16
CH 41	COM 21-	COM 28	COM 14-	DUT 32	D16
COM 44	COM 24+	COM 29	NC 10+	No Connect	E16
COM 37	CH 17+	NO 25	NO 13+	CH 31	A17
CH 37	CH 17-	COM 25	NO 13-	CH 30	B17
COM 38	CH 18+	NC 25	NO 14+	CH 29	C17
CH 38	CH 18-	NO 28	NO 14-	CH 28	D17
CH 39	CH 19-	NO 29	COM 10-	No Connect	E17

Table 5. Pin Assignment for the SH160DIN-160DIN-2A Cable (Continued)

160DIN Mating Connector					
NI PXI-2520	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**160 DIN P1/P2 Pin**
COM 35	COM 17+	NO 22	NC 11+	DUT 31	A18
CH 35	COM 17-	COM 22	NC 11-	DUT 30	B18
COM 36	COM 18+	NC 22	NC 12+	DUT 29	C18
CH 36	COM 18-	NC 23	NC 12-	DUT 28	D18
COM 39	CH 19+	NC 24	COM 10+	No Connect	E18
COM 32	CH 15+	NO 21	COM 11+	CH 27	A19
CH 32	CH 15-	COM 21	COM 11-	CH 26	B19
COM 33	CH 16+	NC 21	COM 12+	CH 25	C19
CH 33	CH 16-	COM 23	COM 12-	CH 24	D19
CH 34	COM 19-	COM 24	NO 10-	No Connect	E19
COM 30	COM 15+	NO 20	NO 11+	DUT 27	A20
CH 30	COM 15-	COM 20	NO 11-	DUT 26	B20
COM 31	COM 16+	NC 20	NO 12+	DUT 25	C20
CH 31	COM 16-	NO 23	NO 12-	DUT 24	D20
COM 34	COM 19+	NO 24	NO 10+	No Connect	E20
COM 27	CH 12+	NO 17	NC 8+	CH 23	A21
CH 27	CH 12-	COM 17	NC 8-	CH 22	B21
COM 28	CH 13+	NC 17	NC 9+	CH 21	C21
CH 28	CH 13-	NO 18	NC 9-	CH 20	D21
CH 29	CH 14-	NO 19	NC 5-	No Connect	E21
COM 25	COM 12+	NO 16	COM 8+	DUT 23	A22
CH 25	COM 12-	COM 16	COM 8-	DUT 22	B22
COM 26	COM 13+	NC 16	COM 9+	DUT 21	C22
CH 26	COM 13-	COM 18	COM 9-	DUT 20	D22
COM 29	CH 14+	COM 19	NC 5+	No Connect	E22
COM 22	CH 10+	NO 15	NO 8+	CH 19	A23
CH 22	CH 10-	COM 15	NO 8-	CH 18	B23

Table 5. Pin Assignment for the SH160DIN-160DIN-2A Cable (Continued)

160DIN Mating Connector					
NI PXI-2520	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**160 DIN P1/P2 Pin**
COM 23	CH 11+	NC 15	NO 9+	CH 17	C23
CH 23	CH 11-	NC 18	NO 9-	CH 16	D23
CH 24	COM 14-	NC 19	COM 5-	No Connect	E23
COM 20	COM 10+	NO 12	NC 6+	DUT 19	A24
CH 20	COM 10-	COM 12	NC 6-	DUT 18	B24
COM 21	COM 11+	NC 12	NC 7+	DUT 17	C24
CH 21	COM 11-	NO 13	NC 7-	DUT 16	D24
COM 24	COM 14+	NO 14	COM 5+	B3	E24
COM 17	CH 7+	NO 11	COM 6+	CH 15	A25
CH 17	CH 7-	COM 11	COM 6-	CH 14	B25
COM 18	CH 8+	NC 11	COM 7+	CH 13	C25
CH 18	CH 8-	COM 13	COM 7-	CH 12	D25
CH 19	CH 9-	COM 14	NO 5-	B2	E25
COM 15	COM 7+	NO 10	NO 6+	DUT 15	A26
CH 15	COM 7-	COM 10	NO 6-	DUT 14	B26
COM 16	COM 8+	NC 10	NO 7+	DUT 13	C26
CH 16	COM 8-	NC 13	NO 7-	DUT 12	D26
COM 19	CH 9+	NC 14	NO 5+	B1	E26
COM 12	CH 5+	NO 7	NC 3+	CH 11	A27
CH 12	CH 5-	COM 7	NC 3-	CH 10	B27
COM 13	CH 6+	NC 7	NC 4+	CH 9	C27
CH 13	CH 6-	NC 8	NC 4-	CH 8	D27
CH 14	COM 9-	NC 9	NC 0-	B0	E27
COM 10	COM 5+	NO 6	COM 3+	DUT 11	A28
CH 10	COM 5-	COM 6	COM 3-	DUT 10	B28
COM 11	COM 6+	NC 6	COM 4+	DUT 9	C28
CH 11	COM 6-	COM 8	COM 4-	DUT 8	D28

Table 5. Pin Assignment for the SH160DIN-160DIN-2A Cable (Continued)

160DIN Mating Connector					
NI PXI-2520	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**160 DIN P1/P2 Pin**
COM 14	COM 9+	COM 9	NC 0+	No Connect	E28
COM 7	CH 2+	NO 5	NO 3+	CH 7	A29
CH 7	CH 2-	COM 5	NO 3-	CH 6	B29
COM 8	CH 3+	NC 5	NO 4+	CH 5	C29
CH 8	CH 3-	NO 8	NO 4-	CH 4	D29
CH 9	CH 4-	NO 9	COM 0-	A3	E29
COM 5	COM 2+	NO 2	NC 1+	DUT 7	A30
CH 5	COM 2-	COM 2	NC 1-	DUT 6	B30
COM 6	COM 3+	NC 2	NC 2+	DUT 5	C30
CH 6	COM 3-	NC 3	NC 2-	DUT 4	D30
COM 9	CH 4+	NC 4	COM 0+	A2	E30
COM 2	CH 0+	NO 1	COM 1+	CH 3	A31
CH 2	CH 0-	COM 1	COM 1-	CH 2	B31
COM 3	CH 1+	NC 1	COM 2+	CH 1	C31
CH 3	CH 1-	COM 3	COM 2-	CH 0	D31
CH 4	COM 4-	COM 4	NO 0-	A1	E31
COM 0	COM 0+	NO 0	NO 1+	DUT 3	A32
CH 0	COM 0-	COM 0	NO 1-	DUT 2	B32
COM 1	COM 1+	NC 0	NO 2+	DUT 1	C32
CH 1	COM 1-	NO 3	NO 2-	DUT 0	D32
COM 4	COM 4+	NO 4	NO 0+	A0	E32

SH160DIN-BARE WIRE-2A Cable

The SH160DIN-BARE WIRE-2A cable is recommended for connecting the NI 252x or the NI 2510 to your system if termination with a connector other than a 50-pin female D-SUB or 160-Pin DIN connector is required. One end of the cable terminates with a 160-Pin DIN connector. The other end of the cable has eight bundles of unterminated, tinned, and stripped wires.

Use the pinouts and the pin assignments listed in Tables 6 through 13 to determine how to connect signals to your application.

Note The first color listed in the Bare Wire Color column of Tables 6 through 13 is the primary color of the wire. The second color listed is the stripe color.

Table 6. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P1

Cable Leg P1						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLACK	COM 7	CH 2+	NO 5	NO 3+	CH 7	A29
BROWN	CH 7	CH 2-	COM 5	NO 3-	CH 6	B29
RED	COM 8	CH 3+	NC 5	NO 4+	CH 5	C29
ORANGE	CH 8	CH 3-	NO 8	NO 4-	CH 4	D29
YELLOW	CH 9	CH 4-	NO 9	COM 0-	A3	E29
GREEN	COM 5	COM 2+	NO 2	NC 1+	DUT 7	A30
BLUE	CH 5	COM 2-	COM 2	NC 1-	DUT 6	B30
PURPLE	COM 6	COM 3+	NC 2	NC 2+	DUT 5	C30
GRAY	CH 6	COM 3-	NC 3	NC 2-	DUT 4	D30
WHITE	COM 9	CH 4+	NC 4	COM 0+	A2	E30
PINK	COM 2	CH 0+	NO 1	COM 1+	CH 3	A31
LIGHT GREEN	CH 2	CH 0-	COM 1	COM 1-	CH 2	B31
BLACK/ WHITE	COM 3	CH 1+	NC 1	COM 2+	CH 1	C31
BROWN/ WHITE	CH 3	CH 1-	COM 3	COM 2-	CH 0	D31
RED/ WHITE	CH 4	COM 4-	COM 4	NO 0-	A1	E31

Table 6. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P1 (Continued)

Cable Leg P1						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
ORANGE/ WHITE	COM 0	COM 0+	NO 0	NO 1+	DUT 3	A32
GREEN/ WHITE	CH 0	COM 0-	COM 0	NO 1-	DUT 2	B32
BLUE/ WHITE	COM 1	COM 1+	NC 0	NO 2+	DUT 1	C32
PURPLE/ WHITE	CH 1	COM 1-	NO 3	NO 2-	DUT 0	D32
RED/ BLACK	COM 4	COM 4+	NO 4	NO 0+	A0	E32

Table 7. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P2

Cable Leg P2						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLACK	COM 17	CH 7+	NO 11	COM 6+	CH 15	A25
BROWN	CH 17	CH 7-	COM 11	COM 6-	CH 14	B25
RED	COM 18	CH 8+	NC 11	COM 7+	CH 13	C25
ORANGE	CH 18	CH 8-	COM 13	COM 7-	CH 12	D25
YELLOW	CH 19	CH 9-	COM 14	NO 5-	B2	E25
GREEN	COM 15	COM 7+	NO 10	NO 6+	DUT 15	A26
BLUE	CH 15	COM 7-	COM 10	NO 6-	DUT 14	B26
PURPLE	COM 16	COM 8+	NC 10	NO 7+	DUT 13	C26
GRAY	CH 16	COM 8-	NC 13	NO 7-	DUT 12	D26
WHITE	COM 19	CH 9+	NC 14	NO 5+	B1	E26
PINK	COM 12	CH 5+	NO 7	NC 3+	CH 11	A27
LIGHT GREEN	CH 12	CH 5-	COM 7	NC 3-	CH 10	B27
BLACK/ WHITE	COM 13	CH 6+	NC 7	NC 4+	CH 9	C27

Table 7. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P2 (Continued)

Cable Leg P2						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BROWN/ WHITE	CH 13	CH 6-	NC 8	NC 4-	CH 8	D27
RED/ WHITE	CH 14	COM 9-	NC 9	NC 0-	B0	E27
ORANGE/ WHITE	COM 10	COM 5+	NO 6	COM 3+	DUT 11	A28
GREEN/ WHITE	CH 10	COM 5-	COM 6	COM 3-	DUT 10	B28
BLUE/ WHITE	COM 11	COM 6+	NC 6	COM 4+	DUT 9	C28
PURPLE/ WHITE	CH 11	COM 6-	COM 8	COM 4-	DUT 8	D28
RED/ BLACK	COM 14	COM 9+	COM 9	NC 0+	No Connect	E28

Table 8. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P3

Cable Leg P3						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLACK	COM 27	CH 12+	NO 17	NC 8+	CH 23	A21
BROWN	CH 27	CH 12-	COM 17	NC 8-	CH 22	B21
RED	COM 28	CH 13+	NC 17	NC 9+	CH 21	C21
ORANGE	CH 28	CH 13-	NO 18	NC 9-	CH 20	D21
YELLOW	CH 29	CH 14-	NO 19	NC 5-	No Connect	E21
GREEN	COM 25	COM 12+	NO 16	COM 8+	DUT 23	A22
BLUE	CH 25	COM 12-	COM 16	COM 8-	DUT 22	B22
PURPLE	COM 26	COM 13+	NC 16	COM 9+	DUT 21	C22
GRAY	CH 26	COM 13-	COM 18	COM 9-	DUT 20	D22
WHITE	COM 29	CH 14+	COM 19	NC 5+	No Connect	E22

Table 8. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P3 (Continued)

Cable Leg P3						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
PINK	COM 22	CH 10+	NO 15	NO 8+	CH 19	A23
LIGHT GREEN	CH 22	CH 10-	COM 15	NO 8-	CH 18	B23
BLACK/ WHITE	COM 23	CH 11+	NC 15	NO 9+	CH 17	C23
BROWN/ WHITE	CH 23	CH 11-	NC 18	NO 9-	CH 16	D23
RED/ WHITE	CH 24	COM 14-	NC 19	COM 5-	No Connect	E23
ORANGE/ WHITE	COM 20	COM 10+	NO 12	NC 6+	DUT 19	A24
GREEN/ WHITE	CH 20	COM 10-	COM 12	NC 6-	DUT 18	B24
BLUE/ WHITE	COM 21	COM 11+	NC 12	NC 7+	DUT 17	C24
PURPLE/ WHITE	CH 21	COM 11-	NO 13	NC 7-	DUT 16	D24
RED/ BLACK	COM 24	COM 14+	NO 14	COM 5+	B3	E24

Table 9. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P4

Cable Leg P4						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLACK	COM 37	CH 17+	NO 25	NO 13+	CH 31	A17
BROWN	CH 37	CH 17-	COM 25	NO 13-	CH 30	B17
RED	COM 38	CH 18+	NC 25	NO 14+	CH 29	C17
ORANGE	CH 38	CH 18-	NO 28	NO 14-	CH 28	D17
YELLOW	CH 39	CH 19-	NO 29	COM 10-	No Connect	E17
GREEN	COM 35	COM 17+	NO 22	NC 11+	DUT 31	A18

Table 9. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P4 (Continued)

Cable Leg P4						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLUE	CH 35	COM 17-	COM 22	NC 11-	DUT 30	B18
PURPLE	COM 36	COM 18+	NC 22	NC 12+	DUT 29	C18
GRAY	CH 36	COM 18-	NC 23	NC 12-	DUT 28	D18
WHITE	COM 39	CH 19+	NC 24	COM 10+	No Connect	E18
PINK	COM 32	CH 15+	NO 21	COM 11+	CH 27	A19
LIGHT GREEN	CH 32	CH 15-	COM 21	COM 11-	CH 26	B19
BLACK/ WHITE	COM 33	CH 16+	NC 21	COM 12+	CH 25	C19
BROWN/ WHITE	CH 33	CH 16-	COM 23	COM 12-	CH 24	D19
RED/ WHITE	CH 34	COM 19-	COM 24	NO 10-	No Connect	E19
ORANGE/ WHITE	COM 30	COM 15+	NO 20	NO 11+	DUT 27	A20
GREEN/ WHITE	CH 30	COM 15-	COM 20	NO 11-	DUT 26	B20
BLUE/ WHITE	COM 31	COM 16+	NC 20	NO 12+	DUT 25	C20
PURPLE/ WHITE	CH 31	COM 16-	NO 23	NO 12-	DUT 24	D20
RED/ BLACK	COM 34	COM 19+	NO 24	NO 10+	No Connect	E20

Table 10. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P5

Cable Leg P5						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLACK	COM 47	CH 22+	NO 31	COM 16+	CH 39	A13
BROWN	CH 47	CH 22-	COM 31	COM 16-	CH 38	B13

Table 10. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P5 (Continued)

Cable Leg P5						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
RED	COM 48	CH 23+	NC 31	COM 17+	CH 37	C13
ORANGE	CH 48	CH 23-	COM 33	COM 17-	CH 36	D13
YELLOW	CH 49	CH 24-	COM 34	NO 15-	No Connect	E13
GREEN	COM 45	COM 22+	NO 30	NO 16+	DUT 39	A14
BLUE	CH 45	COM 22-	COM 30	NO 16-	DUT 38	B14
PURPLE	COM 46	COM 23+	NC 30	NO 17+	DUT 37	C14
GRAY	CH 46	COM 23-	NC 33	NO 17-	DUT 36	D14
WHITE	COM 49	CH 24+	NC 34	NO 15+	BUS_A	E14
PINK	COM 42	CH 20+	NO 27	NC 13+	CH 35	A15
LIGHT GREEN	CH 42	CH 20-	COM 27	NC 13-	CH 34	B15
BLACK/ WHITE	COM 43	CH 21+	NC 27	NC 14+	CH 33	C15
BROWN/ WHITE	CH 43	CH 21-	NC 28	NC 14-	CH 32	D15
RED/ WHITE	CH 44	COM 24-	NC 29	NC 10-	No Connect	E15
ORANGE/ WHITE	COM 40	COM 20+	NO 26	COM 13+	DUT 35	A16
GREEN/ WHITE	CH 40	COM 20-	COM 26	COM 13-	DUT 34	B16
BLUE/ WHITE	COM 41	COM 21+	NC 26	COM 14+	DUT 33	C16
PURPLE/ WHITE	CH 41	COM 21-	COM 28	COM 14-	DUT 32	D16
RED/ BLACK	COM 44	COM 24+	COM 29	NC 10+	No Connect	E16

Table 11. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P6

Cable Leg P6						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLACK	COM 57	CH 27+	NO 37	NC 18+	CH 47	A9
BROWN	CH 57	CH 27-	COM 37	NC 18-	CH 46	B9
RED	COM 58	CH 28+	NC 37	NC 19+	CH 45	C9
ORANGE	CH 58	CH 28-	NO 38	NC 19-	CH 44	D9
YELLOW	CH 59	CH 29-	NO 39	NC 15-	DUT 64	E9
GREEN	COM 55	COM 27+	NO 36	COM 18+	DUT 47	A10
BLUE	CH 55	COM 27-	COM 36	COM 18-	DUT 46	B10
PURPLE	COM 56	COM 28+	NC 36	COM 19+	DUT 45	C10
GRAY	CH 56	COM 28-	COM 38	COM 19-	DUT 44	D10
WHITE	COM 59	CH 29+	COM 39	NC 15+	No Connect	E10
PINK	COM 52	CH 25+	NO 35	NO 18+	CH 43	A11
LIGHT GREEN	CH 52	CH 25-	COM 35	NO 18-	CH 42	B11
BLACK/ WHITE	COM 53	CH 26+	NC 35	NO 19+	CH 41	C11
BROWN/ WHITE	CH 53	CH 26-	NC 38	NO 19-	CH 40	D11
RED/ WHITE	CH 54	COM 29-	NC 39	COM 15-	No Connect	E11
ORANGE/ WHITE	COM 50	COM 25+	NO 32	NC 16+	DUT 43	A12
GREEN/ WHITE	CH 50	COM 25-	COM 32	NC 16-	DUT 42	B12
BLUE/ WHITE	COM 51	COM 26+	NC 32	NC 17+	DUT 41	C12
PURPLE/ WHITE	CH 51	COM 26-	NO 33	NC 17-	DUT 40	D12
RED/ BLACK	COM 54	COM 29+	NO 34	COM 15+	BUS_B	E12

Table 12. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P7

Cable Leg P7						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLACK	COM 67	CH 32+	NO 45	NO 23+	CH 55	A5
BROWN	CH 67	CH 32-	COM 45	NO 23-	CH 54	B5
RED	COM 68	CH 33+	NC 45	NO 24+	CH 53	C5
ORANGE	CH 68	CH 33-	NC 48	NO 24-	CH 52	D5
YELLOW	CH 69	CH 34-	NC 49	COM 20-	DUT 66	E5
GREEN	COM 65	COM 32+	NO 42	NC 21+	DUT 55	A6
BLUE	CH 65	COM 32-	COM 42	NC 21-	DUT 54	B6
PURPLE	COM 66	COM 33+	NC 42	NC 22+	DUT 53	C6
GRAY	CH 66	COM 33-	NC 43	NC 22-	DUT 52	D6
WHITE	COM 69	CH 34+	NC 44	COM 20+	CH 65	E6
PINK	COM 62	CH 30+	NO 41	COM 21+	CH 51	A7
LIGHT GREEN	CH 62	CH 30-	COM 41	COM 21-	CH 50	B7
BLACK/ WHITE	COM 63	CH 31+	NC 41	COM 22+	CH 49	C7
BROWN/ WHITE	CH 63	CH 31-	COM 43	COM 22-	CH 48	D7
RED/ WHITE	CH 64	COM 34-	COM 44	NO 20-	DUT 65	E7
ORANGE/ WHITE	COM 60	COM 30+	NO 40	NO 21+	DUT 51	A8
GREEN/ WHITE	CH 60	COM 30-	COM 40	NO 21-	DUT 50	B8
BLUE/ WHITE	COM 61	COM 31+	NC 40	NO 22+	DUT 49	C8
PURPLE/ WHITE	CH 61	COM 31-	NO 43	NO 22-	DUT 48	D8
RED/ BLACK	COM 64	COM 34+	NO 44	NO 20+	CH 64	E8

Table 13. Pin Assignment for SH160DIN-BARE WIRE-2A Cable Leg P8

Cable Leg P8						
Bare Wire Color	**NI PXI-2520**	**NI PXI-2521**	**NI PXI-2522**	**NI PXI-2523**	**NI PXI-2510**	**Interface Connector Pin**
BLACK	COM 77	CH 37+	NO 51	NO 25-	CH 63	A1
BROWN	CH 77	CH 37-	COM 51	COM 25-	CH 62	B1
RED	COM 78	CH 38+	NC 51	NC 25-	CH 61	C1
ORANGE	CH 78	CH 38-	NC 52	No Connect	CH 60	D1
YELLOW	CH 79	CH 39-	No Connect	No Connect	Reserved	E1
GREEN	COM 75	COM 37+	NO 50	NO 25+	DUT 63	A2
BLUE	CH 75	COM 37-	COM 50	COM 25+	DUT 62	B2
PURPLE	COM 76	COM 38+	NC 50	NC 25+	DUT 61	C2
GRAY	CH 76	COM 38-	NO 52	No Connect	DUT 60	D2
WHITE	COM 79	CH 39+	COM 52	No Connect	CH 67	E2
PINK	COM 72	CH 35+	NO 47	NC 23+	CH 59	A3
LIGHT GREEN	CH 72	CH 35-	COM 47	NC 23-	CH 58	B3
BLACK/ WHITE	COM 73	CH 36+	NC 47	NC 24+	CH 57	C3
BROWN/ WHITE	CH 73	CH 36-	NO 48	NC 24-	CH 56	D3
RED/ WHITE	CH 74	COM 39-	NO 49	NC 20-	DUT 67	E3
ORANGE/ WHITE	COM 70	COM 35+	NO 46	COM 23+	DUT 59	A4
GREEN/ WHITE	CH 70	COM 35-	COM 46	COM 23-	DUT 58	B4
BLUE/ WHITE	COM 71	COM 36+	NC 46	COM 24+	DUT 57	C4
PURPLE/ WHITE	CH 71	COM 36-	COM 48	COM 24-	DUT 56	D4
RED/ BLACK	COM 74	COM 39+	COM 49	NC 20+	CH 66	E4

Specifications

Maximum voltage .....150 V, CAT I

Maximum current per pin .....2 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 for more information about Measurement Categories.

Weight

SH160DIN-4XDB50F-2A.....1837.1 g (64.8 oz)

SH160DIN-160DIN-2A.....1564.9 g (55. 1 oz)

SH160DIN-BARE WIRE-2A.....1451.5 g (51.2 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.

Accessories

Visit `ni.com` for information about the following accessory.

Caution This product must be operated with shielded accessories to ensure compliance with Electromagnetic Compatibility (EMC) requirements. Do not use unshielded terminal blocks (such as the NI TBX-50B) or other unshielded accessories unless they are installed in a shielded enclosure with properly designed and shielded input/output ports and connected to the NI product(s) 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 14. NI Accessory for the 160-Pin DIN Cable

Accessory	Part Number
NI TBX-50B terminal block, with screw connection and 50 position D-Subminiature pin strip	782866-01

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 15 for information about third-party accessories.

Table 15. Third-Party Accessories for the 160-Pin DIN Cable

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

Compliance and Certifications

Safety

This product is designed to meet the requirements of the following electrical equipment safety standards for measurement, control, and laboratory use:

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

Note For EMC declarations and certifications, and additional information, refer to the *Online Product Certification* section.

CE Compliance CE

This product meets the essential requirements of applicable European Directives as follows:

- 2006/95/EC; Low-Voltage Directive (safety)

Online Product Certification

To obtain product certifications and the Declaration of Conformity (DoC) for this product, visit `ni.com/certification`, search by model number or product line, and click the appropriate link in the Certification column.

Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *Minimize Our Environmental Impact* web page at `ni.com/environment`. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

Waste Electrical and Electronic Equipment (WEEE)



EU Customers At the end of the product life cycle, all products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers, National Instruments WEEE initiatives, and compliance with WEEE Directive 2002/96/EC on Waste and Electronic Equipment, visit `ni.com/environment/weee`.

电子信息产品污染控制管理办法 （中国 RoHS）



中国客户 National Instruments 符合中国电子信息产品中限制使用某些有害物质指令 (RoHS)。关于 National Instruments 中国 RoHS 合规性信息，请登录 `ni.com/environment/rohs_china`。 (For information about China RoHS compliance, go to `ni.com/environment/rohs_china`.)

Where to Go for Support

The National Instruments website is your complete resource for technical support. At `ni.com/support` you have access to everything from troubleshooting and application development self-help resources to email and phone assistance from NI Application Engineers.

National Instruments corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504. National Instruments also has offices located around the world. For telephone support in the United States, create your service request at `ni.com/support` or dial 512 795 8248. For telephone support outside the United States, visit the Worldwide Offices section of `ni.com/niglobal` to access the branch office websites, which provide up-to-date contact information, support phone numbers, email addresses, and current events.

Refer to the *NI Trademarks and Logo Guidelines* at `ni.com/trademarks` for more information on National Instruments trademarks. Other product and company names mentioned herein are trademarks or trade names of their respective companies. For patents covering National Instruments products/technology, refer to the appropriate location: **Help»Patents** in your software, the `patents.txt` file on your media, or the *National Instruments Patents Notice* at `ni.com/patents`. You can find information about end-user license agreements (EULAs) and third-party legal notices in the readme file for your NI product. Refer to the *Export Compliance Information* at `ni.com/legal/export-compliance` for the National Instruments global trade compliance policy and how to obtain relevant HTS codes, ECCNs, and other import/export data.

© 2013 National Instruments. All rights reserved.

375965B-01 Dec13

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP