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K110 AND MTX-329X DMM – Using the Clamp Function

The MTX-329X series of digital multimeters (DMMs) have a CLAMP function which allows the connection of a current clamp to the DMM and the DMM will display the measured current.
For this example, we will be describing the K110 connected to the MTX-3291 and MTX-3293B.
The MTX-3291 steps will also work with the model MTX-3290.
The MTX-3293B steps will also work with models MTX-3292B/3292/3293/[all]-BT.

Setting up the MTX-3291 (or MTX-3290)

- Plug the K110 directly into the Voltage **V** red input and the **COM** black input of the MTX-3291. You can also use test leads to complete this connection.
- Turn on the MTX-3291 and press the **CLAMP** button on the front panel  .
- On the MTX-3291, successive presses on the **CLAMP** button will cycle through the output ratios accepted by the meter: 1mV/A, 10mV/A, 100mV/A, 1000mV/A.
- The K110 has an output ratio of 10mV/mA, which does not exist in the above list.
- Set the MTX-3291 to 10mV/A.
- Now turn on the K110 and clamp around the conductor carrying current.
- The value displayed on the MTX-3291 will be in Amps, but the actual measurement is in Milli-amps (this is due to the mismatched ratio programming of the MTX-3291).
- 10A on the display = 10mA being measured.

NOTE: GPS for the MTX-3291, these settings are not retained after turning the meter OFF. You must reprogram this ratio every time you turn the meter on.

Setting up the MTX-3293B (or MTX-3292B/3292/3293/[all]-BT)

- Plug the K110 directly into the Voltage **V** red input and the **COM** black input of the MTX-3293B.
  You can also use test leads to complete this connection.
- Turn on the MTX-3293B and press the **Setup** button on the front panel  .
- Press **F4** (./…) then press **F2**  to get to the CLAMP Setup Menu.
- Press **F1** (Measure) and then press **F1** (V) again for Voltage (this tells the DMM to measure incoming voltage).
- Press **F2** (Ratio). This is where we configure the K110 output ratio of 10mV/mA.
- Use arrow keys to create a ratio on the screen of **0001.0mA/0010.0mV** (for every 10mV measured, calculate and display 1 mA) – this is the K110 ratio of 10mV/mA.
- Press **F1** (Ok), Press **F3** (Unit), use arrow keys to show **A** on the units, then press **F1** (Ok).

- Press **F4** (Exit) to exit the Setup menu
- Press the **CLAMP** button on the front panel  .
- Now turn on the K110 and clamp around the conductor carrying current. The value displayed on the MTX-3293B will be in milli-amps (mA), matching the exact current the conductor is carrying.

NOTE: For the MTX-3293B, these settings can be retained after turning the meter OFF. To retain the settings, put meter in USER Startup mode. See steps below.

Preserving settings for the MTX-3293B (or 3292B/3292/3293/[all]-BT)

- Press the **Setup** button on the front panel  .
- Press **F4** (./…) twice.
- Press **F2** (Config), then **F2** (Startup), then **F2** (User) to instruct the meter to load up the user's settings the next time the meter is turned on.
- Press **F4** (Exit), press **F4** (Exit) again. Settings are now saved.
- Press **CLAMP**  to begin measuring.

If you have any questions, contact AEMC® Technical Support at 1-800-343-1391 x351 or email techsupport@aemc.com.

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