



## What Is the Agilent 4155A\_B and Agilent 4156A\_B Interlock Feature?

Question:

What is the Agilent 4155A\_B and Agilent 4156A\_B interlock feature?

Answer:

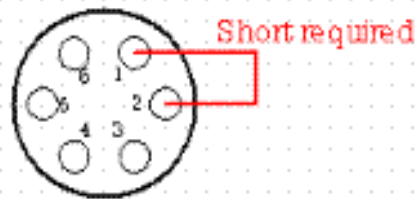
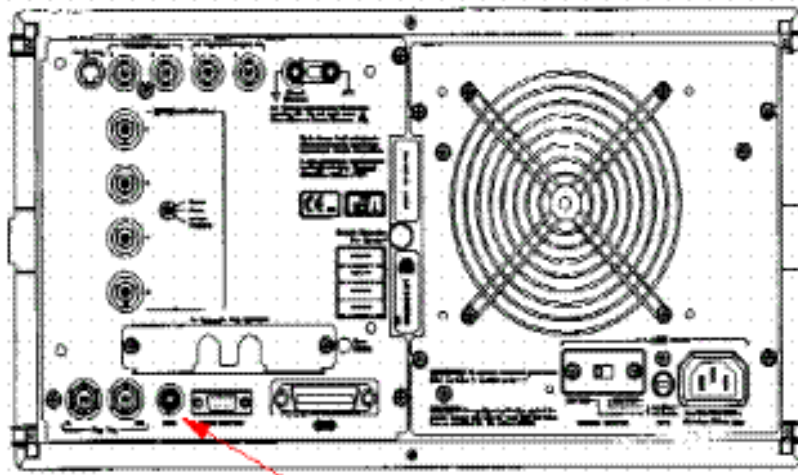
To prevent shock hazard, the Agilent 4155A/B and Agilent 4156A/B will not operate above 40V unless you connect the interlock cable. This cable connects to a switch in the fixture lid or prober door. When the switch is closed, the Agilent 4155 or Agilent 4156 measure to 100V (if no expander box with HPSMU is present), or to 200V (if an expander box with HPSMU is present).

**Important!** Under program control (such as Agilent 4145B compatible user mode), the interlock is required for all voltages (even below 40V).

Reorder part numbers for the interlock cables are:

- Agilent 16493J / opt 001: 1.5m Cable
- Agilent 16493J / opt 002: 3.0m Cable

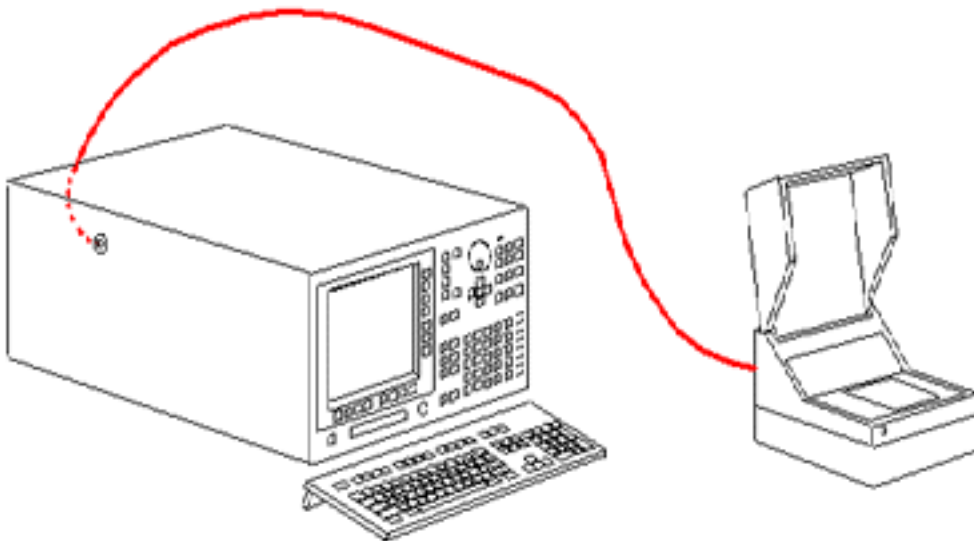
The illustration below shows the shorting connection that is required when the instrument is under program control and/or when the voltage exceeds 40V. This shorting connection **MUST** be made through the interlock cable to an approved fixture.



View from HP 4155A rear panel

**DO NOT ATTEMPT TO SHORT THESE CONNECTIONS DIRECTLY AND BYPASS THE INTERLOCK!!! AN EXTREME SAFETY HAZARD WILL RESULT!!!**

The Agilent 16442A test fixture makes this short by closing a lid-activated switch. Please refer to the illustration below:



You must make the connection to your prober to comply with US OSHA safety standards. If you are using a probe station, then the switch on the prober should be mounted into the access door of the shield box. Some analytical prober companies offer interlock cable adapters for the Agilent 4155 and Agilent 4156. Contact your prober manufacturer for more information.

If you want to wire your own cable or fixture, the following Agilent part numbers may be used:

- 1252-1419: Female 6-pin plug connector
- 1252-1418: Male 6-pin cable connector

Agilent also provides an optional interlock test adapter, 04155-65003. This is a small box that not only makes the interlock connection, but also lights a red LED when the interlock is required.