

Voltage measurements

The instrument can measure DC voltage (DCV) up to 1000 V and AC voltage (ACV) up to 750 V (measurement CAT II at maximum 600 V).

- DC voltage (DCV) measurement ranges: 100 mV, 1 V, 10 V, 100 V, and 1000 V
- AC voltage (ACV) measurement ranges: 100 mV, 1 V, 10 V, 100 V, and 750 V AC-coupled true RMS (1000 V peak)



WARNING

Do not apply more than 1000 V (peak; measurement CAT II at maximum 600 V) to the instrument. Applying higher voltage is an electric shock hazard and could result in personal injury or death. It may also damage the instrument.

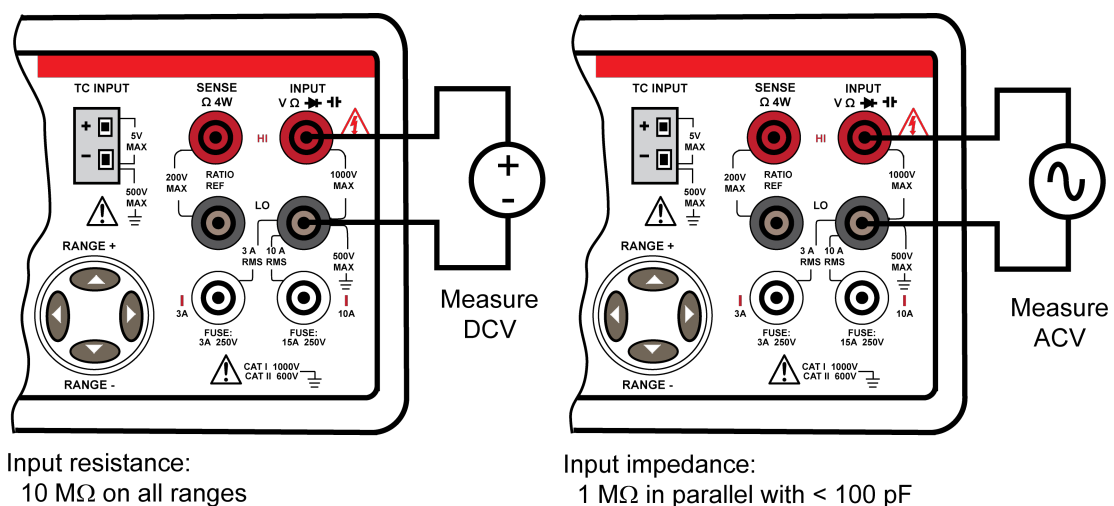
Front-panel operation

Perform the following steps to measure voltage:

1. Press the **DCV** key to measure DC voltage or the **ACV** key to measure AC voltage.
2. Select a measurement range (auto or manual):
 - Autorange is the power-on default. If manual ranging is selected (MAN indicator on), press **SHIFT** and then **ESC (AUTO)** to select autorange.
 - For manual ranging, press the **RANGE ▲** and **▼** keys to select a measurement range.
3. As shown below, connect the signal to the instrument and observe the reading on the display. If the input signal exceeds the selected range, the overflow message **OVLD** is displayed.

Connections for DC and AC voltage measurements

Figure 16: Connections for DCV and ACV measurements



Range selection

For best accuracy and resolution, always use an appropriate range to perform the measurement. With autorange enabled, the instrument will automatically select the optimum measurement range. Autorange is the power-on default setting.

You can select a measurement range (or autorange) in a couple of ways:

- Use the front-panel keys to select a range or control autorange.
- Use a configuration menu to select a range or control autorange.

The difference between autoranging and manual ranging is the settling time. Autorange is convenient, but a manually selected range can usually speed up the process.

If the input signal exceeds the allowable range, the **OVL**D message is displayed. The threshold for readings is 120 percent of the range for maximum and 10 percent of the range for minimum.

NOTE

The measurement range for temperature, continuity, and diode testing is fixed and cannot be changed.

Front-panel operation

Perform the following steps to set measurement range using the front panel keys:

1. Select a measurement function.
2. Select a measurement range or use autorange:
 - Use the **RANGE** ▲ and ▼ keys to select a range. The MAN indicator turns on to indicate that manual ranging is being used.
 - Pressing **SHIFT** and then **ESC (AUTO)** toggles the instrument between manual ranging and autorange. When autorange is selected, the MAN indicator is off.