

Keithley Instruments, Inc.
28775 Aurora Road
Cleveland, Ohio 44139
1-888-KEITHLEY
www.keithley.com

Installation Instructions

Introduction

This document contains handling and installation instructions for the Keithley Instruments Series 3700 System Switch/Multimeter screw terminal assemblies.

NOTE	Additional pin-out and connection information is included on the Product Information CD-ROM that came with your instrument, or in the documentation provided with your Series 3700 card.
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If you have any questions after reviewing this information, please contact your local Keithley Instruments representative or call Keithley Instruments corporate headquarters (toll-free inside the U.S. and Canada only) at 1-888-KEITHLEY (1-888-534-8453), or from outside the U.S. at +1-440-248-0400. For worldwide contact numbers, visit our website at www.keithley.com.

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|----------------|--|
| WARNING | <p><i>The following information is intended for qualified service personnel. Do not make connections unless qualified to do so. To prevent electric shock that could result in serious injury or death, observe the following safety precautions:</i></p> <ul style="list-style-type: none">• <i>Before removing or installing a card in the mainframe, make sure the mainframe is turned off and disconnected from line power.</i>• <i>Before making or breaking connections, make sure power is removed from all external circuitry.</i>• <i>Do not connect signals that may exceed the maximum specifications of the model or external wiring. Complete specifications for each card are included on the documentation that came with the card. Please check the Keithley Instruments website at www.keithley.com for the latest updates to the specifications.</i>• <i>All wiring must be rated for the maximum voltage in the system. For example, if 300 V is applied to the backplane connector, all card wiring must be rated for 300 V.</i> |
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Available screw terminal assemblies

Screw terminal assemblies available for use with Series 3700S cards include:

Model	Link to figure
3720-ST	Figure 1
3721-ST	Figure 2
3723-ST	Figure 1
3723-ST-1	Figure 3
3724-ST	Figure 1
3730-ST	Figure 4
3731-ST	Figure 4
3732-ST-C	Figure 5
3732-ST-R	Figure 6
3740-ST	Figure 7
3750-ST	Figure 8

Screw terminal assembly circuit diagrams

The figures below depict a top-down view of the Series 3700 screw terminal assemblies.


NOTE	Models 3723-ST-1, 3730-ST, 3740-ST, and 3750-ST screw terminal assemblies have chassis ground connections () for connecting a cable shield.
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Figure 1: Models 3720-ST, 3723-ST, and 3724-ST screw terminal assemblies

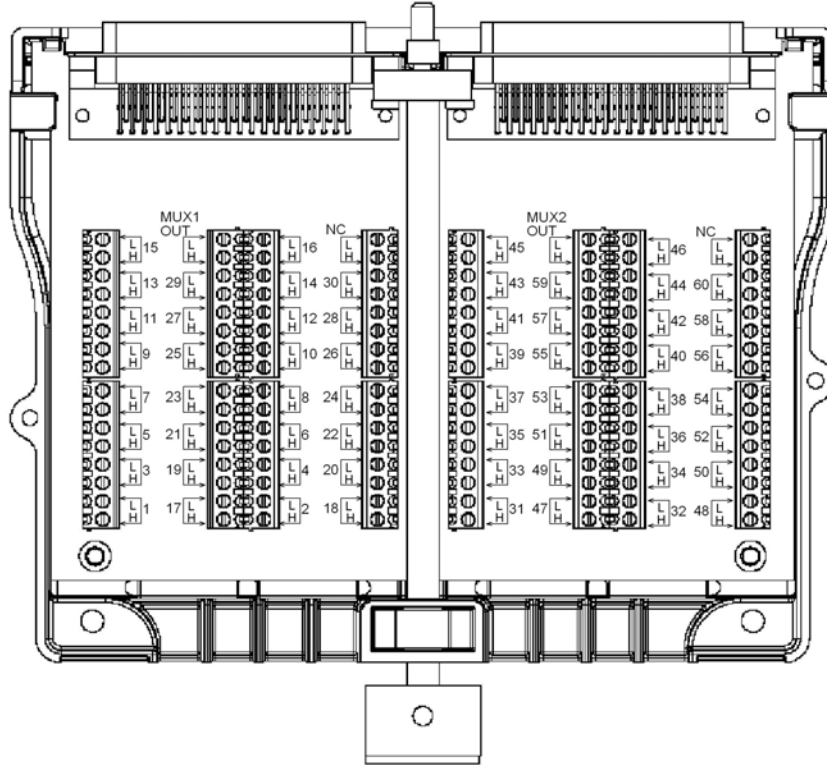


Figure 2: Model 3721-ST screw terminal assembly

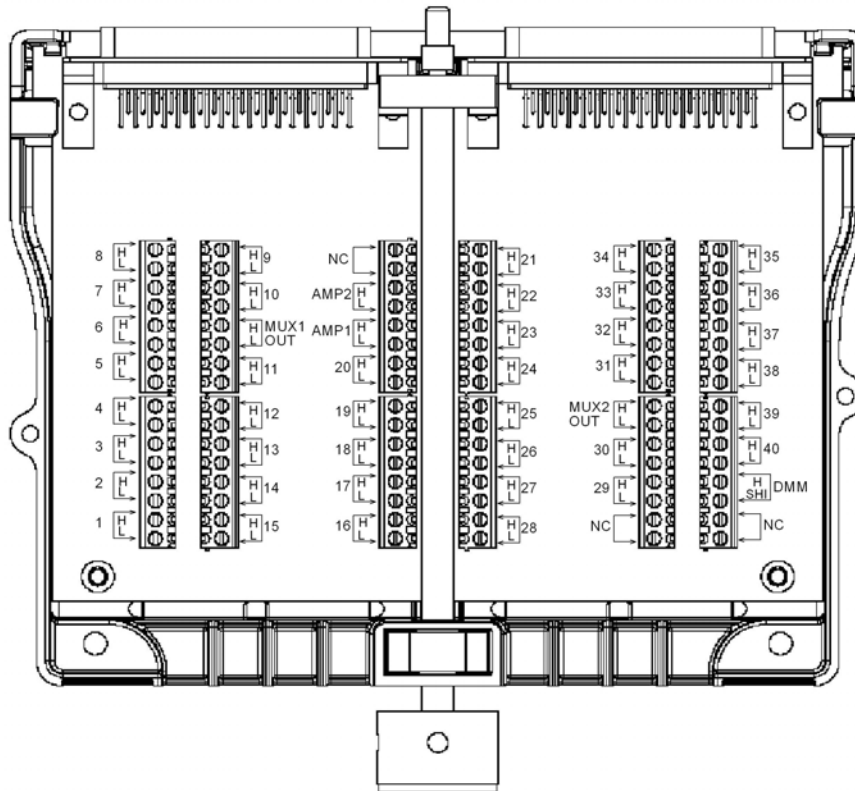


Figure 3: Model 3723-ST-1 screw terminal assembly

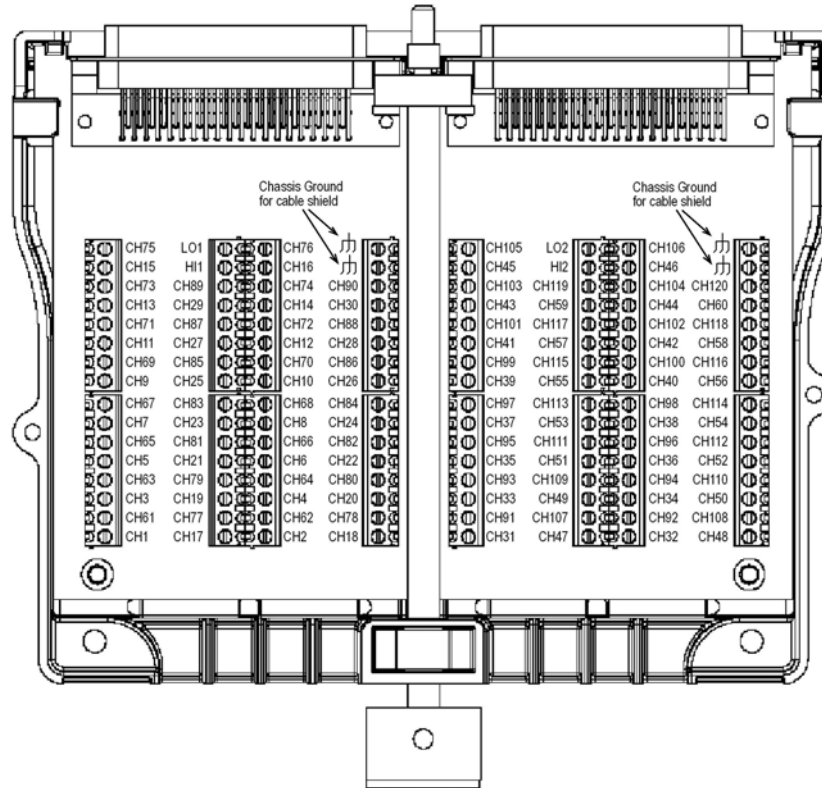


Figure 4: Models 3730-ST and 3731-ST screw terminal assembly

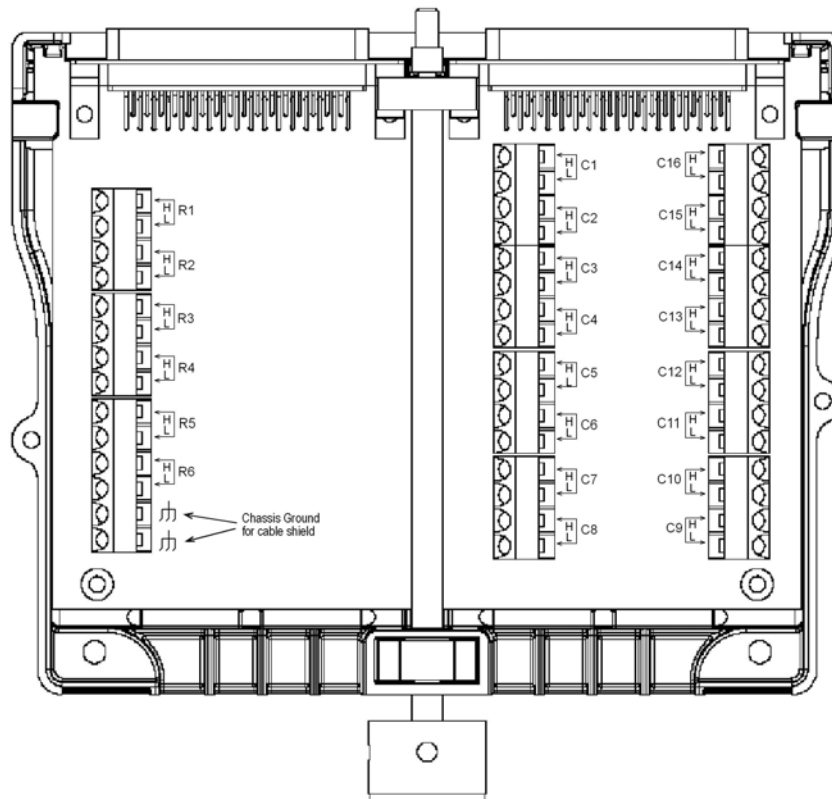
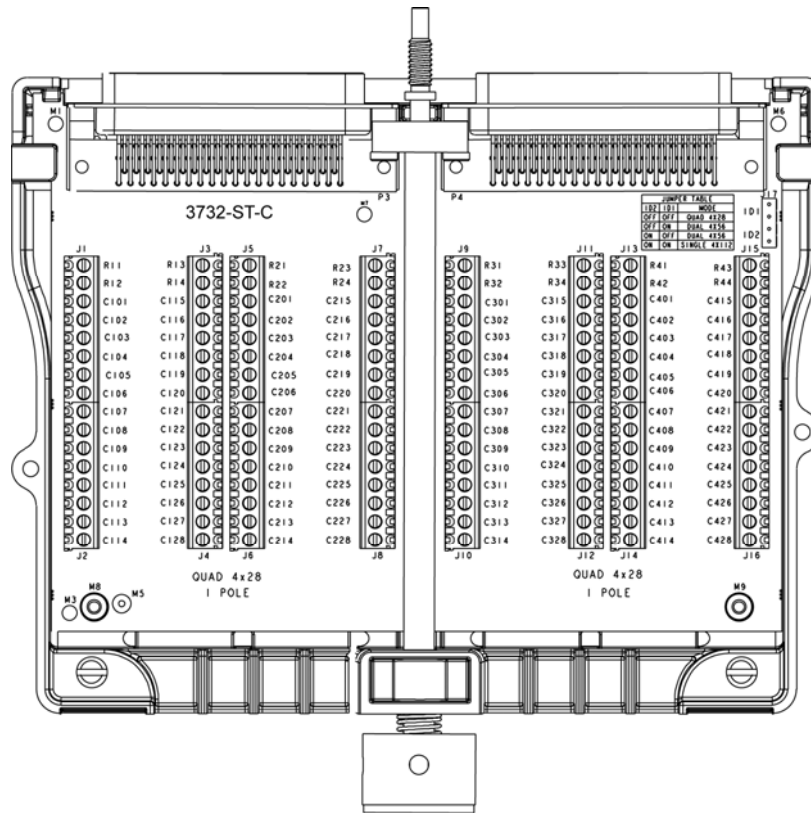


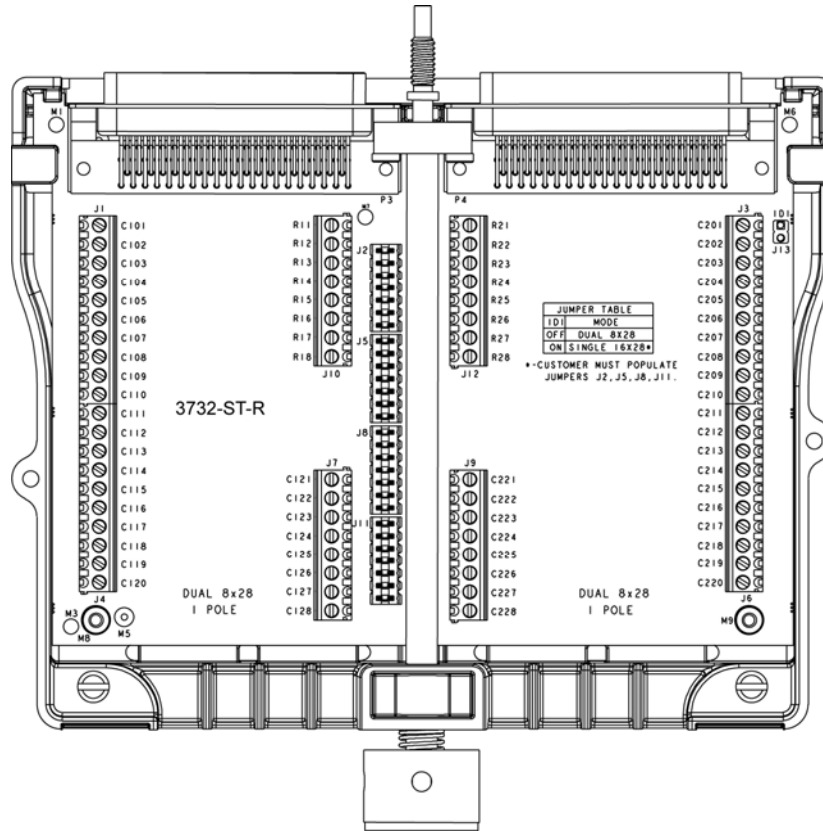
Figure 5: Model 3732-ST-C screw terminal assembly

**NOTE**

The Model 3732-ST-C screw terminal assembly is labeled to show the correct connections for the default quad 4x28 configuration. Insertable overlays are provided with the screw terminal assembly that show the correct wiring for the dual 4x56, single 4x112, dual 4x18 (2-pole), and single 4x56 (2-pole) configurations.

For additional information about using the Model 3732 card and available accessories, refer to the Model 3732 Quad 4x28 Reed Relay Matrix Card Connection Information (part number PA-1021) document that came with your Model 3732 card. You can also download the document from www.keithley.com.

Figure 6: Model 3732-ST-R screw terminal assembly



NOTE The Model 3732-ST-R screw terminal assembly is labeled to show the correct connections for the dual 8x28 configuration. Insertable overlays are provided with the screw terminal assembly that show the correct wiring for the single 16x28 and single 8x28 (2-pole) configurations.

For additional information about using the Model 3732 card and available accessories, refer to the Model 3732 Quad 4x28 Reed Relay Matrix Card Connection Information (part number PA-1021) document that came with your Model 3732 card. You can also download the document from www.keithley.com.

Figure 7: Model 3740-ST screw terminal assembly

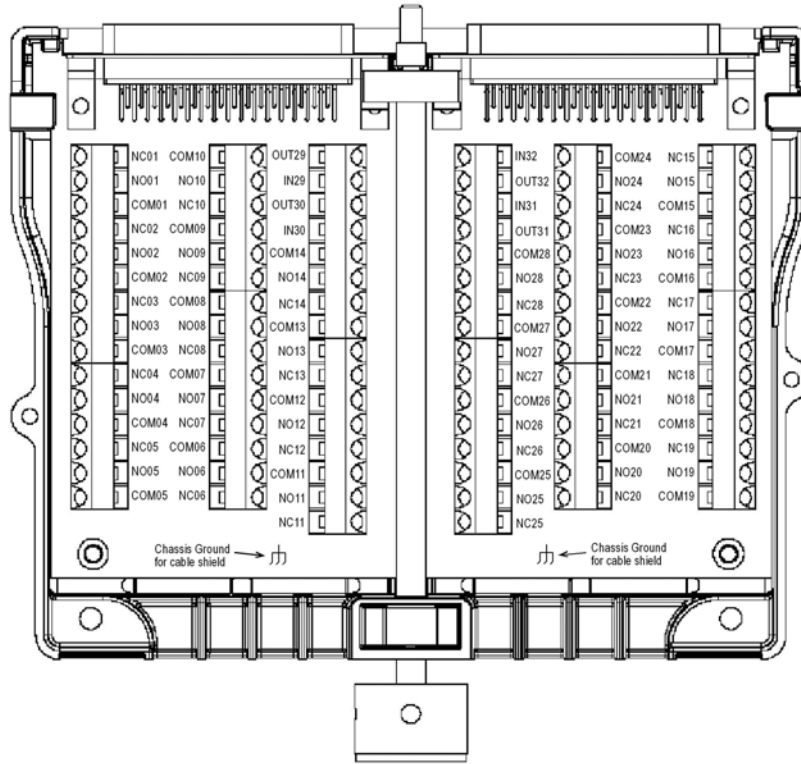
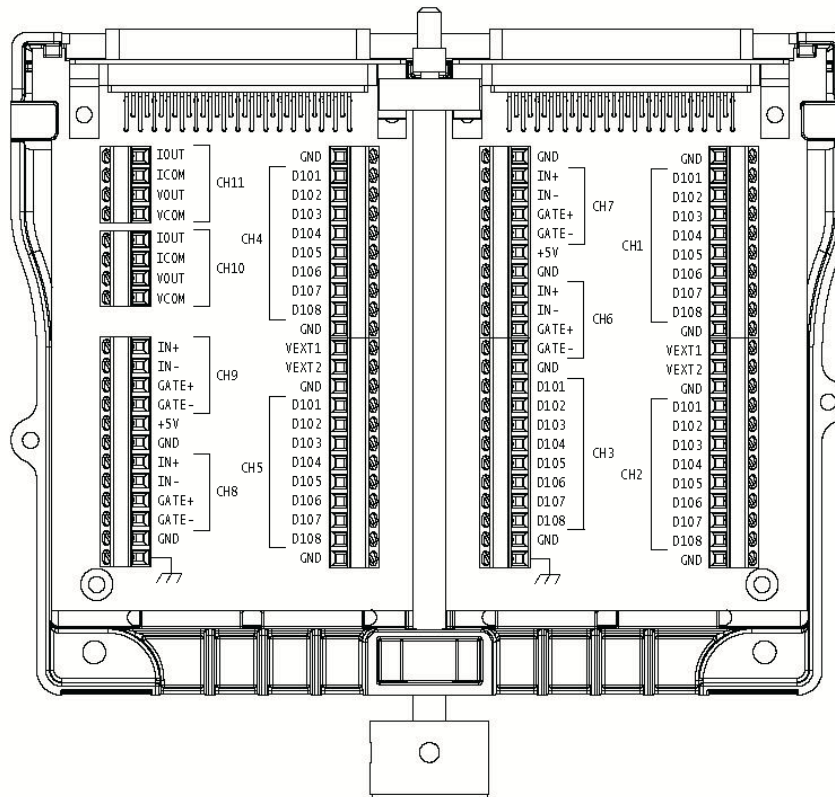


Figure 8: Model 3750-ST screw terminal assembly



Screw terminal assembly installation and removal instructions

The following figures show how to connect a Series 3700 screw terminal assembly to the Series 3700 System Switch / Multimeter and installed Series 3700 cards.

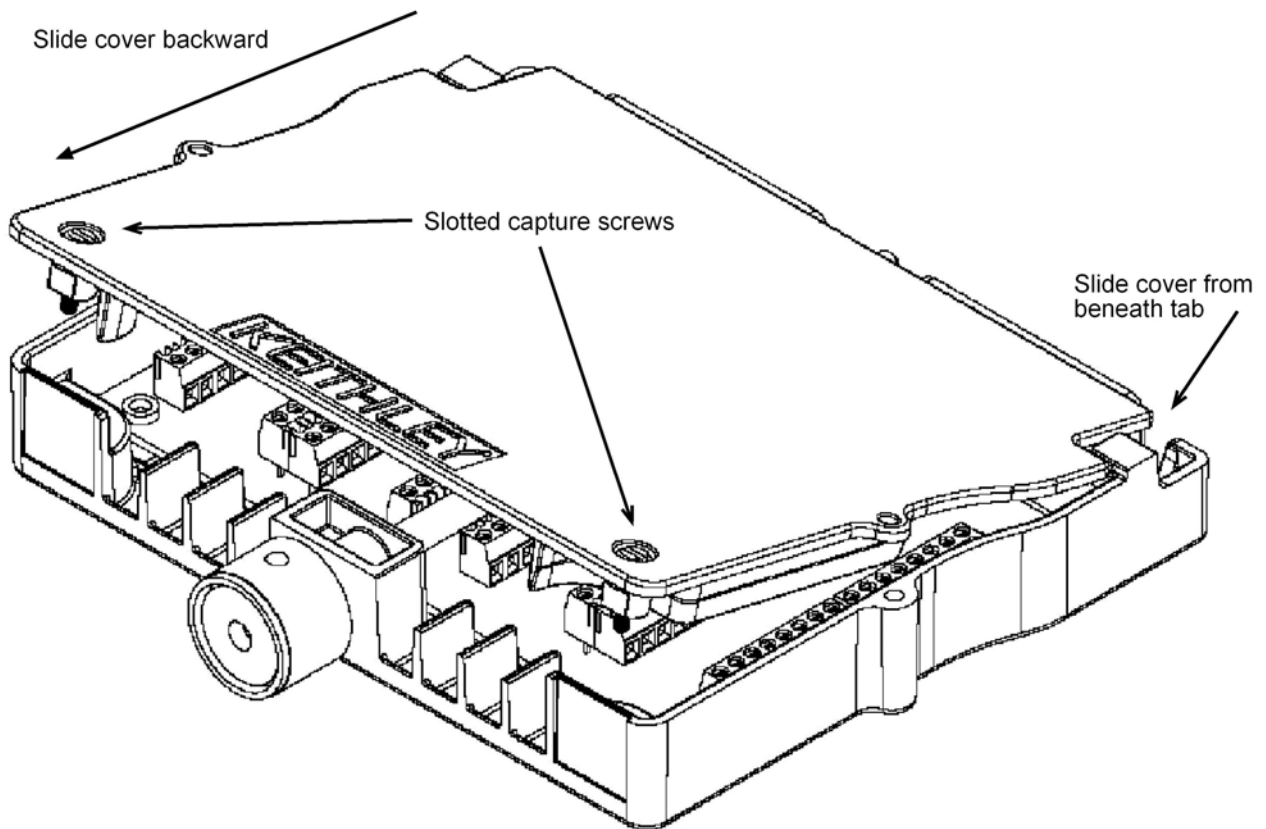
WARNING Before using a screw terminal assembly with an installed Series 3700 card, verify that the card is properly installed in the Series 3700 mainframe, and the mounting screws are tightly fastened. If the mounting screws are not properly connected, an electrical shock hazard may be present.

NOTE For Series 3700 card installation instructions, refer to the Series 3700 Quick Start Guide (part number 3700S-903-01), located on the Product Information CD-ROM that came with your Series 3700 product.

To install a Series 3700 screw terminal assembly:

1. Remove the top cover of the screw terminal assembly (see [Figure 9](#)):
 - a. Loosen the slotted captive screws on the top cover.
 - b. Slide the top cover away from the retaining tab.

Figure 9: Removing the screw terminal assembly top cover

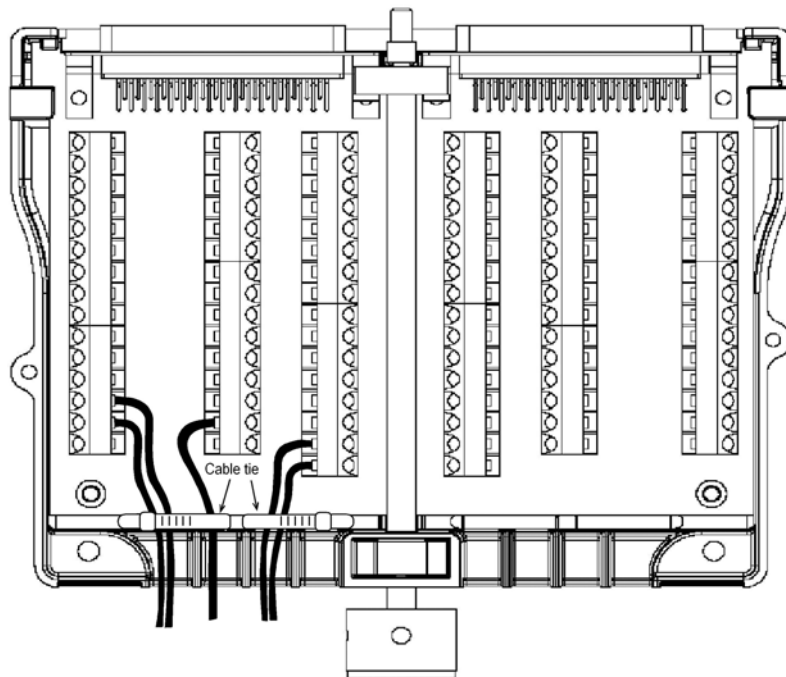


2. Wire the screw terminal assembly circuit board:

CAUTION It is not necessary to remove a circuit board from its enclosure to wire the screw terminal assembly. Avoid handling circuit board surfaces and terminal blocks, because contaminants from hands may degrade the screw terminal assembly's performance.

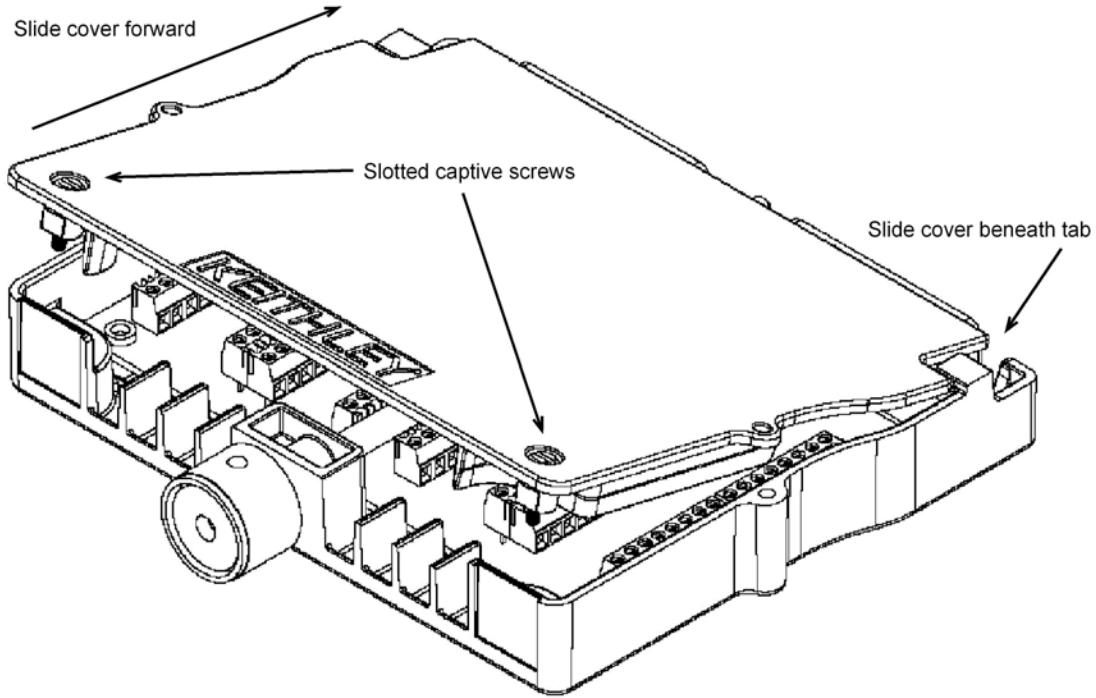
- a. For screw terminal assemblies that include insertable overlays, select the correct overlay for the configuration you are using and press it into place inside the screw terminal assembly.
- b. As shown in [Figure 10](#), route your wiring through the slots in the rear of the screw terminal assembly and connect it to the proper wiring terminals (refer to the documentation supplied with your switch card for proper connection information).

Figure 10: Routing and securing cables with ties



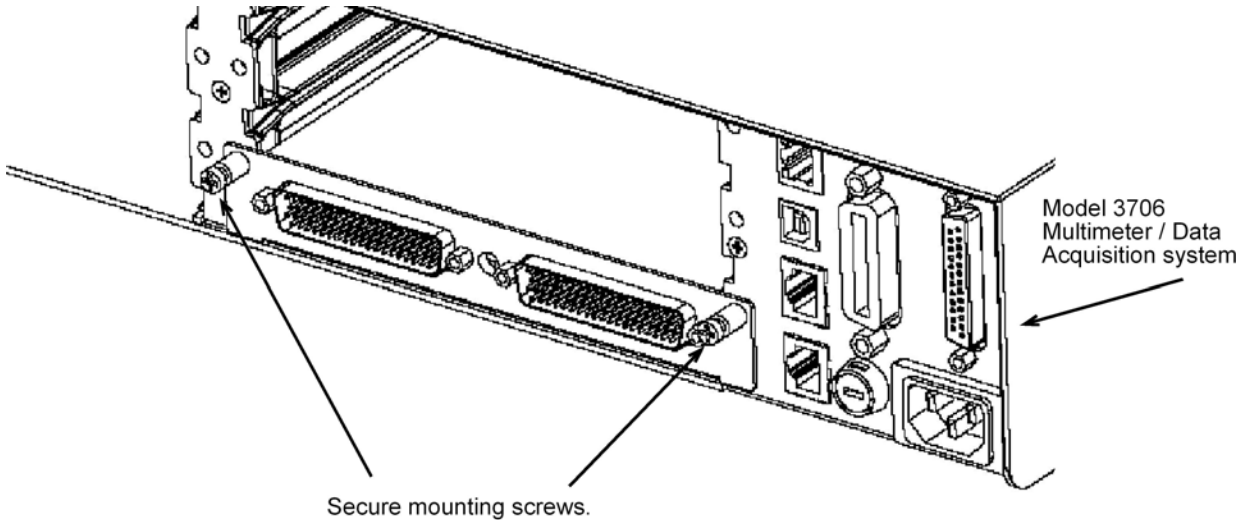
- c. When all wires have been connected, use small cable ties to secure the wires and provide strain relief, as shown in [Figure 10](#). Pass the cable tie in and out of the small holes in the base of the screw terminal assembly and around your wiring before pulling the cable tie tight.
3. When you have finished wiring the screw terminal assembly circuit board, reinstall the top cover on the screw terminal assembly (see [Figure 11](#)):
 - a. Align the top cover with the circuit board.
 - b. Slide the cover forward and beneath the retaining tab.
 - c. Fasten the two slotted captive screws.

Figure 11: Installing the screw terminal assembly top cover



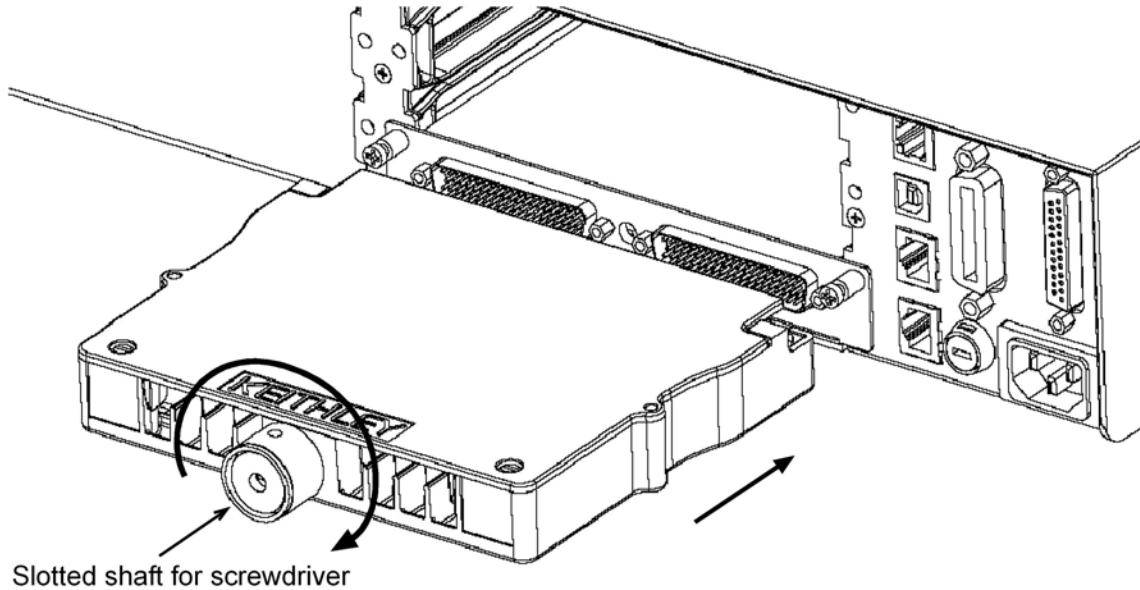
4. After removing all power from the Series 3700 instrument, ensure that the mounting screws on the installed Series 3700 card are secure (see [Figure 12](#)).

Figure 12: Check Series 3700 card mounting screws



5. Align the screw terminal assembly D-sub connectors with the connectors on the installed Series 3700 card (see [Figure 13](#)), and press to seat the D-sub connectors.
6. Turn the knob on the screw terminal assembly clockwise (see [Figure 13](#)) until it is firmly engaged (you may need to use a slotted screwdriver to tighten the knob).

CAUTION Do not tighten the screws too much, because this will damage the card.

Figure 13: Connecting the screw terminal assembly

NOTE To use more than two Series 3700 screw terminal assemblies in a rack-mount installation, use the terminal support bracket included in the Model 4288-10 Rear Support Mount Kit. For more information about the rack-mount kit, refer to Keithley Instruments documentation titled "Model 3706 Rack Mount Kit" (part number PA-953), available on the Keithley Instruments website at www.keithley.com.

To remove a screw terminal assembly from an installed Series 3700 card:

NOTE To remove a screw terminal assembly from a Series 3700 instrument, you will perform the installation steps described above in reverse order (see enumerated steps below).

1. Remove all power from the Series 3700 instrument.
2. Turn the knob on the screw terminal assembly counter-clockwise until it is completely disengaged (you may need to use a slotted screwdriver to loosen the knob).
3. Pull the screw terminal assembly away from the Series 3700 card D-sub connectors.
4. Remove the top cover of the screw terminal assembly:
 - a. Loosen the slotted captive screws on the top cover.
 - b. Slide the top cover away from the retaining tab.
5. Remove the wiring on the screw terminal assembly.