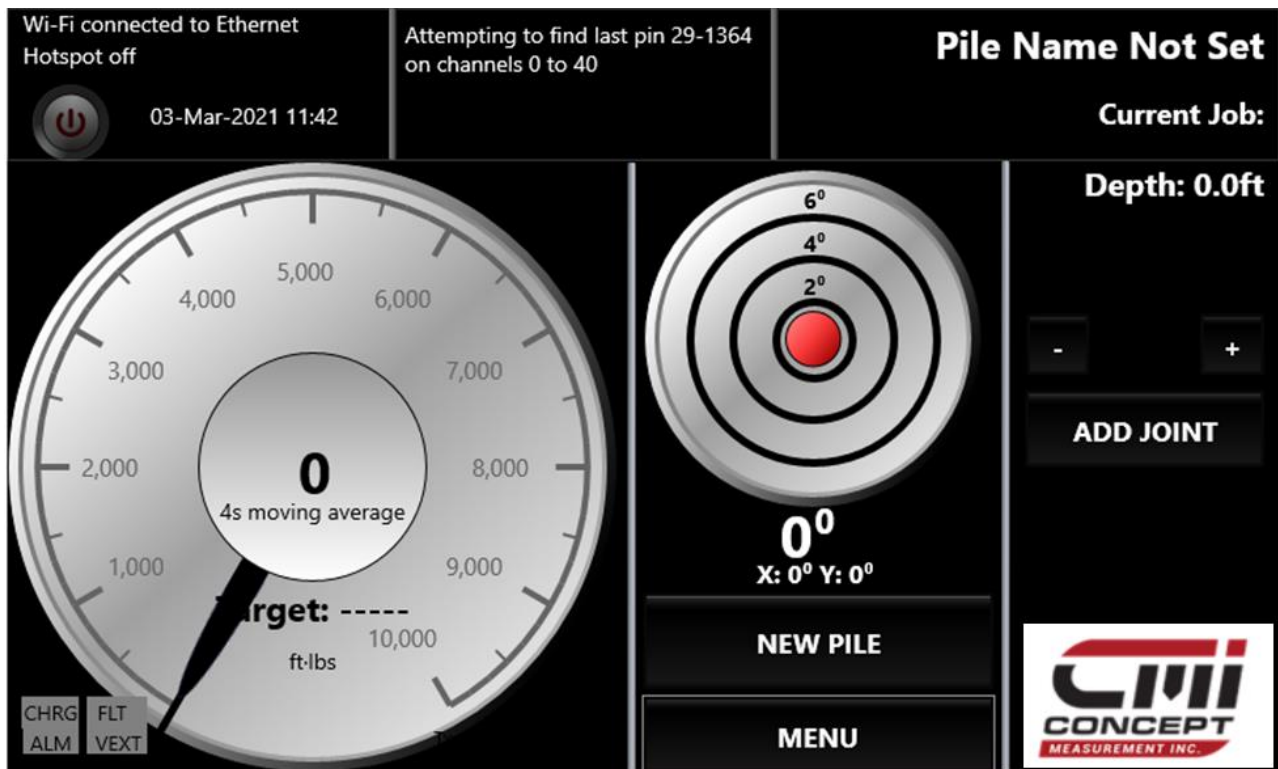


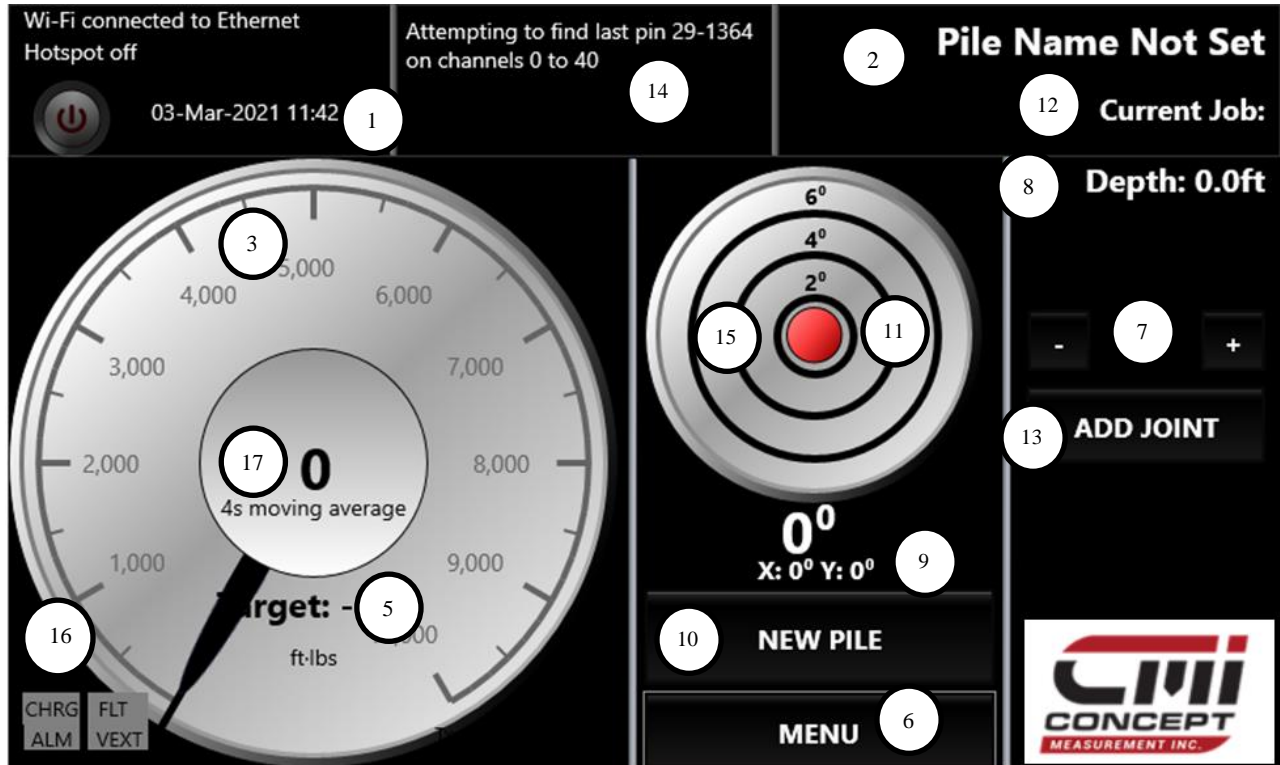


## Display Operating Manual

CONCEPT MEASUREMENT INC.  
7" MULTI - TOUCH DISPLAY



## MAIN SCREEN FUNCTIONS THE CMI 7" COLOR DISPLAY AT A GLANCE



- |  |   |
|--|---|
| 1. Date                                      | 10. New Pile                            |
| 2. Pile Name                                 | 11. Inclinometer                        |
| 3. Dial Indicator Live Torque                | 12. Current Job                         |
| 4. Change Dial Range or Set Zero Calibration | 13. Add Joint                           |
| 5. Numeric Indicator Live Torque             | 14. Serial Number                       |
| 6. Target Torque for Indicator               | 15. Pin Orientation                     |
| 7. Manually Enter Joint length               | 16. Charge Alarm (Coming Soon)          |
| 8. Depth                                     | 17. Moving Average, (Not Available Yet) |
| 9. X-Y                                       |   |

*NOTE: Before using the Torq-Hub be sure to fully charge the battery inside the hub before starting your job. It should be 16.5 V.*

*When changing the battery be sure to hold the battery connector end and the end of the cable when removing and plugging the battery back in. Not doing this may cause damage to the connection and power switch and will not be covered under warranty.*

*Do not store the batteries which are lithium ion below -25 Celsius because they will freeze.*

- 1. Attach the black harness to the back of the display and plug the other end into the cigarette lighter in the machine. The harness must be always plugged in to power the display.*
- 2. Turn on the display using the power button that is located on the back of the display (top left). It will take a few minutes to load the software, do not push any buttons while it is loading.*
- 3. Turn on the hub.*

*Be sure when turning off the display to use the shutdown button located in the menu. Touch MENU, then SHUTDOWN. Wait approximately 2 minutes before turning the power switch off.*

*You must turn the switch off to be sure that when starting up again the display does not get a power surge.*

*Using the power button to turn off the display before following the above instructions could cause the electronics in the display to become corrupt.*

*\*If this is done the warranty is voided\**

*Do not pressure-wash the hub or display. Doing so will void the warranty.*

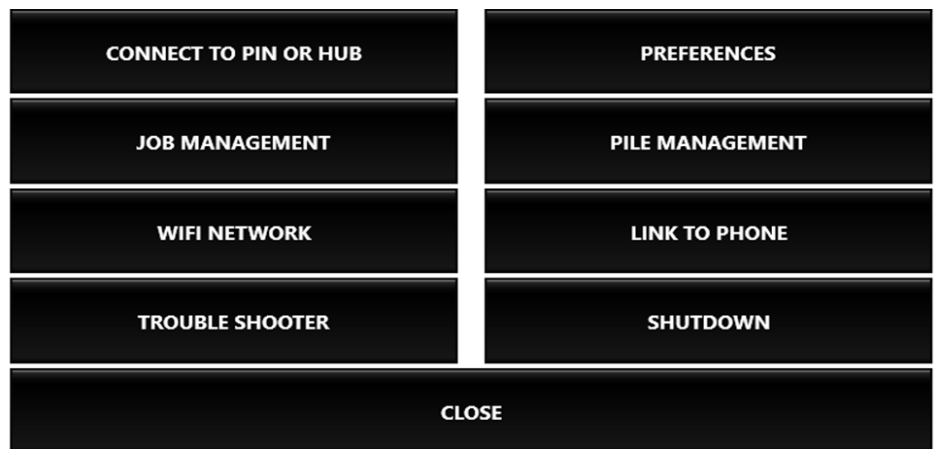
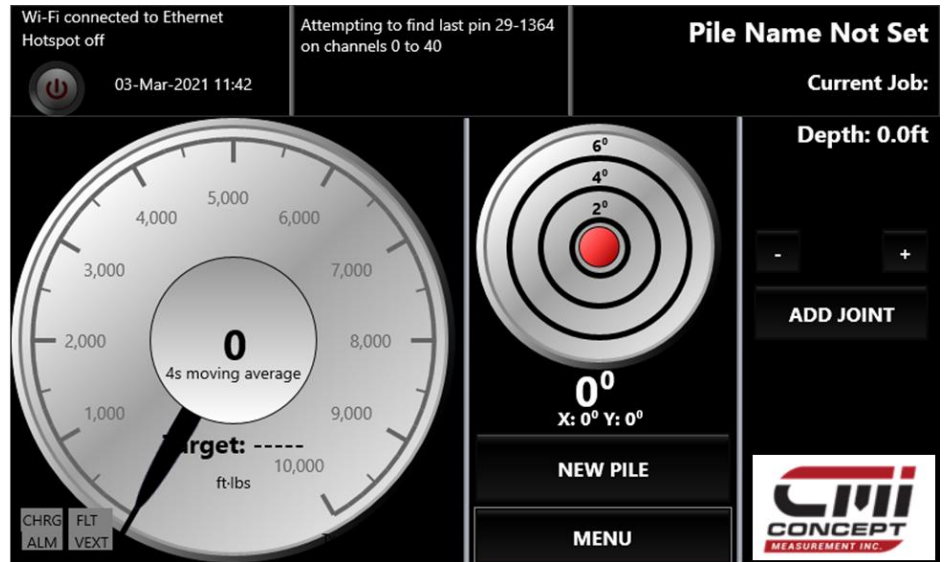
## CMI 7" Display Operating Guide

### Connect to Hub.

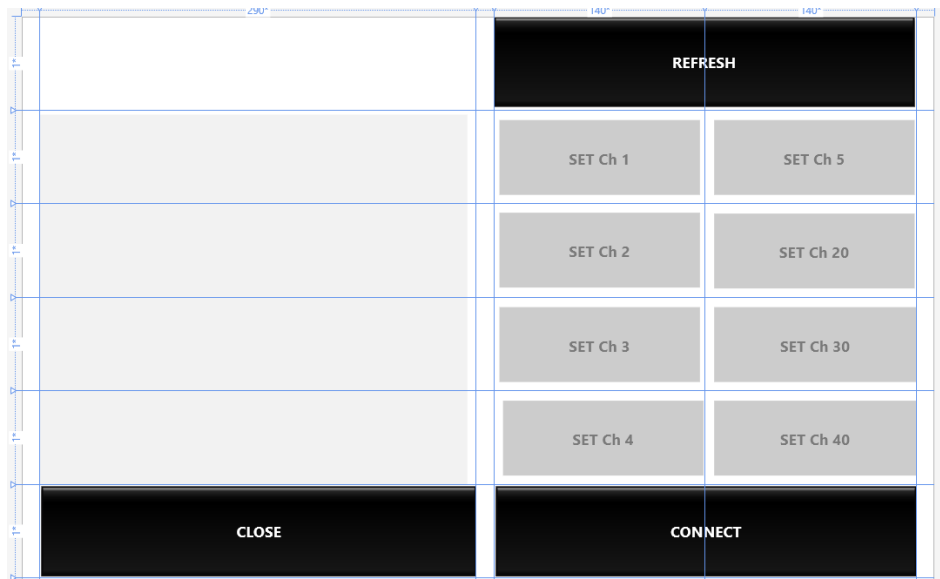
*\*We suggest before you begin, that you zero any value you see in the left circle by touching within the circle and pushing zero calibration. You can center the bullseye by touching anywhere within that circle and touching CENTER BULLSEYE.*

To connect to Hub:

1. Touch MENU
2. Touch CONNECT TO PIN or HUB.
3. Wait for the display to find the Hub. Once found a serial number will appear in the top middle of the display.
4. Touch the serial number to highlight it blue.
5. Touch CONNECT, wait until you see the serial number and the battery voltage in the top middle of display.

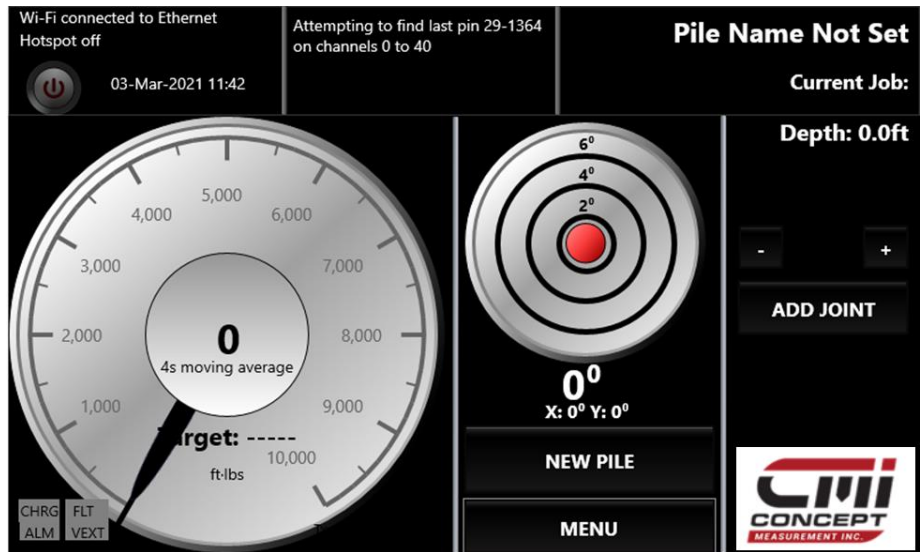


*\*We recommend changing the channel to 30-40. To do this touch CONNECT TO HUB, touch to highlight the serial number you are connecting to, select channel 30-40. This can take up to 3 minutes as it must go through all the channels. Once it connects you will see at the top middle of the screen STAY CONNECTED TO HUB and there will be a serial number and a battery voltage.*

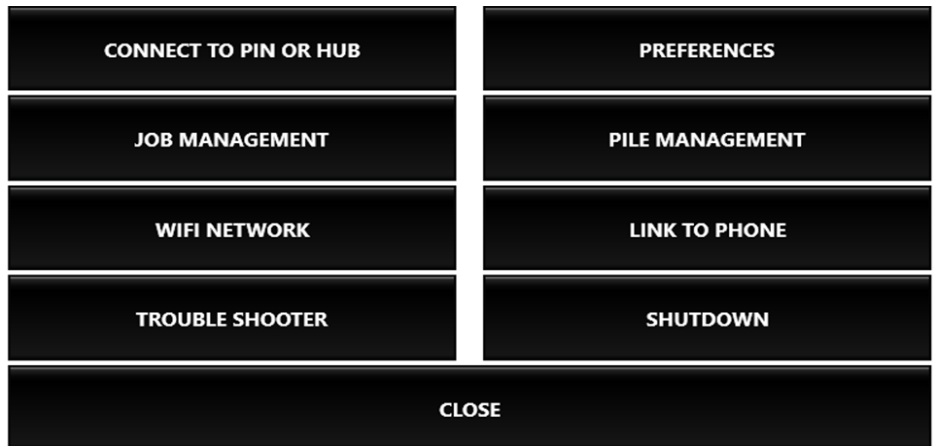


**CMI 7" DISPLAY OPERATING GUIDE**  
*Job Creation and Selection*

1. Touch MENU.



2. Touch JOB MANAGEMENT.



The Job Information screen will appear.

- Enter job name.
- Touch SELECT JOB.

**Note:** As many new jobs can be entered as required.



## CMI 7" DISPLAY OPERATING GUIDE

### Job Creation and Selection

3. Touch **NEW PILE** from the main screen.

4. Touch **NEW PILE**, enter the pile name using the pop-up keyboard.

**Note:** Pile name is a mandatory entry as it appears on your data report when downloaded to the Excel Report.

5. Touch **SAVE** when complete.

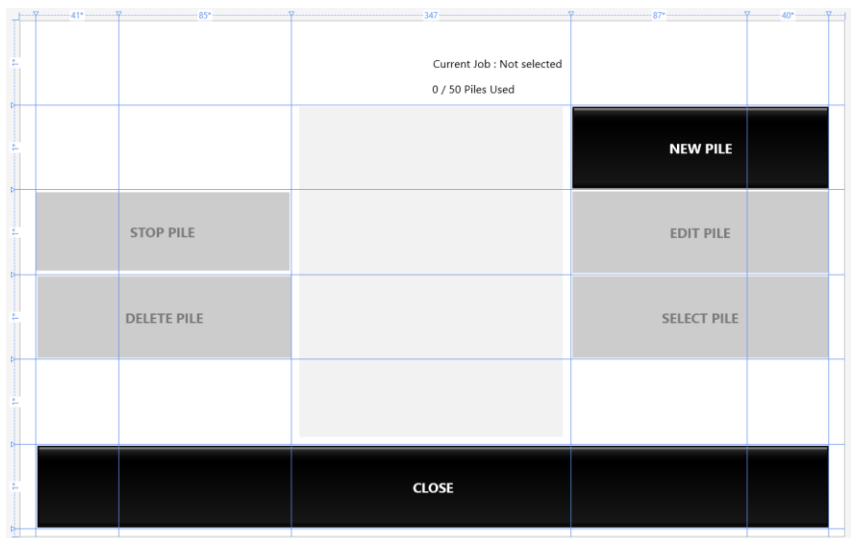
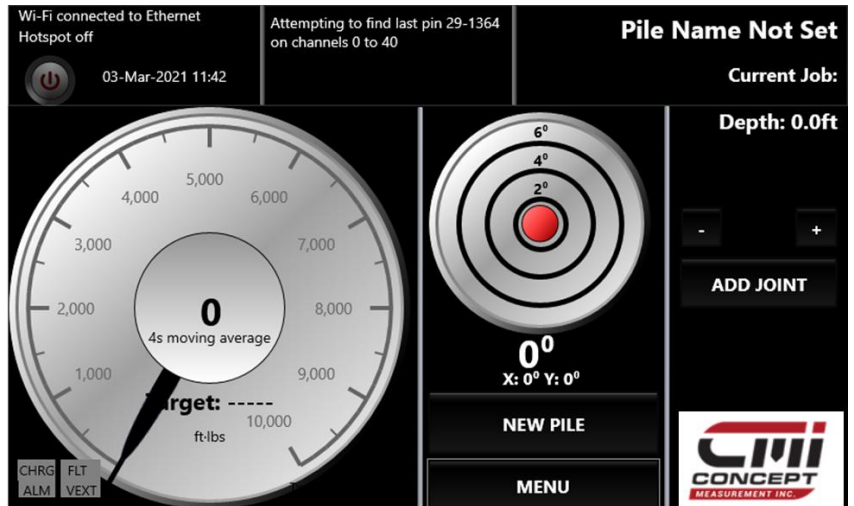
**Note:** Filling out the rest of the fields is not mandatory, but is recommended for data export to the Excel Report.

6. After completing the Data Information Input touch **SAVE** button. Highlight the Job that you have created.

7. Touch **SELECT PILE** to show it on the "Current Job".

**Note:** At any time, you can click on the pile name on the main screen to see the information of that pile.

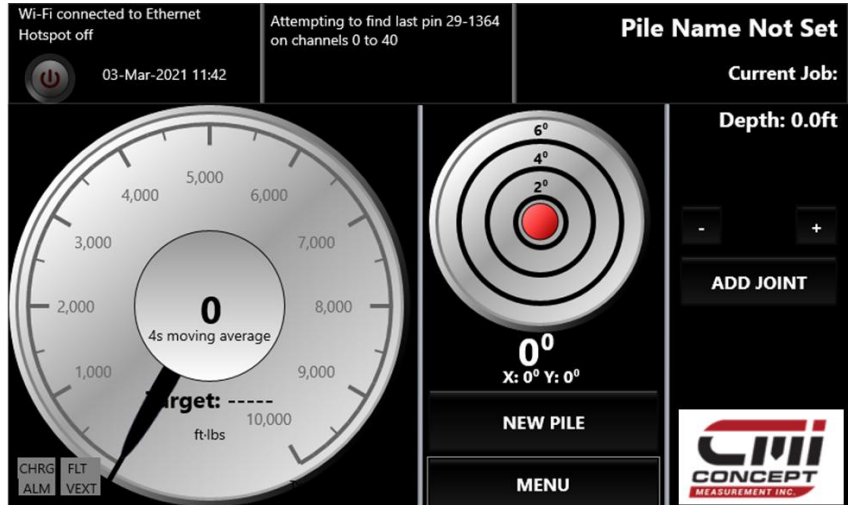
**Note:** If at any time you need to edit the pile, touch **MENU**, **JOB MANAGEMENT** then highlight the pile that needs editing. Click **EDIT**, enter the information, and click **SAVE**.



Pile Name	<input type="text" value="PILE 57A"/>
Target Torque (ft-lbs)	<input type="text"/>
Target Depth (ft)	<input type="text"/>
GPS Latitude	<input type="text" value="0"/>
GPS Longitude	<input type="text" value="0"/>
<input type="button" value="CLOSE"/>	
<input type="button" value="SAVE"/>	

**CMI 7" DISPLAY OPERATING GUIDE**  
**Setting Target/Optimum Torque/Torque Range**

1. On the main screen, touch anywhere in the circle on the left to zero calibration, then click ZERO CALIBRATION. This can take up to 10 seconds.



2. To set the Torque Range Selector touch anywhere on the live torque dial indicator main screen to bring up the range.

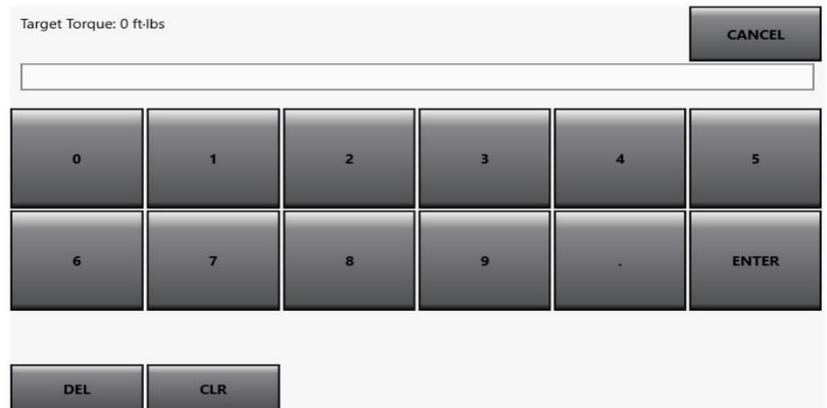
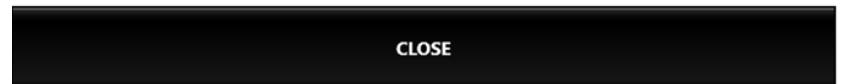
Use the arrow keys to set the desired range. Press CLOSE.



3. To set the Target Torque:

On main screen touch anywhere in the circle on the left, click SELECT TARGET TORQUE, then enter desired Torque.

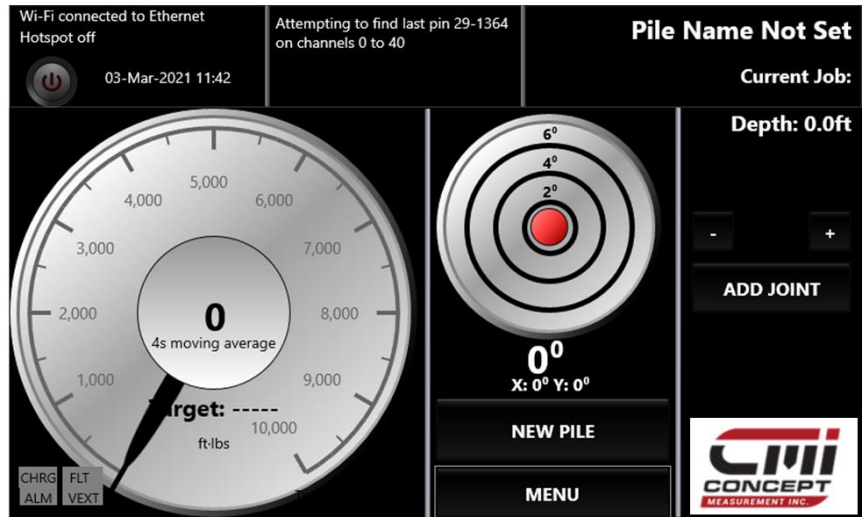
Touch SET TARGET TORQUE, touch CLOSE. When target is reached the indicator will turn green.



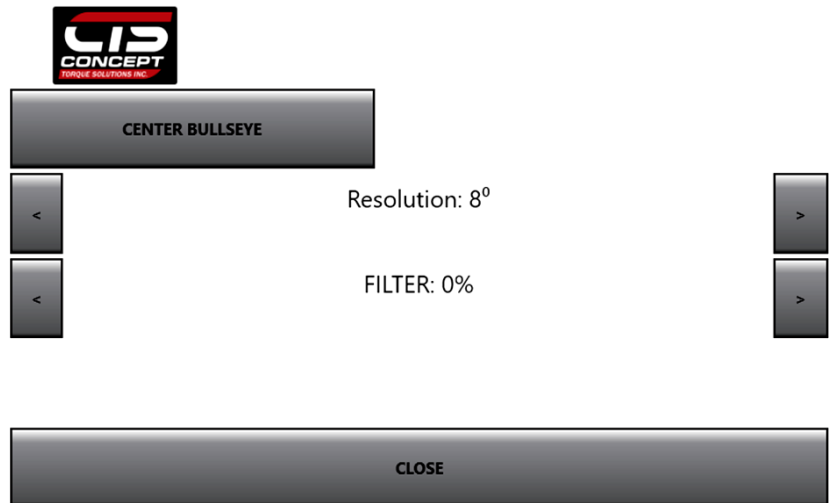
**NOTE:** If the torque shows a value when the drive is hanging free, user may press ZERO CALIB.

**CMI 7" DISPLAY OPERATING GUIDE**  
**Inclinometer Bull's Eye Resolution Selector.**

1. To zero the bullseye:  
 Touch anywhere on the Inclinometer ball.  
 Touch CENTER BULLSEYE.



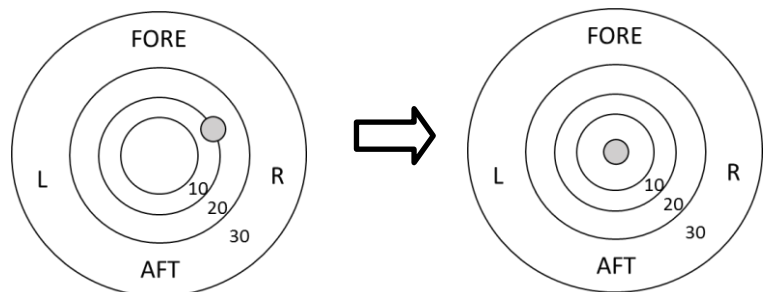
2. To set resolution:  
 Use the arrow keys to set resolution.  
 Resolution is the amount of degree that shows on the dial.



3. To set the filter:  
 Use the arrow keys to decrease or increase the sensitivity of the bullseye.

**NOTE:** For angled (battered) piles:  
 User can select the desired angle of insertion by centering the green dot in the bullseye.

Move prime mover forward or back until the desired angle is achieved, as indicated in the upper corner of the display. Once the angle is reached, touch the INCLINOMETER, CENTER BULLSEYE and press OK on the popup. This will make the chosen angle the new "center" of the bulleye.

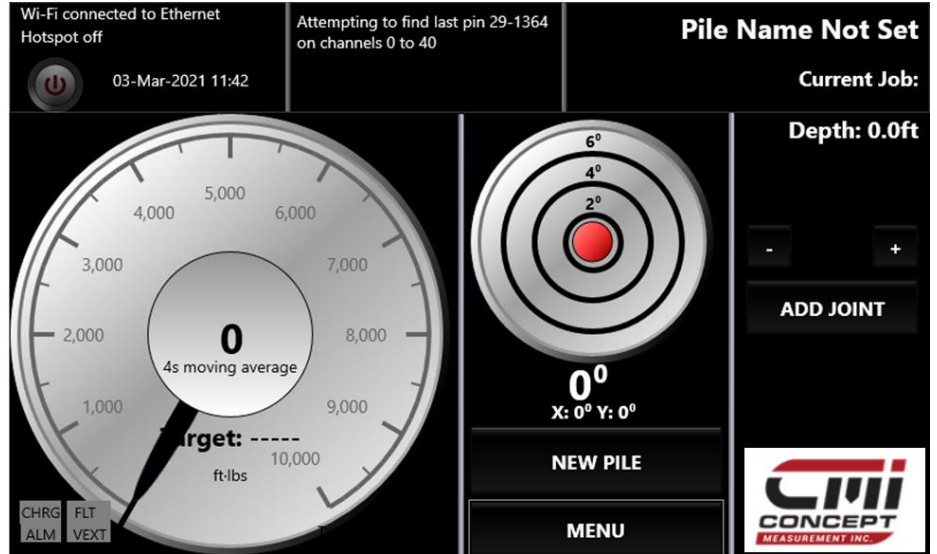




## CMI 7" DISPLAY OPERATING GUIDE

### Add Joint.

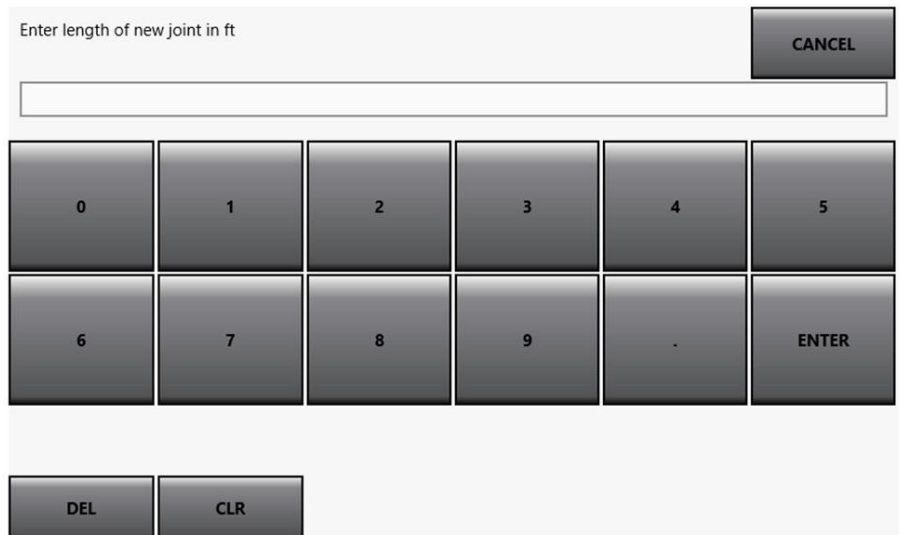
1. In the event you need to add a joint, touch **ADD JOINT**.



2. Enter the extended joint length on the on-screen key pad.

3. Click **ENTER**.

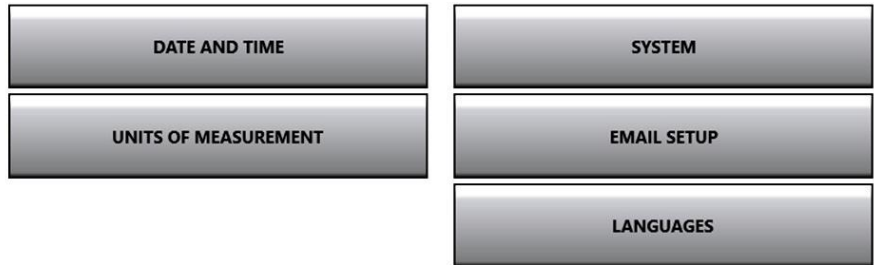
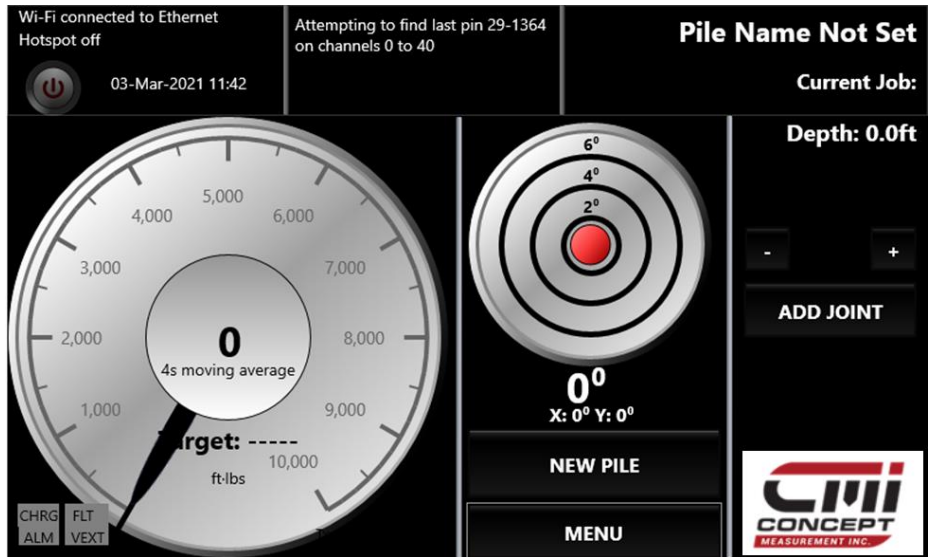
Once the joint is added you can use the plus or minus keys to add in one-foot increments.



**CMI 7" DISPLAY OPERATING GUIDE**  
**Setting Units of Measurement, and Language**

To set the unit of measurement:

1. Touch MENU.
2. Touch PREFERENCES.
3. Set unit of measurement.
4. Touch SELECT TORQUE UNIT and change to ft./lbs. or N.m.
5. Touch LENGTH UNIT and select ft. or meters.
6. Touch CLOSE.



To set date and time:

1. Touch Menu.
2. Touch DATE AND TIME
3. Change DATE AND TIME by using the arrows.
4. Touch CLOSE



To set language:

1. Touch MENU, then LANGUAGE and choose the language you prefer.
2. Touch CLOSE.

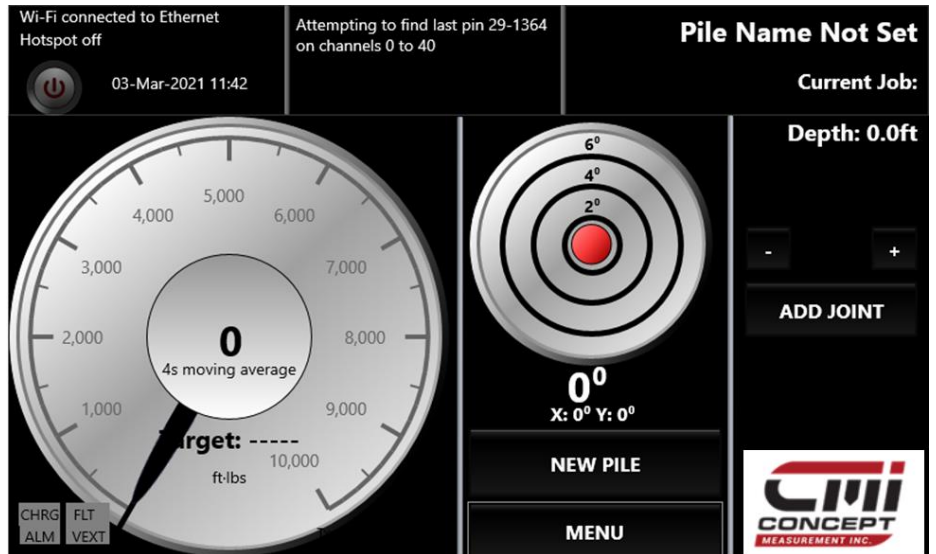


## CMI 7" Display OPERATING GUIDE

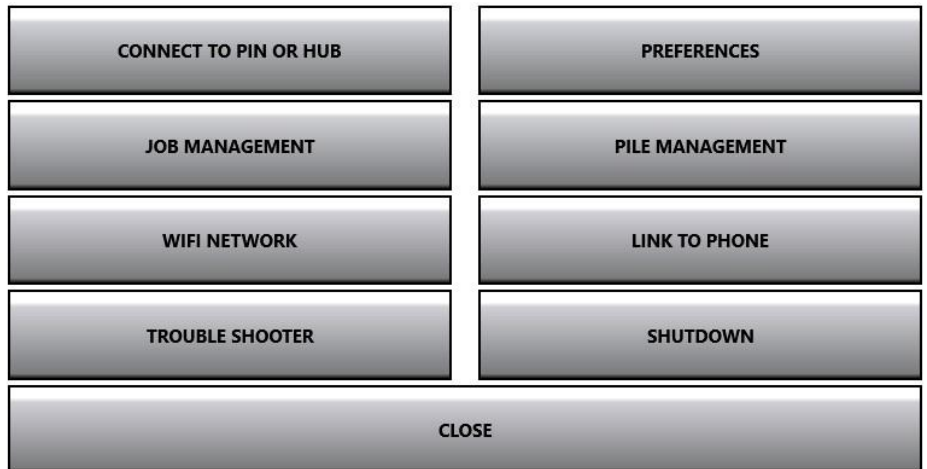
### Exporting Piling Jobs

**NOTE:** You can export to USB or email the jobs.

1. Touch MENU.
2. Touch JOB MANAGEMENT.



3. Highlight the job you wish to export, click EXPORT PILES, or you can preview the file.



4. Enter email address you want the report sent too. You will see the selected report.

\* If "Port" block comes up on the display this means:

- The email is spelled wrong.
- A firewall on the receiving end has blocked the email.
- There is poor cell reception in area and the email cannot get through.

Email to

*Exporting Piles Continued.*

*Once you have exported your jobs they can be deleted from the display.*

**TT41EXP  
Torque Report**

Job:

This report covers the following piles

Pile	Date Drilled	Target Torque	Torque Achieved	Page
PILE 57A		0lb.ft 0N.m		

CLOSE

1. Touch **JOB MANAGEMENT**.
2. Highlight the serial number to blue.
3. Touch **DELETE**.
4. Enter the password and touch **DELETE**.

CONNECT TO PIN OR HUB

JOB MANAGEMENT

WIFI NETWORK

TROUBLE SHOOTER

PREFERENCES

PILE MANAGEMENT

LINK TO PHONE

SHUTDOWN

CLOSE

**NOTE:** Once the job has been deleted it cannot be retrieved.

JOB PILES

EXPORT PILES

DELETE JOB

TT41EXP

NEW JOB

EDIT JOB

SELECT JOB

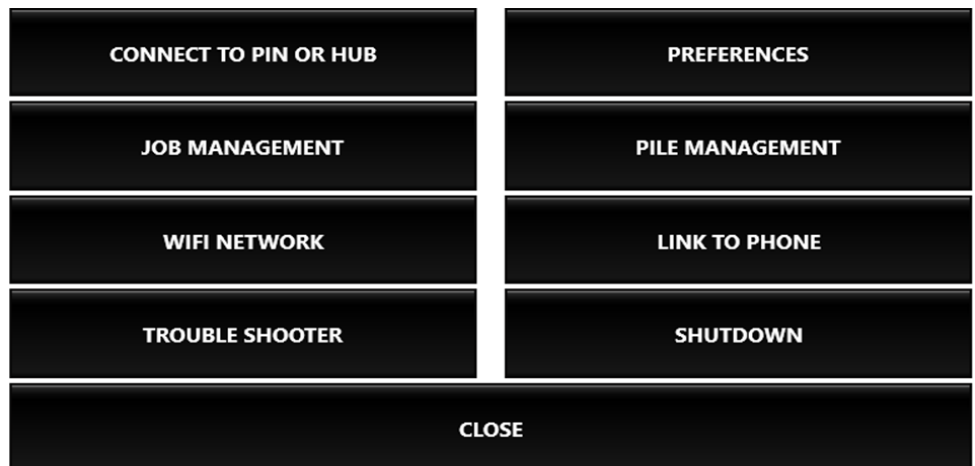
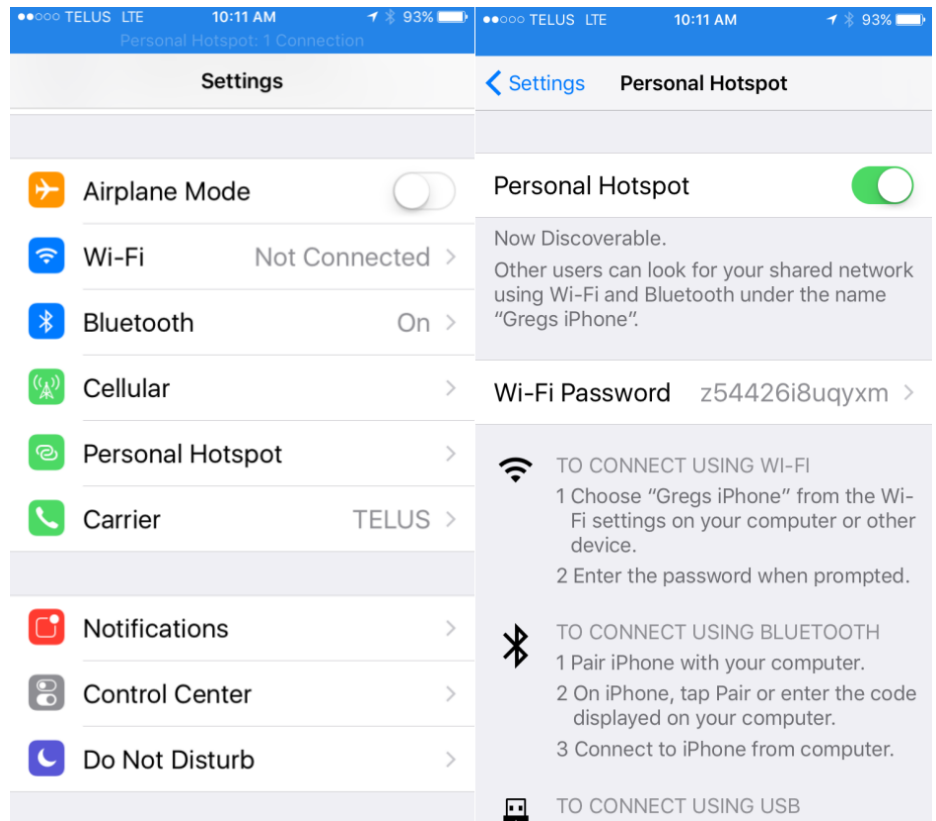
CLOSE

## Link To Smart Phone-Email Report

1: Set personal hotspot on your smartphone (Apple/ iOS shown). Settings → personal hotspot. Take note of the WiFi password, you will need to enter this into the CMI display later.

2. On display: Touch MENU then touch WIFI NETWORK.

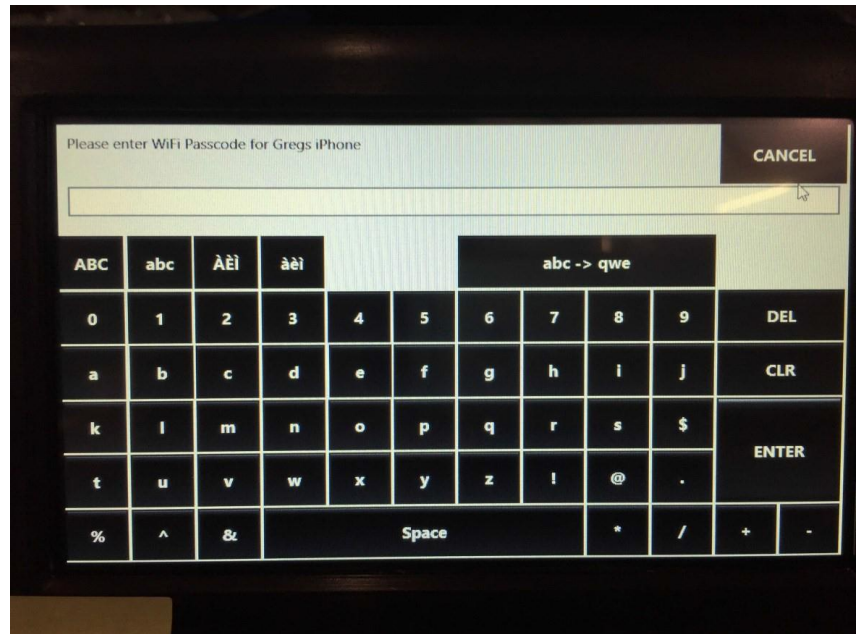
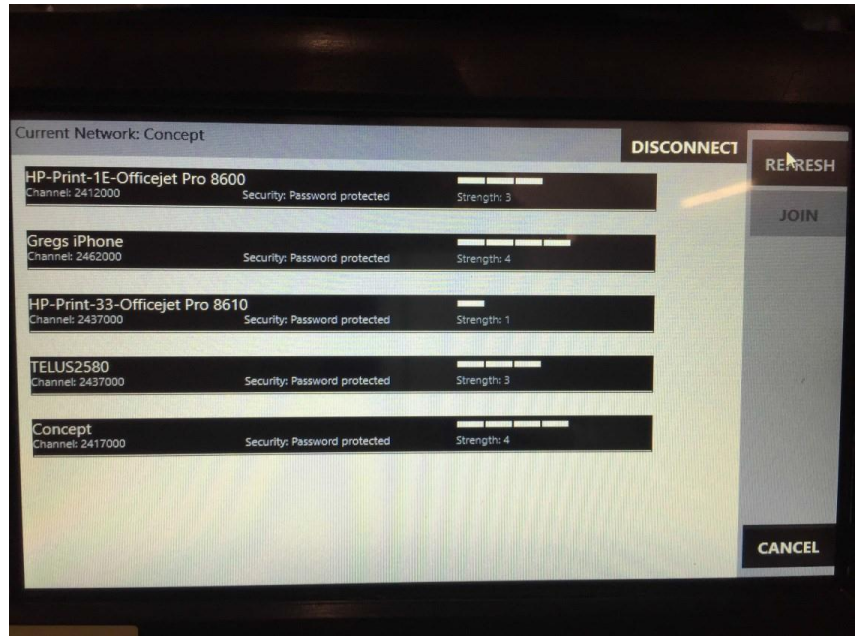
3. Select your smartphone from available WiFi connections (Greg's iPhone shown here).



[Link To Smart Phone-Email Report Continued.](#)

4. A screen will appear prompting you to enter the password from your smartphone (noted above). Once the password is entered the connection will be established and you are ready to email reports from the CMI display.

**Note:** Some email servers are heavily firewalled. If the email does not arrive, this is most likely the cause. The quickest solution is to send to a web-based email (like Gmail), this will allow the report to send without the need for intervention by a network/email administrator (or export to formatted USB drive)



*Download Free Phone App*

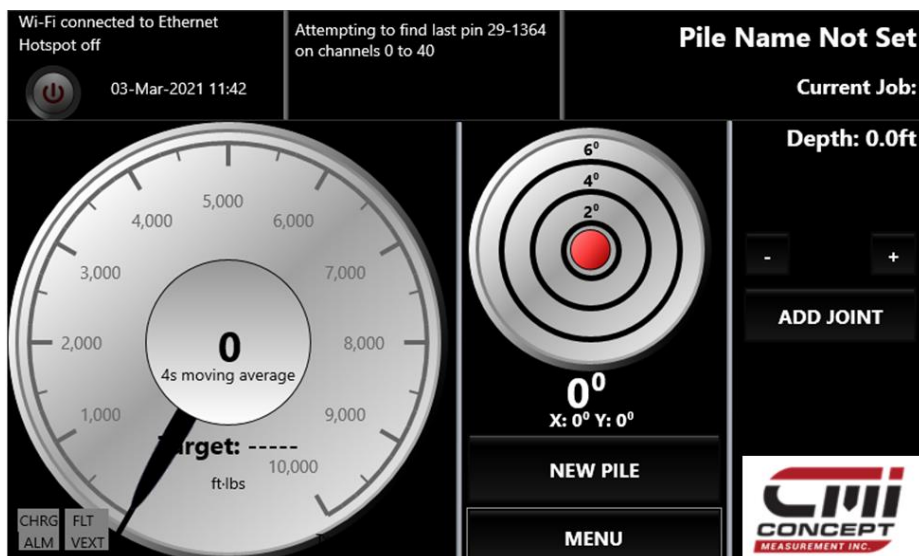
1. Download **Concept Torque Viewer** from the App Store. This will allow the engineer to see what the operator sees.

2. How to link to the app.

On display:

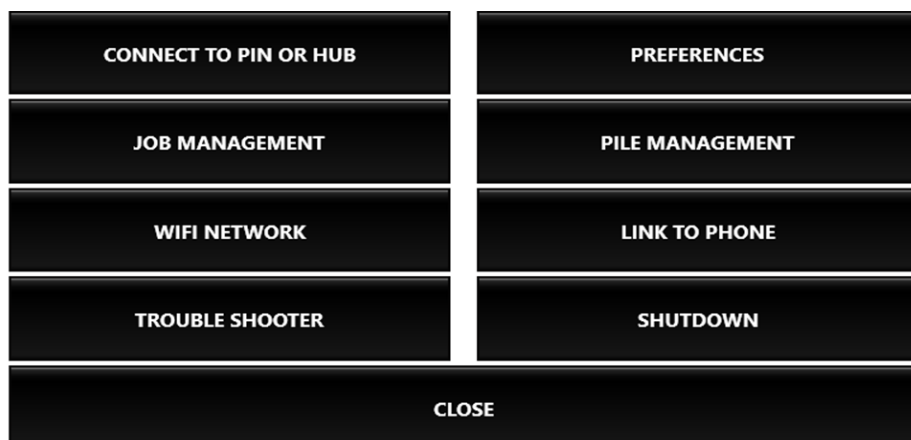
- Touch MENU.
- Touch LINK TO PHONE.
- Start the hotspot.

*\*Remember the number displayed as you will need it later\**



On your phone:

- Touch settings.
- Touch WIFI
- Select the number from the display and enter password.
- Exit settings and open the app on your phone.



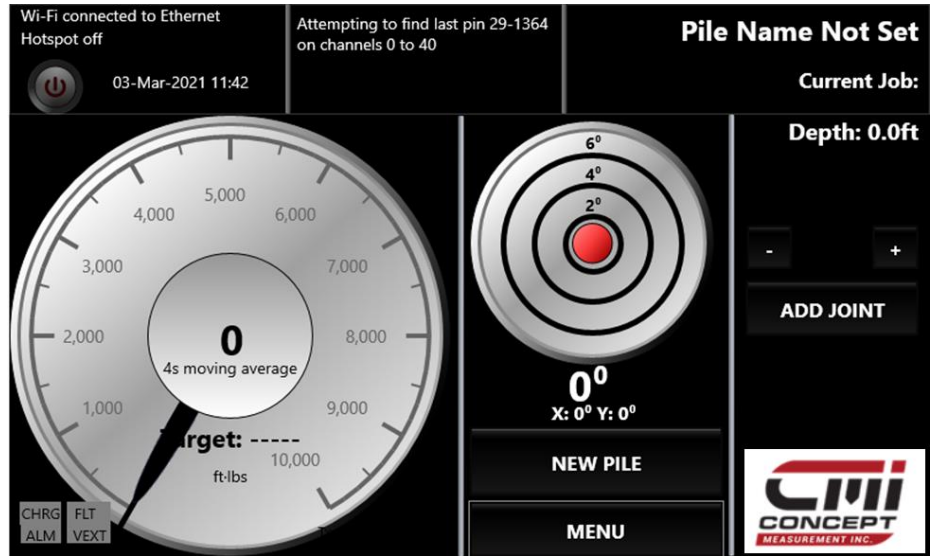
Connected to the server at 192.168.137.1:50001

You will be able to see the Viewer on the phone app.



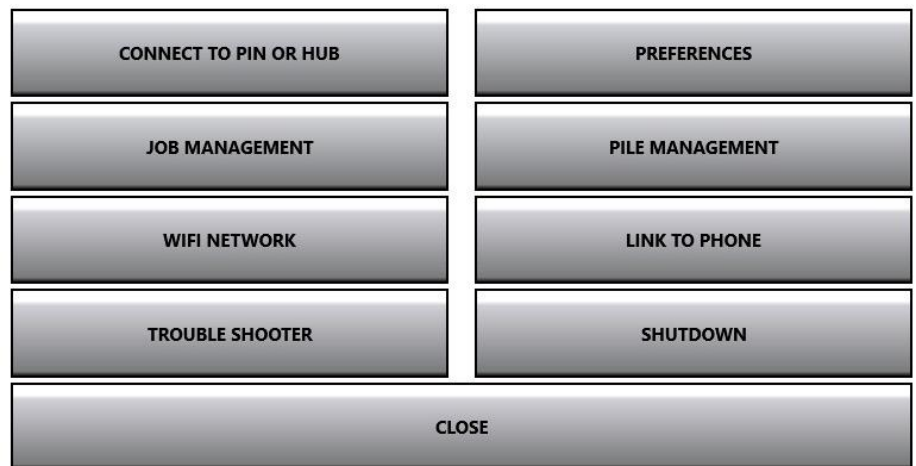
## TROUBLESHOOTING

The **TROUBLESHOOTING** screen is used by CMI if you require tech support for software versions or other matters.

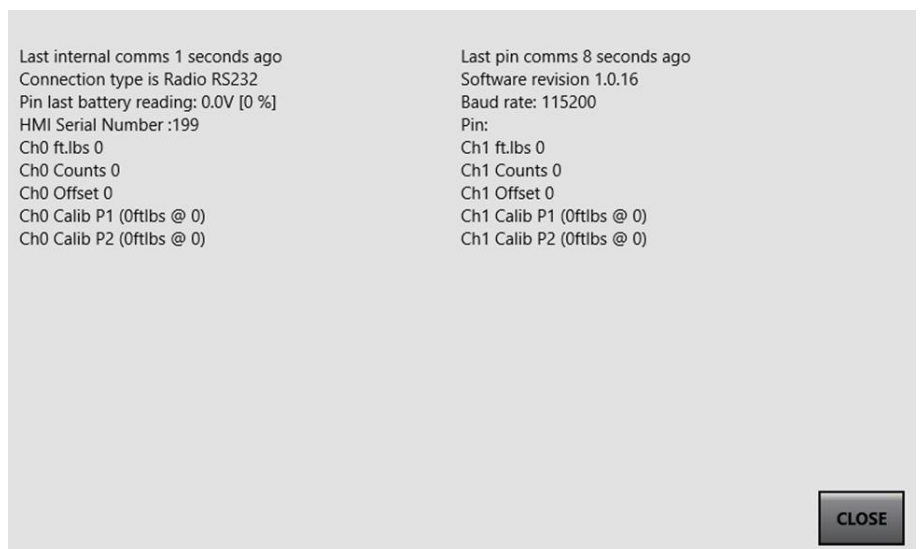


When you have the Torq-Hub connected, the serial number of the hub is located at the top of the display in the middle.

1. Touch **MENU**
2. Touch **TROUBLESHOOTER**



In here will be able to see your serial number on the right-hand side as well as the total hours and calibration date.





## WARRANTY POLICY

### LIMITED WARRANTY

*CMI warrants their products against manufacture defects, faulty design, material, and workmanship for the periods listed below. The warranty starts on the delivery date to the retail owner and is non-transferable.*

*WARRANTY PERIOD: From the delivery of the product to the original user of the Torq-Hub System - 12 months on all components against manufacture defects.*

### WARRANTY SERVICE

*All new CMI products are warranted to be free from defects in material and workmanship, which may cause failure under normal usage and service when used for the purpose intended. The CMI warranty covers faulty workmanship and defective parts manufactured by CMI. The warranty does not extend to transportation cost of parts, nor does it cover consequential loss. CMI equipment must be operated in accordance with the recommended procedures and within the ranges as specified in the Operating Manual.*

*Any claims under this warranty must be made within fourteen (14) days after the buyer learns of the facts upon which claim is based. All claims not made in writing and not received by CMI within the time specified above may be deemed waived. CMI will not be responsible for nor accept any charges for work carried out by out of house repairs, or for charges for spare parts fitted to any CMI products without written approval from CMI.*

*CMI's liability on all losses and damages to buyer resulting from any cause whatsoever, including CMI negligence irrespective of whether such defects are discoverable or latent, shall in no event exceed the purchase price of the parts, with respect to which losses or damages are claimed, or, at the discretion of CMI.*

### VOID WARRANTY

*This warranty is void if field repairs or modifications have been made to the Torq-Hub system without prior written approval. The complete unit must be available for inspection in its original but alleged failed condition. This warranty does not apply to normal wear or to damage resulting from accident, abnormal use, abuse, or neglect.*

*CMI makes no other warranty. All other warranties, whether expressed or implied, such as warranties of merchantability or fitness for a particular purpose, are hereby excluded and disclaimed to the extent that they exceed the warranties expressly granted in this limited warranty. In no event shall CMI be liable for consequential or incidental damages.*

## **RETURNED GOODS POLICY**

*CMI reserves the right to determine whether products claimed to be defective shall be inspected when returned to the factory. If judged by CMI to be defective in material or workmanship, the product will be replaced, or a credit issued at the option of CMI.*

*Upon notification of defect, CMI warranty department will issue a Return Materials Authorization (RMA) number. All returns for replacement or credit MUST be accompanied by an RMA number. Products returned without an RMA number will be rejected and returned to the sender freight collect. All returns must be shipped "prepaid". Products shipped "collect" will be refused. Proof of purchase, such as an invoice number, must accompany returns.*

*All RMA's must be returned within to CMI within 7 days of the request.*



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