STEP 5 – TAKE MEASUREMENTS

Always begin with handle in SAFE position. Ensure that the handle is in the SAFE position by firmly tapping down on the handle without engaging the trigger.

We recommend 2 minutes for measurement time and 1 minute for background time. (Setup menu)

The gauge can be set to receive moisture values from an outside device or by keypad entry. You can also choose to perform the moisture measurement before or after the density measurement. Press **Setup**, choose 4. **Moisture Input**, then choose your method / order desired.

Prepare the test site as described in step 4. If using the moisture probe, drive the drill rod to at least 15 cm (6 in).

PERFORMING DENSITY MEASUREMENTS

1. Place the gauge on the test site with the handle in the Safe position and press ⟨**ENTER/START**⟩. Follow the prompts on the screen to either lower the handle to the desired measure depth or wait for the 15-second initialization phase to complete (this will occur approx. every 10 min. or as programmed). Then lower handle to the desired measurement depth, carefully seating the handle in the proper notch and press ⟨**ENTER/START**⟩.
2. After count time, (when prompted) select the active background count by answering *Yes* to the displayed question or take a new one by answering *No* to the question. If taking a new background count, move the source rod to background position and press ⟨**ENTER/START**⟩. For accurate density measurement of soils and aggregates, a new background count should be taken at the first test site of the day and on a new material or a new jobsite during the day.
3. After the measurement, raise the handle. The gauge displays the measurement results or prompts for the moisture reading. If a moisture reading is to be done, see the next section. To store the reading, press ⟨**STORE**⟩.

After taking readings, lift the gauge from the test site by the source rod handle. This returns the source rod to the **SAFE** position. When not taking readings, always keep the source rod in the **SAFE** position.

PERFORMING MOISTURE MEASUREMENTS IN SOIL MODE

1. When prompted by the 4540 gauge, insert moisture probe into the hole until the base plate contacts soil surface. The probe should fit tightly in the hole, some resistance should be felt when lowering it.
2. Power the probe on (green light illuminates). The blue light will remain solid when Bluetooth connectivity is established.
3. Press *Enter* on gauge keypad to perform moisture reading, wait a few seconds then press *Enter* on the keypad again to accept the moisture reading. See the Guide for the Model 6760 Moisture Probe for more details on operation.
4. Carefully remove the probe and set aside.

USING THE OFFSET FUNCTION

The gauge readings can be adjusted using an offset. The gauge applies the offset to measurements until the offset is disabled or the gauge is turned off. The gauge provides moisture *density* and *trench* offsets. Press ⟨**OFFSET**⟩ to access the **Offset** menu.

MORE INFORMATION

The user manual provides more information about the gauge's functions and use.

i. Model 6760 Quick Reference Guide
ii. 6760 Technical Notes

Model 4540 Quick Reference Guide PN 128992, Edition, 1.1. May 2021

Model 4540

Soil & Asphalt Density Gauge

EGauge™ Combo QUICK REFERENCE GUIDE

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STEP 1 – START THE GAUGE

To turn on the gauge, press the power switch. After briefly displaying the model number, software version, and serial number, the gauge performs a self-test, followed by a display test. The gauge then enters a 300-sec. warm-up then displays the **Ready** screen.

Note- Be sure no other nuclear sources (gauges) are within 10 m (30 ft.) of EGauge while in use.

STEP 2 – SET UP THE GAUGE

SET UNITS

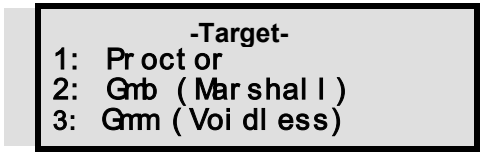
The gauge can display measurement results in either U.S. units (pcf) or metric (SI) units (kg/m^3 or g/cm^3). To select the units, press ⟨**SETUP**⟩ to display the **Setup** menu. Press ⟨**5**⟩ to display **Options.** Then press ⟨**3**⟩ to display the **Units** menu. Select the new units using the corresponding number key. Then press ⟨**ESC**⟩ to return to the **Ready** screen.

SELECTING MODE

To select the desired Mode, press the Mode button on the keypad. Then select the appropriate mode by pressing *(1)* for Asphalt or *(2)* for Soil.

TARGET VALUES

To access the *Target* menu, press ⟨**TARGET**⟩. The gauge displays:



Select the target desired: Proctor for soil testing, Gmb for asphalt precent compaction and Gmm for %Voids in asphalt mode.

To enter a new target value, press ⟨**5**⟩. At the prompt, use the number keys to enter the desired target value. To select a stored target value, press the number key that matches the displayed target value.

After entering a new value press ⟨**ENTER/START**⟩. The gauge displays the value entered and asks if you want to store the value. To store the value, press ⟨**YES**⟩ and select one of the four locations. Storing a new value in an occupied location will erase the old value. Press ⟨**NO**⟩ if storing the value is not desired. This will enable the value and return to the **Ready** screen. This value will remain enabled until changed or disabled.

STEP 3 – TAKE A STANDARD COUNT

To compensate for the source decay, adjust for background influences and to check proper operation of the gauge, take a standard count each day that the gauge is used. It is recommended that the standard count be performed at the first test site at a particular job site.

Keep any other nuclear gauge or radioactive source at least 10 m (30 ft.) from test site.

Note- This gauge does not require a reference block to take the standard count. Ensure that the source rod is in the SAFE position by firmly tapping down on the handle of the source rod.

1. **Prepare the test site.** Place the gauge on soil, asphalt, or concrete material with no air gaps underneath.
2. Press ⟨**STD**⟩. The gauge displays the last standard count. To take a new standard count, press ⟨**YES**⟩. With the gauge in the standard count (safe) position, press ⟨**ENTER/START**⟩ to begin the standard count.
3. When prompted, **lower the gauge handle to the background position** (slightly below the safe position) to begin the second step of the standard count. Press ⟨**ENTER/START**⟩ as prompted.

Troxler recommends keeping a daily log of the standard count results. An example log is provided in the appendix of the user manual.

STEP 4 – PREPARE THE TEST SITE

For backscatter measurements locate a smooth site and be sure the gauge base has good contact with the material surface.

To ensure measurement accuracy, properly prepare the test site **before** taking gauge measurements.

CAUTION
Safety glasses must be worn during this procedure.

1. For direct transmission measurements, locate a smooth site on the compacted material free from any large holes, cracks, or debris. Place the scraper plate on the surface and press down slightly or scrape lightly if needed to smooth the surface.
2. As shown in Chapter 4 of the user manual, put the drill rod through the extraction tool and then through the guide tube on the scraper plate.
3. Step on the scraper plate and hammer the drill rod to at least 50 mm (2 in.) deeper than the desired test depth. The drill rod increments include the additional depth.
4. Remove the drill rod by pulling straight up on the extraction tool. Do not loosen the drill rod by moving it from side to side. Trace the plate to mark the test area.