

# MeasureReady™ M81-SSM

## Synchronous Source Measure System Test Kit

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The M81 Test Kit is designed to streamline the testing of the M81's functionalities prior to integration with user devices, ensuring efficient and reliable incorporation into complex measurement systems.

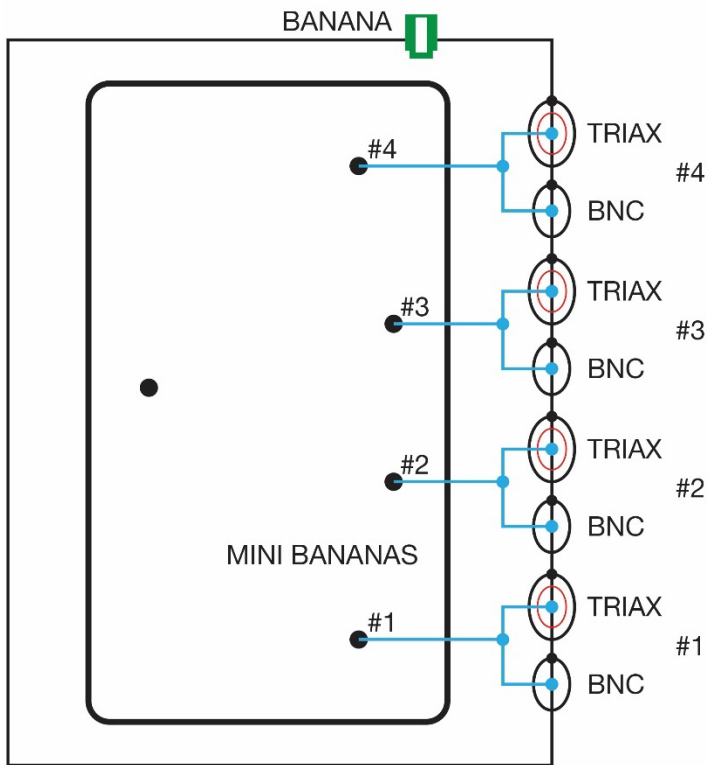
### Key Features

- **Mini-banana pins:**
  - Equipped with mini-banana pins which interface with a triax and a BNC connector.
  - Eliminates the need for additional adapters, simplifying connections and reducing setup time.
- **Grounding:**
  - The kit makes it easy to connect the M81's measure common to the earth ground.
    - In the M81 system, triax shells are connected to the M81's earth ground.
    - BNC shells in the M81 system are connected to the instrument's measure common.
  - Both the triax and BNC connector shells are electrically bonded to the enclosure, providing a consistent ground path.
  - A banana socket on the rear panel allows optional connection to an external ground, typically used when triax connections to the M81's earth ground are not included in the setup.
  - The BNC shells are tied to the M81's measure common, establishing a reliable connection to chassis ground through the triax shells.
- **Plug-in Cards:**
  - A variety of cards are provided to test a range of M81 functions.

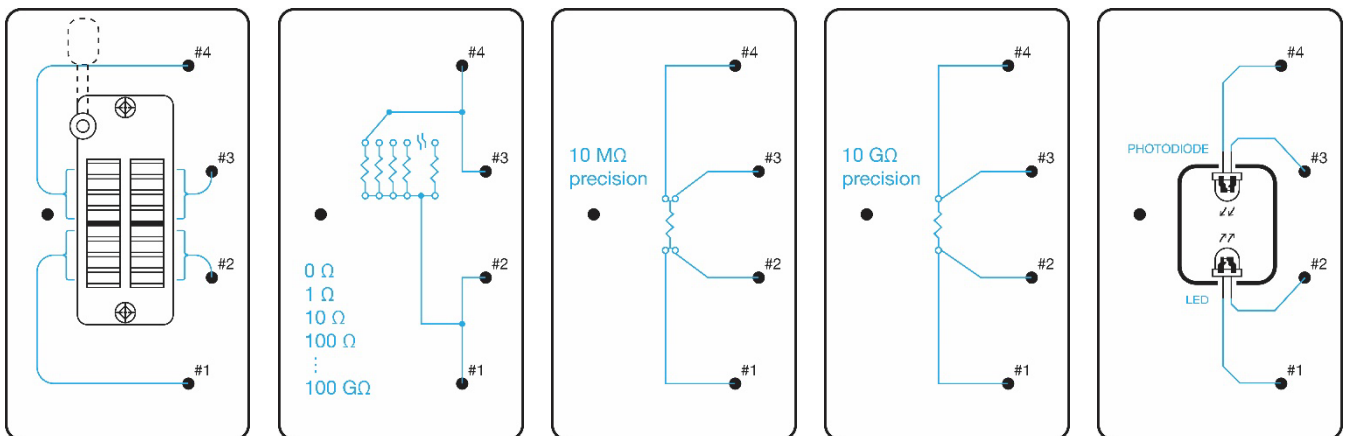
This setup ensures that the M81 Test Kit provides a robust and versatile solution for pre-integration testing, enhancing system reliability and performance.



## Box Layout



## Plug-in Cards



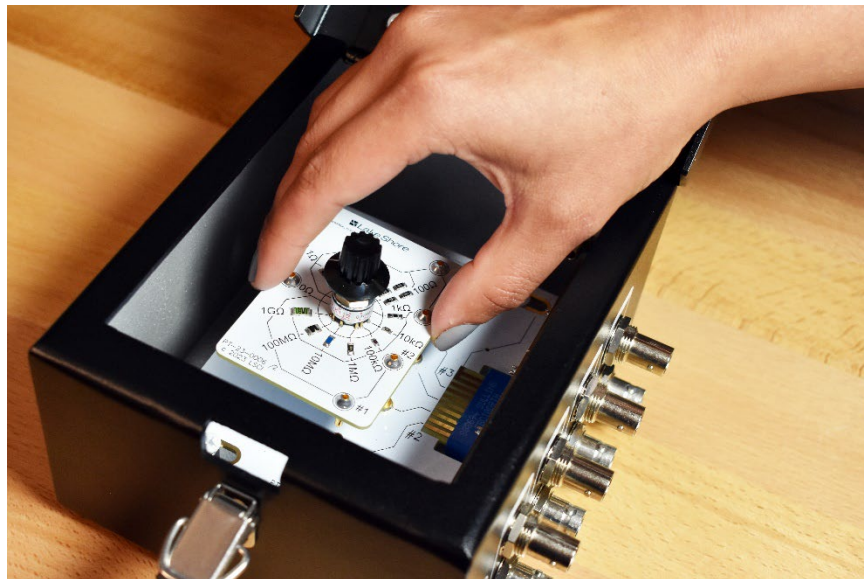
### Notes:

- Align and fully seat the plug-in boards into the test fixture.



### **BCS-10/VM-10 Example:**

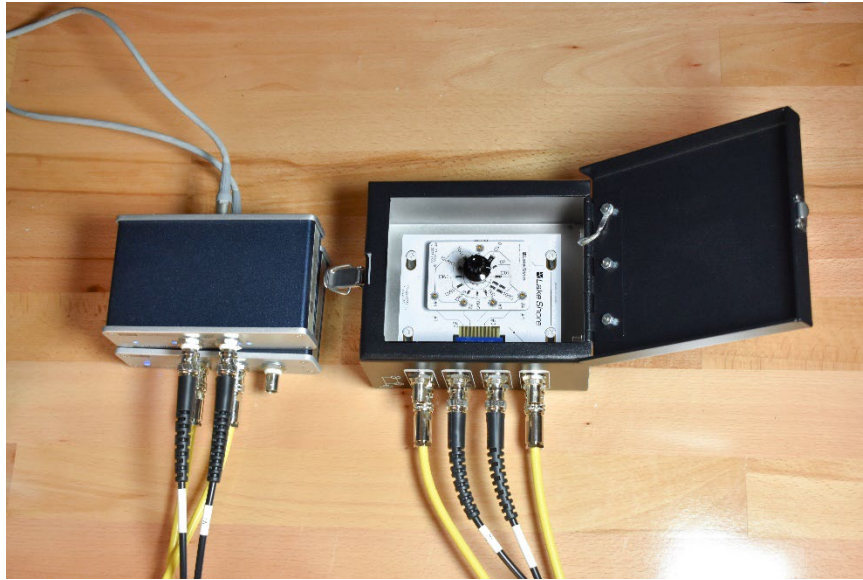
1. Insert the rotary resistor plug-in board (G-113-650) into the test fixture.



- Set the value to 10 K $\Omega$ .

2. Connections between the M81 and the test fixture:

- BCS "I+OUT" to Triax #1
- BCS "I- OUT" to Triax #4
- VM "A" to BNC #2
- VM "B" to BNC #3



3. Setup the M81 for DC measurement:
  - Configure the BCS source shape to “DC”
  - Select 10 uA current excitation (set this value so that the system is not overloaded)
  - Configure the VM to 1 NPLC, “DC”
  - The front screen will indicate the corresponding voltage reading
4. Setup the M81 for lock-in measurement:
  - Configure the BCS source shape to “SINE”
  - Configure the BCS frequency to 11 Hz
  - Configure the VM to lock-in mode, 24 dB rolloff and 100 ms time constant
  - The front screen will indicate the RMS voltage and in-phase (X) and out-of-phase (Y) components that correspond to the voltage reading

## Lake Shore Technical Support

The Lake Shore Technical Support Department is staffed Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. EST, excluding holidays and company shut down days: <https://www.lakeshore.com/support/>.

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