COMPREHENSIVE SERVICES

We offer competitive repair and calibration services, as well as easily accessible documentation and free downloadable resources.

SELL YOUR SURPLUS

We buy new, used, decommissioned, and surplus parts from every NI series. We work out the best solution to suit your individual needs.

Sell For Cash Get Credit Receive a Trade-In Deal

OBSOLETE NI HARDWARE IN STOCK & READY TO SHIP

We stock **New, New Surplus, Refurbished,** and **Reconditioned** NI Hardware.

APEX WAVES

Bridging the gap *between the manufacturer and your legacy test system.*

1-800-915-6216

www.apexwaves.com

sales@apexwaves.com

Request a Quote CLICK HERE *PCI-1424*

IMAQ SCB-100 Connector Block and IMAQ D100100 Cable

This guide describes how to connect and use the IMAQ SCB-100 100-pin shielded connector block with 100-pin digital image acquisition (IMAQ) products and the IMAQ D100100 cable.

Warning ***Use the D100100 cable with IMAQ digital devices only. Also, do not use data acquisition (DAQ) cables with IMAQ digital devices. Using the D100100 cable with other devices or DAQ cables with IMAQ digital devices may result in damages to your device or your computer. National Instruments is NOT liable for any damages or injuries resulting from improper use or connection.***

Introduction

The IMAQ SCB-100 100-pin shielded connector block is a shielded board with 100 screw terminals that connects to the IMAQ PCI-1424 or other products using a 0.050 series shielded D-type I/O connector.

The terminal block has 100 screw terminals for easy connection to signal wires. When you use the IMAQ SCB-100 100-pin shielded connector block with the IMAQ PCI-1424, set the switches as shown in the *Switch Settings* section to obtain a generic 100-screw terminal connector block. The IMAQ SCB-100 also has a strain-relief bar for securing signal wires or cables.

What You Need to Get Started

To install your IMAQ D100100 cable, you will need the following:

- ❑ IMAQ SCB-100 100-pin shielded connector block
- ❑ IMAQ D100100 cable
- ❑ *IMAQ SCB-100 Connector Block and IMAQ D100100 Cable Installation Guide*

371950A-01 *January 1999*

- ❑ IMAQ SCB-100 quick reference label (included with your IMAQ SCB-100 kit)
- ❑ Your IMAQ device and documentation
- ❑ Your computer
- ❑ Your digital camera
- ❑ No. 1 and 2 Phillips-head screwdrivers
- ❑ 0.125 in. flathead screwdriver
- ❑ Long-nose pliers
- ❑ Wire cutters
- ❑ Wire insulation strippers
- ❑ Soldering iron and solder
- ❑ Resistors and capacitors (specific to your application)

Switch Settings

Before you connect your IMAQ D100100 cable to the IMAQ SCB-100 connector block, you must change the IMAQ SCB-100 switch settings to the generic screw terminals switch configuration, as shown in Figure 1. This setting change disconnects the IMAQ SCB-100 temperature sensor and accessory grounds.

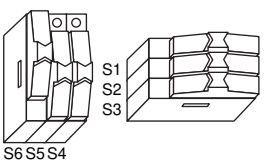


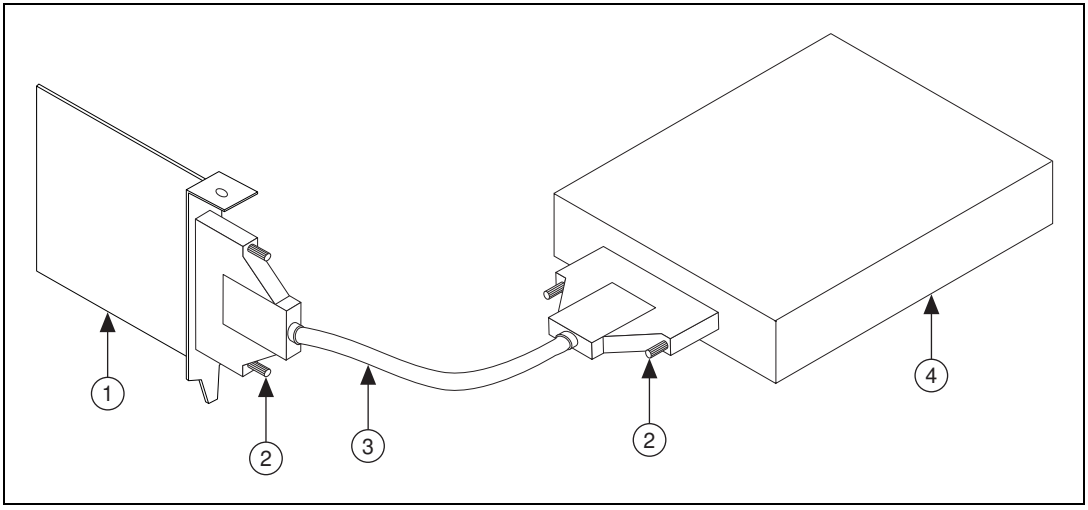
Figure 1. IMAQ SCB-100 Switch Settings for IMAQ

IMAQ Quick Reference Label

A quick reference label is included to show switch configuration and define screw terminal pinouts for your IMAQ digital device. Attach the quick reference label to the connector block's inside cover for quick reference.

Installation

As shown in Figure 2, attach one end of the D100100 cable to your IMAQ device and attach the other to the IMAQ SCB-100 connector block. Tighten thumbscrews as necessary.



1	IMAQ Device	2	Thumbscrews	3	IMAQ D100100 Cable	4	IMAQ SCB-100

Figure 2. Connecting the D100100 Cable to Your IMAQ Device and IMAQ SCB-100

Signal Connections

The following warnings contain important safety information concerning hazardous voltages and terminal blocks.

Warning ***Avoid live circuits. To avoid electrical shock, do not remove equipment covers or shields unless you are qualified to do so. If signal wires are connected to the IMAQ SCB-100, dangerous voltages may exist even when the equipment is turned off. Before removing the cover, disconnect the AC power or any live circuit from the terminal block.***

Warning ***The chassis ground terminals on your IMAQ SCB-100 are for grounding high-impedance sources such as a floating source (1 mA maximum). Do not use these terminals as safety earth grounds.***

Warning ***Do not connect high voltages (≥42 Vrms). National Instruments is NOT liable for any damages or injuries resulting from improper use or connection.***

To connect the signal to the IMAQ SCB-100, perform the following steps:

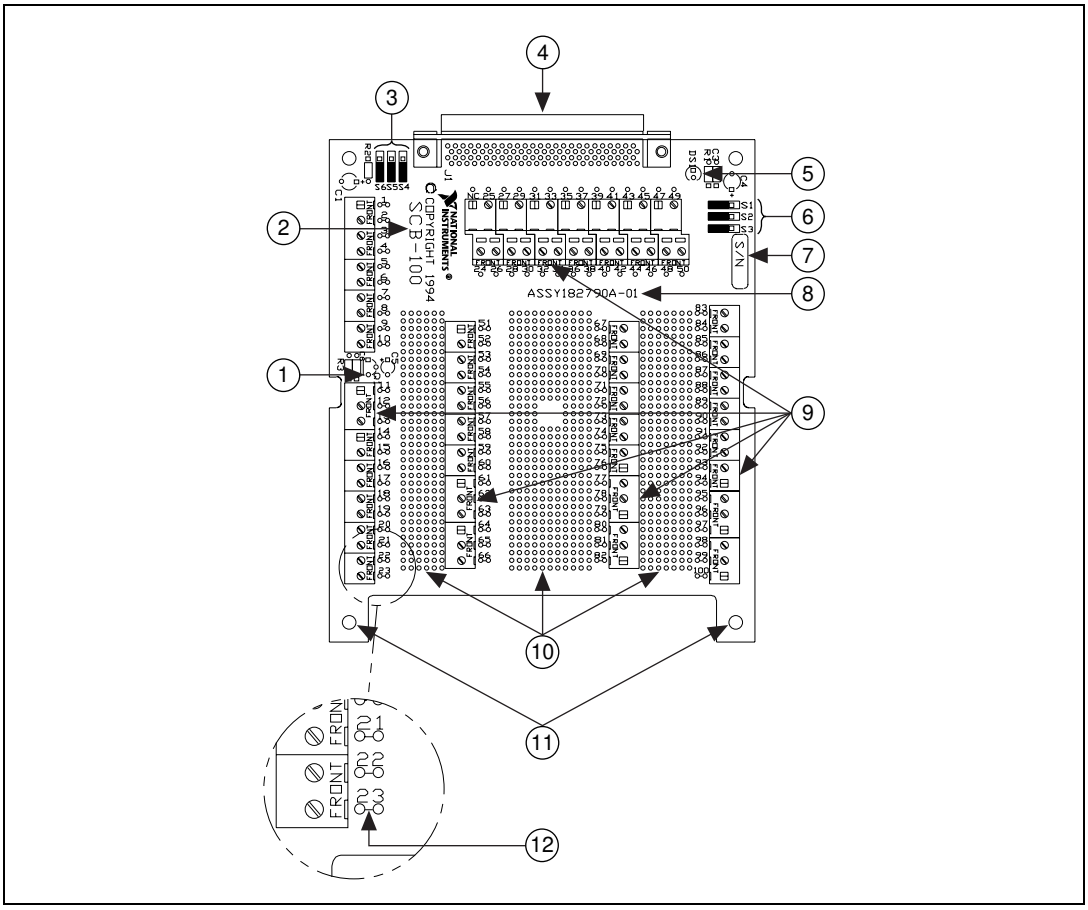
1. Disconnect the 100-pin cable from the IMAQ SCB-100, if connected.
2. Remove the grounding screws on either side of the top cover with a No. 1 Phillips-head screwdriver. Open the top cover.
3. Configure switches, as explained in the *Switch Settings* section in this guide.
4. Adjust the strain-relief hardware.
   - Loosen the strain-relief screws with a No. 2 Phillips-head screwdriver and slide the signal wires through the front panel strain-relief opening.
   - If you are connecting multiple signals, remove the top strain-relief bar.
5. Add insulation or padding if necessary.
6. Connect the wires to the screw terminals by stripping 1/4 in. of insulation, inserting the wires into the green terminals, and tightening the screws.
7. Reinstall strain-relief (if removed) and tighten the strain-relief screws.
8. Close the top cover.
9. Reinsert the grounding screws to ensure proper shielding.
10. Connect the terminal block to the 100-pin connector.

Removing the Board

You can remove the board from its housing to solder components into place. To remove the board, perform the following steps:

1. Disconnect the 100-pin cable from the IMAQ SCB-100, if connected.
2. Remove the grounding screws on either side of the top cover with a No. 1 Phillips-head screwdriver.
3. Open the top cover.
4. Loosen the strain-relief screws with a No. 2 Phillips-head screwdriver.
5. Remove the signal wires from the screw terminals.
6. Remove the board mount screws and 100-pin connector screws.
7. Tilt the board up and pull it out of the enclosure.

Figure 3 shows the IMAQ SCB-100 terminal block parts locator diagram.



1	Cold-Junction Compensation Temperature Sensor (Not Used)	5	Signal Accessory Power LED (Not Used)	9	Screw Terminals
2	Product Name	6	Switches S1, S2, and S3	10	Breadboard Area
3	Switches S4, S5, and S6	7	Serial Number	11	Board Mount Screws
4	100-Pin I/O Connector	8	Assembly Number	12	Jumper Trace (cut to disconnect)

Figure 3. IMAQ SCB-100 Terminal Block Parts Locator Diagram

Adding Components to the IMAQ SCB-100 Printed Circuit Board

Some applications may require you to make modifications to the printed circuit board, usually in the form of adding components or cutting jumpers. Follow these guidelines when modifying the IMAQ SCB-100 printed circuit board:

- Use a low-wattage soldering iron (20 to 30 W) when soldering to the board.
- Use vacuum-type tools to desolder on the IMAQ SCB-100. Use care when desoldering to avoid damaging component pads.
- Use only rosin-core, electronic-grade solder. Acid-core solder can damage the printed circuit board and components.

To make signal modifications easier, jumper traces are located next to each analog screw terminal. These jumper traces can be cut to disconnect the signal from the screw terminal. Refer to Figure 3 for more detail.

Specifications

This section lists the IMAQ SCB-100 specifications. These ratings are typical at 25 °C unless otherwise stated.

General

Number of screw terminals.....101 (includes one no-connect). All I/O signals are available at screw terminals

Physical

Box dimensions (including feet).....19.6 by 15.2 by 4.6 cm (7.7 by 6.0 by 1.8 in.)

I/O connectors.....One 100-pin male 0.050 series shielded D type connector

Operating Environment

Component temperature .....0 to 70 °C

Relative humidity .....5% to 90% noncondensing

Storage Environment

Temperature.....–55 to 125 °C

Relative humidity .....5% to 90% noncondensing