SCXI Cable Assemblies

Overview

NI SCXI cable assemblies connect a DAQ device to the SCXI system. They consist of high-quality, low-noise cables, which guarantee reliable communication and signal integrity at up to 10 m. Therefore, you can locate your SCXI system closer to your sensors and transducers.

For SCXI systems operating in multiplexed mode, you need only one SCXI cable assembly per SCXI chassis. You must choose the appropriate cable assembly for your DAQ device (see Table 1). Multichassis multiplexed systems require an additional SCXI-1346 multichassis adapter and SH68-68-EP shielded cable for each additional chassis. If your SCXI system includes modules operating in parallel mode, you need an additional SCXI cable assembly for each of these modules. Some PXI modules can control the SCXI portion of the PXI-1010 and PXI-1011 chassis through an internal connection, and do not require additional SCXI cable assemblies. (see Table 1) For multichassis systems using the PXI-1010 or PXI-1011, you can connect an additional SCXI chassis to the front connector of the DAQ module. But if the SCXI chassis contains switch modules controlled by a PXI-4070, PXI-4060, or PXI-4021 module, additional cabling is required. See page 507 for complete switch cabling information.

Each SCXI cable assembly includes a cable and one or more SCXI cable adapters. The shielded cables use twisted pair wiring and separately shielded analog and digital signals for maximum noise rejection. The cable adapter screws into a rear slot of the SCXI chassis to hold the cable securely in place. Each cable adapter also has a 50-pin male breakout connector, for attaching additional DAQ accessories such as the SCXI-1180 feedthrough panel or a CB-50 terminal block.

Figure 1. SCXI-1349 Shielded Cable Assembly

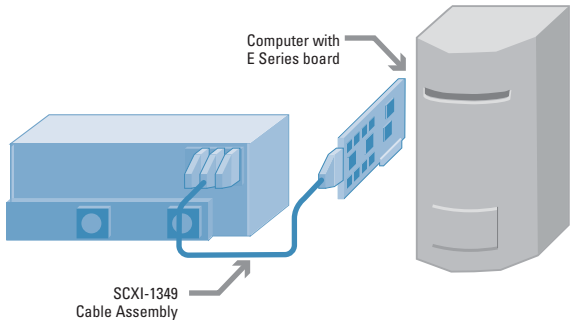

Figure 2. SCXI System with Shielded Cable Assembly

SCXI-1349 Shielded Cable Assembly (See Figures 1, 2)

For connecting 68-pin E Series devices (except DAQCards) to an SCXI chassis. The SCXI-1349 consists of an SH68-68-EP shielded cable and cable adapter with a 50-pin male breakout connector.

1 m 776574-491
2 m 776574-492

SCXI-1349 Shielded Cable Components for DAQCards

For connecting a DAQCard (with latching connector) to an SCXI chassis, purchase the SCXI-1349 Adapter and an SHC68-68-EP cable. For a legacy DAQCard, (with nonlatching connector), purchase the SCXI-1349 adapter and a PSHR68-68 cable.

SCXI-1349 adapter.....182671-01
SHC68-68-EP cable
0.5 m 186838-0R5
1 m.....186838-01
PSHR68-68 cable
1 m.....777293-01

Measurement Device	SCXI Chassis Cabling	PXI/SCXI Combination Chassis Cabling		
		Type	PXI-1010	PXI-1011
60xxE (E Series) with 68-Pin Connectors	SCXI-1349	Shielded	Internal[1] or External	Internal[1]
DAQCard-AI-16E-4, DAQCard-AI-16XE-50	SCXI-1349 with PSHR68-68M	Shielded	N/A	N/A
DAQCard-6062E, DAQCard-6024E	SCXI-1349 Adapter only with SHC6868-EP	Shielded	N/A	N/A
60xxE (E Series) with 100-Pin Connectors	SCXI-1353	Shielded	Internal[1] or External[2]	Internal[1]
PCI-DIO-32HS, AT-DIO-32HS, PXI-6533	SCXI-1355	Shielded	Internal[1] or External[2]	Internal[1]
DAQCard 6533	SCXI-1355 with PSHR68-68M	Shielded	N/A	N/A
DAQCard-DIO-24	SCXI-1351 with PSH27-50F-D1	Ribbon	N/A	N/A
PCI-DIO-96, PXI-6508	SCXI-1351 with R1005050	Ribbon	External[2]	N/A
PC-DIO-96/PnP	NB5 with SCXI-1351	Ribbon	N/A	N/A
PXI-4070, NI 4021	SCXI-1357[3], SCXI-1358[3], SCXI-1362[4]	Shielded	Internal[5] or External[6]	Internal[5] or exrternal[6]
PCI-6534 PXI-6534	SCXI-1355	Shielded	N/A	N/A

[1]Requires no external cabling. [2]Requires same cabling as SCXI Chassis. [3]For use with SCXI-1127/1128/1129. [4]For use with SCXI-1160/1161/1163R/1190/1191.
[5]Digital control only, measurements of switched signals with the PXI-4070 or NI 4060 require external cabling. [6]See page 507 for switch cabling information

Table 1. SCXI Chassis Cabling

SCXI Cable Assemblies

Figure 3. SCXI-1353 Cable Assembly

Figure 4. SCXI Cable Assembly Connected to Rear of SCXI Chassis

Figure 5. SCXI-1356 Cable Assembly

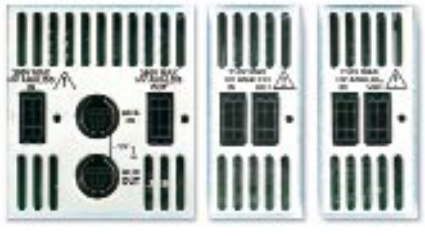

Figure 6. SCXI-1357 High-Voltage Backplane

SCXI-1353 Shielded Cable Assembly (See Figure 3)

For connecting 100-pin E Series devices to an SCXI chassis. The SCXI-1353 consists of an SH1006868 cable and two SCXI cable adapters with 50-pin male breakout connectors. The first adapter is identical to the SCXI-1349, while the second adapter routes the extended analog or digital signals to SCXI digital modules or breadboarding modules.

1 m 776575-531
2 m 776575-532

SCXI-1355 Shielded Cable Assembly (See Figure 4)

For connecting the PCI-DIO-32HS, AT-DIO-32HS, PXI-6533, DAQCard-6533, PCI-6534 or PXI-6534 to an SCXI chassis. The SCXI-1355 consists of an SH6868-D1 cable and an SCXI cable adapter. The DAQCard-6533 requires an additional PSHR68-68M cable.

1 m 776575-551
2 m 776575-552

SCXI-1356 Shielded Cable Assembly (See Figure 5)

For connecting VXI-MIO Series modules to an SCXI chassis. The SCXI-1356 consists of an SH96-6868 cable and two SCXI cable adapters with 50-pin male breakout connectors.

1 m 776575-561
2 m 776575-562

SCXI-1357, SCXI-1358 High-Voltage Backplane Assemblies

High-voltage backplane assemblies for the SCXI-1127, SCXI-1128 and SCXI-1129 multiplexer/matrix modules. The SCXI-1357 consists of a 4-slot high-voltage backplane, two cables for routing analog and digital signals to an external scanning DMM, and analog bus plugs for connecting the backplane components. The SCXI-1358 is identical to the SCXI-1357, except it is for a 12-slot SCXI chassis. To add more chassis to your high-voltage backplane configuration, purchase one add-on kit for each chassis added. You can intermix 4 and 12-slot chassis.

SCXI-1357 (4-Slot) (See Figure 6)

1 m cables 776575-571
2 m cables 776575-572
Add-on chassis kit (4-slot) 776575-57M

SCXI-1358 (12-Slot)

1 m cables 776575-581
2 m cables 776575-582
Add-on chassis kit (4-slot) 776575-58M

SCXI Cable Assemblies

SCXI-1343 Rear Screw Terminal Adapter

A general-purpose SCXI adapter with screw terminals for custom cable solutions to external instrumentation hardware.

SCXI-1343 776574-43

SCXI-1346 Multichassis Adapter (See Figure 7)

For connecting multiple SCXI chassis to a single DAQ device. The SCXI-1346 occupies two rear slots, and routes the analog and digital DAQ signals to the next chassis. You must purchase an SCXI-1346 for each additional chassis you want to add to your system. You must purchase an additional SH68-68-EP with each SCXI-1346.

SCXI-1346 Adapter 776574-46

SH68-68-EP Cable

1 m 184749-01

2 m 184749-02

5 m 184749-05

10 m 184749-10

Figure 7. SCXI-1346 Multichassis Adapter

SCXI-1351 One-Slot Cable Extender (See Figure 8)

For connecting DAQCard-DIO-24, DIO-96 Series, PXI-6508, or SCXI-1181 devices to your SCXI system. You insert the SCXI-1351 into a rear slot next to an SCXI-1181 and attach the provided ribbon cable to connect your SCXI-1181 to your SCXI system. See Table 1 for additional required cabling when using the SCXI-1351 with digital devices such as the PXI-6508.

SCXI-1351 776575-51

Figure 8. SCXI-1351 One-Slot Cable Extender

SCXI-1362 Cable Assembly (See Figure 9)

For connecting the NI 4021 Switch Controller, the PXI-4070 FlexDMM, or an NI 4060 DMM to an SCXI system containing the SCXI-1160/1161/1163R/1166/1190/1191/1193. If the chassis contains the SCXI-1127/1128/1129, use the SCXI-1357 or SCXI-1358.

1 m 776575-621

2 m 776575-622

Figure 9. SCXI-1362 Cable Assembly

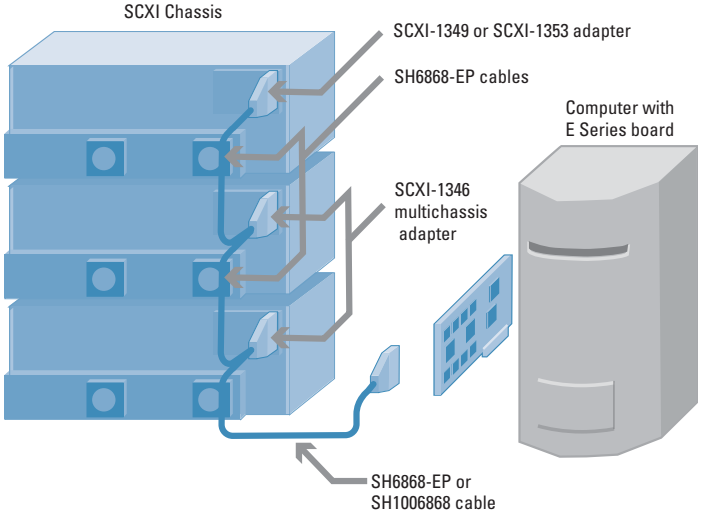

Figure 10. Multichassis SCXI System with Shielded Cabling Assemblies

SCXI Accessories

Figure 1. SCXI-1180 Feedthrough Panel

Figure 2. SCXI-1181 Breadboard

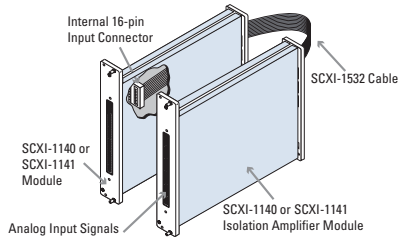

Figure 3. SCXI-1352 Cable for Cascading Modules

Tech Tip

Most SCXI chassis require AC power. However, you can use off-the-shelf true sine wave DC to AC power inverters to power the chassis with a DC power supply.

SCXI-1180 Feedthrough Panel (See Figure 1)

Extends the I/O signals of the DAQ device to the front of the SCXI chassis. It occupies one slot of your SCXI system and easily connects to your SCXI cable accessory. You can also use the SCXI-1180 to route the I/O signals of separate DAQ devices to the front of your SCXI system for convenience.

SCXI-1180 776572-80

SCXI-1181 Breadboard (See Figure 2)

A breadboard module with a 13.3 by 17.8 cm. (5.25 by 7 in.) breadboard area for integrating custom circuitry into your SCXI system. This module can connect to the DAQ device controlling the SCXI system by installing an SCXI-1351 one-slot cable extender next to the controlling SCXI cable assembly.

SCXI-1181 776572-81

SCXI-1181K Module Developer Accessory

A kit of unassembled module parts, including front and rear connectors and aluminum module housing. It is useful for custom module development with custom printed circuit boards. It does not include a breadboard or printed circuit board, but it does include dimensions needed for designing a custom board. The front connector is a standard 96-pin male DIN C connector, compatible with the SCXI-1300/1301/1381K or TBX-1303 terminal block kits.

SCXI-1181K 776572-81K

SCXI-1381K Terminal Block Developer Accessory

A kit of unassembled terminal block components for developing custom SCXI terminal blocks. This kit includes the terminal block housing, strain-relief assembly, and 96-pin DIN connector for mating with SCXI modules. This kit does not include a printed circuit board or screw terminals for signal connection.

SCXI-1381K 777687-81K

SCXIbus Extender

With the SCXIbus extender, you can operate the module outside of the chassis, which is useful for developing and debugging custom modules.

SCXIbus Extender 181585-01

SCXI-1352 Module-Cascading Cable Kit (See Figure 3)

A kit containing two ribbon cables (R1650 and R165050) for connecting the conditioned output of an SCXI module (operating in parallel mode) directly to the input of an adjacent module.

SCXI-1352 776575-52

SCXI-1360 Chassis Filler Panels

Front filler panels cover unused chassis slots and rear filler panels cover the rear slots not occupied by cable assemblies, multichassis adapters, one-slot cable extenders, or SCXI-1357/SCXI-1358 high-voltage backplane units.

SCXI-1360 front filler panel 776576-60
SCXI-1361 rear filler panel 776576-61

SCXI Accessories

Rack-Mount Kits (See Figure 4)

Holds SCXI chassis in standard 19 in. rack-enclosures. Each kit offers multiposition capability for both recessed and flush mounting.

SCXI-1370 rack-mount kit (SCXI-1001, PXI-1010).....776577-70
SCXI-1371 rack-mount kit (SCXI-1000/1000DC) 776577-71
SCXI-1372 dual rack-mount kit (SCXI-1000/1000DC).....776577-72
PXI-1011 rack-mount kit 778074-01

Figure 4. SCXI-1370 Rack-Mount Kit

SCXI-1373 Panel-Mount Kit (See Figure 5)

Mounts any 4-slot or 12-slot chassis to a panel or wall. You can mount the chassis facing up or down, leaving clearance for front and rear cabling. You can also rotate the chassis for access to both the front and rear of the chassis.

SCXI-1373 776577-73

Figure 5. SCXI-1373 Panel Mount in rotated position

SCXI-1374 Chassis Handle Kit (See Figure 6)

A chassis handle that easily attaches to either side of the SCXI chassis or SCXI-1382 battery pack. It is ideal for applications requiring increased mobility.

SCXI-1374 776577-74

Figure 6. SCXI-1374 Chassis Handle

SCXI Process Current Resistor Kit

A pack of four precision resistors for measurements of 0 to 20 mA and 4 to 20 mA current inputs. Each resistor is a 249 , 0.1%, 5 ppm/°C, 0.25 W high-precision resistor. For use with the terminal blocks for the SCXI-1120/D, 1121, 1140, 1141, 1142, 1143, 1100, 1102, and 1122.

SCXI Process Current Resistor Kit.....776582-01

SCXI-1382 Battery Pack (See Figure 7)

A 12 VDC, 25 Ah (ampere hour) battery pack that attaches directly to the SCXI-1000DC. It can power a fully loaded chassis for a minimum of five hours. The optional dual-stage power supply battery charger can charge a completely discharged battery in 8 to 11 hours, and is sold separately (SCXI-1383).

SCXI-1382 776577-820

Figure 7. SCXI-1000DC Chassis, SCXI-1382 Battery Pack and SCXI-1374 Handle Accessory

SCXI-1383 Power Supply

A 13.8 VDC, 4 A power supply/float charger for the SCXI-1000DC, which accepts 100 to 240 VAC power input. The SCXI-1382 can be combined with the SCXI-1383 to operate in standby mode and provide uninterruptible power to the SCXI-1000DC chassis. The SCXI-1383 will recharge a completely discharged SCXI-1382 battery pack in 12 to 14 hours.

U.S. 120 VAC/Japanese 100 VAC 776577-831
Swiss 220 VAC 776577-832
Australian 240 VAC.....776577-833
Universal Euro 240 VAC 776577-834
North American 240 VAC.....776577-835
United Kingdom 240 VAC 776577-836