SBS-96F SHIELDED BACKSHELL

This guide describes how to assemble and install the SBS-96F shielded backshell with low-voltage SCXI modules, VXI-DAQ modules, or low-voltage TBX terminal blocks.

Introduction

The SBS-96F kit contains a shielded backshell that houses a 96-position DIN connector.

What You Need to Get Started

- ❑ SBS-96F Shielded Backshell Kit
  - Two backshell halves
  - Two mounting ears
  - Two single strain-relief clamps
  - Two double strain-relief clamps
  - 96-position DIN connector
  - Two insulators
  - Two M 2.5 mounting screws
  - Four 4-40 screws, 5/16 in. long
  - Four 4-40 screws, 7/16 in. long
  - Two 4-40 screws, 1/2 in. long
  - Two short jack screws
  - Two long jack screws
  - Two No. 4 lockwashers
  - Two 4-40 hex nuts
  - Heat shrink tubing

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- ❑ Your SCXI module, VXI-DAQ module, or TBX terminal block and documentation
- ❑ Heat gun
- ❑ Phillips-head No. 1 screwdriver
- ❑ 0.125 in. flathead screwdriver
- ❑ Long-nose pliers
- ❑ Wire cutters
- ❑ Wire insulation strippers
- ❑ Field wiring (specific to your application)
- ❑ Soldering equipment

Signal Connections

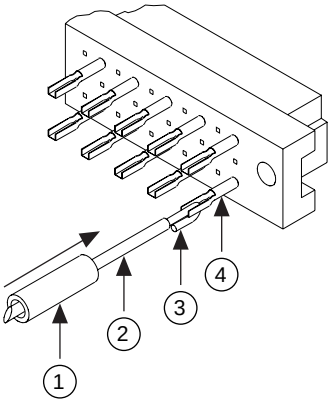
The following warning contains important safety information concerning hazardous voltages.

Warning: ***Avoid coming in contact with, or letting the SBS-96F come in contact with, live circuits. Do not connect the SBS-96F backshell assembly to high voltages (≥42 Vrms). National Instruments is NOT liable for any damages or injuries resulting from improper use or connections.***

To connect field signals to the SBS-96F, refer to Figures 1, 2, and 3 as you perform the following steps.

1. Prepare your field wiring for the connection.
2. Use wire insulation strippers to strip 1/8 in. of insulation from your field wiring.
3. Slide a piece of heat shrink tubing over each wire.
4. Hook and solder the wiring to the appropriate solder cups (see Figure 1). You may need to trim individual wires to the appropriate length for a good fit in the backshell before soldering. Consult your SCXI module user manual for pinout information before wiring.

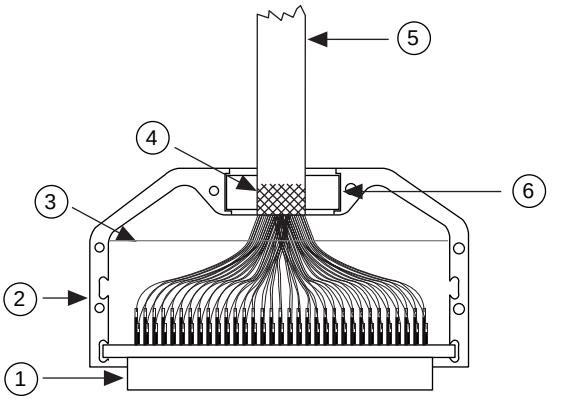
Figure 1 shows the field wiring termination of the 96-position connector.



1	Heat Shrink Tubing	3	Stripped Field Wiring
2	Insulation	4	Solder Cup

Figure 1. SBS-96F Field Wiring Termination Diagram

5. Slide the heat shrink tubing over the solder joint and use a heat gun to shrink the tubing.
6. Remove the adhesive backing from the clear backshell insulators and install them to each backshell half as shown in Figure 2.
7. Install the appropriate strain-relief clamps (single or double), the 96-position DIN connector, and your field wiring into one of the backshell halves. The orientation of the 96-position DIN connector in the backshell half is not important. See the backshell internal assembly in Figure 2.

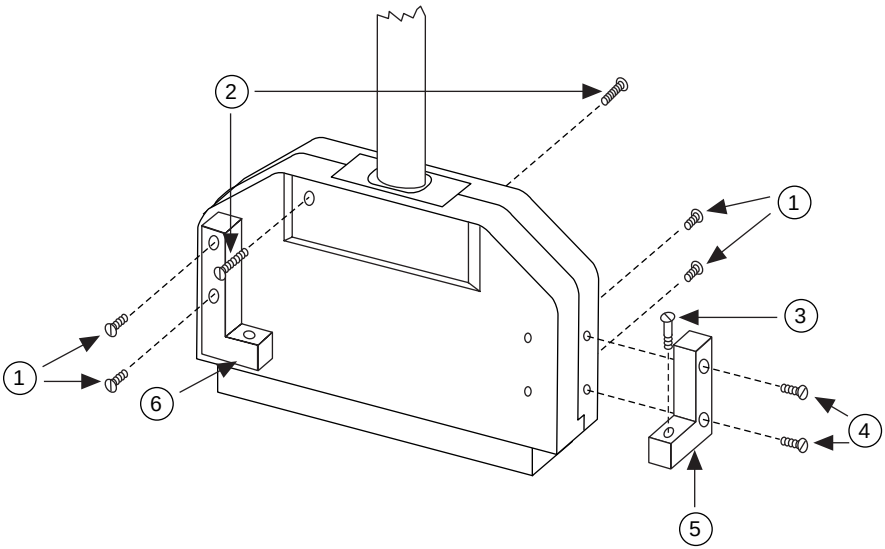


1	96-Position DIN Connector	4	Braided Shield Cable Folded Over Jacket (If Applicable)
2	Backshell Half	5	Field Wiring
3	Clear Insulator	6	Single or Double Strain Relief Clamp (Single Shown)

Figure 2. SBS-96F Backshell Internal Assembly

8. Install the 4-40 screws as shown in Figure 3, and attach the mounting ears to the backshell in either the SCXI, TBX, or VXI-DAQ position.

Figure 3 shows how to assemble the SBS-96F backshell.



1	7/16 in. 4-40 Screws	4	5/16 in. 4-40 Screws
2	1/2 in. 4-40 Screws	5	Mounting Ear (SCXI and TBX position)
3	M 2.5 Mounting Screws	6	Mounting Ear (VXI-DAQ position)

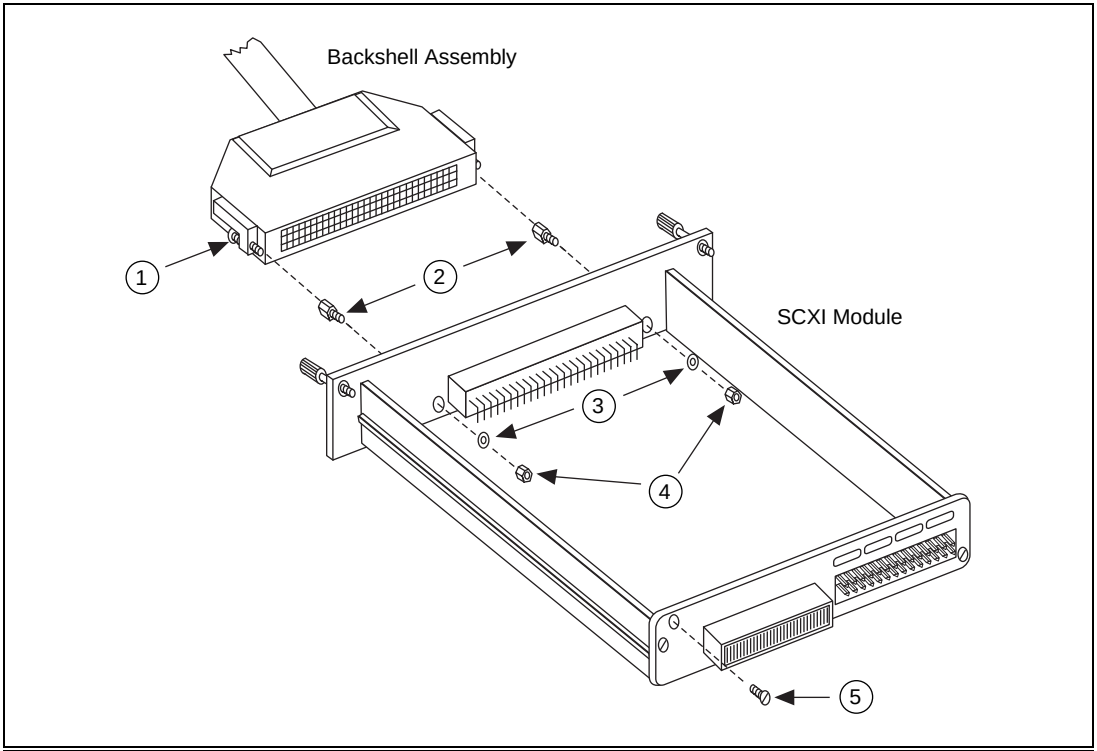
Figure 3. SBS-96F Backshell Assembly

You are now ready to connect the SBS-96F to an SCXI module, VXI-DAQ module, or TBX terminal block. Use the instructions in the following sections.

SCXI Connection

After completing all signal connections and assembling the SBS-96F backshell as described in the previous section, you are ready to connect the backshell assembly to your SCXI module. Refer to Figure 4 as you perform the following steps.

1. Turn off the computer that contains your data acquisition (DAQ) device or disconnect the device from your SCXI chassis.
2. Turn off your SCXI chassis.
3. Slide the SCXI module out of the SCXI chassis.
4. Remove the grounding screw, then remove the SCXI module cover.
5. Place one short jack screw as shown in Figure 4.



1	M 2.5 Mounting Screw	4	Hex Nuts
2	Short Jack Screws	5	Grounding Screw
3	Lock Washers		

Figure 4. Connecting the SBS-96F Backshell Assembly to the SCXI Module

6. While holding the short jack screw in place, use long-nose pliers to insert a lockwasher and a 4-40 hex nut.
7. Tighten the hex nut by holding it firmly and rotating the short jack screw.
8. Repeat steps 5 through 7 for the second short jack screw.
9. Replace the SCXI module cover and reinstall the grounding screw.
10. Slide the SCXI module back into place in the SCXI chassis.
11. Connect the SBS-96F backshell assembly to your SCXI module front connector and secure the backshell by tightening both M 2.5 mounting screws as shown in Figure 4.
12. Reconnect the DAQ device to your SCXI chassis.

The SCXI connection is now complete.

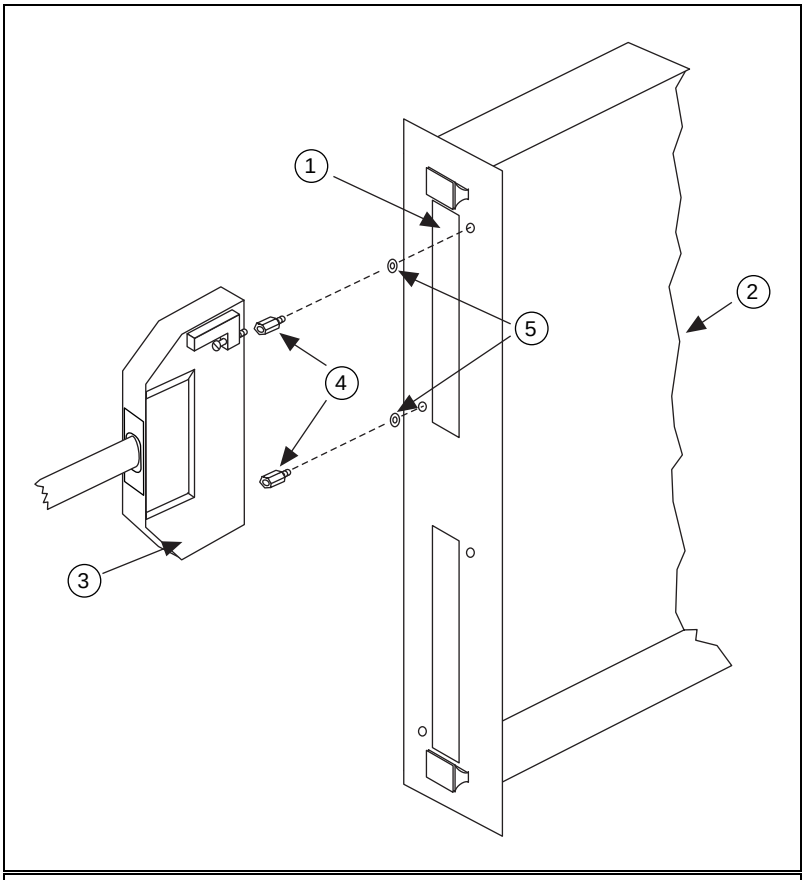
VXI-DAQ Installation

After completing all signal connections and assembling the backshell, you are ready to connect your backshell assembly to your VXI-DAQ module. Refer to Figure 5 as you perform the following steps.

1. Turn off the power to your VXIbus chassis.
2. Install the long jack screws and lockwashers as shown in Figure 5.
3. Verify that the four backshell mounting ears are in the VXI position shown in Figure 3 (item 6). If they aren't, remove the mounting ears and install them in the correct position.
4. Connect the backshell assembly to your VXI-DAQ module front connector and secure the cable by tightening both mounting screws.

The VXI-DAQ installation is now complete.

Figure 5 shows the VXI-DAQ installation.



1	Front Connector	4	Long Jack Screws
2	VXI-DAQ Module	5	Lock Washers
3	Backshell Assembly		

Figure 5. VXI-DAQ installation

TBX Connection

After completing all signal connections and assembling the backshell, you are ready to connect your backshell assembly to your low-voltage TBX terminal block.

Refer to your low-voltage TBX terminal block documentation for instructions on connecting the SBS-96F backshell assembly to a TBX terminal block.



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