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INSTALLATION INSTRUCTIONS
SH96F-96M-NI SwitchBlock Cable

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 SH96F-96M-NI SwitchBlock shielded cable which has a maximum voltage rating of 150 VDC/V_{pk}, CAT I. The cable is available in two configurations:

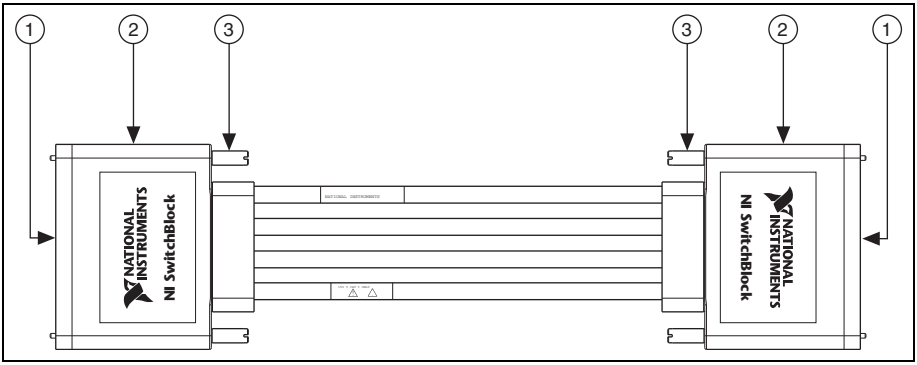
- SH96F-96M-NI SwitchBlock (part number 150275-01)
- SH96F-96M-RES-NI SwitchBlock (part number 150579-01)

The SH96F-96M-RES-NI SwitchBlock cable has 100 Ω series resistors on all columns and analog bus lines. This cable is recommended for use with reed relay switches in systems with capacitive and inductive loads. The SH96F-96M-NI SwitchBlock cable does not have any additional series resistance.

Note Reed relays are highly susceptible to damage caused by switching capacitive and inductive loads. Capacitive loads can cause high inrush currents while inductive loads can cause high flyback voltages. The addition of appropriate resistive protection can greatly improve contact lifetime. For more information about adding protection circuitry to a capacitive load, visit `ni.com/info` and enter the Info Code `relaylifetime`. For information about inductive loads, enter the Info Code `relayflyback`.

NATIONAL INSTRUMENTS

Use the cable to connect an NI SwitchBlock card to your application. As illustrated in Figure 1, both ends of the cable terminate with plastic, 96-pin SCSI connectors. One side is male, the other is female.



1	96-Pin SCSI Connector	2	Cable Backshell	3	Thumbscrew

Figure 1. SH96F-96M-NI SwitchBlock Cable

What You Need to Get Started

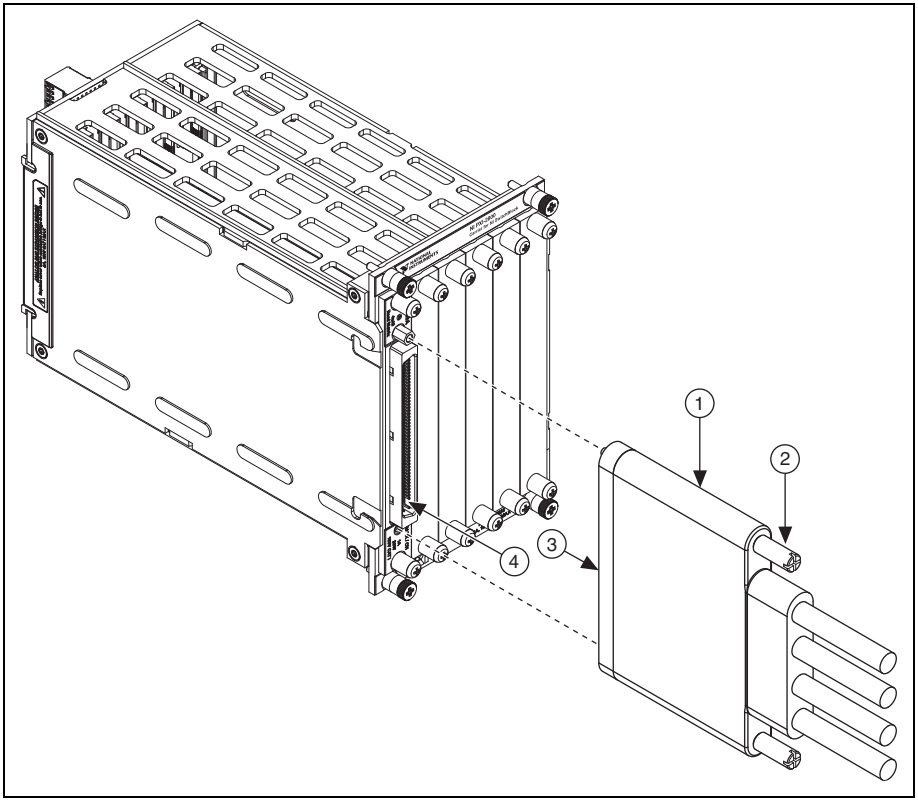
To use the cable, you need the following items:

- ❑ SH96F-96M-NI SwitchBlock cable
- ❑ (Optional) NI TBX-2809 screw terminal accessory
- ❑ NI SwitchBlock card and documentation
- ❑ #1 Phillips screwdriver

Getting Started with the SH96F-96M-NI SwitchBlock Cable

Complete the following steps to connect the cable to the NI SwitchBlock card and your application.

1. Connect the female end of the cable to the NI SwitchBlock card connector as shown in Figure 2. The standoff on the front panel must align with the recess around the top thumbscrew of the cable.



1	Cable Backshell	3	Cable Connector
2	Thumbscrew	4	NI SwitchBlock Card Connector

Figure 2. Connecting the Cable to the NI SwitchBlock Card

2. Tighten the thumbscrews on the cable backshell. Be careful not to over-torque the thumbscrews.
3. Connect the male connector on the cable to your application. Refer to Table 1 in the *Cable Configuration* section to determine how to connect signals to your application. For screw terminal access, you can connect directly to an NI TBX-2809 screw terminal accessory.

Cable Configuration

The cable backshell and connectors provide connection to the NI SwitchBlock card and your application, respectively. Figure 3 shows the pinouts for the female and male connectors.

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

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

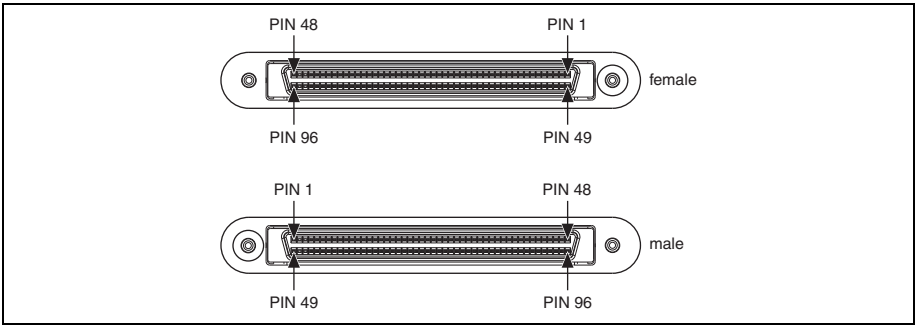


Figure 3. 96-Pin SCSI Connectors

Table 1. Pin Assignment for SCSI Backshell

96-Pin SCSI Backshell	
SCSI Pin (male)	**SCSI Pin (female)**
1	1
2	2
3	3
⋮	⋮
95	95
96	96

Specifications

Maximum voltage ..... 150 VDC/V_{pk}, CAT I

Maximum current

SH96F-96M-NI SwitchBlock cable ..... 1.0 A

SH96F-96M-RES-NI SwitchBlock cable with 100 Ω protection ..... 25 mA

Caution This module is rated for Measurement Category I and intended to carry signal voltages no greater than 100 V_{rms}/150 V_{pk}/150 VDC. This module can withstand up to 800 V impulse voltage. Do *not* use this module for connection to signals or for measurements within Categories II, III, or IV. Do *not* connect to MAINs supply circuits (for example, wall outlets) of 115 or 230 VAC. Refer to the *Read Me First: Safety and Electromagnetic Compatibility* document for more information on measurement categories.

Caution When hazardous voltages (>42.4 V_{pk}/60 VDC) are present on any relay terminal, safety low-voltage (<42.4 V_{pk}/60 VDC) cannot be connected to any other relay terminal. This includes all cards in the carrier and all cards in other carriers connected via the NI 2806 expansion bridge.

Caution The maximum voltage is limited to the lowest voltage of any component in the NI SwitchBlock system. Review the specifications of the NI SwitchBlock carrier and cards.

Weight ..... 0.66 kg (1.5 lbs)

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 accessory in Table 2.

Caution This product must be operated with shielded cables and accessories to ensure compliance with Electromagnetic Compatibility (EMC) requirements. 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. NI Accessory for the SH96F-96M-NI SwitchBlock Cable

Accessory	Part Number
NI TBX-2809 screw terminal accessory for the NI SwitchBlock	781420-09

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