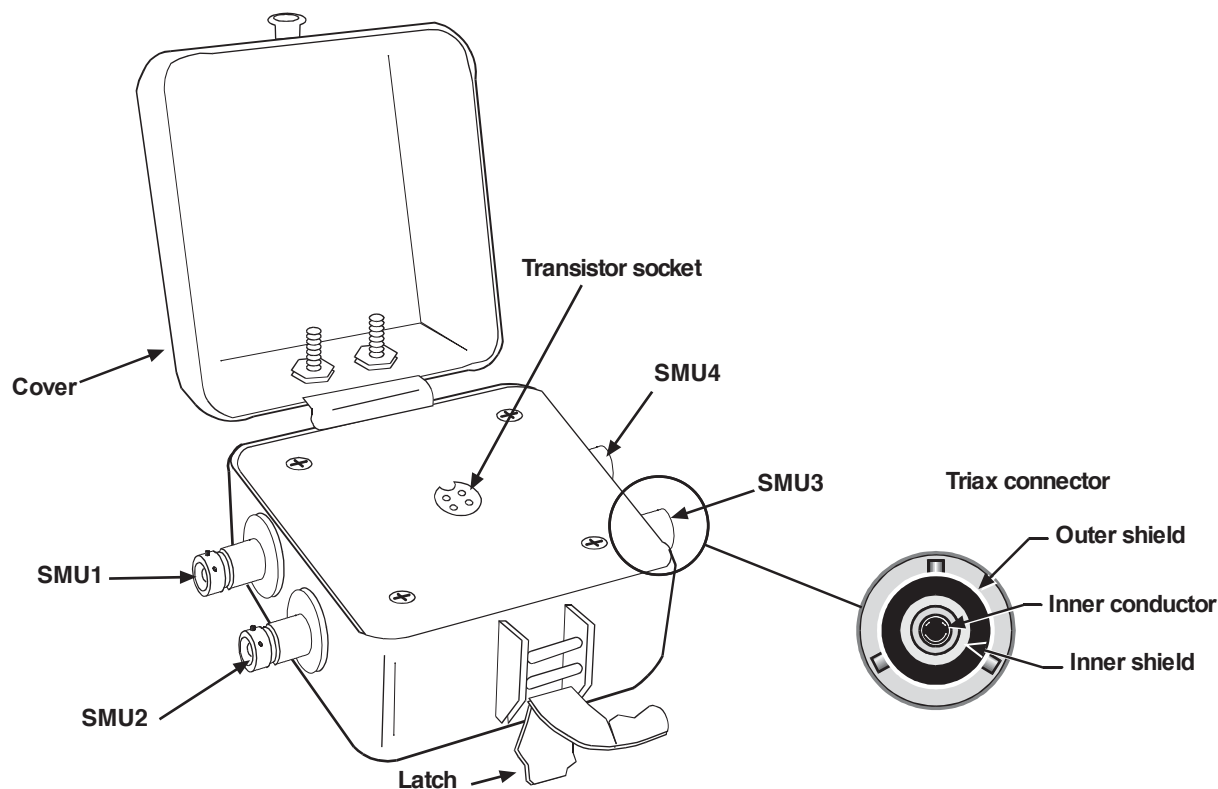


Overview

WARNING The procedures contained in this User's Guide are intended for use by qualified service personnel only. Do not perform these procedures unless qualified to do so. Failure to recognize and observe normal safety precautions could result in personal injury or death.

The 8101-4TRX test fixture is a metal case with four female triaxial connectors (SMU1–4) and a latch on the outside (see Figure 1). Inside the test fixture is one 4-pin device holder (transistor socket). The inner conductor of each triax connector is wired to the closest pin on the 4-pin device holder (see Specifications at the end of this document). The inner shield of the triax connectors are “no connects.” The triax connectors' outer shield is connected to the test fixture's metal case.

Figure 1
Test fixture



General definitions


The types of product users are:


Responsible body is the individual or group responsible for the use and maintenance of equipment, and for ensuring that operators are adequately trained.


Operators use the product for its intended function. They must be trained in electrical safety procedures and proper use of the instrument. They must be protected from electric shock and contact with hazardous live circuits.

Maintenance personnel perform routine procedures on the product to keep it operating, for example, setting the line voltage or replacing consumable materials. Maintenance procedures are described in the manual. The procedures explicitly state if the operator may perform them. Otherwise, they should be performed only by service personnel.

Service personnel are trained to work on live circuits, and perform safe installations and repairs of products. Only properly trained service personnel may perform installation and service procedures.

If  is present, connect it to safety earth ground using the wire recommended in the user documentation.

The  symbol on an instrument indicates that the user should refer to the operating instructions located in the manual.

The  symbol on an instrument shows that it can source or measure 1000 volts or more, including the combined effect of normal and common mode voltages. Use standard safety precautions to avoid personal contact with these voltages.

The  symbol indicates a connection terminal to the equipment frame.

The **WARNING** heading in a manual explains dangers that might result in personal injury or death. Always read the associated information very carefully before performing the indicated procedure.

The **CAUTION** heading in a manual explains hazards that could damage the instrument. Such damage may invalidate the warranty.

Operation

WARNING There can be hazardous voltages exposed in this test fixture and risk of electric shock. Do not touch internal electrical connections. Remove all sources of power before opening cover and changing devices.

If this test fixture is used with an instrument capable of sourcing voltages greater than 42V, then the user must provide an additional safety barrier to prevent the possibility of electrical shock.

No interlock features are provided by this device—properly make all connections and close the lid before energizing instrumentation connected to this test fixture.

CAUTION The current leakage specifications depend upon a clean fixture. Avoid contamination that could cause degraded performance and increase current leakages beyond specified limits.

Model 4200-SCS

NOTE It is safe to use the test fixture without an additional safety barrier if the connected instrument has a Safety Interlock that can disable any high voltage ranges capable of sourcing greater than 42V, such as the Keithley Model 4200.

To operate and use with the 4200-SCS:

1. Install device (2, 3, or 4 terminal) on the device holder (transistor socket).
2. Note which device pin (from Step 1) is associated with the triax connection (SMU1, SMU2, SMU3, SMU4). Then for:
 - **Model 4200** — Connect the appropriate SMU from the Model 4200 directly into each triax connector.
 - **Other instruments** (not Model 2600 series, see below for Model 2600 series) — Adapt the connections to triax (if needed). Make sure HI is connected to the inner conductor.
3. Close the lid on the test fixture.

WARNING Close cover before applying power to test fixture.

4. Conduct your test.

Model 2600 Series

WARNING The Model 260x does not have a Safety Interlock that can disable any high voltage ranges capable of sourcing greater than 42V.

Use of the test fixture requires an additional safety barrier that can disable any high voltage ranges capable of sourcing greater than 42V.

To operate and use with the 2600 Series:

1. Install device on device holder (transistor socket).
2. Refer to Table 1 for the parts required for 2 and 4 channel connections.
3. Use Figure 2 as a guide for the two channel scheme or Figure 3 for the four channel scheme, and make required connections.
4. Close the test fixture cover.

WARNING Close cover before applying power to test fixture.

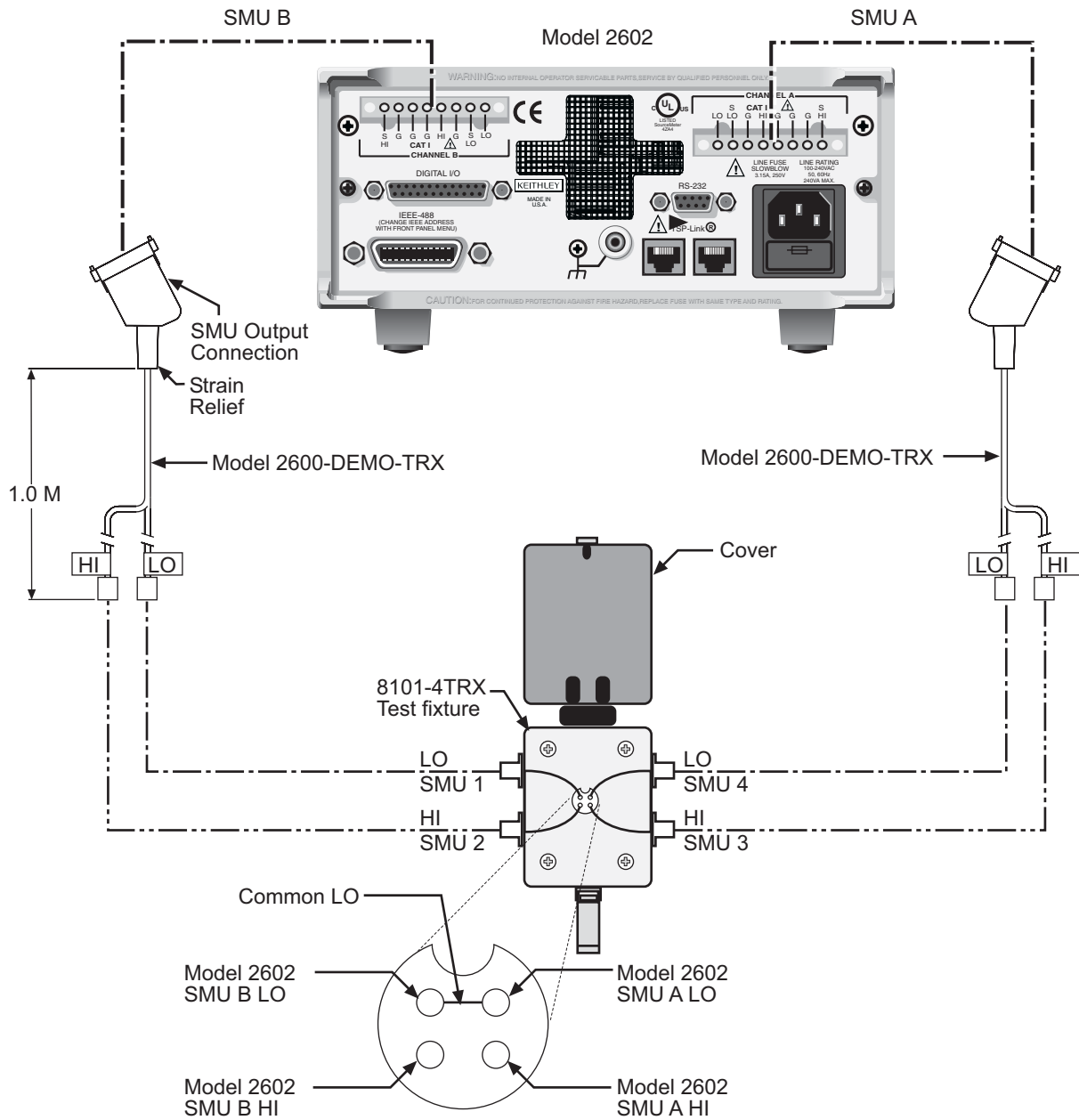
5. Conduct your test (refer to the Series 2600 User's Manual for additional information).

Table 1
Required components using Model 2602

Channels	Model	Description	Qty	Reference
2	Model 2602	Source Measure Instrument*	1	Figure 2
	2600-DEMO-TRX	Cable*	2	
	8101-4TRX	Test Fixture	1	
4	Model 2602	Source Measure Instrument*	2	Figure 3
	2600-DEMO-TRX	Cable*	4	
	8101-4TRX	Test Fixture	1	

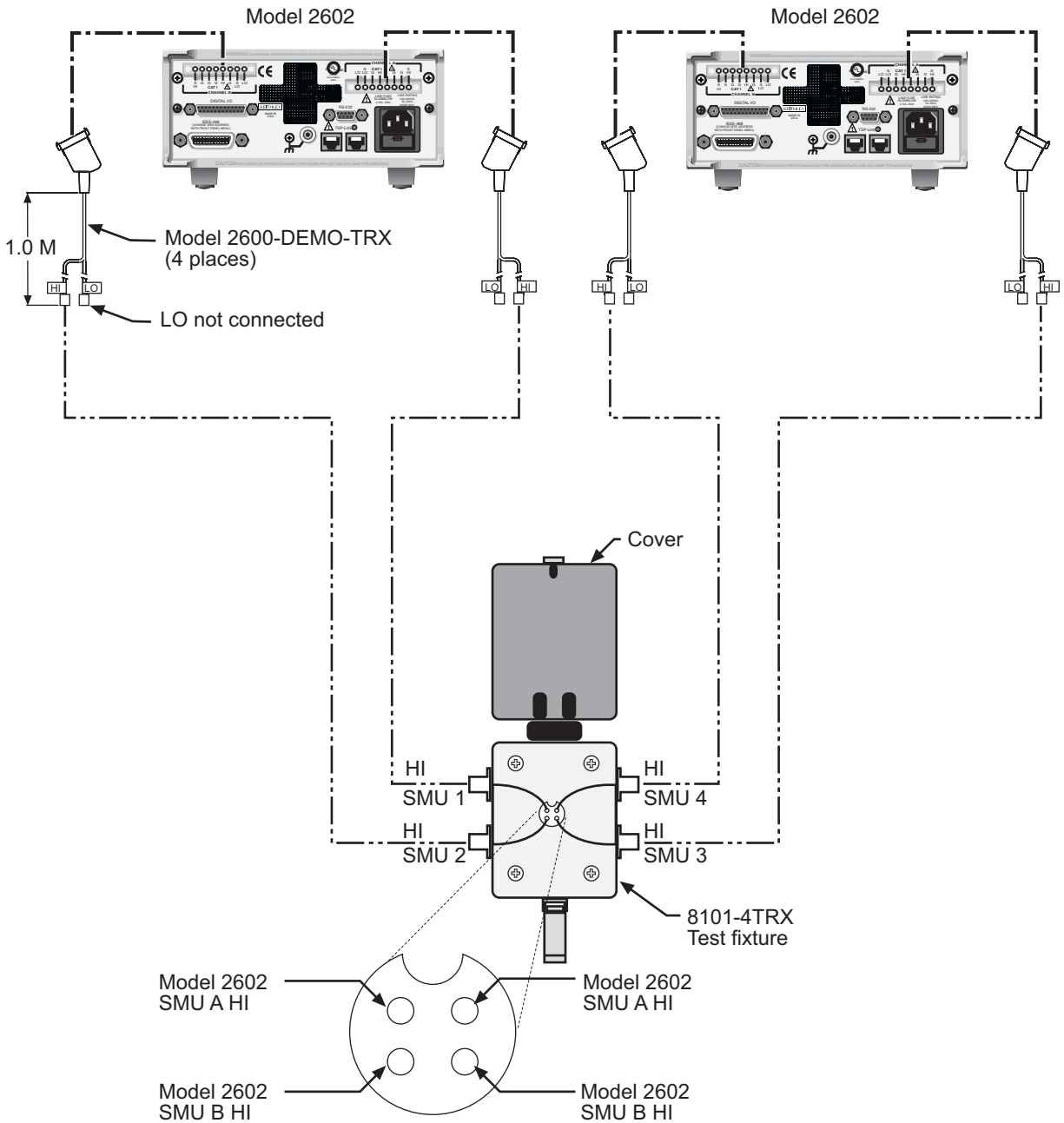
* Not supplied with Model 8101-4TRX test fixture.

Figure 2
Single Model 2602 connection scheme (2 channels)



WARNING Close cover before applying power to test fixture.

Figure 3
Dual Model 2602 connection scheme (4 channels)



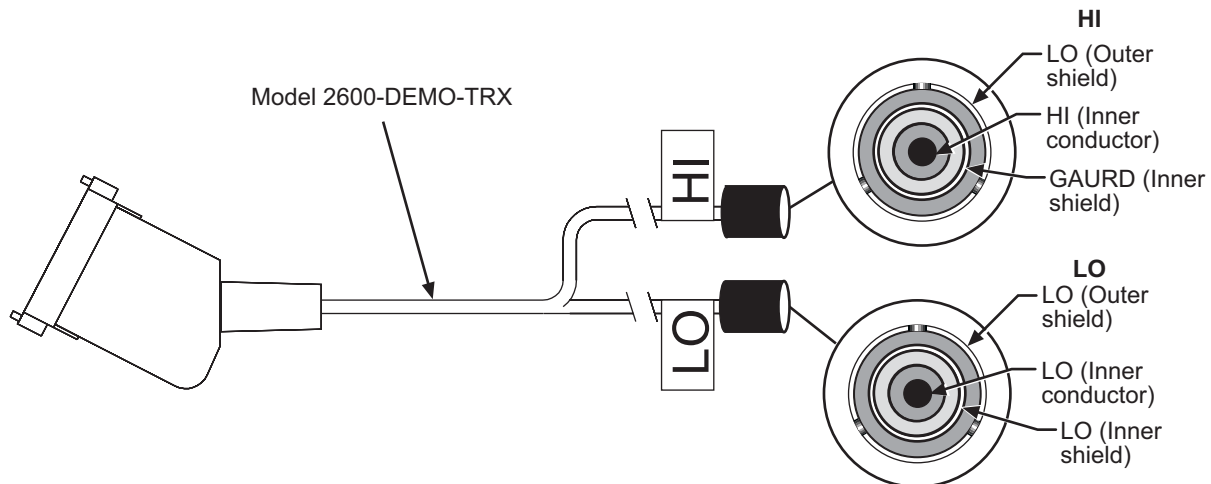
WARNING Close cover before applying power to test fixture.

Model 2600-DEMO-TRX

NOTE This cable is not supplied with the fixture but is supplied as part of the Series 2600 demonstration kit.

The Model 2600-DEMO-TRX is an SMU Output to Triax Connector Adapter cable providing HI and LO outputs. Use this cable to connect SMU outputs to triax connectors on the 8101-4TRX Test Fixture.

Figure 4
Model 2600-DEMO-TRX cable



Handling and cleaning

When inserting or removing a component from the test connector, use care not to touch the PC board or socket. This will help avoid contamination from body oils or other foreign matter. The current leakage specifications depend upon a clean fixture. Contamination could cause degraded performance, which might increase current leakages beyond specified limits.

Handling

Observe the following precautions when handling components:

- Wear cotton gloves.
- Avoid unnecessary touching of the test connector and PC board.

Cleaning

To clean the test fixture:

- Swab the test connector and PC board area with methanol.
- Quickly dry the test connector after cleaning by directing dry nitrogen gas over the PC board area.
- After cleaning, allow the test fixture to dry in a 50°C, low-humidity environment for one hour.

8101-4TRX 4-Pin Transistor Fixture

CAPABILITIES

Device Socket Configuration: 4-pin gold plated, Teflon transistor socket.

Connector Type: 4 independent Triax connectors, center pin to device socket, no connect to guard (center shield).

Maximum Signal Voltage: 42V peak, signal or guard to any signal or chassis.

Maximum Signal Current: 1.05A peak.

Maximum Signal Power: 1W, maximum power dissipation in test fixture.

Offset Current: 1pA maximum. (0-50°C, non-condensing at 60% R.H. up to 35°C)

Path Isolation Resistance: >1TΩ typical. (18-28°C, non-condensing at 60% R.H.)

Path Resistance: <1Ω.

Socket Lead Diameter: 0.41mm/0.016" to 0.51mm/0.020"

Accessories Available:

CAP-31

4200-TRX-2 Ultra-Low Noise PreAmp Triax Cable

(Also available in 1m and 3m lengths)

4200-MTRX-2 Ultra-Low Noise SMU Triax Cable

(Also available in 1m and 3m lengths)

GENERAL SPECIFICATIONS

OPERATING ENVIRONMENT: 0°C to 50°C, non-condensing at 60% R.H. up to 35°C.

STORAGE ENVIRONMENT: -20°C to +70°C.

WARRANTY: 1 Year.

EMC: N/A, no active parts.

SAFETY: Conforms to European Union Directive 73/23/EEC EN61010-1, CAT I.

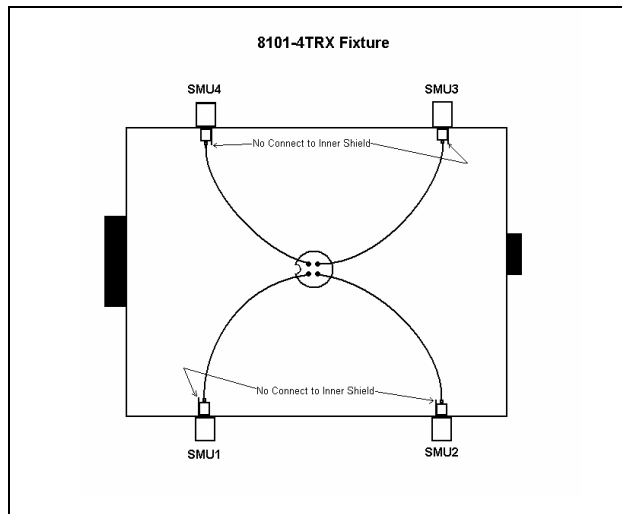
VIBRATION: MIL-PRF-28800F Class 3, Random.

DIMENSIONS: 94.5(3.72) L x 87.6 (3.45) W x 55.6 (2.19) H mm(in).

NET WEIGHT: 5.7oz.

SHIPPING WEIGHT: 11b.

WIRING DIAGRAM



RKN 8/14/02
Rev. A