



USER INSTRUCTIONS FOR TecSonics™ PUMP WITH READER

GET THE APP

DOWNLOAD THE TecSonics™ APP FROM
THE APPLE APP STORE OR GOOGLE
PLAY STORE FOR **FREE**.
SEARCH: TecSonics

SET-UP

1. Your TecSonics™ Pump will come with the pump information and baseline preprogrammed into its reader. It is ready to take readings.
2. To access the reader on your pump, you need a Bluetooth capable mobile device or tablet that uses the iOS or Android operating system and has the TecSonics™ App downloaded on to it.
3. The TecSonics™ App is **free** to download.
4. The mobile device or tablet only requires Bluetooth to operate the system. Wi-Fi and cellular data are **not** required to take and view readings.

OPERATION AND MAINTENANCE

1. We recommend taking measurements every 6 months for the first year or two, then once a year afterwards, using the instructions in this document.
2. As the connection between the App and the reader is based on Bluetooth Low Energy (BTLE) 5.4, and the process requires pressing a power button on the reader, readings must be taken by station personnel at the pump.
3. The readings are stored on the reader, so different station personnel can access the reader and its data, with different mobile devices.
4. The reader can hold 100 sets of readings. This equates to 75 to 100 years of data.
5. The password for the device is the same as Cardinal Pump's general phone number:

3303328558

If you wish to change this password, please contact your Cardinal or Unifin sales representative for instructions on how to do this. If you forget your password, the reader must be returned for processing.

6. The reader is an IP68 housing and has an expected battery life span of up to 10 years. Contact your Cardinal or Unifin sales representative if you require assistance in changing the battery. No other maintenance is required for the reader.
7. Updates to the App will be issued through the Apple App and Google Play stores like most other Apps secured from these stores.

WARRANTY

1. App updates will be issued through the Apple App and Google Play stores like most other Apps secured from these stores.
2. The reader itself has a 12-month hardware warranty, and with most issues requiring replacement rather than repair. The reader must be returned within 30 days of a reported error under this warranty.

USING THE SYSTEM

1. CONNECTING TO THE READER

- a. The reader will come physically installed onto the TecSonics™ pump.

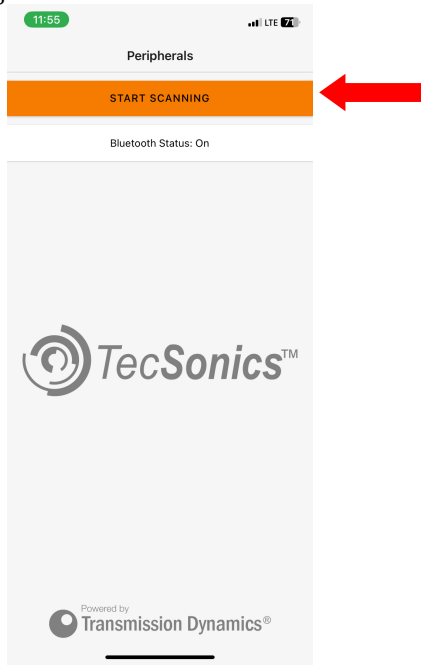


- b. Ensure the Bluetooth on your mobile device or tablet is on. Then select the TecSonics™ App from the tablet.



 TecSonics™

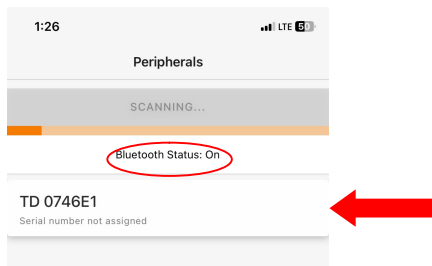
- c. When you see the starting screen for the TecSonics™ App, tap on the “Start Scanning” button.



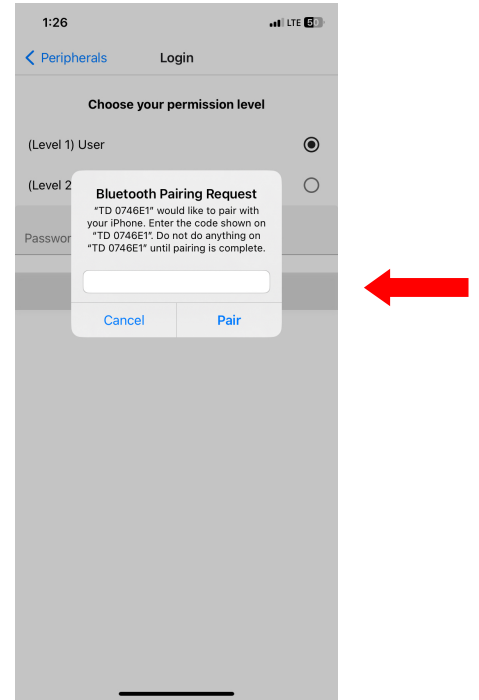
- d. Press the power button on the reader. The button should have a flashing green circle and the words “Waiting for connection” on the reader’s display screen, indicating it is ready to pair, just a like a set of Bluetooth headphones.



- e. The reader should now be listed in the App. Each reader will have a unique address code. If no devices are shown, make sure the Bluetooth Status is “On”. If your Bluetooth is “Off”, shut down the app, turn on your Bluetooth, and restart. When the reader is shown on the list, tap on its listing.



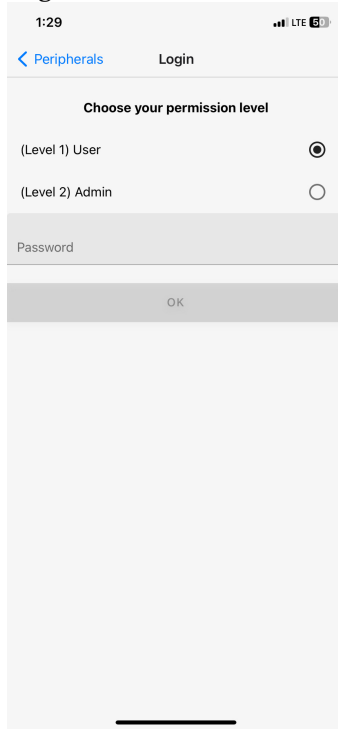
- f. For a first-time connection, the reader will send a pairing code. Enter that in the dialog box on the app.



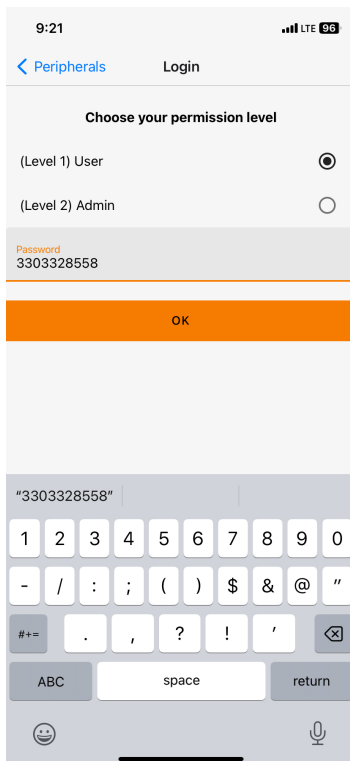
- g. Your device should now be paired. The reader screen will be blank, and the power button will be a solid green. The App will display a log-in screen.



Log in Screen

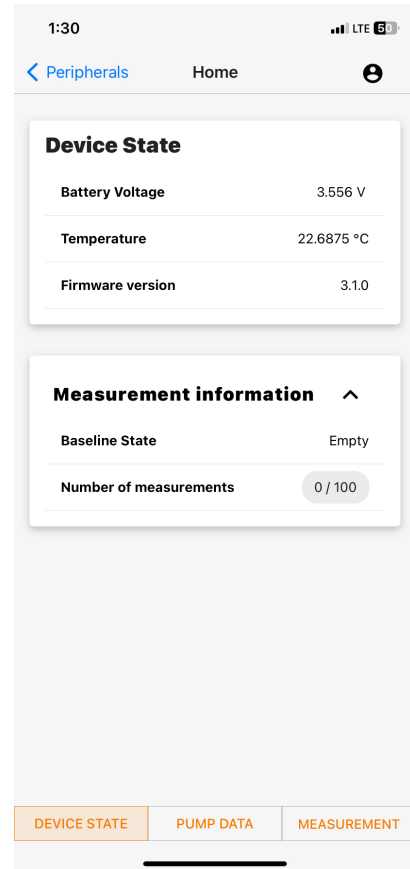


- h. Tap on “(Level 1) User” and then enter the default password: **3303328558**. Tap “OK” when done.



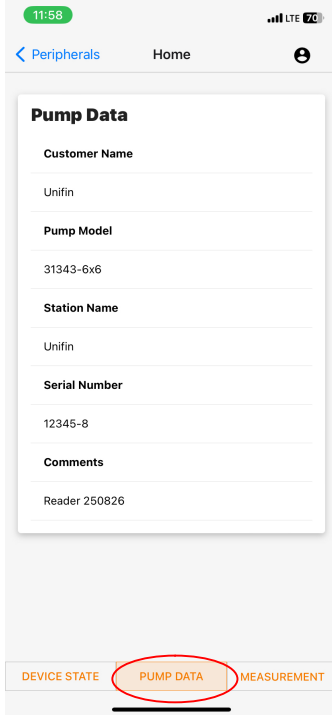
- i. This should bring you to the DEVICE STATE tab on the screen. On this tab/screen you can see:
- battery voltage for the reader,
 - temperature of the reader
 - firmware version of the reader
 - status of the baseline
 - number of measurements on the reader.

You are now connected to the reader.

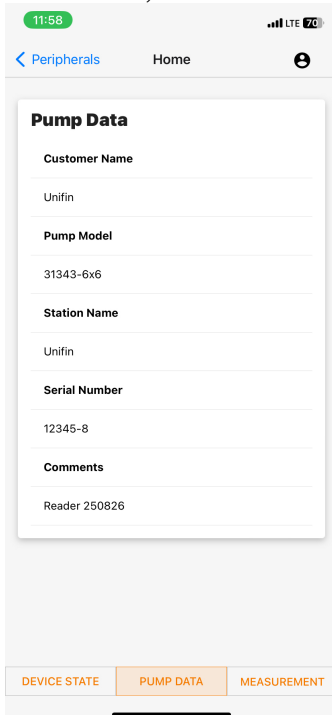


2. VIEWING THE PUMP INFORMATION

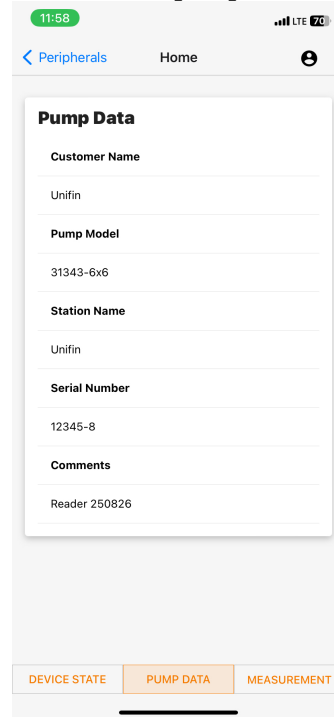
- a. Tap on the PUMP DATA tab at the bottom of the screen. This screen will display information about the pump and the reader.



- b. Your reader will come preprogrammed with this information. On this screen you will your company name, your pump's serial number, your station name if known at time of shipment, and the pump serial number. Additionally, the serial number for the reader itself, is included in the comments.

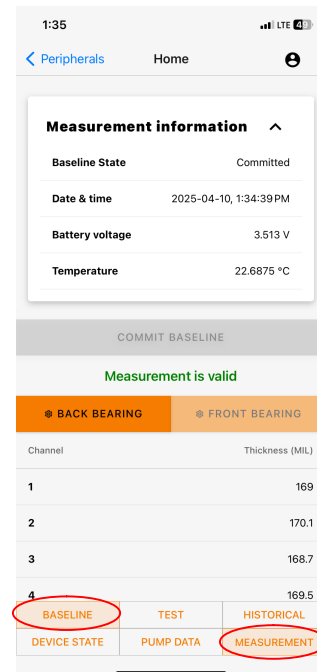


- c. The pump serial number should match the serial number on the pump for the system to work properly. If this serial number does not match, remove and reattach the reader to the correct pump.

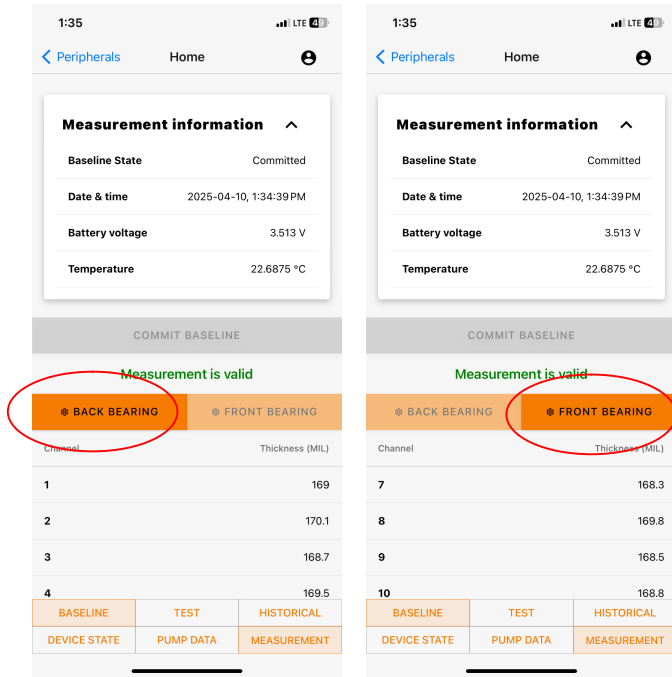


3. VIEWING THE BASELINE

- a. Your reader will come with the baselines shown on the pump nameplate already preprogrammed. If you wish to view them, tap on the MEASUREMENT tab at the bottom of the screen. This tab will then display three sub-tabs above the main row of tabs. Tap on the BASELINE tab.

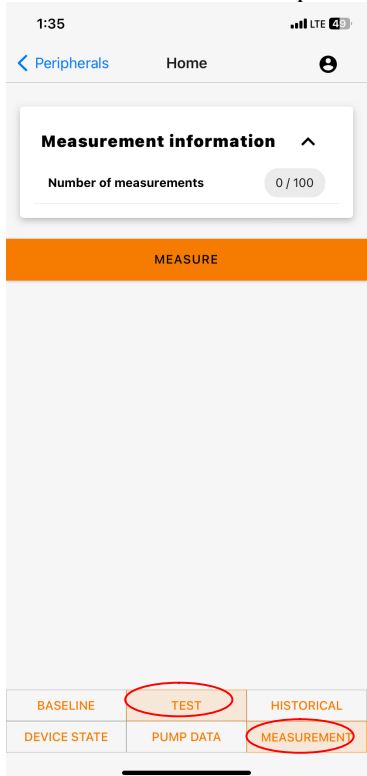


- b. The baseline for each bearing can be viewed by tapping on the “BACK BEARING” or “FRONT BEARING” buttons. Transducers 1 to 6 are found under “BACK BEARING”, and transducers 7 to 12 are found under “FRONT BEARING”.

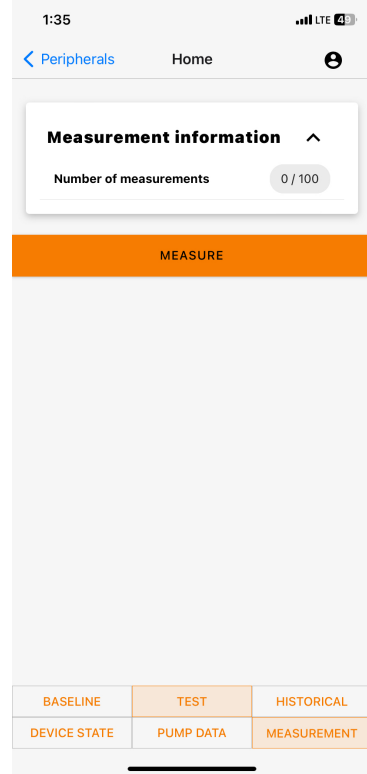


4. TAKING MEASUREMENTS

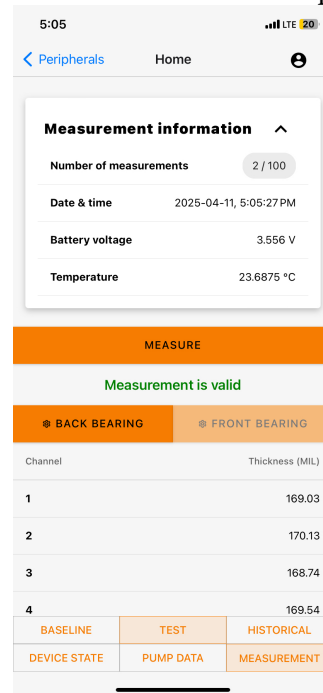
- a. Tap on the MEASUREMENT tab at the bottom of the screen. This screen will then display three measurement sub-tabs above the main row of tabs. Tap on the TEST tab.



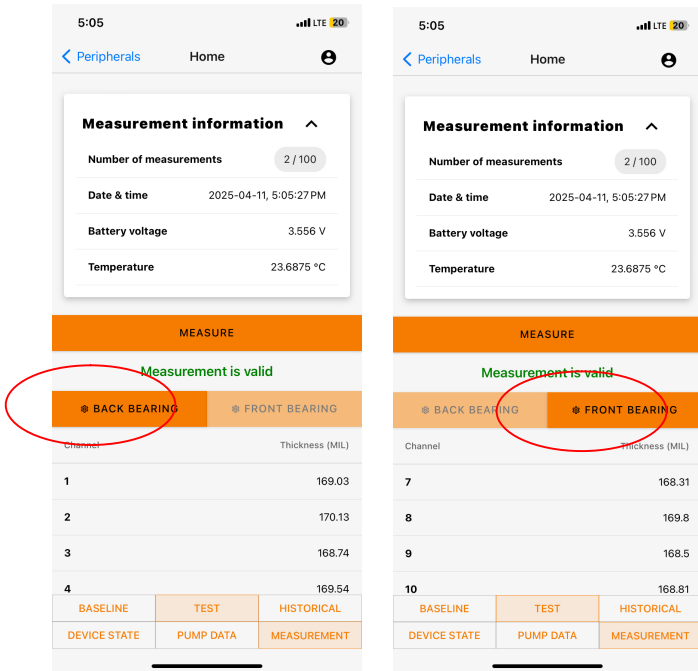
- b. Tap on the “Measure” button.



- c. The system will then measure all transducers and display the results. Additionally, the system will record and display:
- The total number of measurements on reader.
 - The date and time of the reading.
 - The reader’s battery voltage.
 - The reader’s temperature

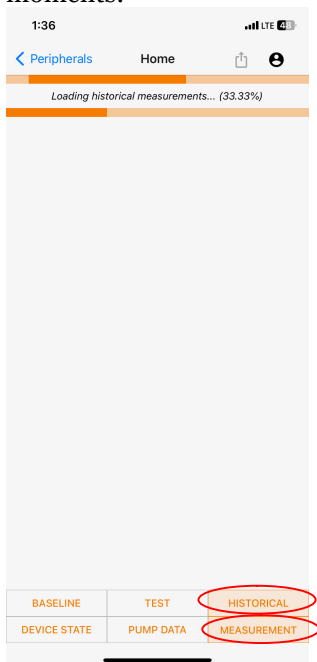


- d. You can view readings for each bearing by tapping on the “BACK BEARING” or “FRONT BEARING” buttons.

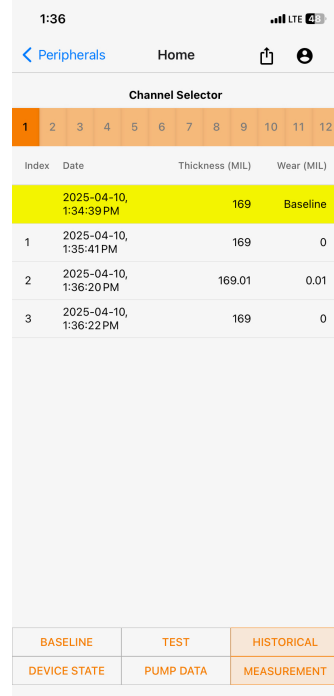


4. VIEW AND EXPORT THE DATA

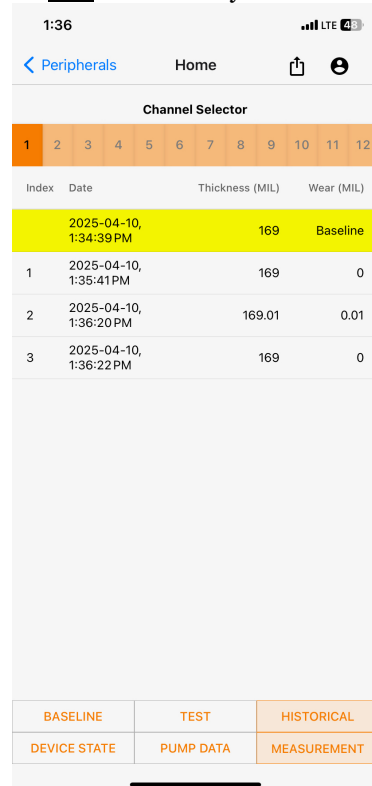
- a. Tap on the MEASUREMENT tab at the bottom of the screen. This screen will then display three measurement sub-tabs above the main tabs. Tap on the HISTORICAL tab. The process of uploading historical data from the reader to the App could take a few moments.



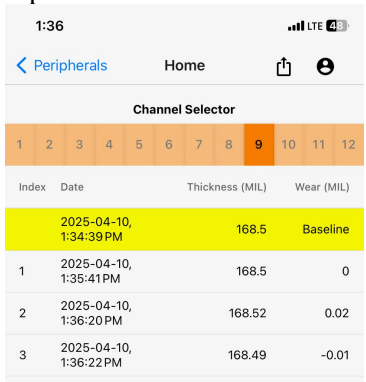
- b. When the data is loaded, the data for transducer 1 will be displayed.



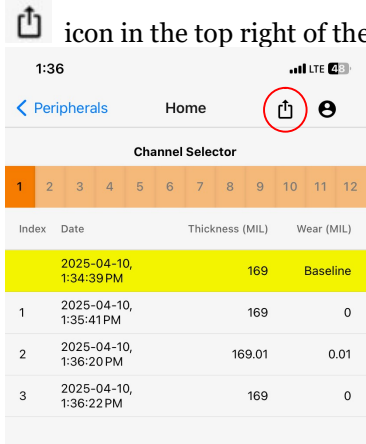
- c. The baseline reference will be displayed in a yellow bar, with the subsequent readings (or thickness) displayed below. Each reading will have the date and time it was taken, and its variance to the baseline in mils. This will enable you to quickly scan for any wear trends. Variances within +/- 0.3 mils are within the accuracy range of the system and do **not** indicate any wear on the bearing.



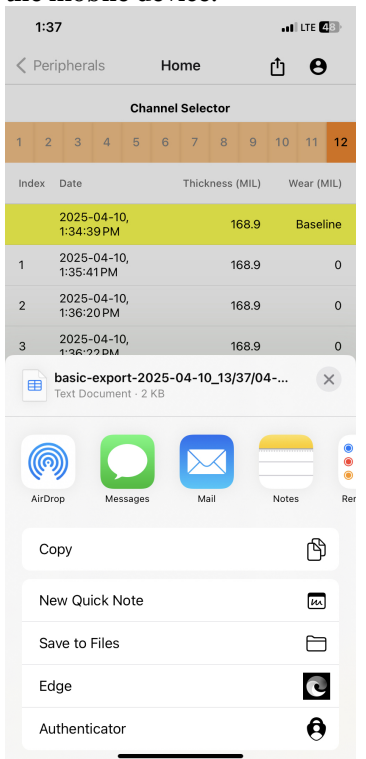
- d. Each transducer can be viewed by tapping on its number in the Channel Selector at the top of the screen.



- e. To export the data as a *.csv file, tap on the icon in the top right of the screen.



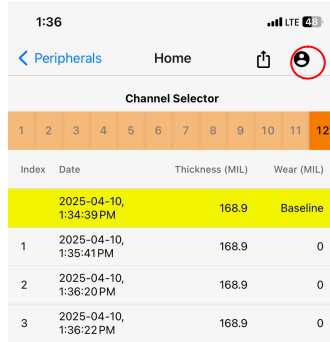
- f. Your mobile device's file sharing options will be displayed at the bottom of the screen. You can then email the file or save the file on the mobile device.



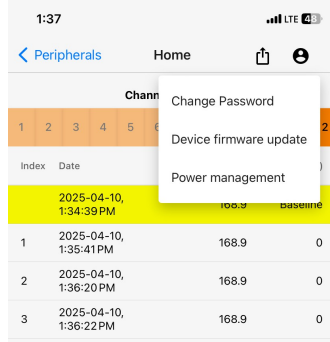
- g. The data file will include all the information from the PUMP DATA tab, the baseline, and all historical readings.

5. POWERING DOWN THE READER

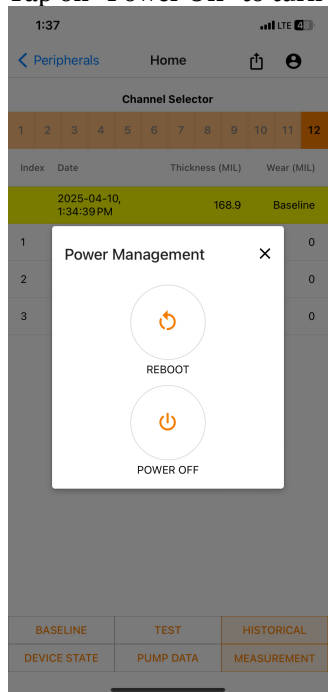
- a. The reader will power down itself within 3 minutes of inactivity within the App, or when not connected to the App.
 b. The reader can also be shut down manually. Tap on the icon in the top right corner of the screen.



- c. Tap on "Power management".



- d. Tap on "Power Off" to turn off the reader.



- e. Close the App on your mobile device.

6. ADDITIONAL INFORMATION AND SUPPORT

- a. If you require additional information or support, contact your Cardinal or Unifin sales representative.
- b. You can also reach out using the information listed below.



Cardinal
PUMPS & EXCHANGERS
A **Wabtec** company

Cardinal Pumps & Exchangers, Inc.
1425 Quaker Court
Salem, Ohio 44460 (U.S.A.)
Phone: 330-332-8558
Fax: 330-332-1560
Sales: 330-425-7146
Web Site: wabteccorp.com



U4.10.1.3-1 R1 TecSonics™ App – User Instructions for TecSonics™ Pump with Reader

Rev	Details	By	Date
1	Updated App Icon	JWW	4/17/2025
0	Original Issue	JWW	4/12/2025