SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION

SCB-100A

100-Pin Shielded Screw Terminal DAQ Accessory

This document includes compliance precautions and connection information for the SCB-100A.

Safety Guidelines

The following cautions contain important safety information concerning hazardous voltages and connector blocks.

Caution Do not connect hazardous voltages (>30 V RMS/42 V peak/60 V DC). Refer to your product documentation for information about the electrical limits of your device or module.

Caution Install cover prior to use. To avoid electrical shock, do not remove SCB-100A covers unless you are qualified to do so. Before removing the cover, disconnect any live circuit from the connector block. Replace cover for use.

Caution The chassis ground lug on your SCB-100A is for grounding high-impedance sources, such as a floating source (1 mA maximum) and for terminating the shields of connected cables. Do not use the chassis ground lug as a safety earth ground.

Safety Voltages

Maximum voltage	30 V RMS, 42 V peak, 60 V DC

Caution Not for use for measurements of MAINS circuits or Measurement Categories II, III, or IV.

Electromagnetic Compatibility Guidelines

This product was tested and complies with the regulatory requirements and limits for electromagnetic compatibility (EMC) as stated in the product specifications. These requirements and limits are designed to provide reasonable protection against harmful interference when the product is operated in its intended operational electromagnetic environment.

This product is intended for use in residential, commercial, and industrial locations. However, harmful interference may occur in some installations or when the product is connected to a peripheral device or a test object. To minimize interference with radio and television reception and prevent unacceptable performance degradation, install and use this product in strict accordance with the instructions in the product documentation.

Furthermore, any changes or modifications to the product not expressly approved by National Instruments could void your authority to operate it under your local regulatory rules.

Caution To ensure the specified EMC performance, operate this product only with shielded cables and accessories.

Caution To ensure the specified EMC performance, signal wires routed outside of the enclosure must be contained within a shielded cable and connected to shielded accessories. Cable shields must be terminated to the chassis ground lug using as short a connection as is practical.

Preparing the Environment

Ensure that the environment you are using the SCB-100A in meets the following specifications.

Operating temperature	0 °C to 70 °C
Pollution Degree	2
Maximum altitude	2,000 m

Indoor use only.

Note Refer to the *NI SCB-100A User Guide* for complete specifications.

Power Requirements

Maximum current at screw terminals	
Terminals 1-48, 51-98	0.5 A
Terminals 49-50, 99-100	1 A

NATIONAL INSTRUMENTS™

Caution Maximum current allowed at screw terminals may be less than specified depending on the DAQ device or module connected to the SCB-100A. Refer to the device specifications for maximum ratings of your device or module.

Connecting to the SCB-100A

1. Loosen the strain-relief bar by removing the strain-relief screws with a #2 Phillips screwdriver.
2. Connect the wires to the screw terminals by stripping off the wire insulation, inserting the wires into the screw terminals, and securely tightening the screws with the flathead screwdriver.

   Caution To ensure the specified EMC performance, signal wires routed outside of the enclosure must be contained within a shielded cable and connected to shielded accessories. Cable shields must be terminated to the chassis ground lug using as short a connection as is practical.
3. Reinstall the strain-relief (if removed) and tighten the strain-relief screws. If the shielded cable is too large to route through the strain-relief hardware, either use multiple, smaller-diameter cables or remove the top strain-relief bar and add insulation or padding if necessary to constrain the cable.
4. Replace the cover.

Caution You must install cover prior to use.

Caution Do not connect input voltages >30 V RMS/42 V peak/60 V DC to the SCB-100A. Input voltages >30 V RMS/42 V peak/60 V DC can damage the SCB-100A, all devices or modules connected to it, and the host computer.

Screw-terminal wiring	
Gauge	0.25 mm^2 to 1.29 mm^2 (30 AWG to 16 AWG) solid or stranded wire
Wire strip length	6 mm (0.24 in.)
Temperature rating	90 °C minimum
Torque	0.5 N · m to 0.6 N · m (4.4 in. · lb to 5.3 in. · lb)
Wires per screw terminal	One wire per screw terminal

Where to Go Next

The following documents contain information that you may find helpful as you use this document:

- *NI SCB-100A User Guide*
- *NI SCB-100A Quick Start*

Worldwide Support and Services

NI corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504. NI also has offices located around the world. For telephone support in the United States, create your service request at *ni.com/support* or dial 1 866 ASK MYNI (275 6964). 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.

371804A-02 Dec16