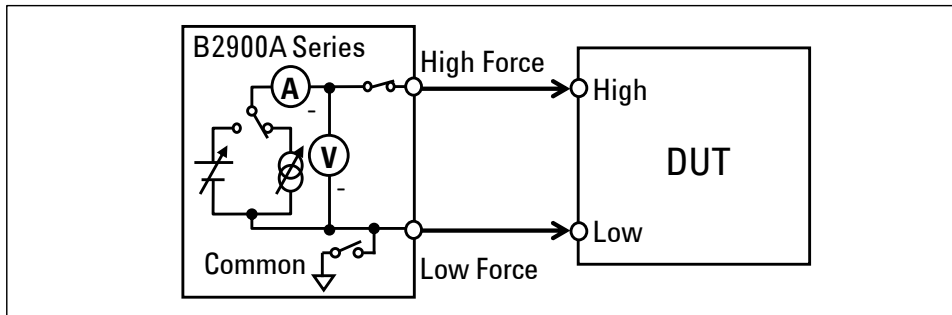

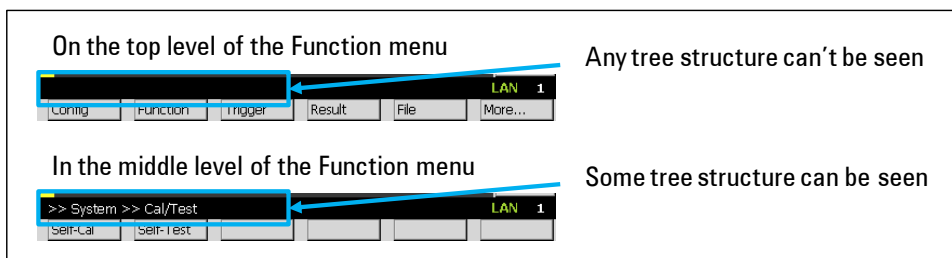



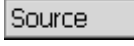

How to measure voltage without sourcing current

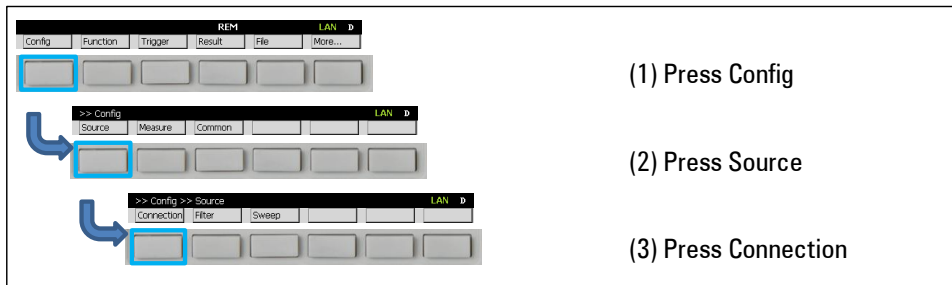
In the default setting, the low terminal of the channels in the Agilent B2900A Series is grounded internally. However, the low terminal can be disconnected from the ground and kept floating. Configuring the low terminal state to FLOATING and sourcing current small enough to be ignored from the channel make it possible to make a voltage measurement without affecting the condition of the Device Under Test (DUT).





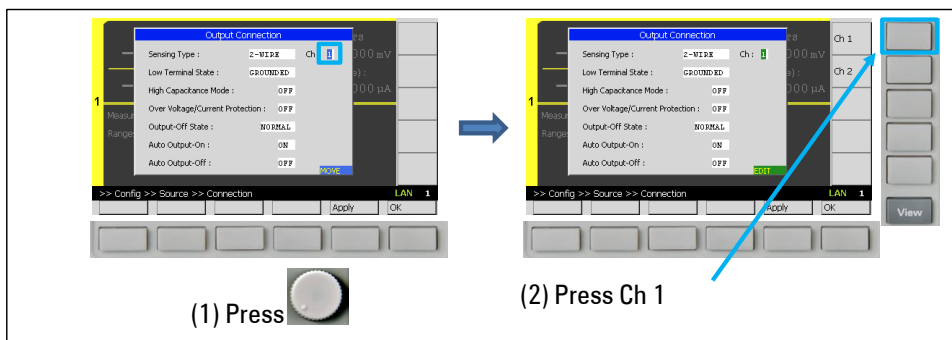
Step 1. If you aren't on the top of the Function menu, press  repeatedly to return to the top level.






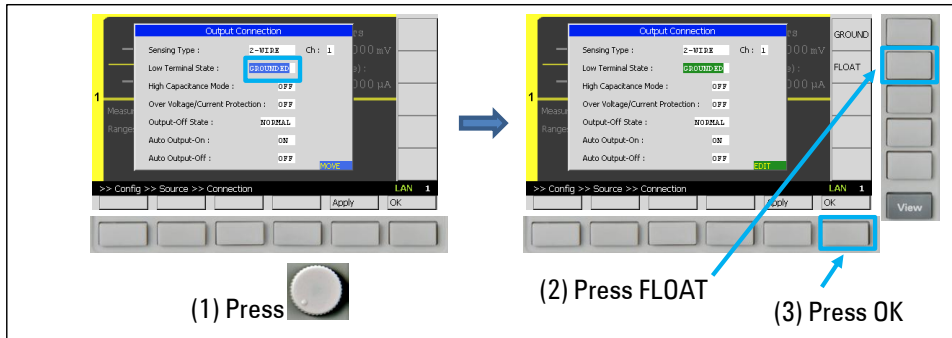
Step 2. Press  , and then press  to open Output Connection dialogue.



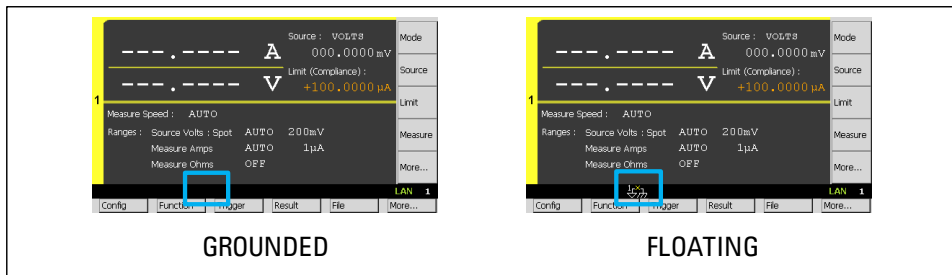
Step 3. Press  and select  to specify the channel which the low terminal state is configured for.





Step 4. Press  and select , and then press  to configure the low terminal state to FLOATING.

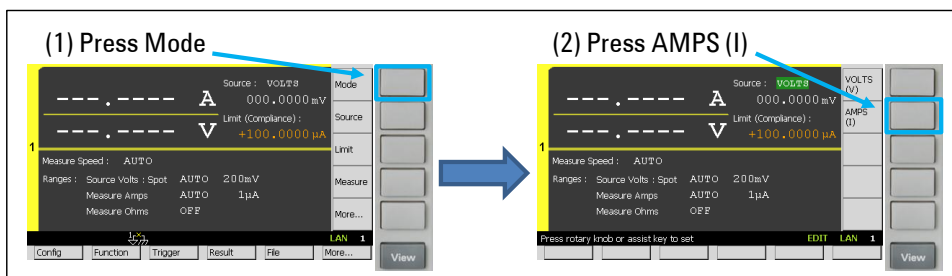




If the low terminal state of the channel is set to FLOATING, you can see the status indicator on GUI as below, although no indicator can be seen on being set to GROUNDED.

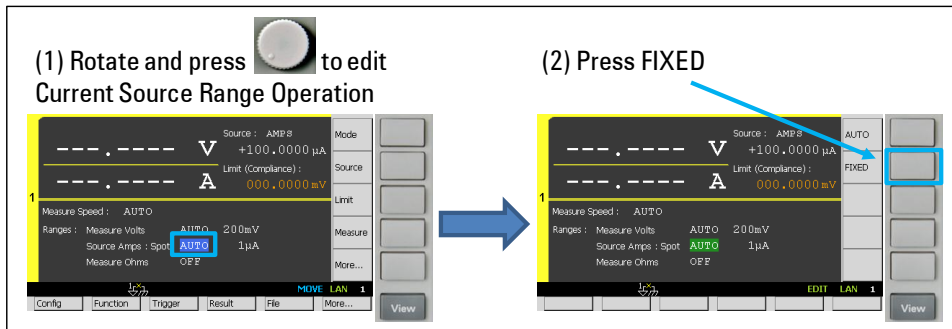






Step 5. Press  repeatedly until Single View for Channel 1 is shown in the display.

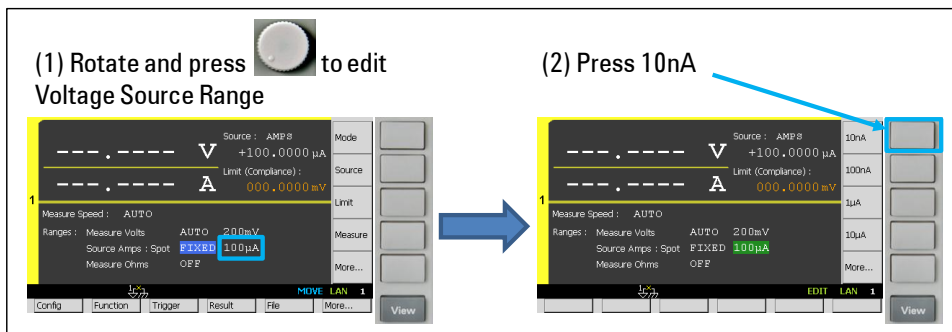
Step 6. Press  to edit the source function, and then select  to set the source function to the current source.




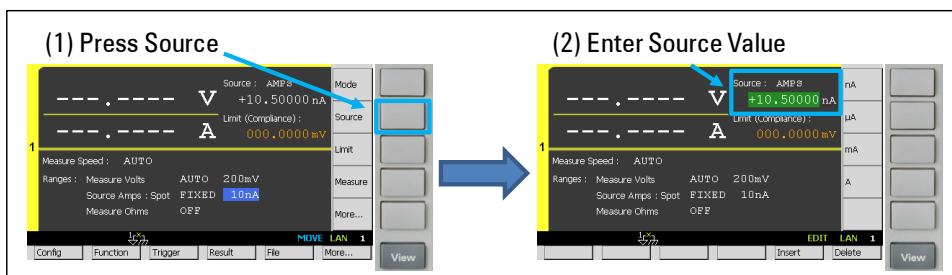
Step 7. Rotate and press  to edit the current source range operation. Then Select  to set the current source range operation to FIXED.



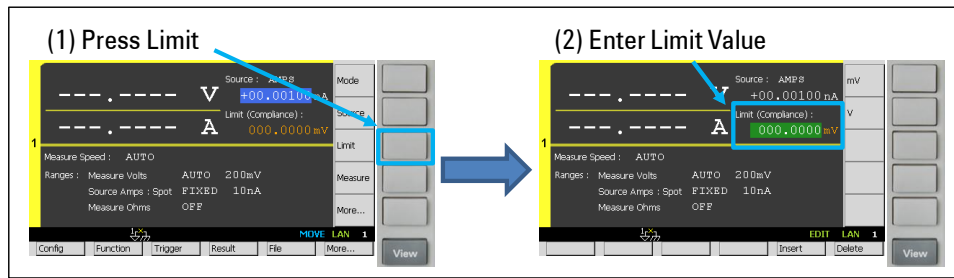
Step 8. Rotate and press  to edit the current source range, and then select  to set it to 10 nA.
(If you couldn't find , select  instead.)



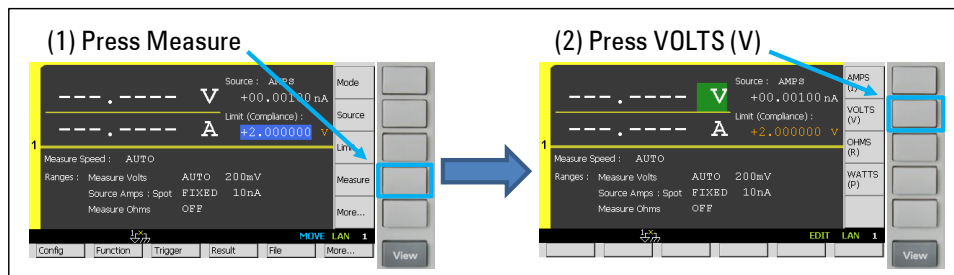
Step 9. Press  to edit the source value, and then enter 0.001 nA (1 pA) to set the source value to 1 pA.



Step 10. Press **Limit** to edit the limit value, and then enter 2 V to set the limit value to 2 V for example.

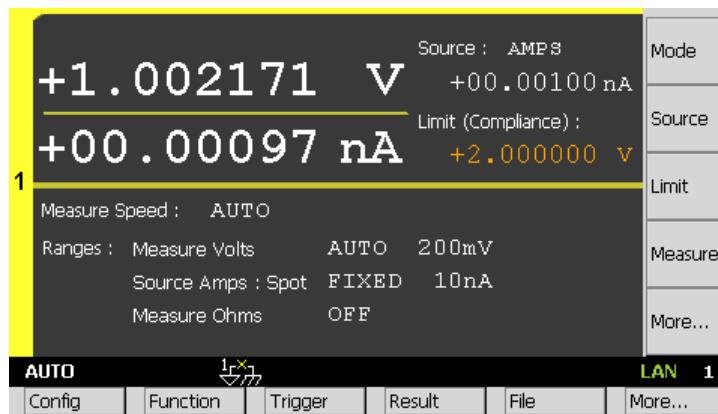


Step 11. Press **Measure** to configure the measurement parameter, and then select **VOLTS (V)** to set the measurement parameter to the voltage.



Step 12. Press **On/Off** to switch on its output terminal.

Step 13. Press **Auto** to perform a measurement repeatedly. Now you can see the measurement result on the B2900A Series' GUI as bellow.

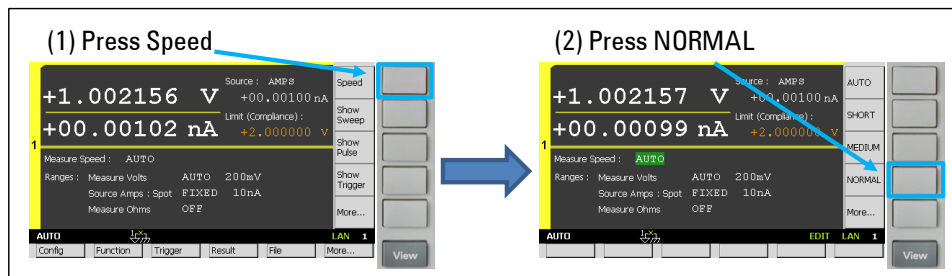


Configuring the measurement speed

In the default setting, the instrument selects the appropriate measurement speed and range automatically to get the fine accuracy. However, you can also specify these parameters on the B2900A Series' GUI to meet a variety of the requirement to the measurement conditions.



For example, let's try to change the measurement speed to NORMAL to make a measurement more carefully. If you select NORMAL, the aperture time is set to 1 PLC. Here, PLC stands for power line cycle and the specified number of power line cycles is used per a measurement.

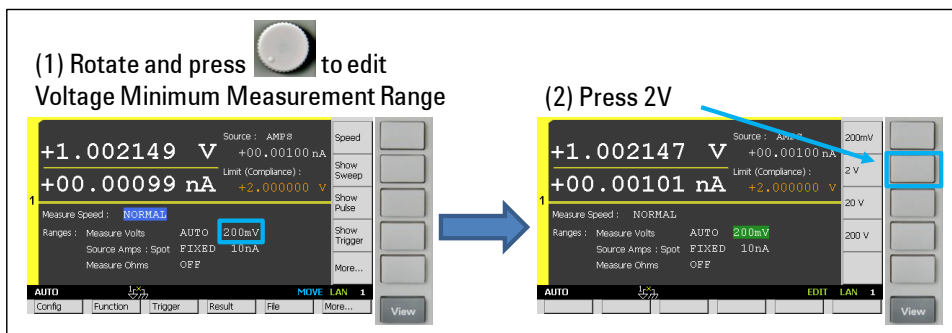
Step 1. Press **Speed** to edit the measurement speed, and then select **NORMAL** to set the measurement speed to NORMAL. (If you can't see **Speed** in Assist keys, press **More...** to change the keys shown in Assist keys.)





Configuring the measurement range operation

The parameters which configure the measurement range operation can be displayed in Range Sub-panel in Single View, although Sweep Sub-Panel is shown at this moment. In the default setting, the B2900A Series performs the voltage measurement using 200 mV voltage minimum measurement range with AUTO range operation. With AUTO range operation, the B2900A Series selects the proper range for the measurement with specified minimum measurement range so that you don't need to take care about it. To know how to change the measurement range setting, try to configure to use 2 V voltage minimum measurement range with AUTO range operation.

Step 1. Rotate and press  to edit the voltage minimum measurement range, and then select  to set it to 2 V.



If you'd like to fix the measurement range, you can select FIXED range operation as below.

Step 2. Rotate and press  to edit the voltage measurement range operation. Then Select  to set the voltage measurement range operation to FIXED.

