



**TransTech  
Systems, Inc.**



## **Quick Start Guide**

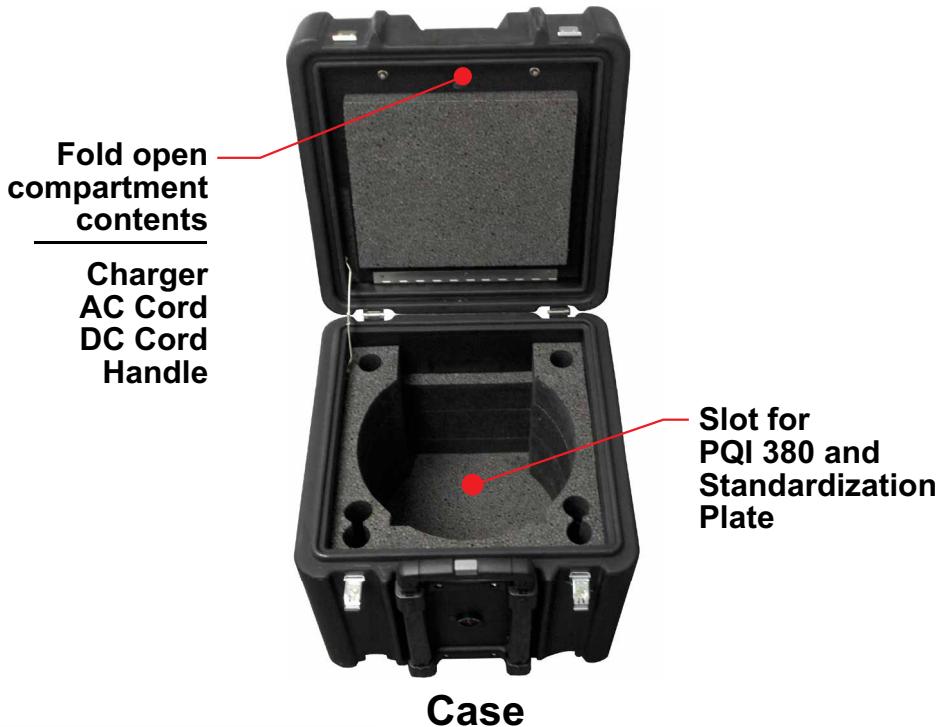
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## Contents



**PQI380**



**Standardization Plate**



**DC Cord**



**AC Cord**



**Handle**



**Charger**

## Charging Batteries



1. Turn the PQI 380 unit OFF.
2. Connect the charger to the charger connector located on the back of the PQI 380.
3. Plug the charger into a standard AC outlet.
4. The red indicator lamp will turn green to indicate that the batteries are charged. (approx. 4hrs)
5. Unplug the charger from the power source before disconnecting the charger from the PQI 380.

### Battery Care Tips

- Whenever uncertain about the battery charge level or condition, recharge it
- The battery will self-discharge and should NOT be left uncharged for more than 30 days
- An occasional complete discharge followed by a full recharge is recommended
- **NEVER** drop the battery as this can damage the internals
- **DO NOT** store in freezer or expose to extreme heat
- Battery should be fully charged before use

## Starting the Software

Pressing the ON button will power on the PQI 380. After a few seconds the TransTech splash screen will appear followed by the Main Menu screen. The Main Menu screen will display five options, **Start PQI380**, **GPS Control**, **Calculator**, **Contact TransTech** and **Update Software**.



## GPS Setup

From the **Main Menu**, press **GPS CONTROL**. GPS status can be toggled ON or OFF. When enabled the satellite dish icon on the status bar at the bottom of the display turns from red to green.

GPS formatting can also be toggled from the **Universal Transverse Mercator (UTM)** grid to **Latitude/Longitude (LAT-LON)**. Initially the display will read Sats 0 for both formats until connections have been made. The below example shows a connection to five satellites (Sats 5). GPS locations will appear on the bottom left corner of all reading mode screens and will store with each reading when data logging is enabled. Press **Main Menu** to return to the Main Menu.



GPS Enabled



GPS Disabled

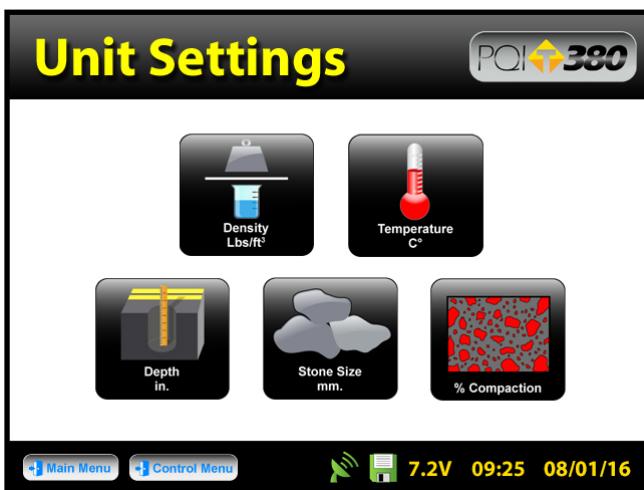
## Control Menu

From the **Main Menu**, press **Start PQI 380** to enter the **Control Menu**. From this menu, you will select units, enable data logging, enter mix information and select a measurement mode. As a quick start, the option is yours whether to input project details if data logging is enabled or just begin taking readings.



## Unit Settings

From the **Control Menu**, press **Units**. Density, Temperature, Depth, Stone Size and % Compaction can be toggled independently between system international (SI “metric”) and U.S. customary units. For example, you can set the density to **lb/ft<sup>3</sup>** while temperature is set to **celsius**, depth is set to **inches** while stone size is set for **millimeters**.



## Data Logging

From the **Control Menu**, press **Data Logging**. If you wish to save your data, you must enable the data logging feature by toggling the button to ON. The floppy disk icon on the status bar will turn from red to green when data logging is enabled. In the example below data logging is enabled.

### **Data will not save for continuous or segregation reading modes.**

Data stored includes all project and mix details, as well as the compaction, density, temperature and date and time of each reading. If the GPS is enabled and it is connected to satellites, the location in the format chosen as well as GPS date and GPS time for each reading will also be recorded. Press **Control Menu** on the status bar to return to the Control Menu.



**Data Logging  
Enabled**



**Data Logging  
Disabled**

## Mix Details

From the **Control Menu**, press **Mix**. The PQI 380 will store twenty detailed mixes. The mix highlighted in green on the left is displayed in detail on the right. To edit the details of this mix, press **Edit Mix**.

**Note:** Readings taken prior to accurately setting up the mix details will result in incorrect density and compaction results.



There are six black buttons labeled **Mix**, **Stone Size**, **Depth**, **MTD**, **Offset**, and **Operator**. By pressing one of these black labeled buttons, you will enter the screen that allows you to store the information described by the button. For example, press **Mix**, the keyboard will open allowing you to change the default mix name. Press **Clear** if you would like to start over with a new name. Press **Shift** to toggle from lowercase to uppercase letters. Once editing has been completed press **Enter**.



## Edit Mix

## Stone Size

Press **Stone Size**. There are five options of aggregate sizes listed in millimeters (inches). If, however, you do not see your specific stone size listed choose the closest stone size available.

For example, if your mix has an aggregate size of 20mm (0.79in), select **16mm - 23mm (0.63 - 0.91)**. Press **Accept** after you made your selection.



Edit Mix

Depth

Press **Depth**. Enter the depth of the asphalt mat on the numeric keypad in the units you previously selected for the depth. Once the correct value has been entered, press **Accept**.

An out of range Warning will display for depths entered outside of the following range: 0.75in - 6.0in (19.05mm - 152.4mm)

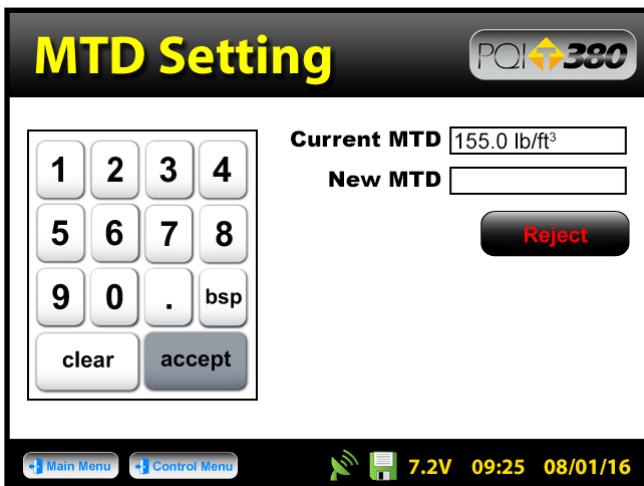


## Edit Mix

### MTD (Max Theoretical Density)

Press **MTD**. Enter the Maximum Theoretical Density (MTD) of the mix on the numeric keypad in the units you previously selected. The MTD is provided from the asphalt mix designer and is a key value in determining the percent compaction. Once the correct value has been entered, press Accept.

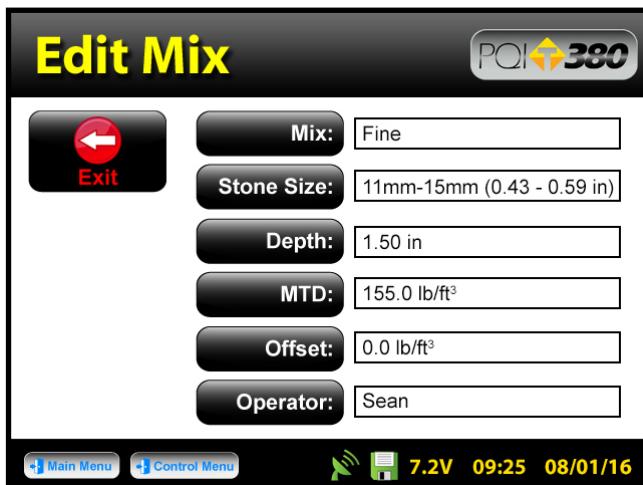
**An out of range Warning will display for an MTD entered outside of the following range: 100lb/ft<sup>3</sup> - 200lb/ft<sup>3</sup> (1601.8kg/m<sup>3</sup> - 3203.7kg/m<sup>3</sup>)**



Edit Mix

Offset

The offset for this material can be adjusted at a later time. **Measurements taken prior to adjusting the offset will not include the offset.** You will need to take a measurement to determine the offset. The offset feature will be revisited later in the calibration section of this document.



Press **Operator**. Enter your name as the operator of the gauge, press **Enter**. The gauge will return to the edit mix screen. Verify all mix information on this screen. Once you have verified the results of the mix, press **Exit** to save the mix.



## Edit Mix

After exiting the Edit Mix screen, the gauge will return to the **Mix Details** screen. Here you may use the green up or down arrows to select a new mix for editing or change an existing mix. **The green highlighted mix is the CURRENT MIX that the gauge will use when taking readings.** Prior to exiting this screen, be sure this is the mix you want and the information to the right has been verified. Press **Control Menu** to return to the Control Menu.



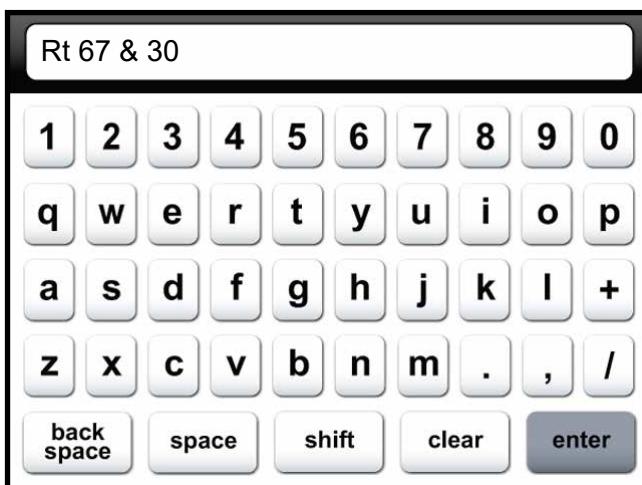
## Project Details

If you wish to save data and you have data logging enabled, press **Project**, otherwise skip to **Reading Modes**. The PQI 380 will store ten detailed projects. The project details screen will resemble the mix details screen such that you are able to select your project using the up and down arrows. **The green highlighted project is the CURRENT PROJECT NAME.** You may revisit each project at any given time to continue taking readings. Data within each project will store in the order of which it was taken. To edit a project, press **Edit Project**.



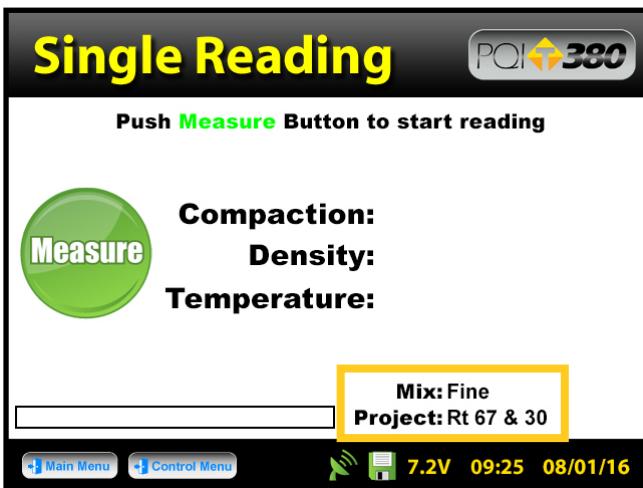
## Edit Project

There are four black buttons labeled **Project**, **Location**, **Location** and **Contact**. By pressing one of these black labeled buttons, you will enter the screen that allows you to store information for that project. For example, press **Project**, the keyboard will open allowing you to change the default name. Press **Clear** if you would like to start over with a new name. Press **Shift** to toggle from lowercase to uppercase letters. Once editing is complete, press **Enter**. Verify the information then press **Exit** to save the project information and return to the project details screen. Press **Control Menu** to return to the Control Menu.



## Edit Project

If you took readings with data logging enabled but did not set up a project, data will store on the default project name (ex. Project1). Always take note of the project and mix names displayed on your reading mode screens.



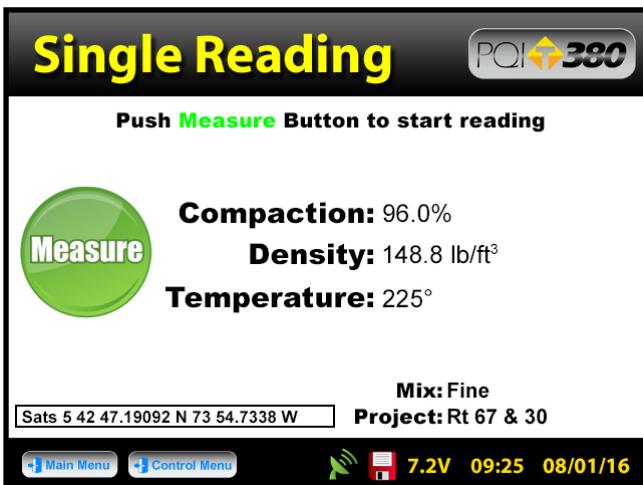
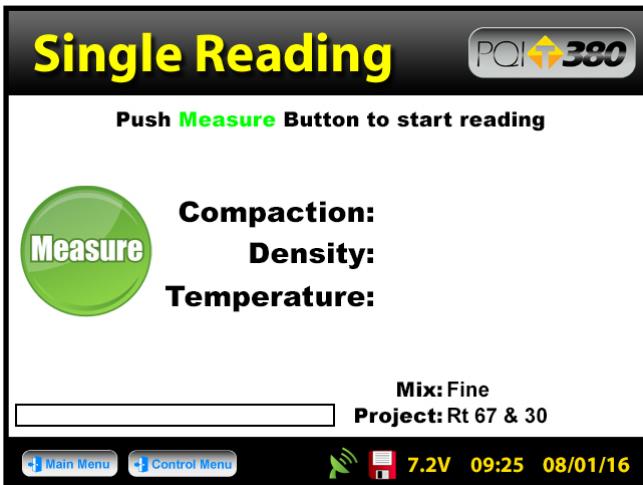
From the **Control Menu**, press **Modes**. There are four reading modes (Single, Average, Continuous and Segregation). **Continuous and segregation modes will not save data.** Single and average modes will save data when data logging is enabled. Press the button of the mode you would like to use. The active mode button will appear larger than the rest. For example, single reading mode has been selected below. **Select either continuous mode or single mode in order to take a quick reading to determine the offset.** Once your selection has been made, press **Control Menu** to return to the Control Menu.



## Offset

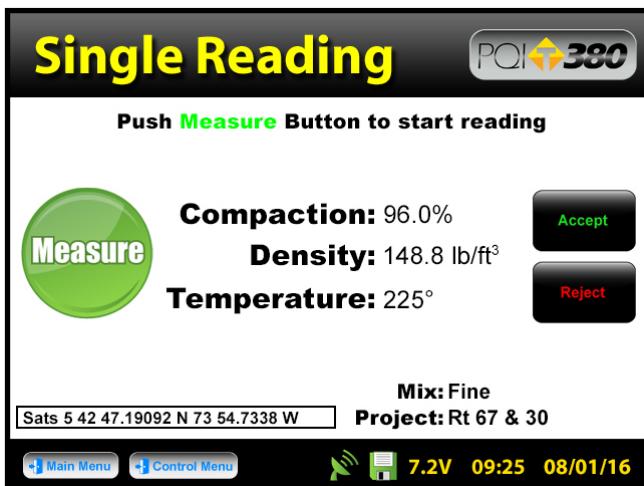
Prior to cores being taken, you may want to adjust the PQI 380 to the asphalt mat. After choosing the continuous or single reading mode as described on the previous page, from the **Control Menu**, press **Measure**.

**Take note and verify the mix and project names.** Continuous mode will continuously display and update the Compaction, Density and Temperature until the **STOP** button is pressed. This data will not be saved. Single mode will take one measurement, display the results and await another reading if data logging is disabled.



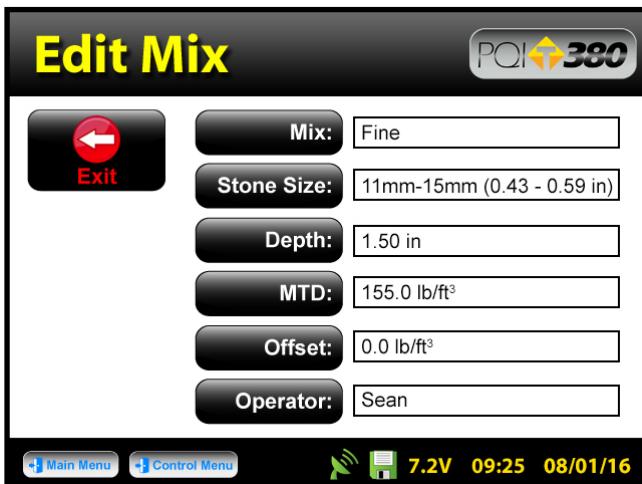
## Offset

If data logging is enabled, the PQI 380 will display **Accept** and **Reject** buttons for that reading. Once accepted, the **Enter Location** screen will load which will allow specific information to be stored for that reading. Press **Accept** to immediately bypass this screen or when you have finished entering information for that reading. Once you are satisfied with the density result, press **Control Menu** then press **Mix** to return to the Mix Details screen.



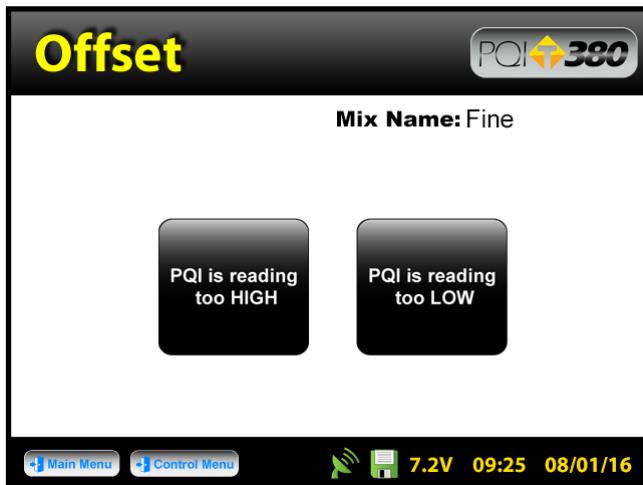
## Offset

Be sure that the green highlighted mix is the mix you wish to apply the offset. Press **Edit Mix** then press **Offset**. Using the value of the density you previously measured, compare that to the value of density desired. Once the numeric difference is calculated, determine whether the PQI 380 is **reading too high** or **too low**. For example, if the PQI reads **155lb/ft<sup>3</sup>**, and you would like it to read **150lb/ft<sup>3</sup>**, the PQI is reading too high and the adjusted value for the offset is **5**.



## Offset

Press **PQI is reading too High** or **Low** depending on your situation. For our example, we are going to press **PQI is reading too HIGH**. The next screen will contain a numeric keypad as well as the values for the mix name and the current offset for that mix. Type in the adjusted value for the offset which we previously determined would be 5. Press **5**, then press **Enter**.



## Offset

The adjusted value and new offset will be the same if the current offset was originally zero. If the current offset had been -1 and the adjusted value 5, then the new offset would be -6 for a PQI that was reading too high. Press **Accept**. You will be brought to the **Edit Mix** screen where you can verify the updated offset information for that mix. Once verified, press **Exit** to save your results, then press **Control Menu** on the status bar to return to the Control Menu.



## Offset

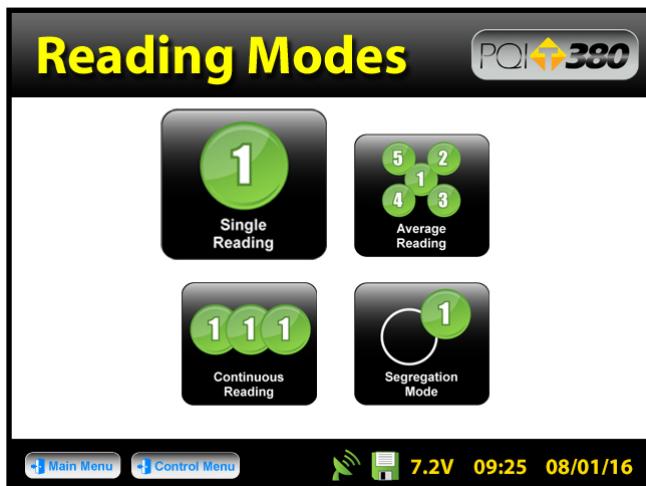
The offset for each mix can be adjusted at any time. Readings taken prior to a specific adjustment will not reflect that adjustment. Data files will record each offset used to calculate density for each reading.



## Reading Modes

### Detailed

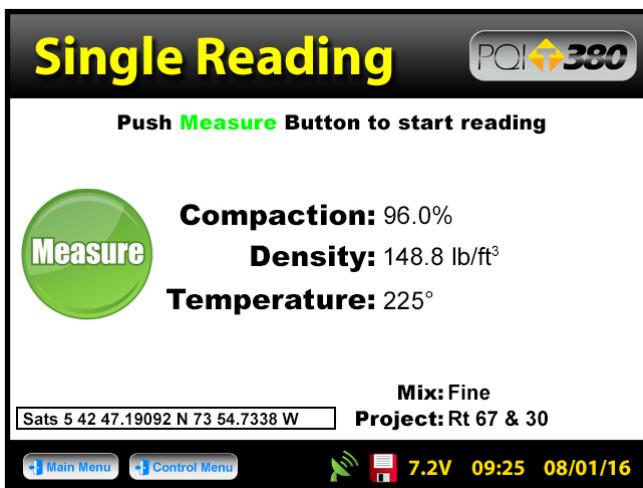
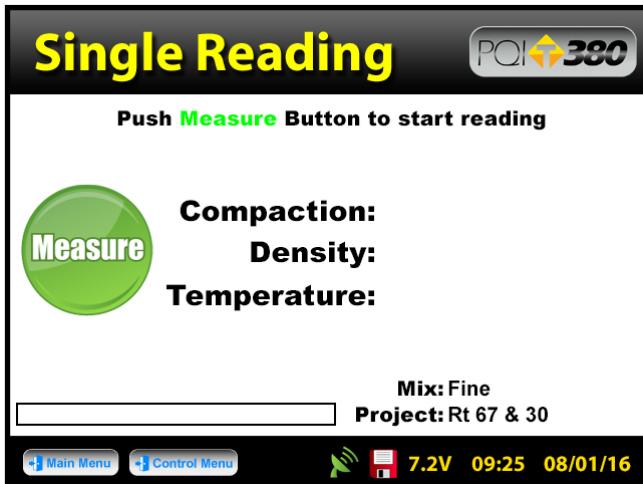
To change reading modes, from the **Control Menu**, press **Modes**. Select the reading mode you would like to use, then press **Control Menu**. From the Control Menu, press **Measure** to begin taking readings. The heading of the screen will display the active mode (Single, Average, Continuous, Segregation). For all reading modes, take note and verify the mix and project names displayed in the bottom right corner. Do not touch or hover over the gauge when it is taking a reading. Place the gauge on a flat and dry surface whenever possible.



## Reading Modes

### Single

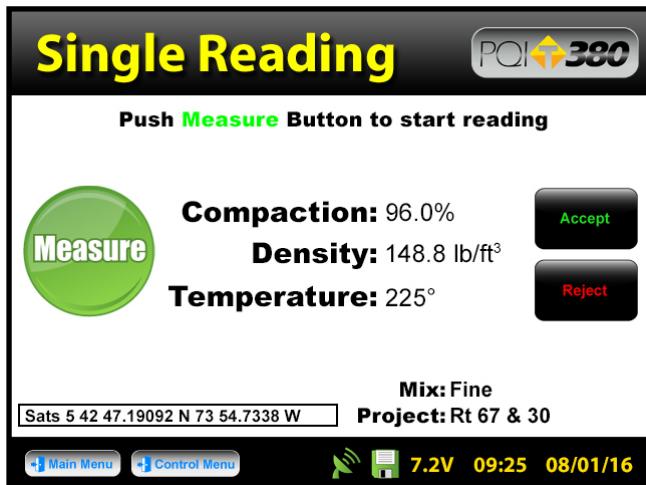
**Single Reading Mode - Press Measure.** If data logging is disabled, the gauge will display the results of the first reading and await another.



## Reading Modes

### Single

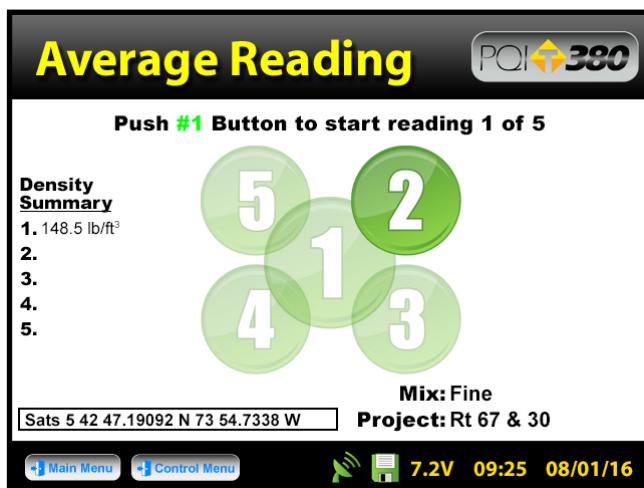
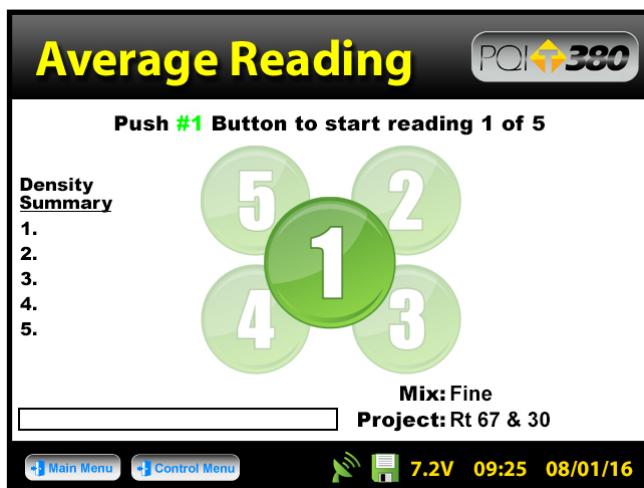
If data logging is enabled, the gauge will display **Accept** and **Reject** buttons for that reading. Once accepted, the **Enter Location** screen will load which will allow specific information to be stored for that reading. Press **Accept** to immediately bypass this screen or when you have finished entering information for that reading.



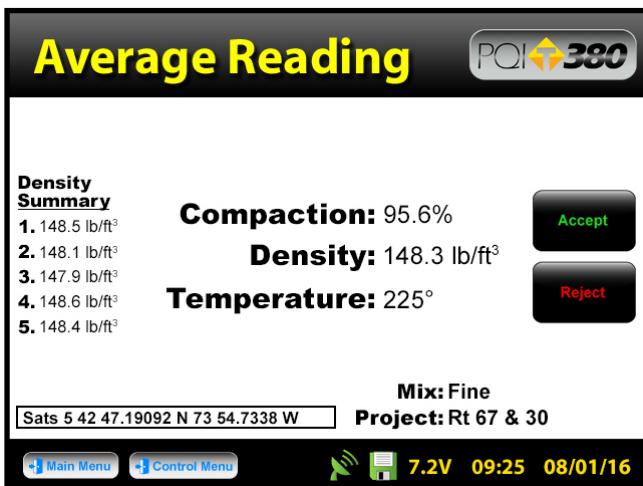
## Reading Modes

### Average

**Average Reading Mode** - The five average readings are taken in a clover leaf format. The gauge will highlight the reading number as well as the position of the gauge. Once the gauge is positioned on a flat surface, press **1**. When reading one is complete, the density summary list will begin to populate and the gauge will prompt you to move to location 2. Move the gauge to position 2 and press **2** to continue. Repeat these steps for the remaining three measurements.

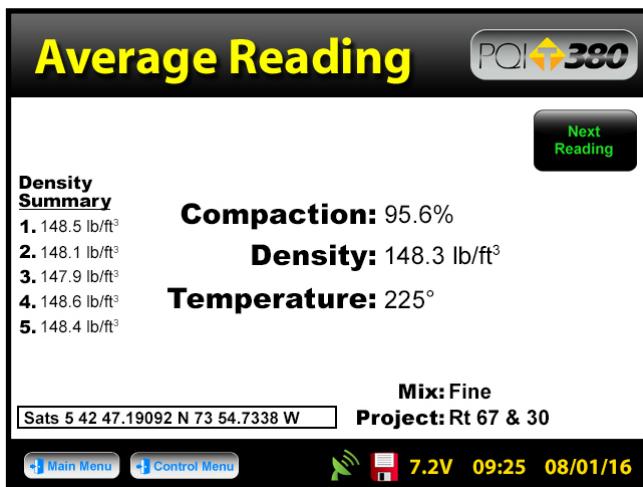


After the fifth reading the PQI 380 will display the five individual readings under density summary along with the average of the compaction, density and temperature. If data logging is enabled, the gauge will display **Accept** and **Reject** buttons for that reading. Once accepted, the **Enter Location** screen will load which will allow specific information to be stored for that reading. Press **Accept** to immediately bypass this screen or when you have finished entering information for that reading.

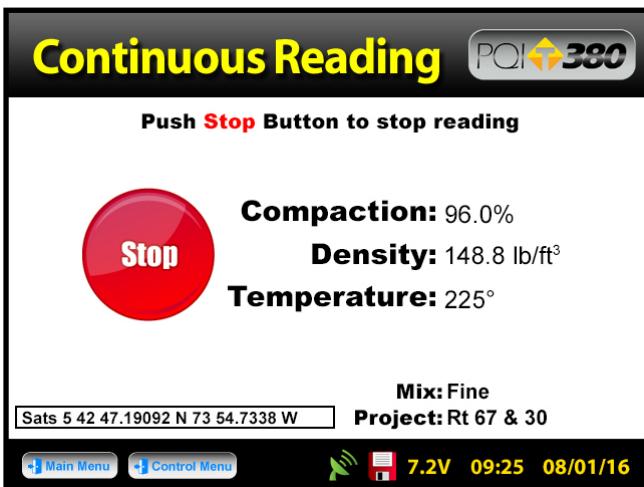
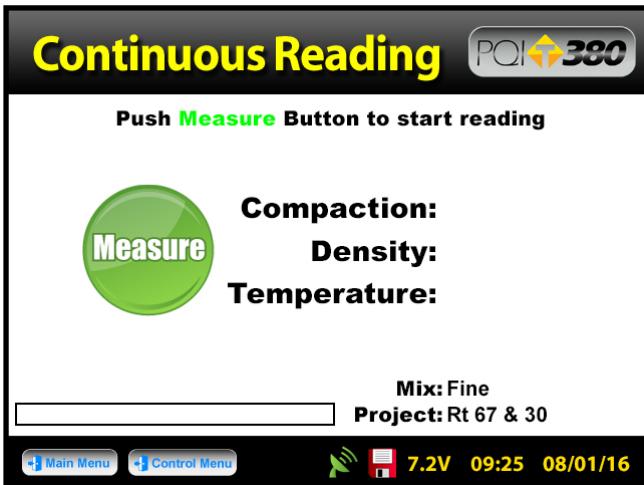


The PQI 380 will not store individual readings in average mode, only the average of all five readings will be stored. If individual readings are needed, this will be the last time the screen will display them.

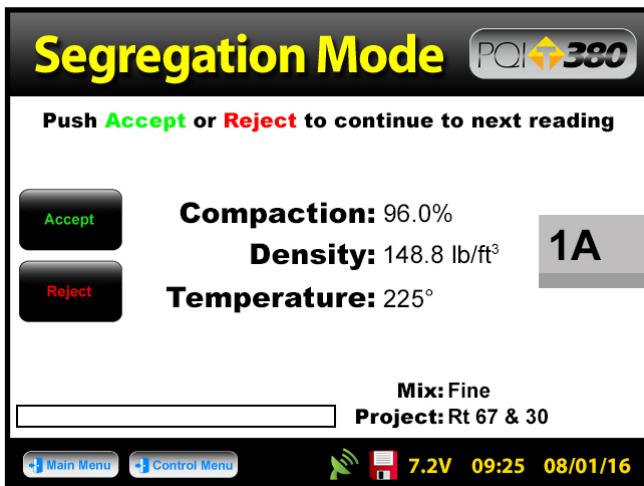
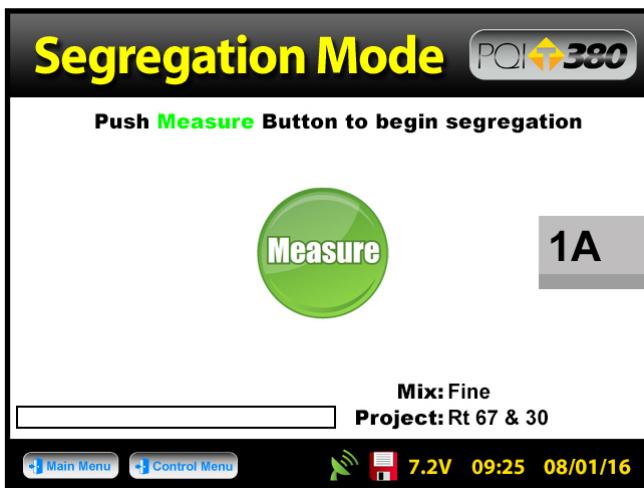
If data logging is disabled the gauge displays the average and awaits the next reading set.



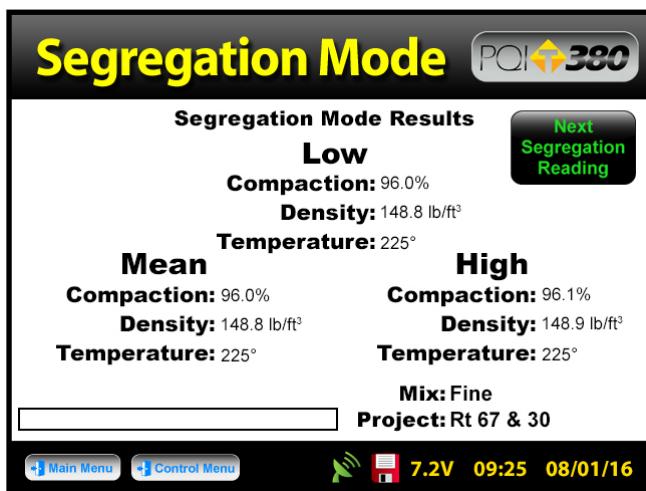
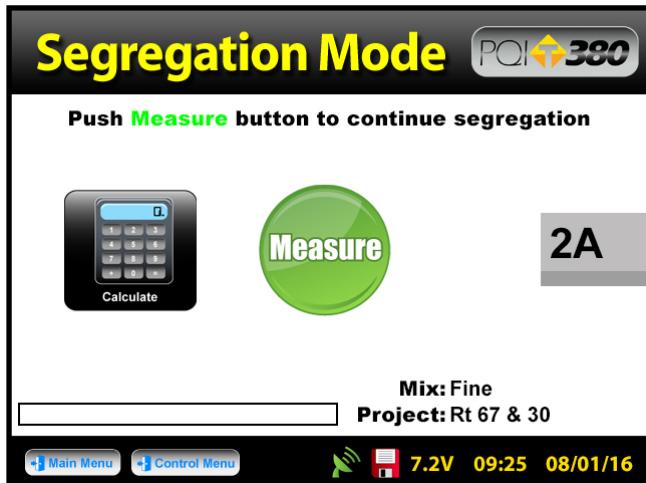
**Continuous Reading Mode - Press Measure.** Data will NOT store for this mode. Continuous mode will continuously display and update the Compaction, Density and Temperature until the **STOP** button is pressed.



**Segregation Reading Mode** - Press **Measure**. **Data will NOT store for this mode.** This mode mimics the PQI 300, where two readings (A and B) are taken for each location. For every reading taken the option to **Accept** or **Reject** will be given.



After the last pair of readings has been taken, press **Calculate**. The gauge will display % Compaction, Density and Temperature for the lowest, highest and mean readings.



## Data Management

From the **Control Menu**, press **Data Management**. This is where project files will be saved, viewed, printed and downloaded.

**Download Data** - Use the up and down arrows to scroll, highlight the desired project and press **Download**. Insert the USB flash drive into the USB port, press **Download**. The gauge will ask if you inserted the USB drive, once ready, press **Download**. When downloading is complete the gauge will display READY.

**Viewing a Project File** - Use the up and down arrows to scroll, highlight the desired project and press **View**. All of your tests saved to this project will be listed in the order they were taken. Only the most pertinent information will be shown in this view including: Test Number, Station, Description1, Density, Compaction and Surface Temperature. Press the **Back** button to exit the **Project View** screen.

**Deleting a Project File** - Use the up and down arrows to scroll, highlight the desired project and press **Delete**. You will be prompted with a warning asking if you are sure you wish to delete the file. Once confirmed and deleted, you will no longer be able to retrieve the measurement data.

**Printing a Project File** - Plug in your TransTech printer, use the up and down arrows to scroll, highlight the desired project and press **Print**.



## **Replacement Parts**

For a listing of replacement parts visit our website or contact your local distributor.

## **Warranty**

### **TransTech Systems Product Warranty**

The Company warrants to the Purchaser that the product delivered hereunder will be free from defects in material or workmanship and be the kind and quality designated or specified in the contract or purchase order. This warranty shall apply only to defects appearing within one (1) year from the date of shipment by the Company.

If the product delivered hereunder does not meet the above warranty and if the Purchaser promptly notifies the Company, the Company shall thereupon correct any defect, including nonconformance with the specifications, either (at the Company's option) by repairing any defective or damaged parts of the product, replacing the product, or by making available the necessary repaired or replacement parts.

The liability of the Company under this warranty, for any loss, whether the claim is based on contract or negligence, shall not in any case exceed the cost of correcting defects in the product as herein provided, and upon the expiration of the warranty period, all such liability shall terminate. The foregoing shall constitute the exclusive remedy of the Purchaser and the exclusive liability of the Company. The foregoing warranty is exclusive and in lieu of all other warranties, whether written, oral, implied or statutory.

No warranty of merchantability or of fitness for purpose shall apply. Unauthorized service shall void this warranty.

### **TransTech Systems Product Non-Warranty Return Policy**

Non-warranty returns for TransTech Systems Inc. products must be made within twenty (10) days from the original date of shipment, unless otherwise indicated. Returned products must be in the original packaging, unused and in undamaged condition. Proof of purchase is required. Upon receipt of the product TransTech will inspect the product to the above mentioned criteria.

## **Warranty**

Unused products will be issued a credit to the Purchaser's account that was used to purchase the product. TransTech will not credit prepaid shipping cost. The original packing slip or invoice is required to be sent back with the product to be returned.

The Purchaser is responsible for shipping the product back to TransTech, carefully package the item(s) and include the packing slip and return manufacturing authorization number on the package. Prepay shipping is required – TransTech will not accept C.O.D.s.

Returns will be credited within 10 working days.

### **Proper Process of Warranty or Non-Warranty Shipments to TransTech Systems**

For product returns (warranty or non-warranty), please follow the instructions below to assure prompt handling:

Call us for authorization (518-370-5558 or 800-724-6306), obtain a return manufacturing authorization number (RMA), and the return shipping address.

Indicate to our representative the reason for returning the product.

For Warranty Returns, Purchaser is responsible for shipping to TransTech's office. TransTech will pay ground shipping return to the Purchaser.



# TransTech Systems, Inc.

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