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SCXI-1000DC

SCXI™-1383 Power Supply/Float Charger Installation Guide

This guide describes how to install and use the SCXI-1383 power supply/float charger.

The SCXI-1383 is a 13.8 VDC, 4 A power supply/float charger, which requires an input of 100 to 240 VAC, 50/60 Hz.

You can use the SCXI-1383 to perform the following three tasks:

- powering the SCXI-1000DC chassis directly
- charging the SCXI-1382 battery pack
- float-charging the SCXI-1382 battery pack while powering the SCXI-1000DC chassis, which provides uninterruptable power for the SCXI-1000DC chassis

Each of these tasks are detailed in this document.

Conventions

The following conventions are used in this guide:

»

The » symbol leads you through nested menu items and dialog box options to a final action. The sequence **File»Page Setup»Options** directs you to pull down the **File** menu, select the **Page Setup** item, and select **Options** from the last dialog box.



This icon denotes a note, which alerts you to important information.



This icon denotes a caution, which advises you of precautions to take to avoid injury, data loss, or a system crash. When this symbol is marked on the product, refer to the *Read Me First: Safety and Radio-Frequency Interference* document, shipped with the product, for precautions to take.

bold

Bold text denotes items that you must select or click in the software, such as menu items and dialog box options. Bold text also denotes parameter names.

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italic

Italic text denotes variables, emphasis, a cross reference, or an introduction to a key concept. This font also denotes text that is a placeholder for a word or value that you must supply.

monospace

Text in this font denotes text or characters that you should enter from the keyboard, sections of code, programming examples, and syntax examples. This font is also used for the proper names of disk drives, paths, directories, programs, subprograms, subroutines, device names, functions, operations, variables, filenames and extensions, and code excerpts.

What You Need to Get Started

To set up and use the SCXI-1383, you need the following:

- SCXI-1383 power supply/float charger
- SCXI-1383 Power Supply/Float Charger Installation Guide*
- Read Me First: Safety and Radio-Frequency Interference*
- One of the following power cords, depending on the power requirements of your geographical region:
 - United States/Japan power cord
 - Switzerland power cord
 - Australia power cord
 - Universal Euro power cord
 - North America power cord
 - United Kingdom power cord

In addition to the SCXI-1383 kit contents, you need an SCXI-1000DC chassis and/or an SCXI-1382 battery pack.



Note If your kit is missing any of its components, contact NI. You can download any NI document from ni.com/manuals.

Connecting the SCXI-1383 to the SCXI-1000DC Chassis in Power Supply Mode



Note Refer to the *Read Me First: Safety and Radio-Frequency Interference* document before removing equipment covers or connecting or disconnecting any power wires or signal wires.



Caution Always power off the SCXI-1000DC and the SCXI-1383 before you connect or disconnect them from each other.

To connect the SCXI-1383 power supply/float charger to the SCXI-1000DC, refer to Figure 1 and complete the following steps:

1. Power off the SCXI-1000DC chassis by using the power switch on the SCXI-1000DC front panel.
2. Connect the green DC power connector (P2) of the SCXI-1383 power supply/float charger to its corresponding connector (J1) on the rear panel of the SCXI-1000DC chassis.
3. Connect the IEC 320-style connector of the power cord to its connector on the power supply/float charger.
4. Connect the AC power plug of the power cord to a 100 to 240 VAC, 50/60 Hz power source.
5. Power on the SCXI-1000DC chassis using the power switch on the chassis front panel.

The green LED on top of the SCXI-1383, when used to power the SCXI-1000DC chassis directly, has the following characteristics:

- the green LED is off, which could mean
 - the SCXI-1000DC power switch is set to the *O* (off) position
 - there is no VAC power to the SCXI-1383
 - the SCXI-1383 output is disconnected
 - the SCXI-1000DC fuse is bad
- the green LED is bright
 - the SCXI-1000DC power switch is set to the *I* (on) position and the SCXI-1383 is properly connected
- the green LED blinks rapidly
 - the SCXI-1383 may need servicing



Note Refer to the label on the SCXI-1383 for more LED status information.



Caution Always replace a bad fuse with a fuse of the same size and rating for continued fire protection.

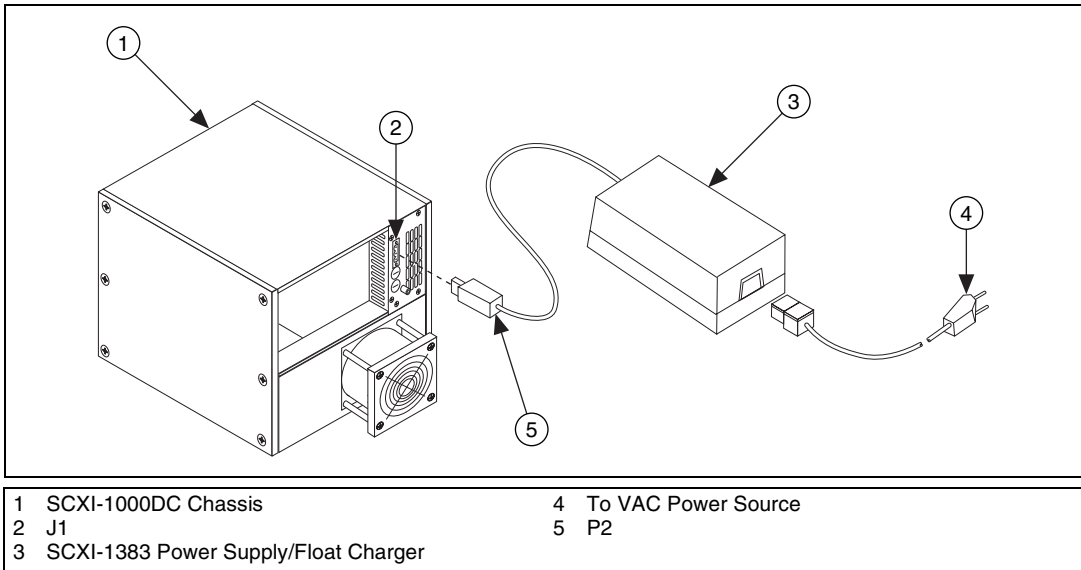


Figure 1. Connecting the SCXI-1383 to the SCXI-1000DC Chassis in Power Supply Mode

Charging the SCXI-1382 Battery Pack with the SCXI-1383



Caution Always unplug the SCXI-1383 before you connect or disconnect it from the SCXI-1382.

To charge the SCXI-1382 battery pack with the SCXI-1383 charger, refer to Figure 2 and complete the following steps:

1. Connect the green DC power connector (P2) of the SCXI-1383 power supply/float charger to its corresponding connector (J2) on the rear of the SCXI-1382 battery pack.
2. Connect the IEC 320-style connector of the power cord to the connector on the SCXI-1383.
3. Connect the AC power plug of the power cord to a 100 to 240 V, 50/60 Hz power source.



Note The SCXI-1383 charger takes approximately 12 to 14 hours to fully charge the SCXI-1382 battery pack.

Charge the battery pack as soon as possible after use. If the battery is fully charged, it can power the SCXI-1000DC chassis for more than five hours. However, we recommend that you charge the battery after every three hours of use to extend the life of the battery pack.



Caution The battery pack contains a sealed lead-acid battery that contains toxic material (lead) and corrosive fluid (sulfuric acid). Charging can produce explosive gases. Do *not* charge the battery in gas-tight enclosures. Charge the battery in a well ventilated area away from sparks, flames, or smoke. Do *not* short the battery pack terminals, as this can cause an explosion or fire. Do *not* store the battery pack in a discharged state. Do *not* puncture, disassemble, mutilate, or incinerate the battery pack. Recycle the battery or dispose of the battery pack with automotive battery scrap. The battery charger dissipates heat. Use the charger in an area with ample air circulation.

The green LED on top of the SCXI-1383, when used to charge the SCXI-1382, has the following characteristics:

- the green LED is off, which could mean
 - the SCXI-1382 battery pack is fully charged
 - there is no VAC power to the SCXI-1383
 - the SCXI-1383 output is disconnected
 - the SCXI-1382 fuse is bad
- the green LED is bright
 - the SCXI-1382 is charging
- the green LED is dim
 - the SCXI-1382 is near to a full charge
- the green LED is flashing
 - the SCXI-1382 is fully charged
- the green LED blinks rapidly
 - the SCXI-1382 or SCXI-1383 may need servicing



Note Refer to the label on the SCXI-1383 for more LED status information.



Caution Always replace a bad fuse with a fuse of the same size and rating for continued fire protection.

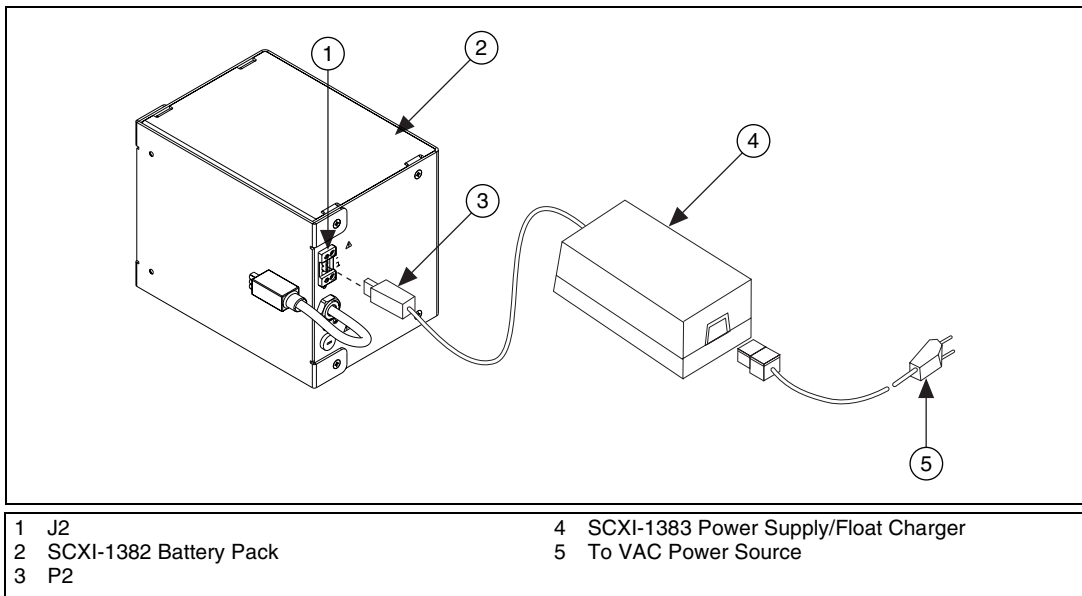


Figure 2. Charging the SCXI-1382 Battery Pack with the SCXI-1383 Charger

Connecting the SCXI-1383 to the SCXI-1000DC Chassis and the SCXI-1382 Battery Pack in Float-Charging Mode



Caution Always power off the SCXI-1000DC and unplug the SCXI-1383 before you connect or disconnect them from each other or the SCXI-1382.

To connect the SCXI-1383 power supply/float charger to the SCXI-1000DC and the SCXI-1382 battery pack in float-charging mode, refer to Figure 3 and complete the following steps:

1. Fully charge the battery, as described in the [Charging the SCXI-1382 Battery Pack with the SCXI-1383](#) section, before connecting the SCXI-1383 to the SCXI-1382 battery pack in float mode.
2. Power off the SCXI-1000DC chassis using the power switch on the SCXI-1000DC front panel.
3. Connect the green DC power connector (P1) on the SCXI-1382 battery pack to its corresponding connector (J1) on the rear panel of the SCXI-1000DC chassis.
4. Connect the green DC power connector (P2) of the SCXI-1383 power supply/float charger to its corresponding connector (J2) on the rear panel of the SCXI-1382 battery pack.

5. Connect the IEC 320-style connector of the power cord to its connector on the SCXI-1383 power supply/float charger.
6. Connect the AC power plug of the power cord to a 100/240 VAC, 50/60 Hz power source.
7. The SCXI-1383 power supply/float charger is now powered on and is float charging the SCXI-1382 battery pack. Power on the SCXI-1000DC chassis using the power switch on the chassis front panel.



Note While in float-charging mode, the green LED on the top of the SCXI-1383 case illuminates only if the battery is not fully charged.

The green LED on top of the SCXI-1383, when used to float-charge the SCXI-1382, has the following characteristics:

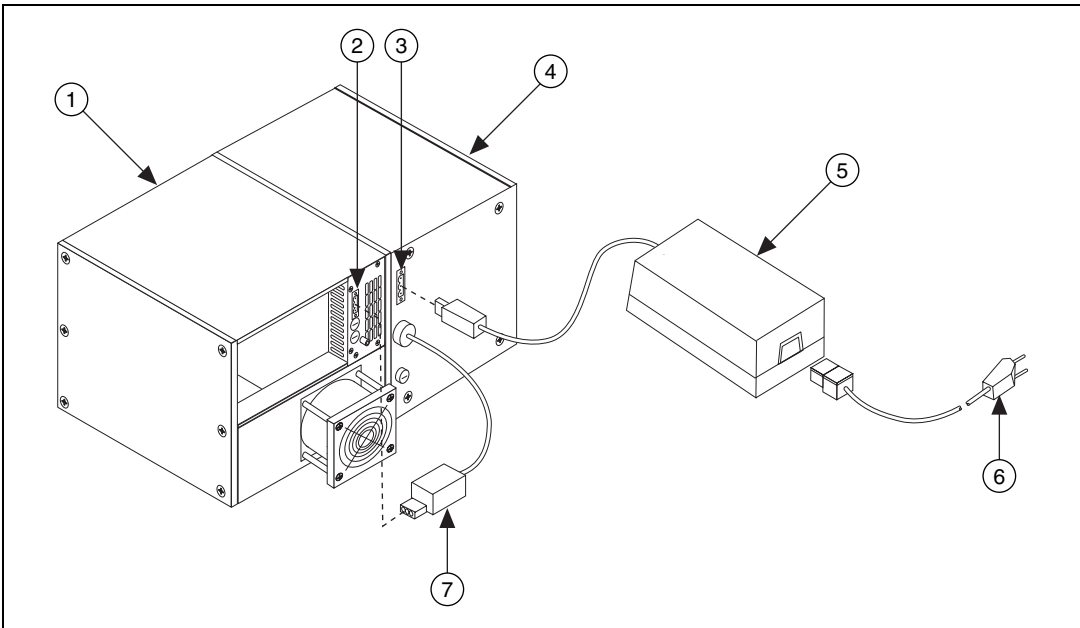
- the green LED is off, which could mean
 - the SCXI-1382 battery pack is fully charged
 - there is no VAC power to the SCXI-1383
 - the SCXI-1383 output is disconnected
 - the SCXI-1382 fuse is bad
- the green LED is bright
 - the SCXI-1382 is charging
- the green LED is dim
 - the SCXI-1382 is near to a full charge
- the green LED is flashing
 - the SCXI-1382 is fully charged
- the green LED blinks rapidly
 - the SCXI-1382 or SCXI-1383 may need servicing



Note Refer to the label on the SCXI-1383 for more LED status information.



Caution Always replace a bad fuse with a fuse of the same size and rating for continued fire protection.



- | | |
|--------------------------|--|
| 1 SCXI-1000DC Chassis | 5 SCXI-1383 Power Supply/Float Charger |
| 2 J1 | 6 To VAC Power Source |
| 3 J2 | 7 P2 |
| 4 SCXI-1382 Battery Pack | 8 P1 |

Figure 3. Connecting the SCXI-1383 Power Supply/Float Charger to the SCXI-1000DC Chassis and the SCXI-1382 Battery Pack in the Float-Charging Mode

Specifications

Input

Input voltage	100 to 240 VAC (universal input)
Input frequency	50/60 Hz
Input current	2 A at 115 VAC or 1 A at 230 VAC (max)
Inrush current	<30 A at 115 VAC or 60 A at 230 VAC input

Output

Output voltage.....	Between 13.8 and 13.95 V (at 200 mA load); <14.1 V at no load
Charging current	Between 3.7 to 4.5 A when battery voltage is lower than 13.6 to 13.8 V; limited by Ohm's law when battery voltage is higher than 13.6 to 13.8 V

General Features

Efficiency	>75% at nominal line and 3.7 A output
Protections.....	2 A, 250 V ceramic input fuse; reverse polarity protection performed by auto-recovery circuit; the unit protects itself in case of short circuit or if the battery voltage is below 5 to 7 V

Physical

Dimensions.....	16.5 by 8.0 by 5.7 cm (6.5 by 3.2 by 2.2 in.)
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Connectors

AC inlet.....	IEC 320/CEE 22 standard
DC output.....	Phoenix Contact Combicon connector with UL 1015, 16 AWG CSA, TEW 105 °C, 600 V wires
Indicator	Refer to the SCXI-1383 label for complete LED status information ¹

¹ Also refer to the section in this document that details the mode of operation you are using.

Environmental

Operating temperature	0 to 50 °C
Storage temperature	-20 to 70 °C
Humidity	10 to 90% RH, noncondensing
Maximum altitude.....	2,000 meters
Pollution Degree (indoor use only)	2

Safety

The SCXI-1383 is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 3111-1, UL 61010B-1
- CAN/CSA C22.2 No. 1010.1



Note For UL and other safety certifications, refer to the product label or to ni.com.

Electromagnetic Compatibility

Emissions	EN 55011 Class A at 10 meters. FCC Part 15A above 1 GHz
Immunity	EN 61326:1997 + A2:2001, Table 1
EMC/EMI	CE, C-Tick and FCC Part 15 (Class A) Compliant



Note For EMC compliance, you *must* operate this device with shielded cabling.

CE Compliance

The SCXI-1383 meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

Low-Voltage Directive (safety) 73/23/EEC

Electromagnetic 89/336/EEC
Compatibility Directive (EMC)



Note Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, click **Declarations of Conformity Information** at ni.com/hardref.nsf/.