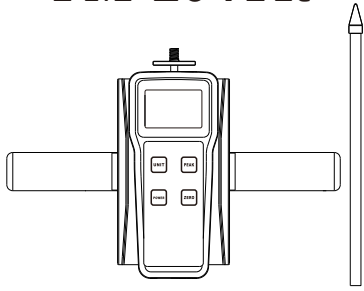


SOIL HARDNESS TESTER

FM-204TR



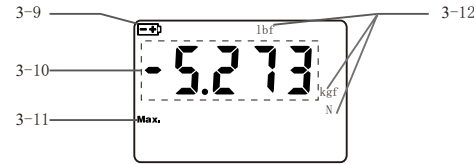
Thank you for purchasing this instrument. This instruction manual briefly introduces the parameters of this machine, so that you can operate freely, please use Read this instruction manual carefully before and keep it properly for re-reading.


1, Main technical parameters
 Measuring range: 0 kg-100 kg (0 N-1000N)
 Test depth: 0 cm-30 cm
 Material to be measured: all kinds of backfill soil, clay, sand and mixed soil after rolling
 Application environment: roads, railways, reservoirs, embankments, DAMS and civic buildings
 Power supply: 2 AA batteries
 Test accuracy : $\leq 0.25\%$

2, functional characteristics
 * High precision and high resolution.
 * Numerical display, ignore the difference.
 * N(Newton), kg(kg), lb(pound), g(gram) four measurement units are available for choice, mutual

calculation.
 * Peak hold function. Keep the peak display until manually cleared to zero.
 * Can use alkaline battery power supply; It can also be connected to 5V DC power supply.

3, display function description

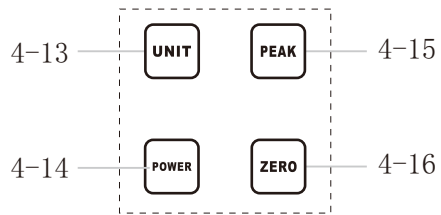


3-9 Battery indicator When the battery voltage is too low, "  " is displayed at the upper left corner of the screen, indicating that the battery voltage is

insufficient and you need to replace the battery.
 3-10 Measured values In the machine, the thrust (pressure) is positive by default (" + " is not displayed); Lillimer is considered negative (shows " - ").

3-11 Peak indicator MAX. When MAX. Is displayed, it indicates that the peak value is maintained, and the display displays the peak value. If MAX. Is not displayed, it indicates the real-time measurement mode. The value displayed on the screen changes with the load.
 3-12 Measurement unit Indicates the current measurement unit, including kgf, gf, N, and lbf. Only one of these units is shown.

4, Operation key



4-13 UNIT bonds (UNIT) Unit conversion key, used for unit conversion operations.
 4-14 POWER Supply Power on and off.
 4-15 PEAK Key Peak holding mode and real-time measurement mode The switch button.
 4-16 Calibrate ZERO key (ZERO) Operation key for instrument zero calibration.

5. Starting and shutting down the instrument

5.1 Starting the instrument
 Install two AA batteries; Open the back cover. The box is marked with " + " and " - " poles. Assemble the battery according to the marked polarity. Or after the 5V DC POWER supply is connected, press the Power/Return key (POWER/EXIT) to start the system. (Note: If it is not used for a long time, it is necessary to remove the battery to avoid damage to the instrument.)
 5.2 Shutdown of the instrument
 5.2.1 Manual Shutdown In the startup state, press and hold the power/return key appears "OFF", release the key, the instrument shutdown.
 (POWER/EXIT) About 2 seconds,

when "OFF" appears on the monitor, release the key and the instrument will shut down.
 5.2.2 Automatic Shutdown
 The instrument automatically shuts down after 10 minutes of operation without key.

6, Calibration of instrument

According to the requirements, after the instrument is installed in the measuring position, press the ZERO key to adjust the zero. The display will display the value as 0.
 First, the use of operation
 (1) Select the probe rod to be installed on the main engine and tighten it
 (2) Open the rear cover of the battery and install 2 AA batteries according to the memory pole in the box; Press

the POWER button and the screen displays an initial value.
 (3) Suspend the instrument, press the ZERO key, and adjust the display value to 0; You only need to turn on the machine to clear the zero once.
 (4) the surface of the soil to be measured first, press the "PEAK" key on the instrument and then the tip of the device is vertically inserted into the soil (insertion depth according to customer requirements) the value displayed on the instrument is the soil hardness value.
 (5) Safety Introduction
 Precautions
 1. Do not operate the machine in wet (dusty, oil or chemicals, seismic source)

environment

2. Soak a soft cloth in water soaked with cleaning agent and wring it out before removing dust and dirt.

3. Digital soil hardness tester has many specifications for users to choose, users can choose the corresponding specifications of the instrument according to the force value of the required test products. The scientific use test range is 10% ~ 100% of the full scale, and the metrological department recommends not to use less than 1% of the full scale.

4. Please use within the specified temperature and humidity range, otherwise it may cause instrument failure.

5. Do not disassemble, repair or transform the machine by yourself, which may cause permanent failure of the instrument.

6. Other matters to be paid attention to in production safety.

7, Warnings

1, do not exceed the maximum range to use the instrument. Otherwise, the sensor may be damaged and even an accident may occur.

2, when the test value exceeds 105% of the range, the buzzer will continuously sound, at this time, please quickly remove the load, or reduce the load.

Matters of Danger

1, please use the matching

charger to charge, otherwise it will cause circuit failure, and even fire disaster.

2. Do not use the power supply beyond the rated voltage of the charger, otherwise it may cause electric shock or fire disaster.

3. Do not pull out or insert the plug with wet hands, otherwise it may lead to electric shock.

4. Do not pull the power cord of the charger to pull out the plug, so as to avoid the electric shock caused by the wire being torn off. Connect the probe rod to the main engine before testing. Before use, check between the probe rod and the probe, the screw between the probe rod and the main shaft must be tightened, not loose, lest the probe rod

torsion deformation or break.

8, Installation Instruction

