

Agilent 16495 Connector Plate

Installation Guide



Agilent Technologies

Notices

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Safety Summary

The following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions or with specific warnings elsewhere in this manual may impair the protections provided by the equipment. In addition, it violates safety standards of design, manufacture, and intended use of the instrument. Agilent Technologies, Inc. assumes no liability for customer's failure to comply with these requirements.

- *GROUND THE INSTRUMENT*

This is Safety Class I instrument. To minimize shock hazard, the instrument chassis and cabinet must be connected to an electrical ground. The power terminal and the power cable must meet International Electrotechnical Commission (IEC) safety standards.

- *DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE*

Do not operate the instrument in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.

- *KEEP AWAY FROM LIVE CIRCUITS*

Operation personnel must not remove instrument covers. Component replacement and internal adjustments must be made by qualified maintenance personnel. Do not replace components with power cable connected. Under certain conditions, dangerous voltages may exist even with the power cable removed. To avoid injuries, always disconnect power and discharge circuits before touching them.

- *DO NOT SERVICE OR ADJUST ALONE*

Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

- *DO NOT SUBSTITUTE PARTS OR MODIFY INSTRUMENT*

Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the instrument. Return the instrument to a Agilent Technologies Sales and Service Office for services and repair to ensure that safety features are maintained.

- *DANGEROUS PROCEDURE WARNINGS*

Warnings, such as example below, precede potentially dangerous procedures throughout this manual. Instructions contained in the warnings must be followed.

WARNING

Dangerous Voltage, capable of causing death, are present in this instrument. Use extreme caution when handling, testing, and adjusting.

Safety Symbols

The general definitions of safety symbols used on equipment or in manuals are listed below.



Instruction manual symbol: the product will be marked with this symbol when it is necessary for the user to refer to the instruction manual in order to protect against damage to the instrument.



Indicates dangerous voltage and potential for electrical shock. Do not touch terminals that have this symbol when instrument is on.



Protective conductor terminal. For protection against electrical shock in case of a fault. Used with field wiring terminals to indicate the terminal which must be connected to ground before operating equipment.



Frame or chassis terminal. A connection to the frame (chassis) of the equipment which normally includes all exposed metal structures.



Indicates earth (ground) terminal.



Alternating current.



Direct current.



ON (Supply).



OFF (Supply).



STANDBY (Supply).

CAT 1 Means INSTALLATION CATEGORY I. Measurement terminals on the rear panel comply with INSTALLATION CATEGORY I.

WARNING

The warning sign denotes a hazard. It calls attention to a procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in injury or death to personal.

CAUTION

The caution sign denotes a hazard. It calls attention to an operating procedure, practice, condition or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product.

Installation Guide

Agilent 16495 connector plate is the interface to connect your prober or test fixture to the instruments (Agilent B1500/E5260/E5270/4142/4155/4156 semiconductor parameter analyzers, Agilent B2200/E5250 switching matrix, and so on).

This manual provides the information to install the connector plate, and consists of the following sections:

- “Connector Plates” introduces the 16495C/D/E/F/G/H/J/K connector plates.
- “Required Parts” lists the parts needed to install the connector plate.
- “Installing Connector Plate” describes how to install the connector plates on your shielding box for prober or fixture.
- “Installing Interlock Circuit” describes how to install the interlock circuit on your shielding box.
- “Connecting DUT Cables” describes how to connect the cables between the connector plate and the DUT interface such as manipulators and probe card.



WARNING

You should install the connector plate on your shielding box for prober or test fixture. And you should install an interlock circuit on the door of shielding box. The reasons are:

- **To prevent the operator from receiving an electric shock by the voltage or current applied from instrument during measurement.**
- **To minimize the effects of environmental noise and ambient light.**

If the instrument has the interlock capability, you must make the interlock circuit on your shielding box, and connect the instrument to the interlock connector on the connector plate. See “Installing Interlock Circuit” on page 11 and “To Connect Interlock Cable” on page 15. When you open the shielding box door, the voltages applied to the DUT are reduced automatically to a non-dangerous level.

If you use an instrument that does not have the interlock capability, dangerous voltages can still be applied to the DUT even when you open the shielding box door.

Connector Plates

The following connector plates are available for Agilent Technologies semiconductor parametric measurement instruments such as the B1500, B2200, E5250, E5260, E5270, 4142, 4155, 4156, 41501 and so on.

Size and dimensions of the half size connector plates and the full size connector plates are shown in Figure 1 and Figure 2 respectively. They show the 16495F and the 16495G as example.

Agilent 16495C

Half size connector plate for multiplexer

The 16495C has six 8-channel shielded coaxial connectors, an Intlk connector, and a GNDU connector. The back of each connector is designed for soldering.

Agilent 16495D

Full size connector plate for multiplexer

The 16495D has twelve 8-channel shielded coaxial connectors, an Intlk connector, and a GNDU connector. The back of each connector is designed for soldering.

Agilent 16495F

Half size connector plate for matrix

16495F-001 has 12 triaxial through connectors (female to female), an Intlk connector, and a GNDU connector (triaxial through, female to female). The back of the Intlk connector is designed for soldering.

16495F-002 has 12 triaxial connectors, an Intlk connector, and a GNDU connector. The back of each connector is designed for soldering.

Agilent 16495G

Full size connector plate for matrix

16495G-001 has 24 triaxial through connectors (female to female), an Intlk connector, and a GNDU connector (triaxial through, female to female). The back of the Intlk connector is designed for soldering.

16495G-002 has 24 triaxial connectors, an Intlk connector, and a GNDU connector. The back of each connector is designed for soldering.

NOTE

16495C/D/F/G Connector Plates

Connector plate is electrically connected to the outer conductor of the connectors. So, ignore the *Insulator* in figures to show the connection examples of the SMU (source monitor unit) and the GNDU (ground unit).

Installation Guide

Connector Plates

Agilent 16495H

Half size connector plate for analyzer

16495H-001 has 6 triaxial through connectors (female to female), 6 BNC through connectors (female to female), an Intlk connector, and a GNDU connector (triaxial through, female to female). The back of the Intlk connector is designed for soldering.

16495H-002 has 6 triaxial connectors, 6 BNC connectors, an Intlk connector, and a GNDU connector. The back of each connector is designed for soldering.

Agilent 16495J

Half size connector plate for analyzer

16495J-001 has 8 triaxial through connectors (female to female), 4 BNC through connectors (female to female), an Intlk connector, and a GNDU connector (triaxial through, female to female). The back of the Intlk connector is designed for soldering.

16495J-002 has 8 triaxial connectors, 4 BNC connectors, an Intlk connector, and a GNDU connector. The back of each connector is designed for soldering.

Agilent 16495K

Half size connector plate with universal cable holder

16495K-001 does not have any connectors. This plate provides the cable hole and the cover with rubber used to block the light from the cable hole. This plate will be used with the Agilent E5288A Atto Sense/Switch Unit (ASU) or the Agilent N1301A-200 Guard Switch Unit (GSWU) that will be installed in the shielding box.

The cable hole is to pass the cables from the ASU or GSWU to the instrument such as the Agilent B1500A, E5270B, and so on. And the cables will be fixed to the shielding box by using the cover with rubber that will close the opening of the cable hole.

Agilent 16495E

Half size blank plate

This plate is used to cover openings when you made too big openings for installing the connector plate. You will use this plate to cover openings if you install the half size connector plate in openings made for the full size connector plate.

Figure 1

Dimensions of Half Size Connector Plate (in mm)

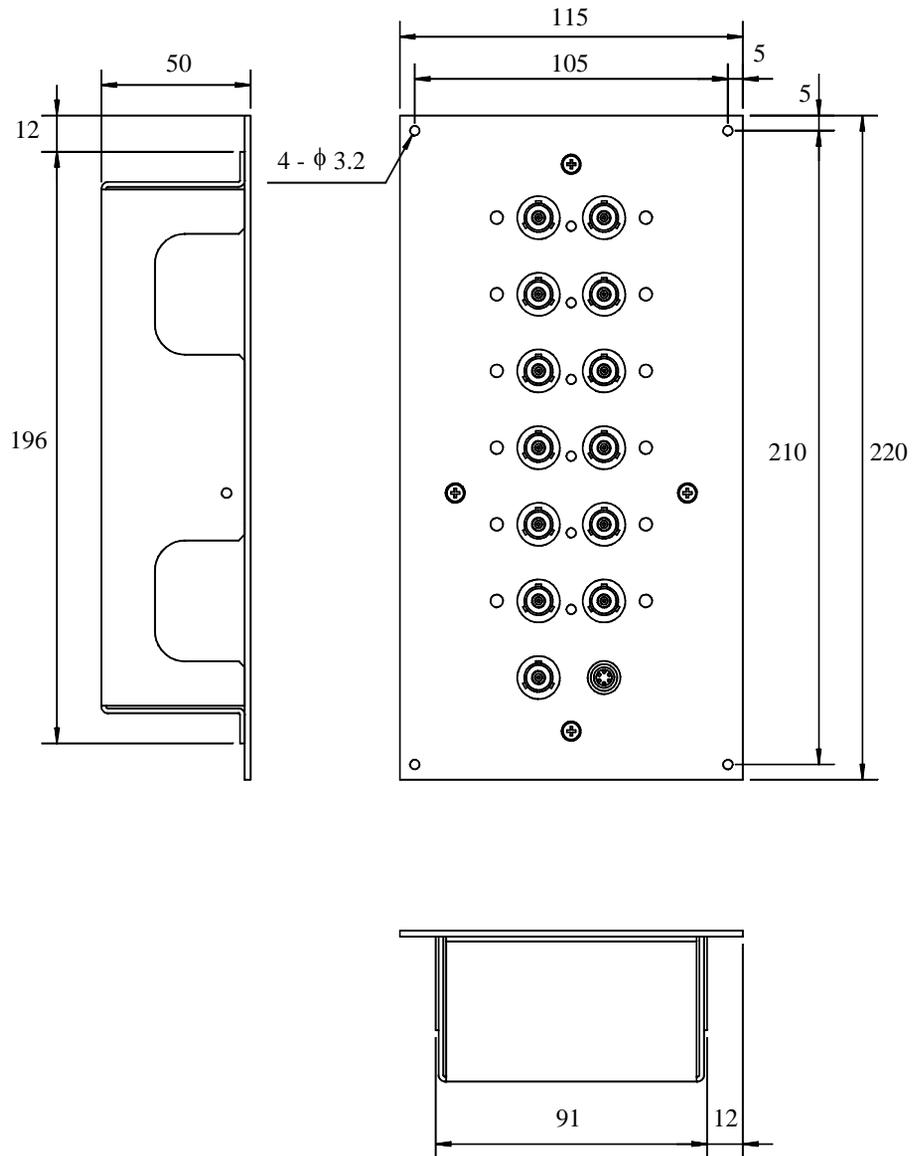
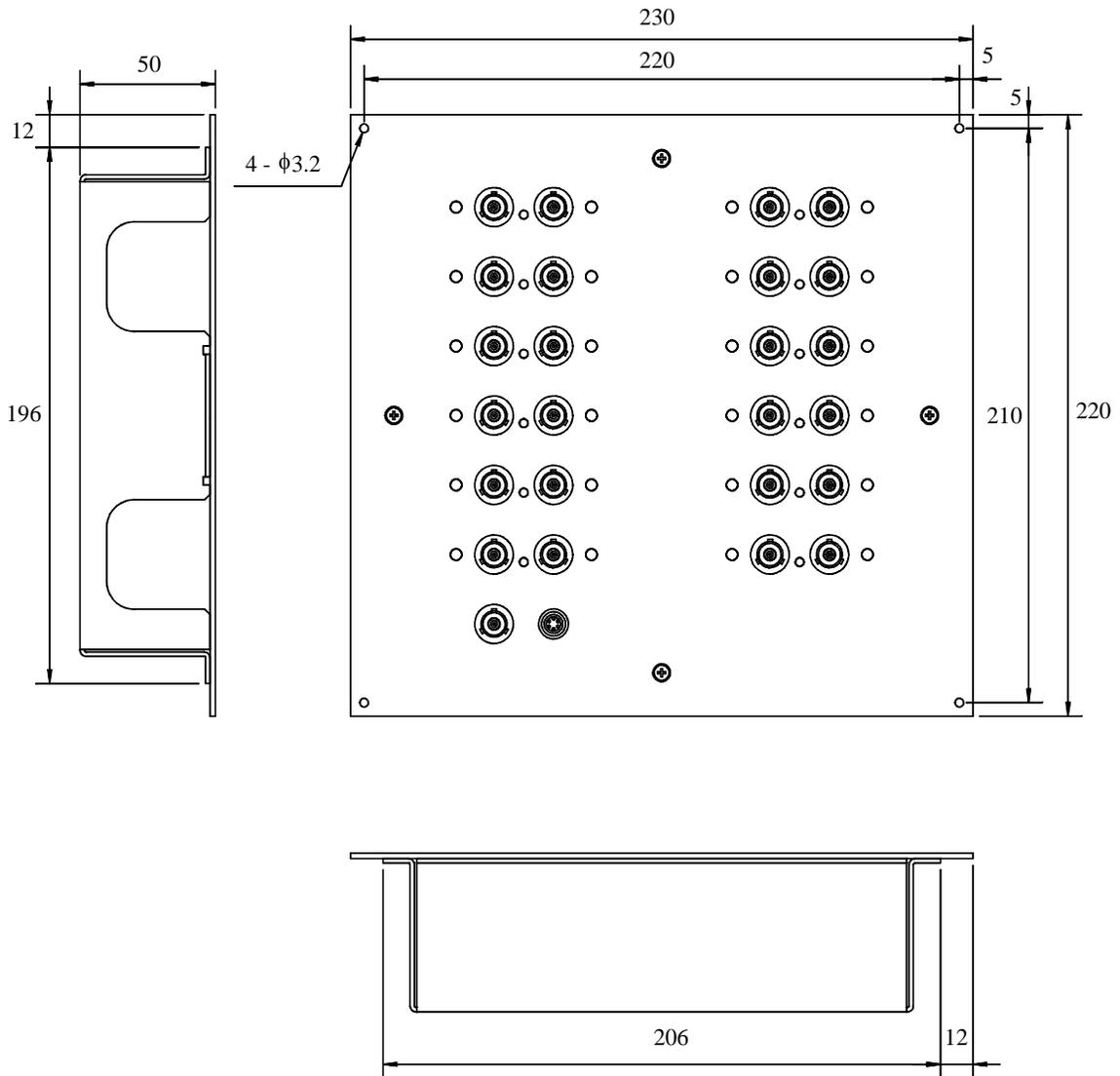


Figure 2

Dimensions of Full Size Connector Plate (in mm)



Required Parts

The parts needed to install the connector plate are listed in Table 1.

Table 1 Required Parts

Usage	Agilent Part Number	Qty.	Description
To install connector plate	0515-0986	4	Screw (20mm)
	2190-0584	4	Washer Spring
	3050-0891	4	Washer Flat
	0535-0031	4	Nut
To install interlock circuit	3101-3241 or 3101-0302	2	Switch
	1450-0641	1	LED ($V_F \cong 2.1 \text{ V @ } I_F = 10 \text{ mA}$)
	8150-5680	a	Wire
To connect GNDU output	8121-1189 or 8150-2639	a	Coax. Cable or Wire
To connect SMU outputs	8121-1191	a	Low Noise Coax. Cable
To connect VMU inputs/ VSU outputs	8150-0447	a	Wire
To connect PGU outputs	8120-0102 or 8121-1191	a	Low Noise Coaxial Cable
To connect MFCMU outputs	8120-0367	a	50 Ω Coaxial Cable

a. Length and quantity depend on your measurement environment.

Installing Connector Plate

This section explains how to install the connector plates on your shielding box for prober or test fixture.

Before installing the connector plate, do the following.

1. On your shielding box, create openings and screw holes that match the size of connector plate. The dimensions for the openings and screw holes are as follows.
 - Screw holes: 3 mm in diameter
 - Openings:
 - Half size connector plate: 95 mm (W) × 200 mm (H)
 - Full size connector plate: 210 mm (W) × 200 mm (H)

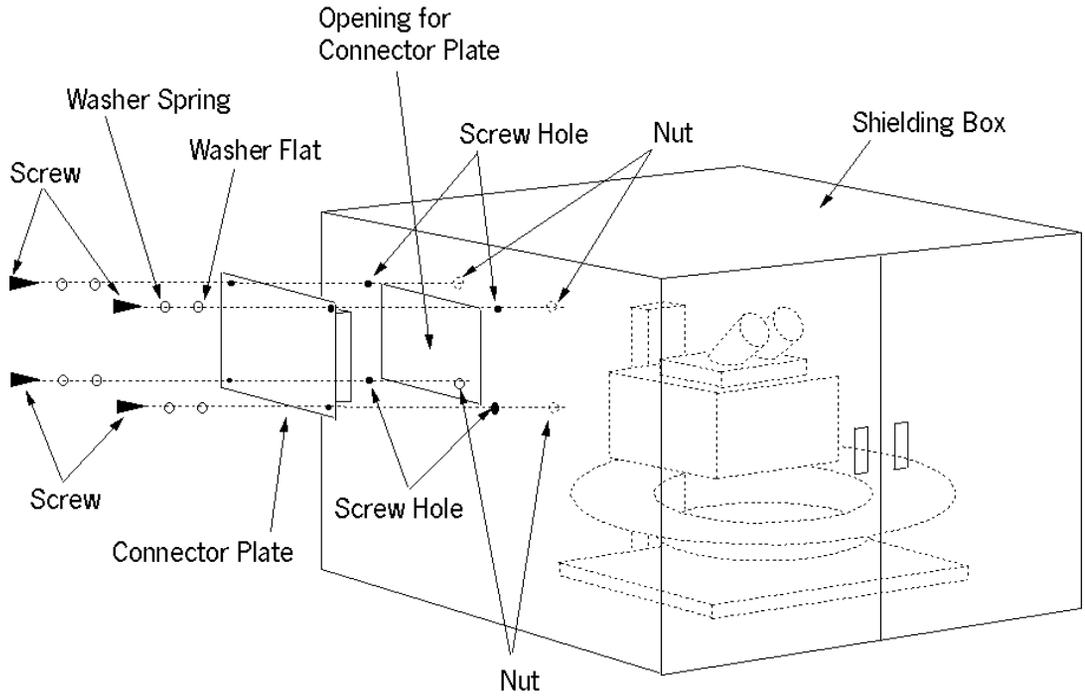
For the position of the screw holes, see “Connector Plates” on page 3.

2. Prepare parts required for installing the connector plate. See Table 1.
3. If any instrument is connected to the connector plate, turn off the instrument before disconnecting.
4. Disconnect all cables from the connector plate.

Install the connector plate as shown below.

1. For the 16495C/D/F/G/H/J-002, remove the shield cover from wiring side of connector plate by removing screws on the connector plate.
2. Install the interlock circuit to the shielding box. See “Installing Interlock Circuit” on page 11.
3. Make connections between the connector plate and the DUT interface, such as manipulators and probe card. See “Connecting DUT Cables” on page 16.
4. Fix the connector plate on the shielding box by using the screws, nuts, and washers. See Figure 3.
5. For the 16495C/D/F/G/H/J-002, re-attach the shield cover to the connector plate.
6. For the 16495K, continue the procedure shown in “To Install 16495K” on page 10.

Figure 3 To Install Connector Plate



To Install 16495K

Pass the ASU control cable and measurement cables, or pass the GSWU control cable through the cable hole as shown below. See Figure 4 or Figure 5.

1. Remove the cover with rubber by removing screws on the 16495K plate.
2. Pass the ASU cables or the GSWU cable through the cable hole, and adjust the cable length inside the shielding box. The cables must be connected between the unit (ASU or GSW) and the instrument such as the Agilent B1500A, E5270B, and so on.
3. Re-attach the cover with rubber to the 16495K plate. The cables will be sandwiched between the cover and the plate. And the cable hole will be closed.

Figure 4

To Install 16495K and ASU

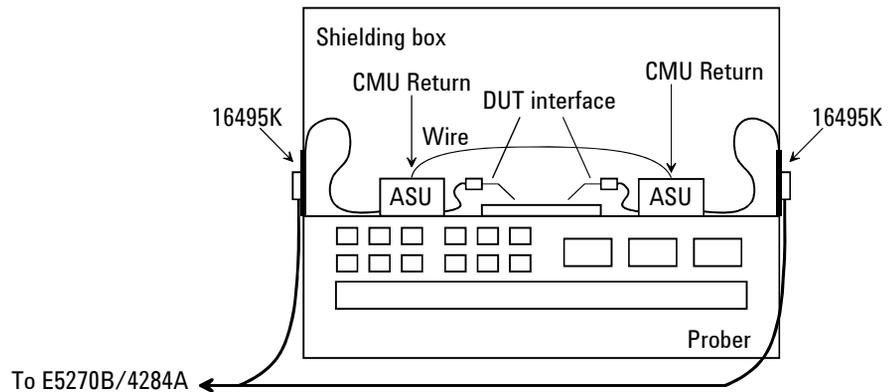
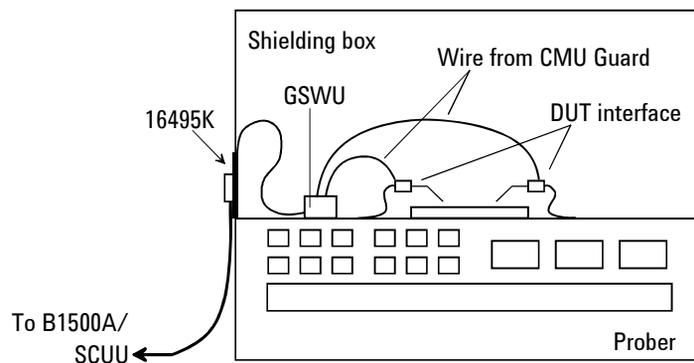


Figure 5

To Install 16495K and GSWU



Installing Interlock Circuit

Interlock circuit is to prevent electric shock when touching measurement terminals.

Before installing the connector plate, you must install an interlock circuit to prevent dangerous voltages when door of shielding box is open.

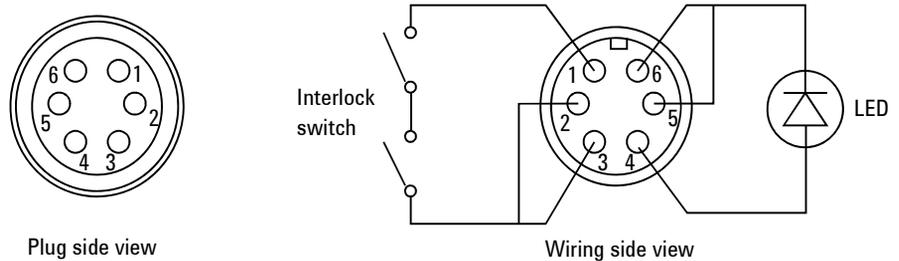
This circuit can be made with an instrument that has the interlock capability, such as the Agilent B1500/E5260/E5270/4155/4156.

The following figure shows the pin assignments of the Intlk connector on the connector plate and the interlock circuit you need to make on your shielding box.

Recommended parts for making interlock circuit are shown in Table 1.

Figure 6

Interlock Connector



NOTE

Intlk Connector

Intlk connector on the connector plate is compatible with the Intlk connector of the Agilent B1500/E5260/E5270/4155/4156.

If you use an instrument that has a BNC type interlock connector (such as the 4142), use the Agilent 16435A interlock cable adapter and Agilent 16493J interlock cable.

To connect the interlock connector of instrument and connector plate, see “To Connect Interlock Cable” on page 15.

To Install Interlock Circuit

Install the interlock circuit as follows.

1. Fix two mechanical switches on your shielding box, so that the switches close when the door of the shielding box is closed, and open when the door is opened. For the dimensions of the switches, see Figure 7 and Figure 8.
2. Use wire and connect the two switches in series between pin number 1 and 2 (or 3) of the Intlk connector. See Figure 6.

For example, if the Agilent B1500/E5260/E5270/4155/4156 is connected to the Intlk connector, it cannot force more than ± 40 V when the door is open. When the door is closed, it can force more than ± 40 V. For details of interlock capability, see the manual of the instrument you use.

Figure 7

Dimensions of Interlock Switch (Agilent part number 3101-0302)

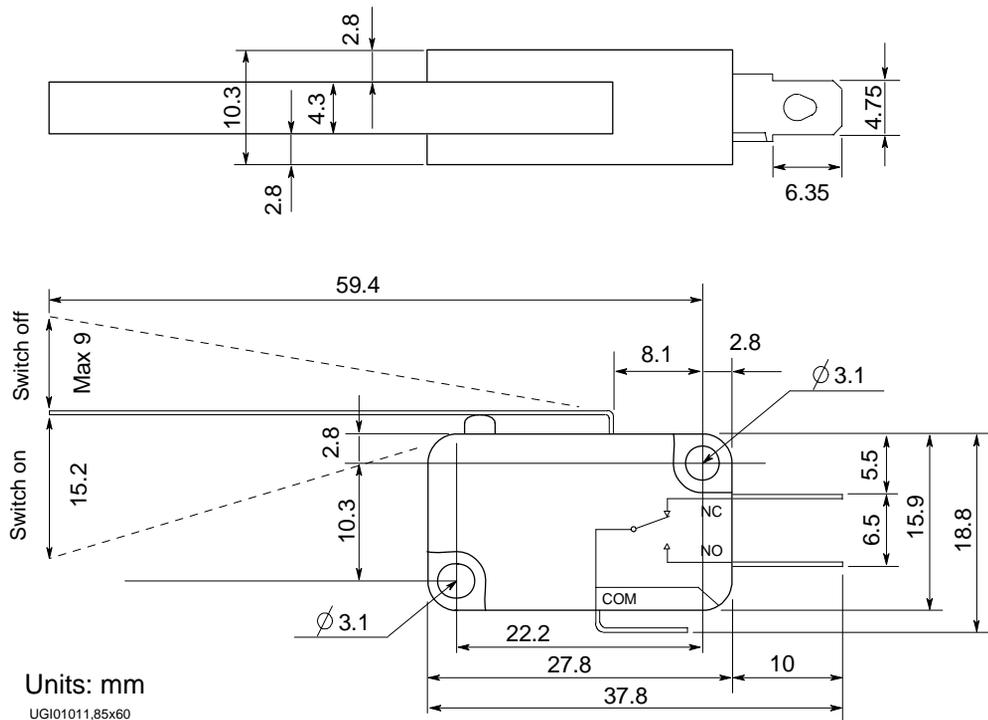


Figure 8

Dimensions of Interlock Switch (Agilent part number 3101-3241)

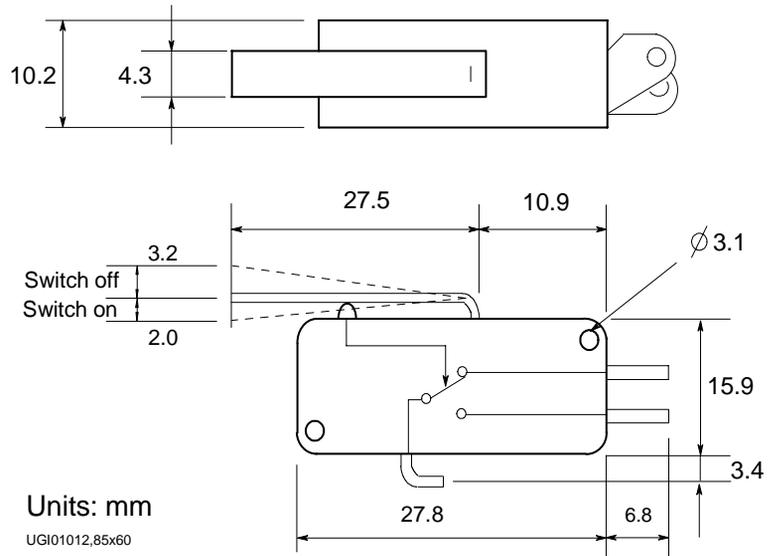
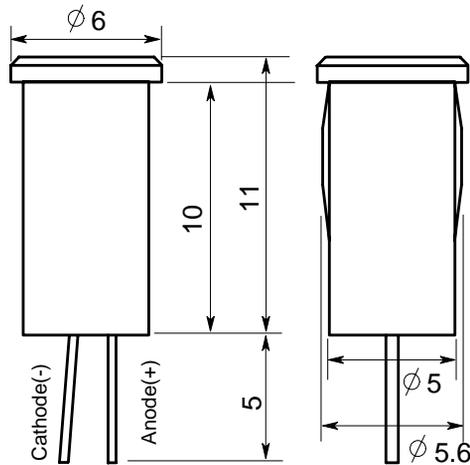


Figure 9

Dimensions of LED (Agilent part number 1450-0641)



Units: mm
UGI01013,50x50

To Install LED Circuit

The Agilent B1500/E5260/E5270/4155/4156's Intlk connector provides the interlock signal and a LED drive signal.

If a LED is connected between pin 4 and pin 5 (or 6) of the Intlk connector, the LED lights to indicate *high voltage output* when more than ± 40 V is forced from an SMU in the Agilent B1500/E5260/E5270/4155/4156.

To install LED circuit on your shielding box, do following.

1. Fix LED on your shielding box. For the dimensions of the LED, see Figure 9.
2. Use wire and connect the LED between pin 4 and pin 5 (or 6) of the Intlk connector. See Figure 6.

NOTE

To Check Interlock Circuit

If you use the 4155/4156, you can easily check the interlock circuit as follows.

1. Connect the Intlk connector of the 4155/4156 to your interlock circuit.
2. Press **System** front-panel key, then select CALIB/DIAG primary softkey to display the SYSTEM: SELF-CALIBRATION/DIAGNOSTICS page.
3. In the CALIB/DIAG field, select DIAG secondary softkey.
4. In the CATEGORY field, select I/O PERIPH secondary softkey.
5. Move pointer to the 403 (INT.) Interlock LED field.
6. Select EXECUTE secondary softkey.
7. Confirm the following:
 - LED turns on within 1 sec from when interlock circuit is shorted.
 - LED turns off within 1 sec from when interlock circuit is open.
8. To stop the interlock test, select STOP secondary softkey.

To Connect Interlock Cable

Before beginning the measurement, connect the Intlk connector to the interlock connector of the instrument as follows.

- For the Agilent B1500/E5260/E5270/4155/4156:
Connect Intlk connector of the E5260/E5270/4155/4156 to Intlk connector of connector plate by using the 16493J Interlock cable that is furnished with the B1500/E5260/E5270/4155/4156. You can connect it directly without using any adapter.
- For the instruments which has a BNC-type interlock connector:
If you use an instrument that has a BNC-type interlock connector (such as the 4142), connect interlock connectors of instrument and Intlk connector of connector plate as shown below.
 1. Connect interlock connector of instrument to the BNC connector of the 16435A (interlock cable adapter) by using the BNC cable that is furnished with the adapter.
 2. Connect the 16435A adapter to Intlk connector of connector plate by using the 16493J Interlock cable.

Table 2

To Connect to BNC-Type Interlock Connector

Agilent Model No.	Quantity	Description
16435A	1	Interlock Cable Adapter
16493J	1	Interlock Cable (furnished with B1500/E5260/E5270/4155/4156)

Connecting DUT Cables

This section describes the cable connections from the connector plate to the DUT interface such as manipulators and probe card.

Connect coaxial cable or wire to the wiring side of the connector plate as shown below.

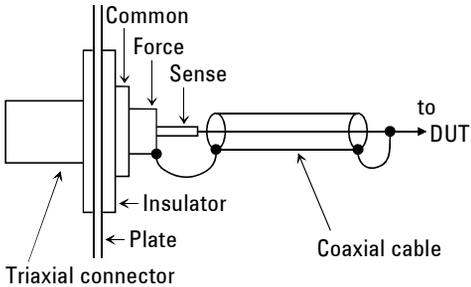
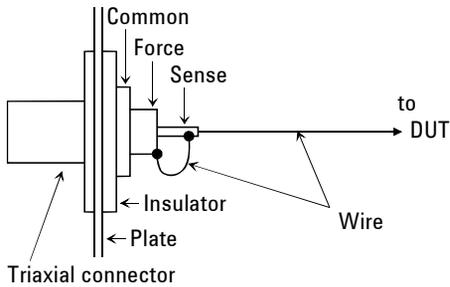
1. Cut the coaxial cable/wire to required length.
2. At the end of the cables/wires, make contact with DUT. To do so, solder sockets, connectors, or something to the cable/wire end.
3. Solder the cables/wires to the wiring side of the connector plate. The connection depends on the instrument to be used. See the following sections.
 - “Installing Interlock Circuit”
 - “GN DU Output”
 - “SMU Outputs”
 - “AUX Outputs”
 - “16495C/D Outputs”

GNDU Output

GNDU is the ground unit of the B1500/E5260/E5270/4142/41501. The GNDU output connection examples are shown in Table 3. In this table, pay attention that the *Insulator* is not applicable for the 16495C/D/F/G.

If the GNDU output passes the B2200/E5250, use the connection shown in “SMU Outputs” on page 18. Then do not force current over 1 A to the GNDU. Maximum input current of the B2200/E5250 is 1 A.

Table 3 To Connect GNDU Output

Kelvin connections	non-Kelvin connections
<p>Use a low-noise coaxial cable (Agilent part number: 8121-1189) from the connector to prober, fixture or the DUT as shown in the following figure.</p> <p>To cancel the effects of cable resistance, connect the sense line and the force line as close as possible to the terminal of the DUT.</p>	<p>Short sense and force on the connector as shown below. Measurement data will include the residual resistance of the connection wire.</p> <p>Use AWG 22 single-strand insulated wire (Agilent part number: 8150-2639) from the connector plate to prober, fixture or the DUT.</p> <p>To easily connect GNDU for a measurement in which the accuracy is not important, connect only force to the DUT, without shorting sense and force.</p>
	

CAUTION

Use the 16493H GNDU cable to connect the instrument GNDU and the connector plate. Do not use the triaxial cable. The GNDU can sink up to 1.6 A, and the maximum current rating of triaxial cable is 1A.

SMU Outputs

SMU is the source monitor unit of the B1500/E5260/E5270/4142/4155/4156/41501. The SMU output connection examples are shown in Table 4. In the following connection example figures, pay attention that the *Insulator* is not applicable for the 16495C/D/F/G.

WARNING

The SMU forces dangerous voltages of up to ± 100 V (± 200 V for HPSMU) at the force, sense, and guard terminals.

To prevent electric shock, do not expose these lines.

Before turning the instrument on, connect the Intlk connector to the interlock circuit that turns off when the shielding box access door is opened.

Before you touch connections of these terminals, turn the instrument off, disconnect power cable, and discharge any capacitors.

CAUTION

Never connect the guard terminal to any output, including circuit common, chassis ground, or the guard terminal of any other unit. Doing so may result in an emergency condition.

NOTE

Low-Noise Coaxial Cable

For the extended measurement paths over the connector plate, use low-noise coaxial cable (Agilent part number 8121-1191). This cable can maximize the guard effects and minimize the impression of the external noise.

Figure 10 shows the cutting example of this cable. Key point is the isolation between the conductive layer and the center conductor. So, cut and trim the end of the cable as shown in this figure by using a cutter and so on.

Figure 10

Coaxial Cable Cutting Example

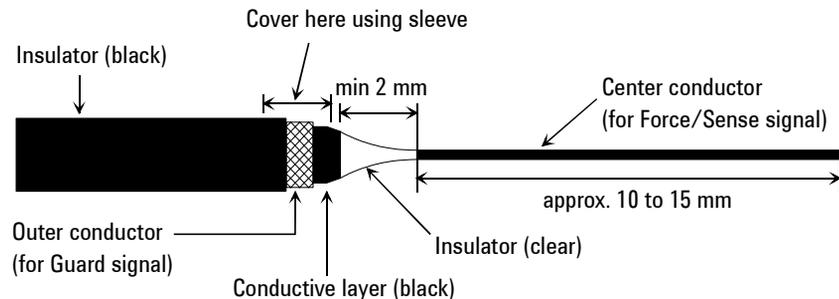


Table 4 To Connect SMU Outputs

Kelvin connections	non-Kelvin connections
<p>Use low-noise coaxial cable (Agilent part number: 8121-1191) from connector plate's connectors to prober, fixture or DUT as shown in the following figure.</p> <p>See Figure 11 and Figure 13 for the ASU and SCUU connections respectively.</p> <p>To cancel effects of the cable resistance, connect the sense and force lines together as close as possible to the DUT terminal.</p> <p>To prevent oscillations, do not use the cables longer than 1.5 m.</p>	<p>Use low-noise coaxial cable (Agilent part number: 8121-1191). Following figure is available for the connections with a Kelvin triaxial cable.</p> <p>For the connections with a triaxial cable, ignore the sense line, and apply the force line connection. For the 16495C/D, ignore the sense line, and apply the force line connection for each channel in the 8 ch shielded coaxial connector.</p> <p>In this connection, the measurement data will include the effect of residual resistance from the connection cable.</p> <p>See Figure 12 and Figure 14 for the ASU and SCUU connections respectively.</p>

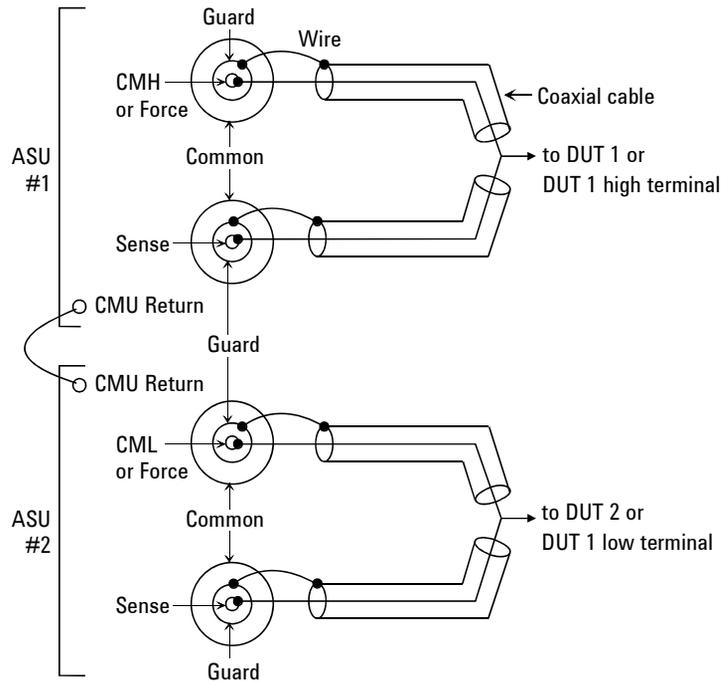
NOTE

To Minimize Leakage Current

For the highly accurate current forcing and measurements, surround all force and sense lines by a guard as far as possible, and physically stable the cable with tape.

Figure 11

To Connect ASU with Kelvin connection



The ASU (Atto Sense/Switch Unit) will be connected to a control cable, a triaxial cable, and two coaxial cables from instruments. The cables must be connected to the ASU inside the shielding box through the 16495K plate. And the cables/wires must be connected from the ASU output to the DUT as shown above.

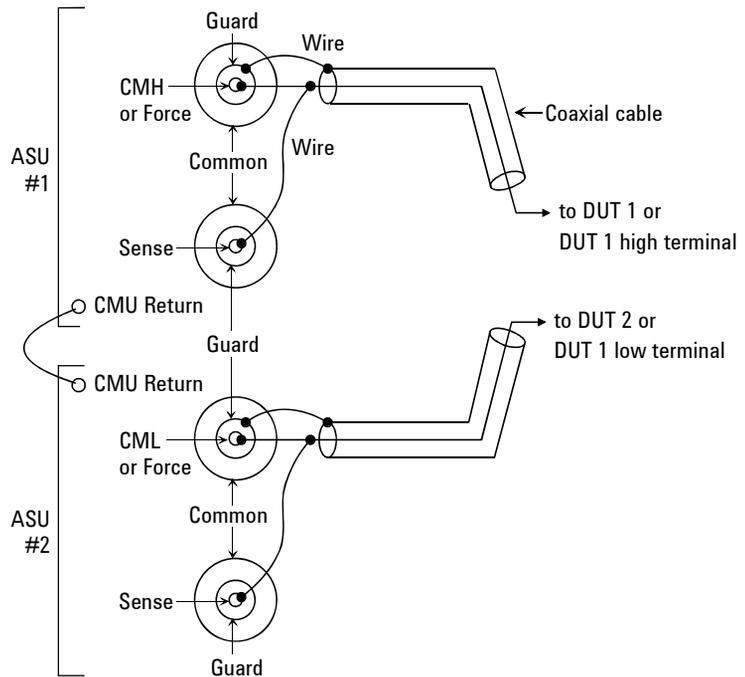
When a SMU is used, the Kelvin paths will work as same as Table 4.

When a four-terminal pair (4TP) instrument is used, the sense lines can be ignored. And a Kelvin path is used for the high signal, and the other one is used for the low signal. For the impedance measurements, a wire has to be connected between the ASU#1 CMU Return and the ASU#2 CMU Return.

If the 4TP instrument is not used, you can ignore the CMH, CML, CMU Return, and the DUT1 high and low terminals. Also you may use the ASU#1 only.

Figure 12

To Connect ASU with non-Kelvin connection



The ASU (Atto Sense/Switch Unit) will be connected to a control cable, a triaxial cable, and two coaxial cables from instruments. The cables must be connected to the ASU inside the shielding box through the 16495K plate. And the cables/wires must be connected from the ASU output to the DUT as shown above.

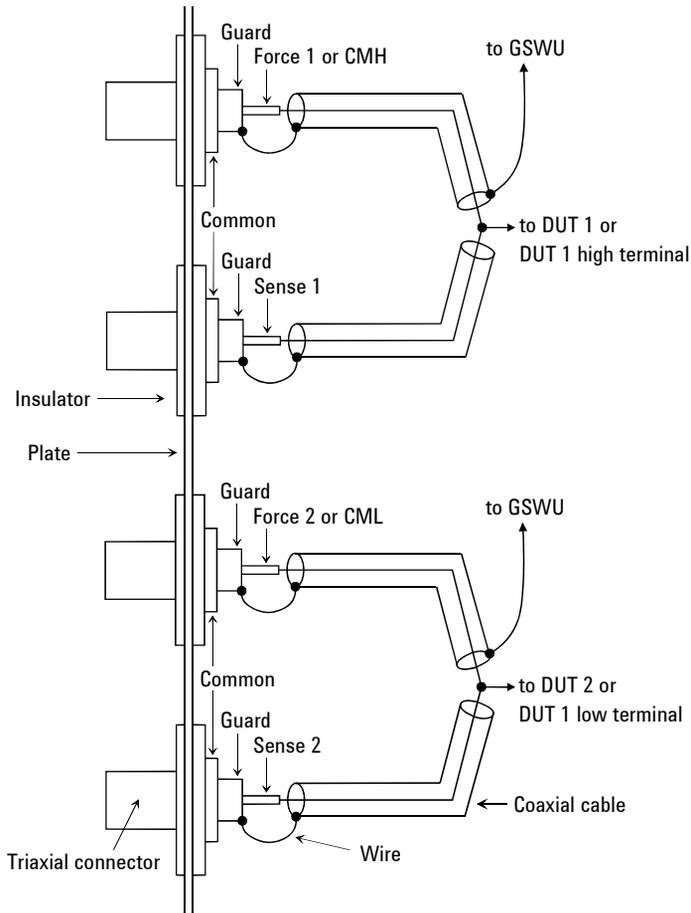
When a SMU is used, the Kelvin paths/force lines will work as same as Table 4. Then the sense line is not used.

When a four-terminal pair (4TP) instrument is used, the sense lines can be ignored. And a force line is used for the high signal, and the other one is used for the low signal. For the impedance measurements, a wire has to be connected between the ASU#1 CMU Return and the ASU#2 CMU Return.

If the 4TP instrument is not used, you can ignore the CMH, CML, CMU Return, and the DUT1 high and low terminals shown above. Also you may use the ASU#1 only.

Figure 13

To Connect SCUU with Kelvin connection



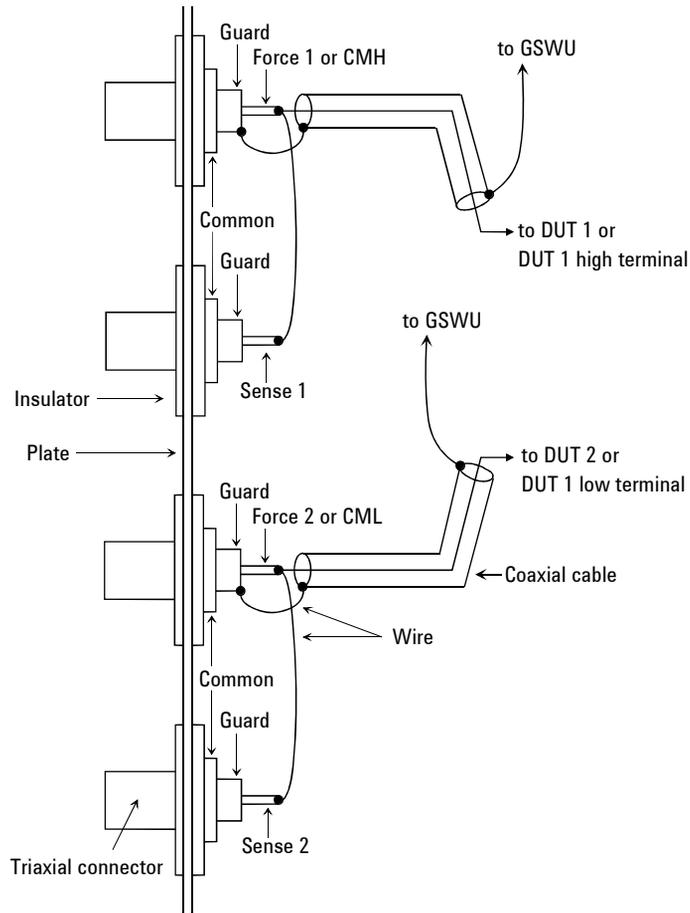
The SCUU (SMU CMU Unify Unit) will be connected to a control cable and measurement cables from the DUT side. The control cable must be connected to the GSWU (Guard Switch Unit) inside the shielding box through the 16495K plate. And the cables/wires must be connected from the connector plate to the DUT as shown.

When a SMU is used, the Kelvin paths will work as same as Table 4.

When the CMU (multi frequency capacitance measurement unit) is used, the sense lines can be ignored. And a Kelvin path is used for the CMU high, and the other one is used for the CMU low. For the impedance measurements, wires have to be connected to the GSWU from the CMH guard and the CML guard as near as possible to the DUT.

Figure 14

To Connect SCUU with non-Kelvin connection



The SCUU (SMU CMU Unify Unit) will be connected to a control cable and measurement cables from the DUT side. The control cable must be connected to the GSWU (Guard Switch Unit) inside the shielding box through the 16495K plate. And the cables/wires must be connected from the connector plate to the DUT as shown.

When a SMU is used, the Kelvin paths/force lines will work as same as Table 4. Then the sense line is not used.

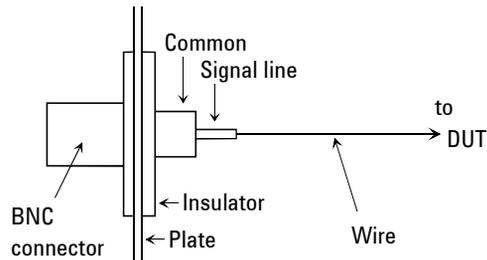
When the CMU (multi frequency capacitance measurement unit) is used, the sense lines can be ignored. And a force line is used for the CMU high signal, and the other one is used for the CMU low signal. For the impedance measurements, wires have to be connected to the GSWU from the CMH guard and the CML guard as near as possible to the DUT.

AUX Outputs

AUX (BNC) connectors are used to connect cables from VSU (voltage source unit), VMU (voltage measurement unit), PGU (pulse generator unit), CMU (multi frequency capacitance measurement unit), and so on. Connection examples are shown below. The CMU of the B1500 can be connected to the AUX connectors if the SCUU (SMU CMU Unify Unit) is not used.

Figure 15

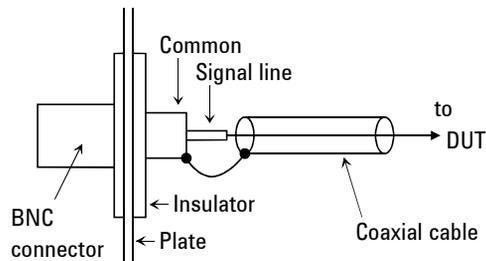
To Connect VMU/VSU



Use AWG 24 single-strand insulated wire (Agilent part number: 8150-0447) to connect the connector and prober, fixture, or the DUT.

Figure 16

To Connect PGU

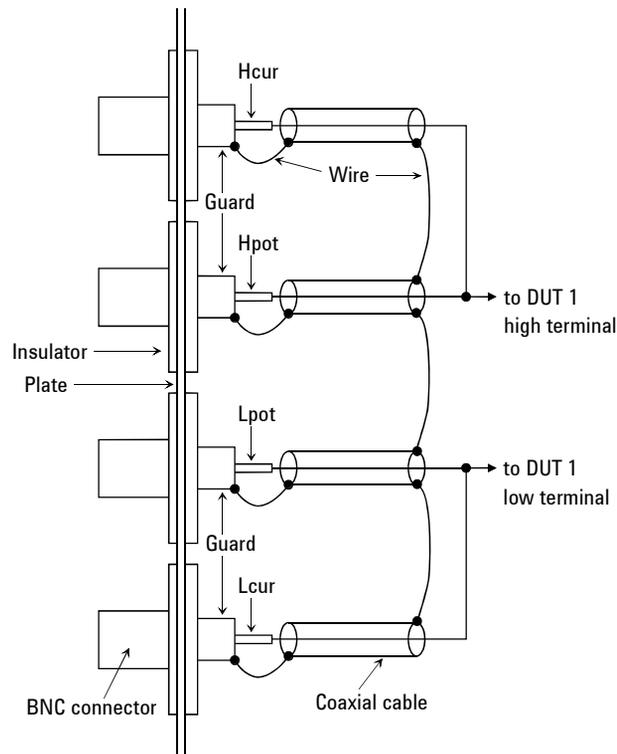


Regardless of output impedance setting, use a low-noise coaxial cable (Agilent part number: 8120-0102) from the connector to prober, fixture or the DUT.

If you use the 16440A selector, use a low-noise coaxial cable (Agilent part number: 8121-1191).

Figure 17

To Connect CMU



The Hcur/Hpot/Lcur/Lpot lines have to be connected together as shown above.

Use a 50 Ω coaxial cable (Agilent part number: 8120-0367) for the Hcur/Hpot/Lcur/Lpot lines connection. Use a wire for the guard connection.

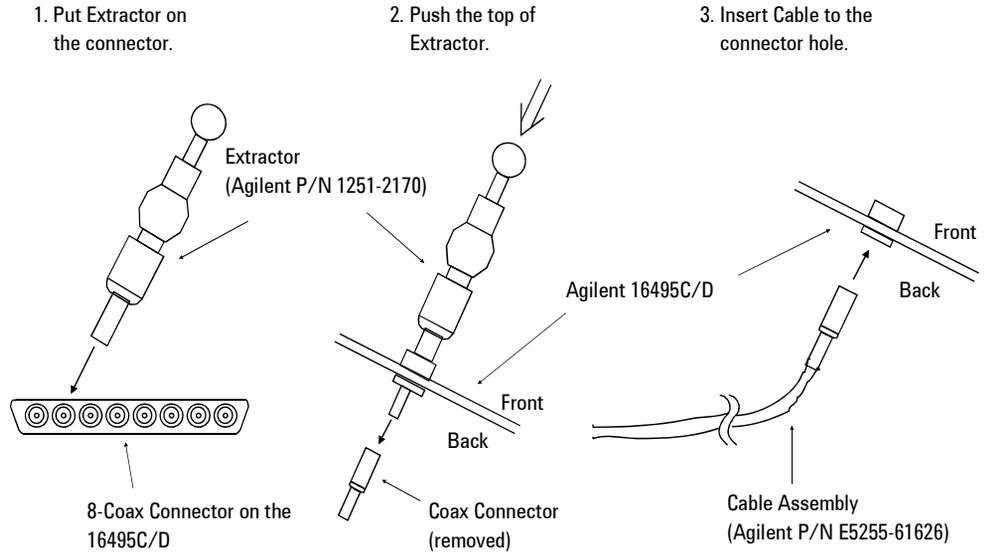
Use the Agilent N1300A-001/002 CMU cable to connect between the CMU output and the 16495H/J plate.

16495C/D Outputs

The 16495C/D connector plates are for the E5250A/E5255A multiplexer output connections.

Figure 18

To Use Cable Assembly



- To solder coaxial cables to the connectors. See “SMU Outputs” on page 18.
- To use cable assembly instead of the connectors on the plate. See below.
 - Required Parts:
 - Connector Extractor (Agilent part number: 1251-2170)
 - Cable Assembly (Agilent part number: E5255-61626, for 1 channel)
For 8 channels on the connector, you need 8 cables.
 - Procedure:
 1. Cut the coaxial cable to required length.
 2. At the end of the cables, make contact with DUT. To do so, solder sockets, connectors, or something to the cable end.
 3. Remove the coaxial connectors as shown below by using the connector extractor.
 4. Insert the cable assembly into the connector hole.