

INSTRUCTIONS FOR SAFE USE OF YOUR SCXI HARDWARE

Introduction

This document describes overvoltage protection limits for the following National Instruments SCXI products. The information in this document supersedes any other voltage protection limits in your other National Instruments documentation:

- SCXI-1320
- SCXI-1321
- SCXI-1322
- SCXI-1324
- SCXI-1325
- SCXI-1326
- SCXI-1327
- SCXI-1328
- SCXI-1120
- SCXI-1121
- SCXI-1122
- SCXI-1124
- SCXI-1160
- SCXI-1161
- SCXI-1162
- SCXI-1162HV
- SCXI-1163
- SCXI-1163R
- TBX-1325
- TBX-1326
- TBX-1328

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Instructions



Caution:

DO NOT OPERATE THE DEVICE IN AN EXPLOSIVE ATMOSPHERE OR WHERE THERE MAY BE FLAMMABLE GASES OR FUMES.

KEEP AWAY FROM LIVE CIRCUITS. Do not remove equipment covers or shields unless you are trained to do so. If signal wires are connected to the device, hazardous voltages may exist even when the equipment is turned off. To avoid a shock hazard, do not perform procedures involving cover or shield removal unless you are qualified to do so and disconnect all field power prior to removing covers or shields.

Equipment described in this document must be used in an Installation Category II environment per IEC 664. This category requires local level supply mains-connected installation.

DO NOT OPERATE DAMAGED EQUIPMENT. The safety protection features built into this device can become impaired if the device becomes damaged in any way. If the device is damaged, turn the device off and do not use until service-trained personnel can check its safety. If necessary, return the device to National Instruments for service and repair to ensure that its safety is not compromised.

Do not operate this equipment in a manner that contradicts the information specified in this document. Misuse of this equipment could result in a shock hazard.

Terminals are for use only with equipment that has no accessible live parts.

DO NOT SUBSTITUTE PARTS OR MODIFY EQUIPMENT. Because of the danger of introducing additional hazards, do not install unauthorized parts or modify the device. Return the device to National Instruments for service and repair to ensure that its safety features are not compromised.

When using the device with high common-mode voltages, you MUST insulate your signal wires for the highest input voltage. National Instruments is NOT liable for any damages or injuries resulting from inadequate signal wire insulation. Use only 26-14 AWG wire with a voltage rating of 300 V and 60° C for measuring 250 to 300 V; use only 600 V and 60° C wire for measuring 480 V. Prepare your signal wire by stripping the insulation no more than 7 mm.

When connecting or disconnecting signal lines to the SCXI terminal block screw terminals, make sure the lines are powered off. Potential differences between the lines and the SCXI ground create a shock hazard while you connect the lines.

Connect the signal wires to the screw terminals by inserting the stripped end of the wire fully into the terminals. Tighten the terminals to a torque of 5–7 in.-lb.

Connections, including power signals to ground and vice versa, that exceed any of the maximum signal ratings on the SCXI device can create a shock or fire hazard or can damage any or all of the boards connected to the SCXI chassis, the host computer, and the SCXI device. National Instruments is NOT LIABLE FOR ANY DAMAGES OR INJURIES resulting from incorrect signal connections.

If high voltages (≥ 30 Vrms and 42.4 V peak or 60 VDC) are present, YOU MUST CONNECT A SAFETY EARTH GROUND WIRE TO THE TERMINAL BLOCK SAFETY GROUND SOLDER LUG. This complies with safety agency requirements and protects against electric shock when the terminal block is not connected to the chassis. To connect the safety earth ground to the safety ground solder lug, run an earth ground wire in the cable from the signal source to the terminal block. National Instruments is NOT liable for any damages or injuries resulting from inadequate safety earth ground connections.

Do not loosen or re-orient the safety ground solder lug hardware when connecting the safety ground wire. To do so reduces the safety isolation between the high voltage and safety ground.

Clean devices and terminal blocks by brushing off light dust with a soft, nonmetallic brush. Remove other contaminants with deionized water and a stiff nonmetallic brush. The unit must be completely dry and free from contaminants before returning to service.

Use only National Instruments TBX Series cable assemblies with high-voltage TBX Series terminal blocks.

Specifications



Note: *Information in this section supersedes information in your existing documentation.*

SCXI-1162, SCXI-1162HV, SCXI-1163, SCXI-1163R, TBX-1326

Common-mode isolation, bank-to-bank and bank-to-ground

Working300 Vrms max

TBX Series Environment

Operating temperature0° to 50° C

Storage temperature-55° to 150° C

Relative humidity.....5% to 90% at 35° C
noncondensing

TBX Series Strain-Relief Procedure

Relieve strain on your signal wires by tie-wrapping them to the mounting rails of your rack.

National Instruments Customer Support

If you have additional questions, please contact our technical support staff at: Tel: (512) 795-8248, Fax: (512) 794-5678. Our corporate headquarters address is: 6504 Bridge Point Parkway, Austin, TX 78730-5039, Tel: (512) 794-0100.



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