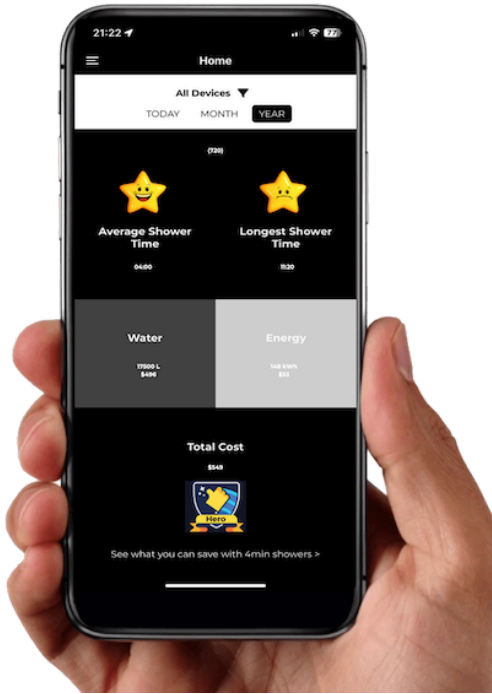




SHOWERSTAR™

USER MANUAL



<https://touchgrid.com/>

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TouchGrid Pty Ltd

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1 INTRODUCTION

If you enjoy hot-water showers, you are also consuming energy in heating up water for your showers, so every effort to shorten your shower times not only conserves precious water, but also expensive water-heating energy.

ShowerStar is a simple but effective device that conserves water and the energy used to heat the water for showers.

ShowerStar features coloured LEDS to notify you at different stages in each shower, with the result being you can consciously change your behavior to take shorter, more water and energy efficient showers.

ShowerStar provides visual feedback when:

1. Water flow detected
2. Timer started
3. Half-time
4. Full-time
5. Over-time

A USB rechargeable LiPo battery lasts 6-8 months before needing recharging¹.

The Timer is configurable up to 10 minutes, with a default shower time of four minutes.


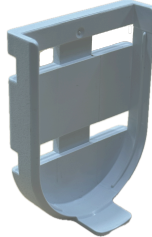




The clean design enables installation with the technical know-how needed. Simply mount the ShowerStar using the included cable ties to any shower pipe or showerhead and you're ready to save water and energy!

¹ Assuming 4 showers a day and default alert settings..

2 FEATURES



2.1 WHAT'S IN THE BOX

<p>ShowerStar (1)</p> 	<p>Mounting Cradle (1)</p> 	<p>USB Type-C Charging Cable (1)</p> 
<p>USB Type C to Type A Adapter (1)</p> 	<p>Cable Ties (2)</p> 	<p>1 x Shower Flow Rate Measurement Bag</p> 

3 INSTALLATION

3.1 CABLE TIES

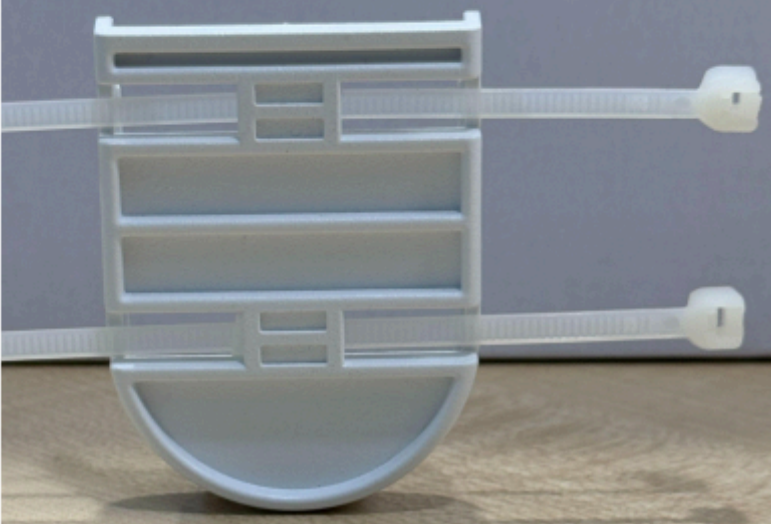
Insert a cable tie into the upper slot on the mounting cradle. Then insert the second cable tie into the lower slot.

The rounded end of the mounting cradle should point down, with the flat end facing up.

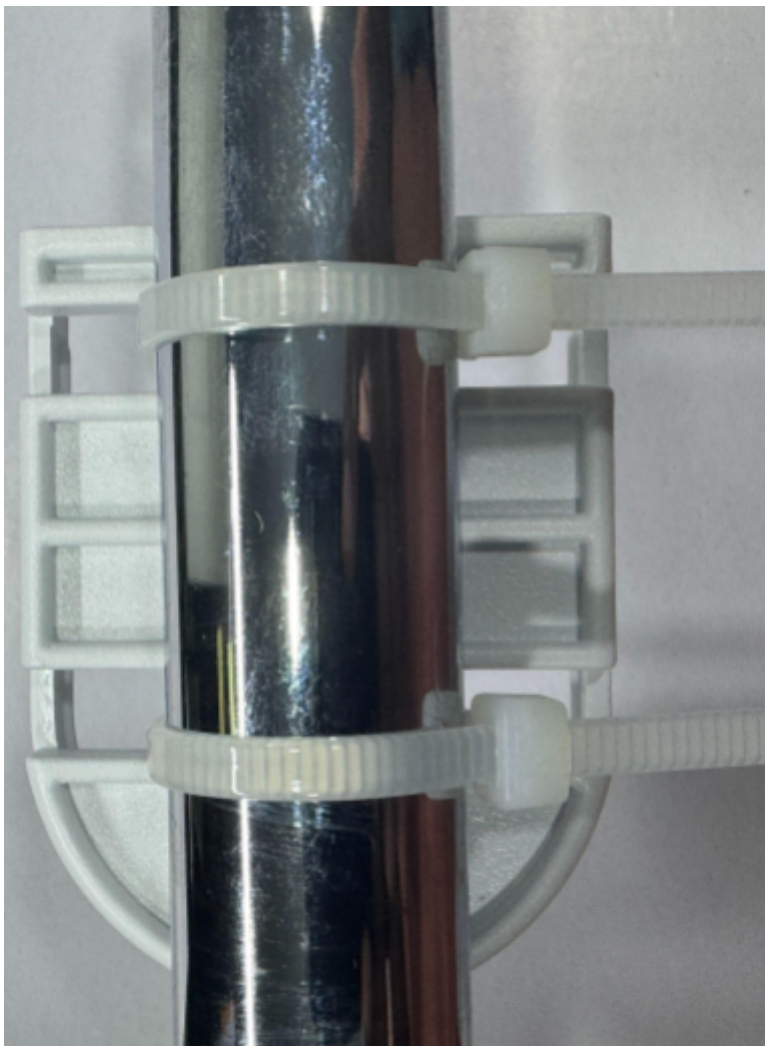
Front View



Rear View

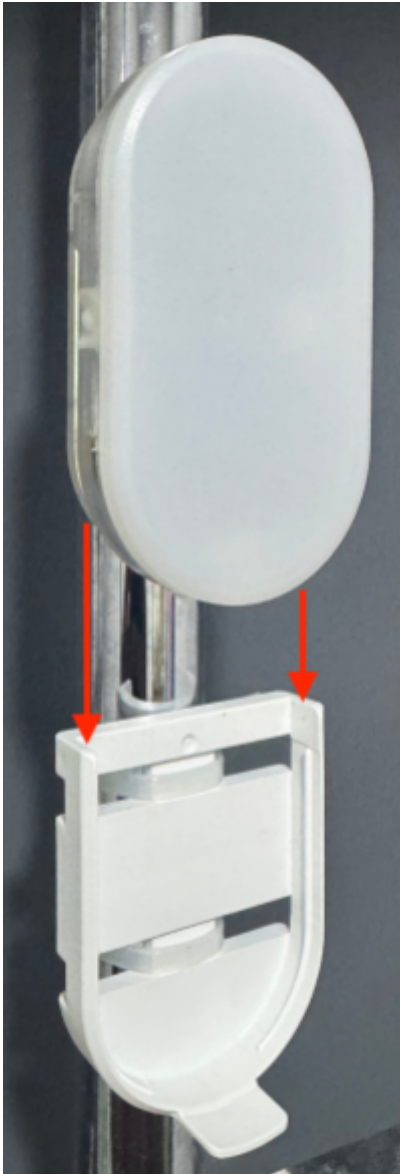


Wrap both cable ties around the pipe, then take the pointed end and insert it into the head of the cable tie, one at a time. Ratchet both cable ties tight to ensure the mounting cradle is properly fixed and does not slide along the shower pipes.

**Note**

- Mount the ShowerStar 5 to 6ft./ 1.5-1.8m above floor level.
- If installing the ShowerStar onto the flexible pipe, do not over-tighten to avoid compressing the pipe.
- Trim off excess length off the cable ties.

Slide the unit top down into the mounting cradle. The protruded tip of the mounting cradle should slide right into the grooves along the rounded end of the body, securing the unit.



4 CHARGING

When you first receive your ShowerStar unit, it must be charged for at least 6 hours before use. Connect the USB Type-C cable to the charging port on the ShowerStar body, then connect the other end to any 5VDC phone or USB charger and plug the charger into a power supply socket.



* USB Type-A to Type-C adaptor included as an accessory.

Power on the ShowerStar device (press and hold the Operation Button for 4 seconds) when you are charging, and the RGB LED indicator will light up in **red** to indicate that the unit is charging.

Once fully charged, the RGB LED indicator will light up **green**. You can then disconnect the USB Type-C charging cable and slide it back into the mounting cradle.

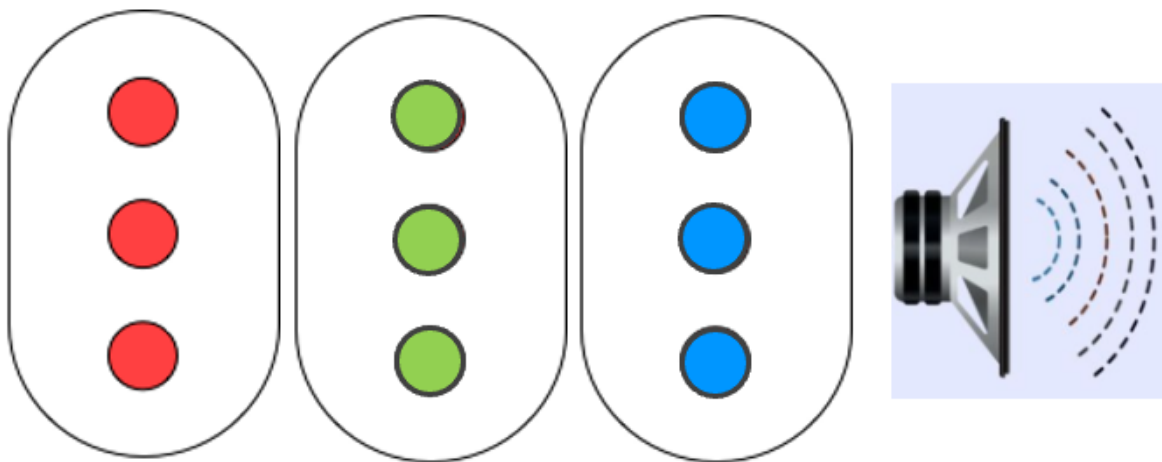
The battery will typically last six to eight months, depending on configuration and frequency of showers.

4.1 POWERING ON + OFF

Press and hold the Operation Button for 4 seconds to power on. To power OFF, press and hold the Operation Button for 5 seconds. The red indicator lights up and then extinguishes.

4.2 STARTUP

On power up, the RGB LED indicators light up: **RED**, **GREEN**, then **BLUE**, and the speaker beeps.




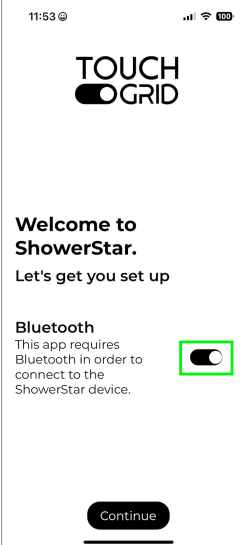
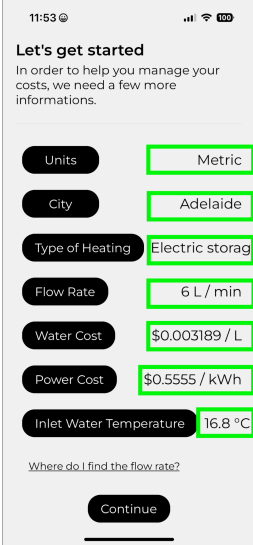
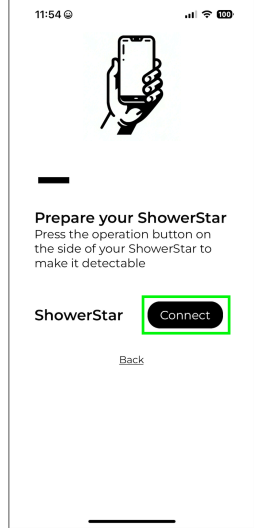
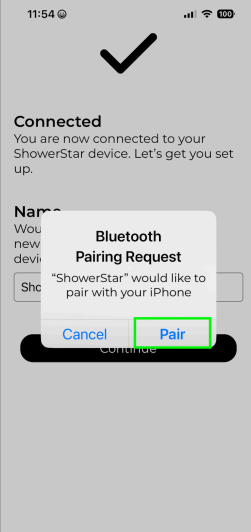
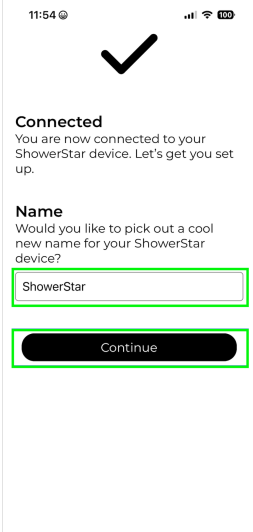
5 CONFIGURATIONS

Download the App “ShowerStar” from the App Store or Google Play.

5.1 PAIRING

*** Turn Bluetooth on on your mobile device settings.**

Open the “ShowerStar” App on your mobile device and follow the steps below.

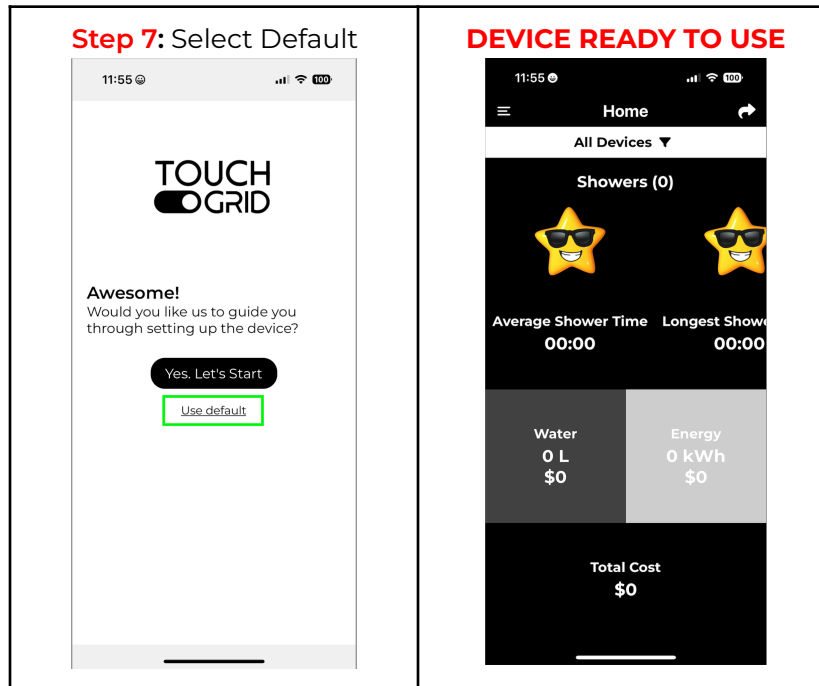
<p>Step 1: Welcome Page</p> 	<p>Step 2: Turn On Bluetooth</p> 	<p>Step 3: Key in the details.</p> 
<p>Step 4: Connect the device</p> 	<p>Step 5: Pair the device</p> 	<p>Step 6: Name your device</p> 

*** Step 3:** Refer to [Section 6.4 App Settings, Page 17](#) for the details.

: You can re-configure these settings later in the App under the App Settings page..

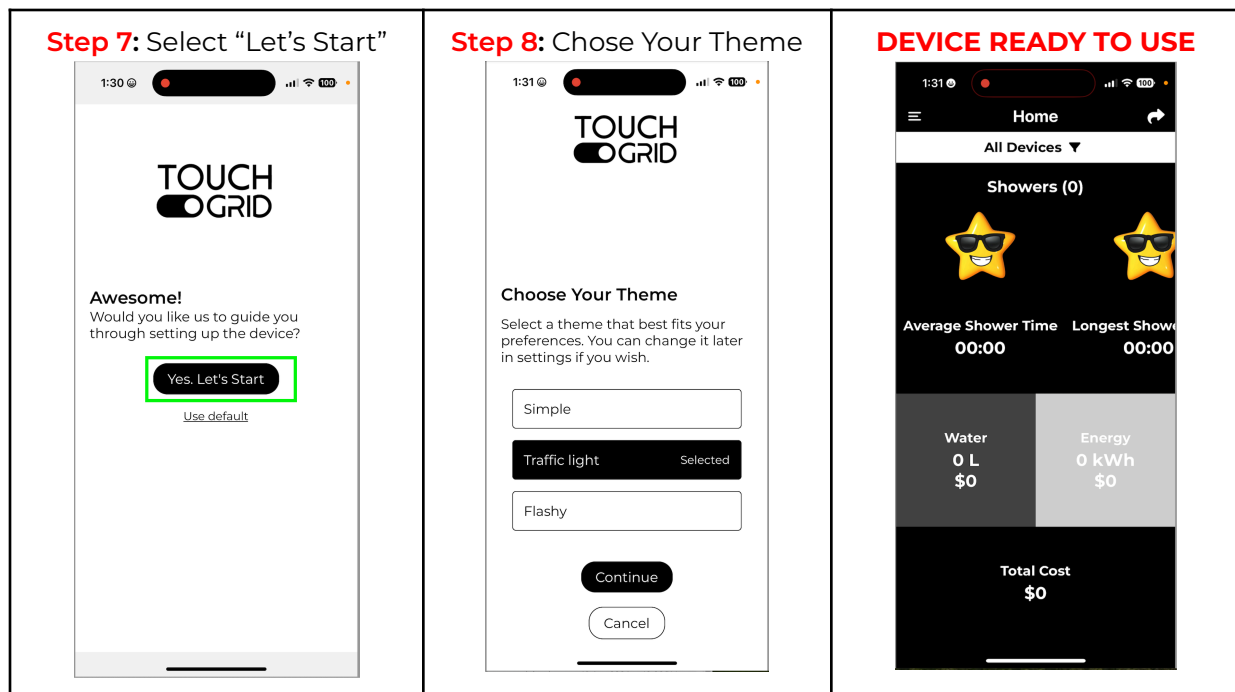
*** Bluetooth RF indoor range is ~16 ft / 5 meters.**

5.2.1 DEFAULT SETTINGS “Use default”



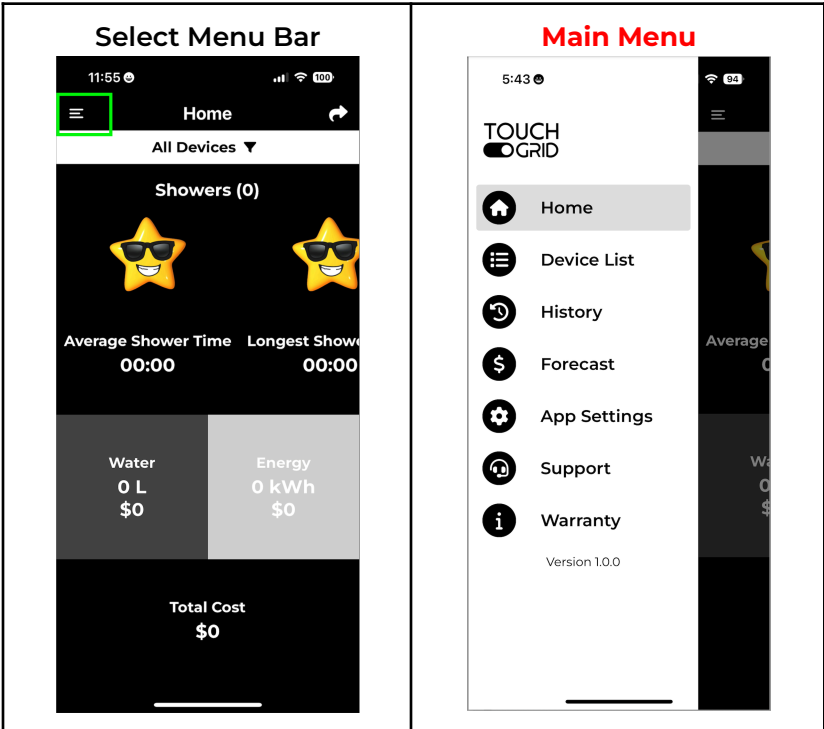
Once the setup wizard has completed the setup, you will be greeted with the Home page.

5.2.1 CUSTOMISATION “Yes. Let’s Start”

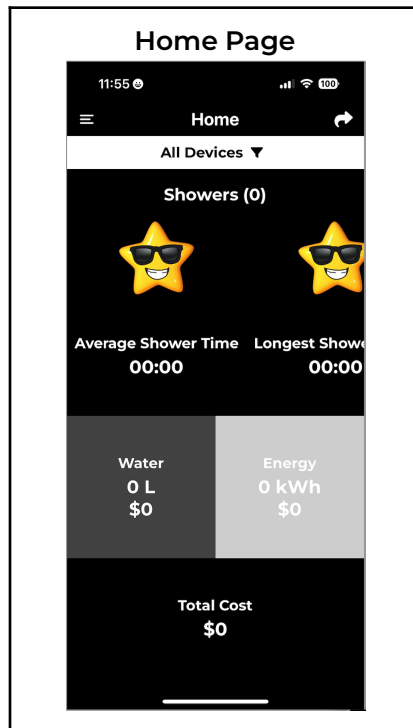


6 APP MAIN MENU

The App allows customisation of timer and alert settings, firmware updates, and entering of water and energy data for savings calculation. The menu will be launched, showing navigation to additional pages.



6.1 HOME

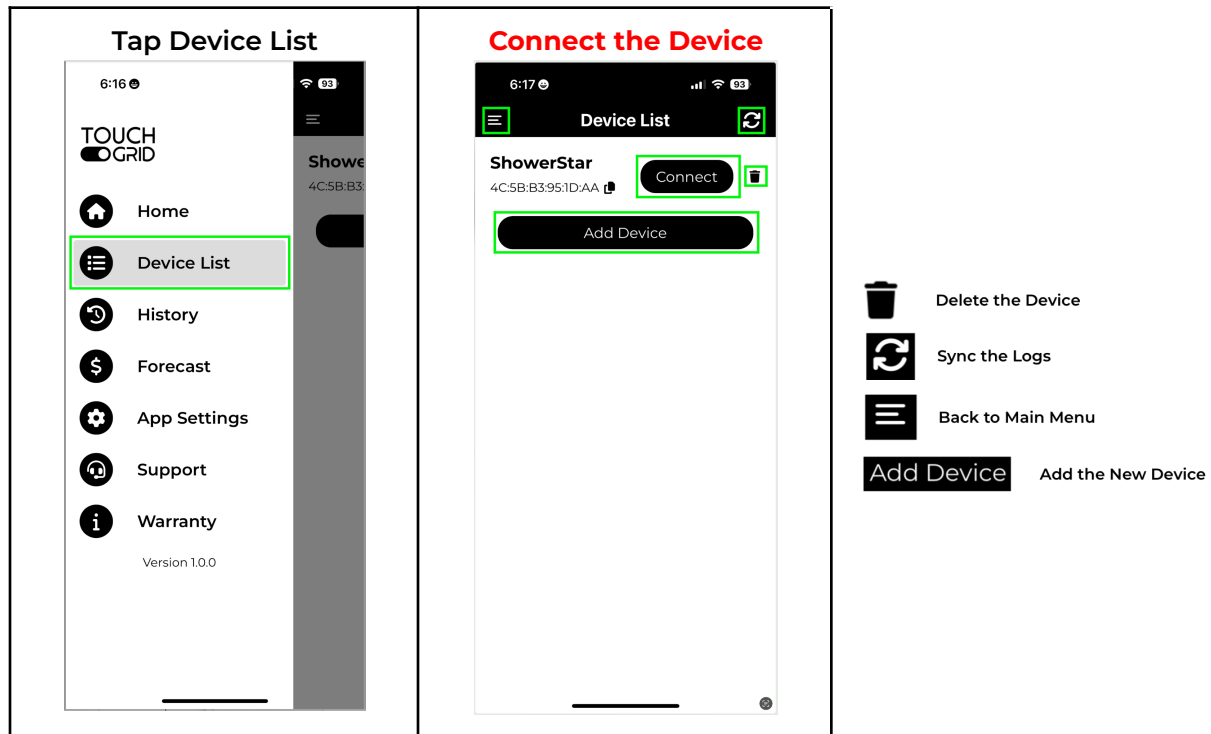


Here, some of the key figures recorded by the ShowerStar device, such as the average and longest shower times, as well as the units of water and energy saved, are shown. The most important figure here of course is the total cost saved from using the ShowerStar!

For more information, please refer to the detailed illustrations below:

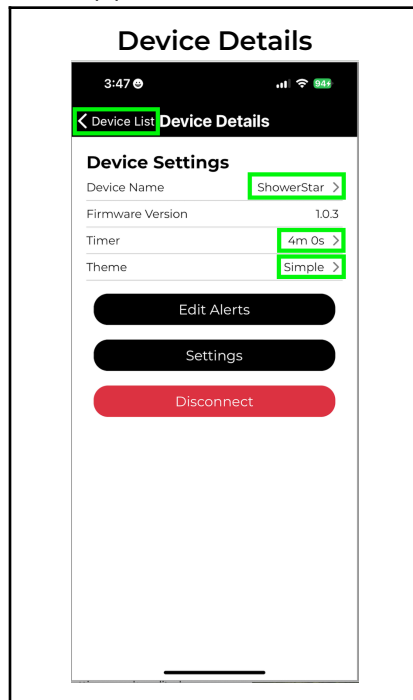


6.2 DEVICE LIST AND CONNECT



6.2.1 DEVICE DETAILS

The App allows customisation of timer and alert settings, firmware updates



Using the App settings can be edited:

- Device name
- Timer (0-10 mins)
- Theme

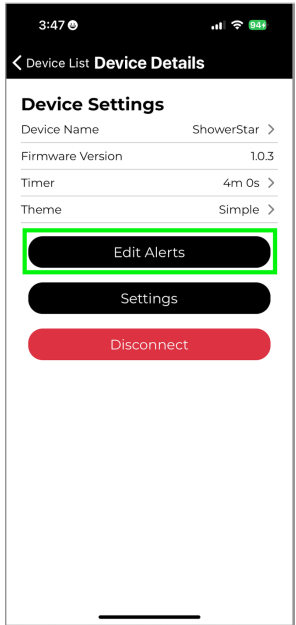
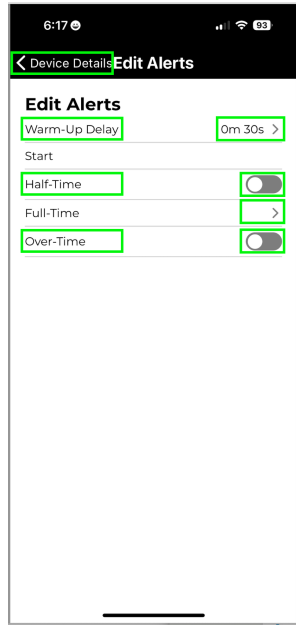
Disconnect

To terminate connection to the ShowerStar device, simply tap on Disconnect.

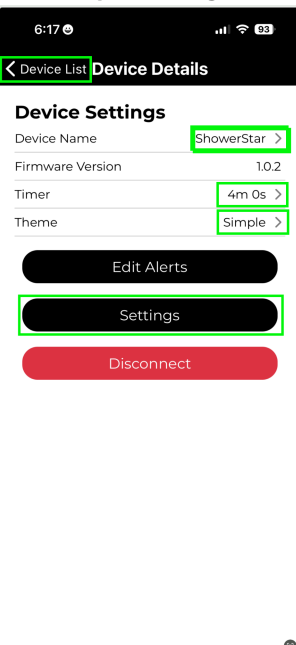
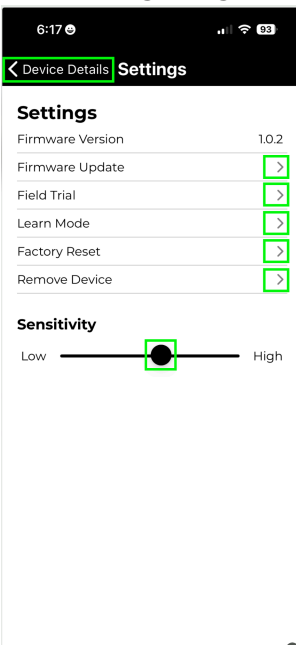
Note, doing so does not remove the paired connection to the ShowerStar device. It simply terminates the Bluetooth connection to the device.

6.2.2 EDIT DEVICE ALERTS

Using the App, the settings can be edited

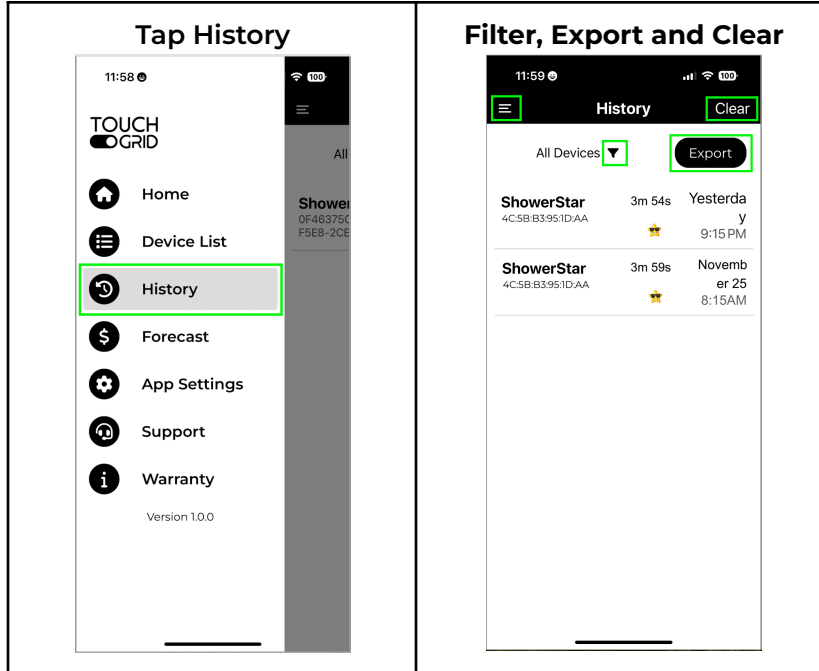
<p>Tap Edit Alerts</p> 	<p>Edit Alert Page</p> 	<p>Using the App these alerts can be edited:</p> <ul style="list-style-type: none"> • Warm Up Delay time (0-2mins) • Half-time alerts (enable / disable) • Full-time alerts (brightness / duration) • Over-time alerts (enable / disable / brightness / duration / frequency) <p>*Tap the green boxes to edit the above settings.</p> <p>*Make sure you save the changes.</p>
---	---	---

6.2.3 EDIT DEVICE SETTINGS

<p>Tap Settings</p> 	<p>Settings Page</p> 	<p>Using the App these settings can be edited:</p> <ul style="list-style-type: none"> • Update firmware • Field trial mode (enable / disable) • Learn mode (recalibrates accelerometer to detect when shower is flowing) • Factory reset • Remove device • Adjust sensitivity manually (Low / High) <p>*Tap the green boxes to set the above settings.</p>
--	---	--

6.3 HISTORY

The History page will be shown containing a log of all the showers recorded by the ShowerStar device.



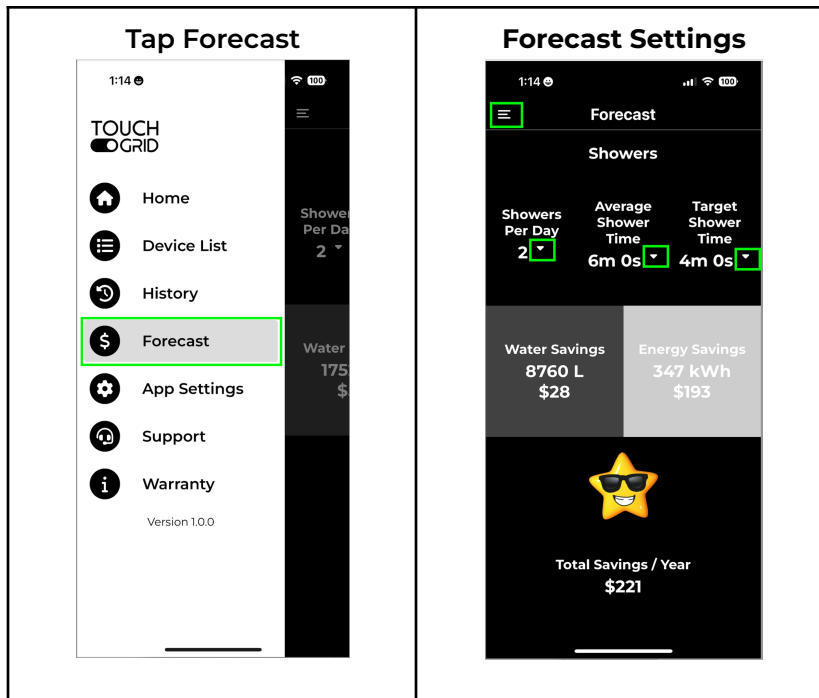
Note:
The History page shows all your devices by their names and the respective Device ID, so you will be able to differentiate the shower logs recorded from different devices.

- Filter By device(s).**
(select the device that need to be filter)
- Export** Export data
- Clear** Erase all recorded shower logs
- Back to main menu**

- Export button which allows you to export all shower logs to a CSV file, allowing you to share the log.
- Tap on CLEAR to confirm clearing all logs.

6.4 FORECAST

The Forecast page will then be shown indicating some annual savings figures.



The calculation works by getting the time difference between the Average Shower Time and the Target Shower Time implemented by the ShowerStar device.

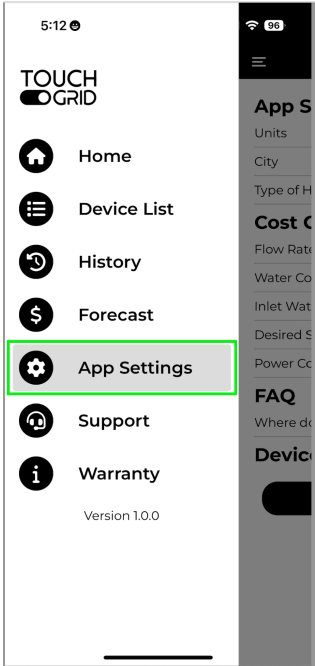
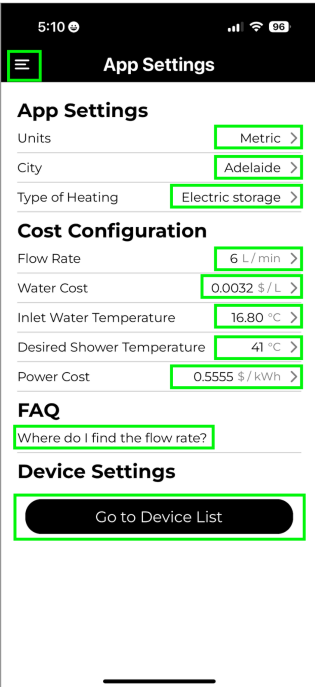
The time difference is then multiplied with the number of showers per day, and the water flow rate to obtain the units of water saved per day. This is then multiplied with 365 to obtain the units of water saved per year. Multiply this with the water cost and the cost of water savings can be obtained.

- Key in shower per day / select average and target shower time
- Back to main menu

*Make sure you save the changes.

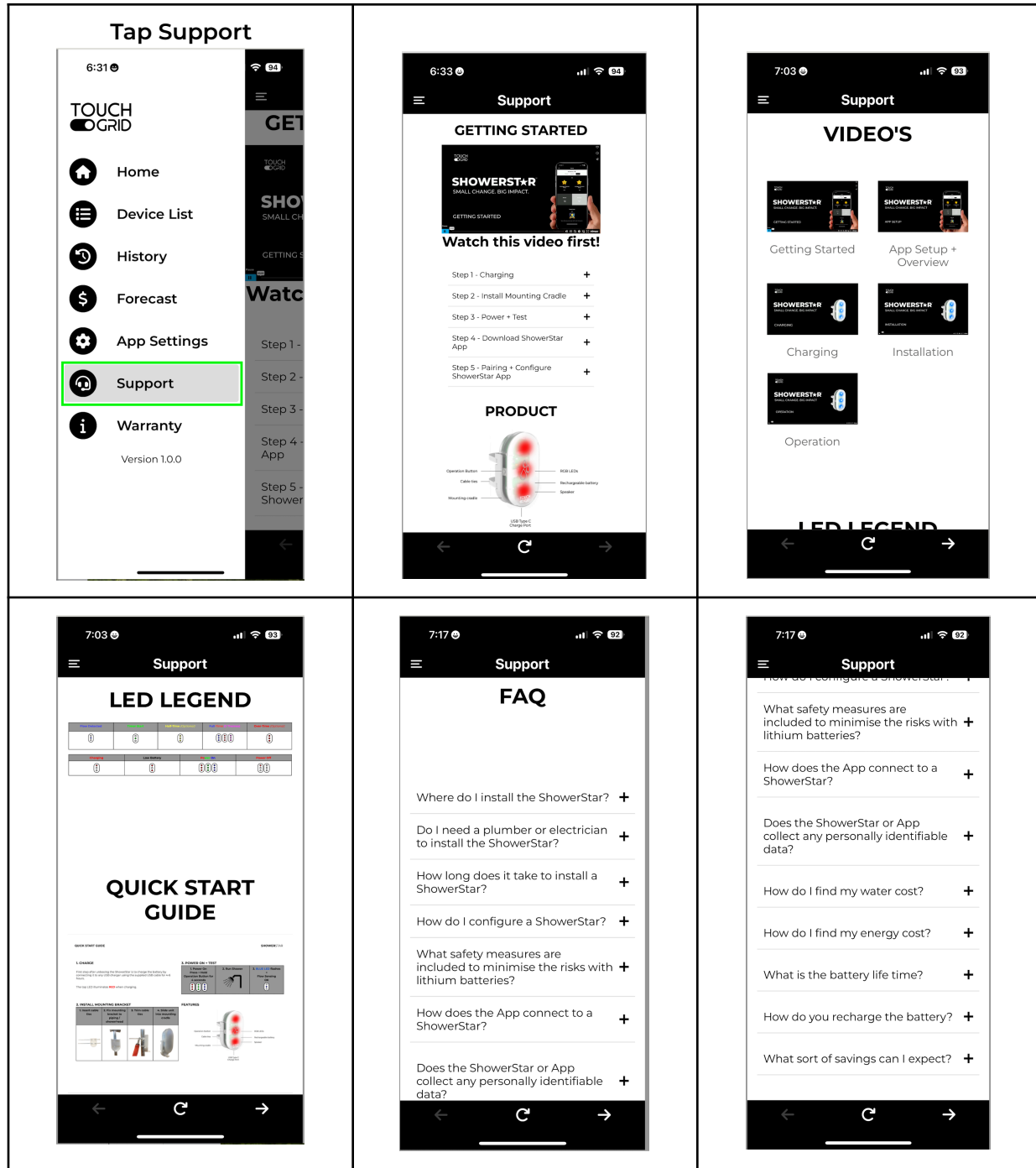
6.5 APP SETTINGS

Here, you may reconfigure the settings that you first setup in the Let's get started page.

 <p>Tap APP Settings</p> <p>5:12</p> <p>TOUCH GRID</p> <ul style="list-style-type: none"> Home Device List History Forecast App Settings Support Warranty <p>Version 1.0.0</p>	<p>The App requires some information from you in order to calculate usages and savings of your water and energy resources.</p>
 <p>Set App Settings</p> <p>5:10</p> <p>App Settings</p> <p>App Settings</p> <ul style="list-style-type: none"> Units: Metric City: Adelaide Type of Heating: Electric storage <p>Cost Configuration</p> <ul style="list-style-type: none"> Flow Rate: 6 L/min Water Cost: 0.0032 \$/L Inlet Water Temperature: 16.80 °C Desired Shower Temperature: 41 °C Power Cost: 0.5555 \$/kWh <p>FAQ</p> <p>Where do I find the flow rate?</p> <p>Device Settings</p> <p>Go to Device List</p>	<p>App Settings:</p> <ul style="list-style-type: none"> Units > Select metric / imperial City > Select the listed city or other Type of Heating > Select the type of water heating system <ul style="list-style-type: none"> • Gas storage • Gas instantaneous • Electric storage • Electric heat pump <p>Cost Configuration:</p> <ul style="list-style-type: none"> Flow Rate > Enter the Flow Rate measured on your shower system. Select FAQ "where do I find the flow rate?" for more information on measuring your water flow rate on your shower system. [or Refer to Page 22: Measuring Water Flow]. *Water Cost > The cost of one unit of water. *Inlet Water Temperature > The water temperature at the inlet pipe. Desired Shower Temperature > Shower water temperature *Power Cost > The cost of one unit of power. <p>* Automatically populated once you have selected the City and Type of Heating fields.</p>

6.6 SUPPORT

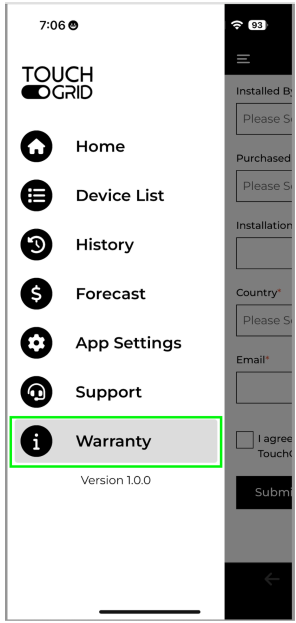
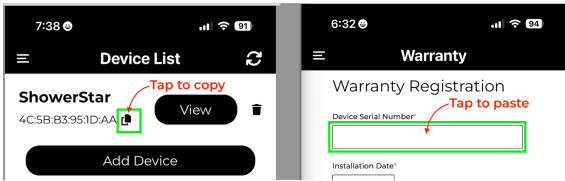
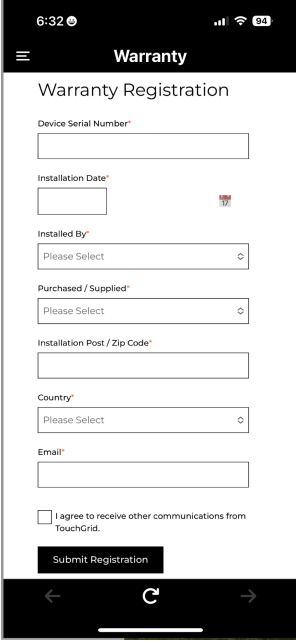

Tap on the Support tab on the side menu to access documentations and some Frequently Asked Questions for the ShowerStar device.



Tap on the Expand icon “+” next to the question to expand the explanation section.

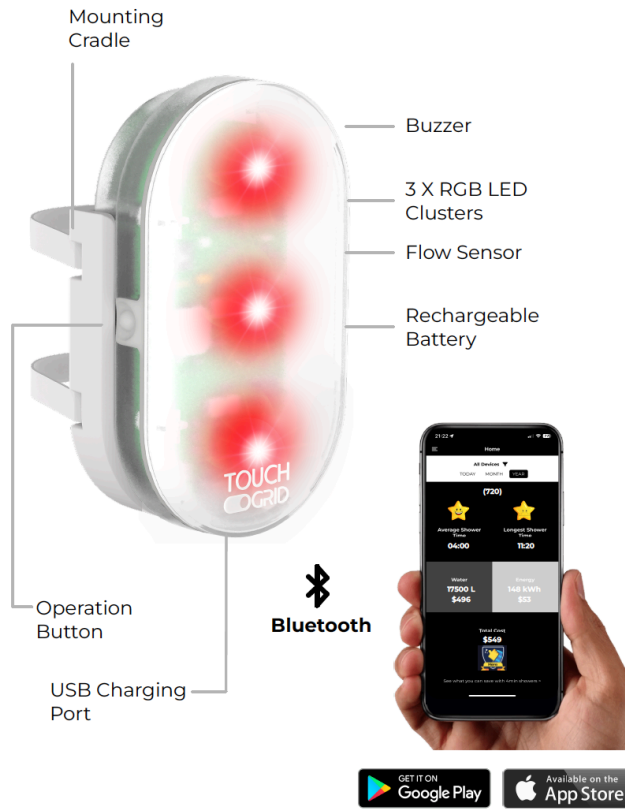
6.7 WARRANTY

To activate your warranty, tap on the Warranty tab in the App and fill up the Warranty Registration form. You may refer to the following table to help fill up the form:

<p>Tap Warranty</p> 	<p>Device serial number copy and paste Step 1: Tap to copy from Device List page Step 2: Paste to Warranty Registration page or key in the serial number.</p> <p>Device Serial Number</p>  <p>Installation date</p> <p>Select the date of installation for the device. The warranty will cover a 1-year period from the installation date.</p> <p>Installed By</p> <p>Specify the party who installed the device. Options:</p> <ul style="list-style-type: none"> • Self Install • Plumber • Energy Contractor • Other
<p>Activate Warranty</p> 	<p>Purchased / Supplied</p> <p>Specify the purchaser of the device. Options:</p> <ul style="list-style-type: none"> • Self Purchase • Supplied by water utility • Supplied by energy utility • Other <p>Installation Post / Zip Code</p> <p>Enter the zip code of your address.</p> <p>Country</p> <p>Enter your country of residence.</p> <p>Email</p> <p>Enter your email address.</p> <p>Tick</p> <p><input type="checkbox"/> I agree to receive other communications from TouchGrid.</p> <p>Submit Registration</p> 

7 SPECIFICATIONS

FEATURES



WARRANTY

1-year limited warranty

APPROVALS

FCC (US) Part15.247
 CE - EMC (EN IEC613261)
 RED ETSI EN 310 489-1, EN 301 489-17,
 ETSI EN 300 328, EN IEC 62311:

RCM, RoHS, Prop65

Battery (UL1642, UL2054, IEC62133, CB, CE, RoHS, UN38.3, REACH)

FOR INDOOR USE ONLY.
WATER RESISTANT, DO NOT IMMERSE FULLY IN WATER.

ORDERING

TG168 ShowerStar Shower Sensor Timer

LEGAL

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 Designed in Australia. Made in Malaysia.

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 TouchGrid and ShowerStar are registered trademarks of TouchGrid Pty Ltd. All other trademarks are the property of their respective owners. Patents Pending.

ELECTRICAL

FOR INDOOR USE ONLY

Battery	1000mAh 3.7V Lipo Recharge every ~8-12 months* *Assumes 4 showers / day and subject to alert configuration
Charging	5VDC USB Charger
Communications	Bluetooth Low Energy™
App OS Support	iOS™ + Android™
Estimated Product Life	8-10 years

PHYSICAL

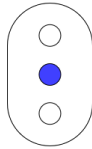
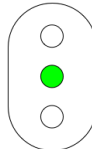
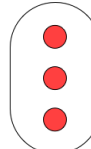
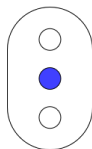
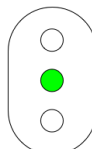
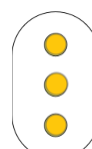
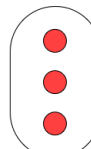
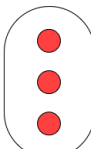
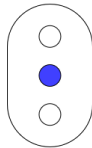
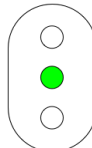
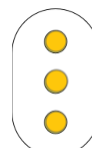
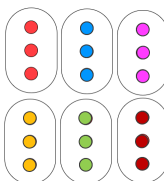
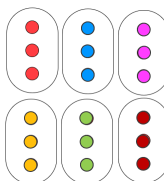
Operating Temp	32° to 113° F 0° to 45° C
Storage Temp	14° to 140° F -10° to 60° C
IP Rating	55
L x W x H	3.27" x 1.8" x 0.9"
	83mm x 45mm x 23mm
Weight	2.3 ounces 65 grams

8 GLOSSARY

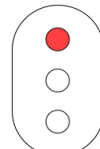

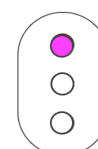

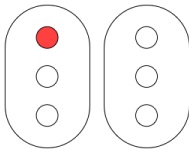
8.1 THEME

Once installed and configured you can begin saving water and energy as you actively shorten your showers.

The following table shows the difference between the 3 operating themes of the ShowerStar device:

Theme	Water Flow	Timer Start	Half Time (Optional)	Full Time	Over-Time (Optional)
Simple					
Traffic Light					
Flashy					

8.2 OPERATION

Charging	Fully Charged	Low Battery	Power On	Power Off
				

8.3 MEASURING FLOW RATE



Step 1: Turn on the shower head

Turn on the shower head to be tested and adjust the flow to how you normally use it.

Step 2: Hold the SHOWER FLOW MEASUREMENT BAG

Hold the SHOWER FLOW MEASUREMENT BAG supplied with the product open and place it under the fixture for exactly FIVE (5) seconds. Make sure to capture all of the water coming out of the shower head.

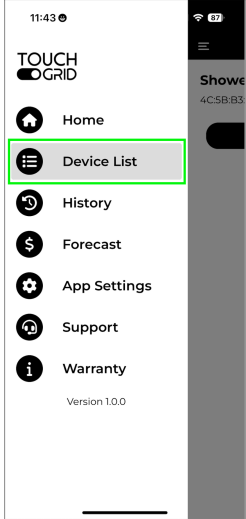

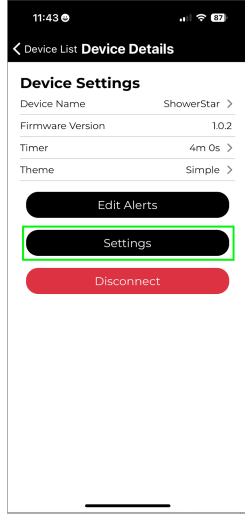
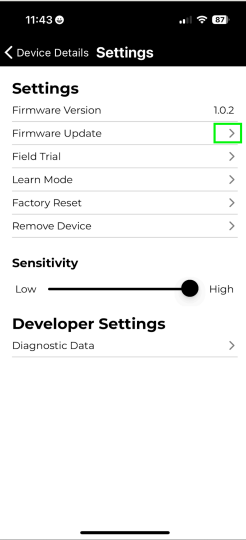
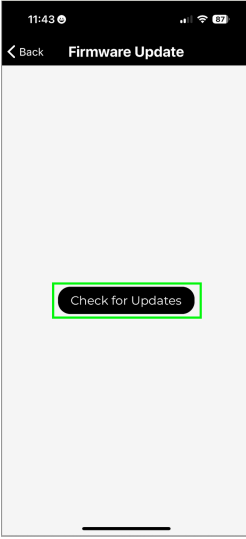
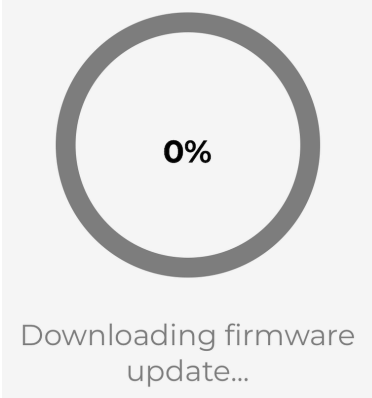

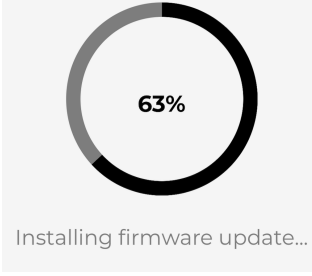
Step 3: Remove the bag from the flow

Remove the bag from the flow. Holding the bag open, raise to eye level and read the flow rate measurement. Repeat to check the result. Input the flow rate value to the TouchGrid ShowerStar App.

Tip:

If your showerhead is too wide for this flow rate bag, use the same procedure but collect the water in a bucket and afterwards pour the collected water into the measurement bag to determine the flow rate.

8.4 FIRMWARE UPDATE

<p>Step 1: Tap Device List</p> 	<p>Step 2: Tap View</p> 	<p>Step 3: Tap Settings</p> 
<p>Step 4: Tap Firmware Update</p> 	<p>Step 5: Tap Check for Updates</p> 	<p>Auto Downloading Firmware Updates</p> 
<p>Auto Rebooting the Device</p> <p>Rebooting Device</p> <p>The device is rebooting to apply the firmware update. Please wait...</p> 	<p>Auto Firmware Updates</p> 	<p>ONCE COMPLETE THE APP WILL RETURN TO DEVICE DETAIL APP PAGE</p>

8.5 DEVICE BONDING REMOVAL

Remove device bonding to your mobile.

<pre> graph TD A[USB Power] --> B[Remove Bonding] B --> C[Press Button 3 sec] C --> D[Blue Flash 3 sec] D --> E[Press Button For 1 sec During Blue Flashing] E --> F[Remove Device Bonding] </pre>	<p>Steps:</p> <ol style="list-style-type: none"> 1. Turn On the Device. 2. Connect the device to the phone charger. 3. Turn On the power for the charger. 4. Red / Green will be flashing. 5. Press the device button for 4 seconds. 6. Blue will be flashing. 7. Quickly press the device button once during the blue flashing. 8. The blue flashing will stop. 9. The device bonding to you phone removed.
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8.6 SENSITIVITY

There is also a 15-step sensitivity slider that controls how sensitive the ShowerStar device is at detecting the start of your showers.

As this is different for differing shower systems, you should experiment with the sensitivity setting to accurately capture the start of your showers.

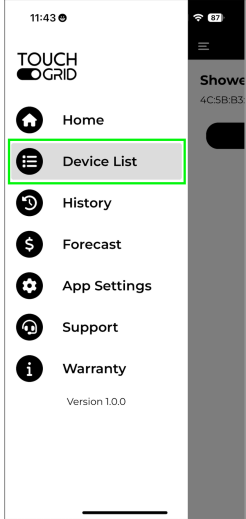
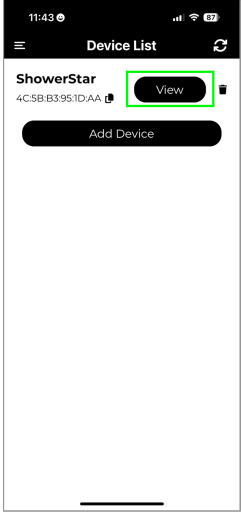
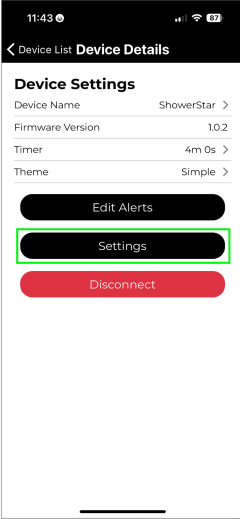
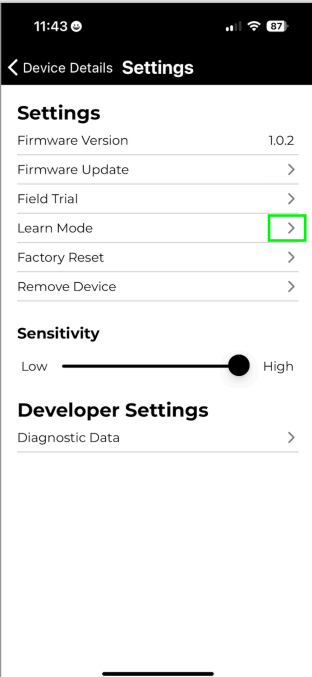
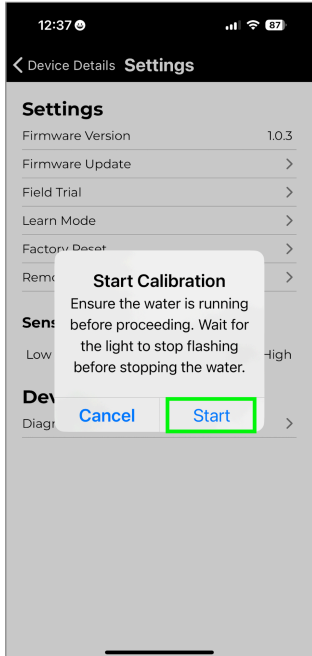
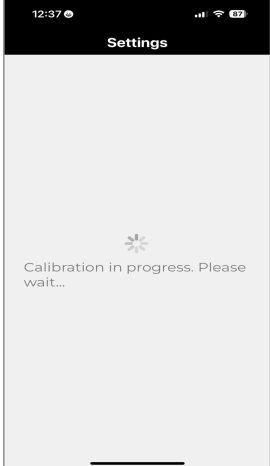
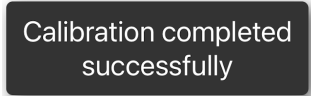
<p>Step 1: Tap Device List</p>	<p>Step 2: Select View</p>	<p>Step 3: Tap Settings</p>	<p>Step 4: Drag the slider</p>
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* Set the sensitivity lower if the device false triggering (blue flashing if no water running).

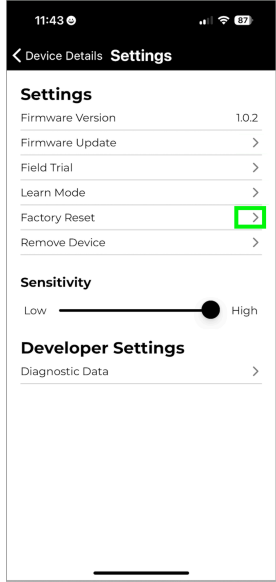
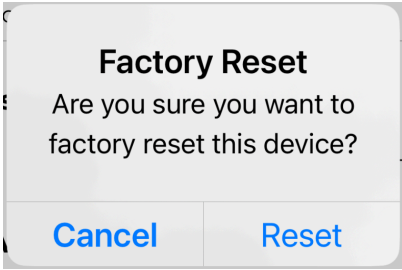
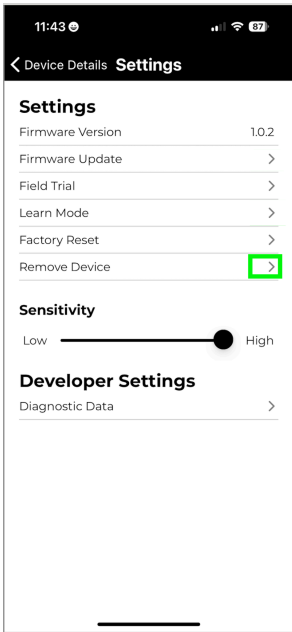
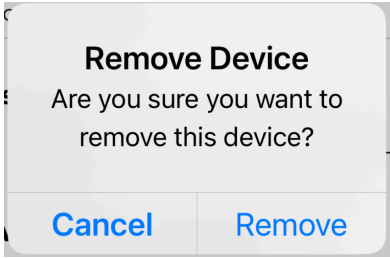
8.7 LEARN MODE

Tap on Learn Mode to allow your ShowerStar device to calibrate its sensors to accurately detect the start of your showers.

The Start Calibration window will then be shown. Slide the ShowerStar device to its mounting cradle, run your shower, and tap on START.

<p>Step 1: Tap Device List</p> 	<p>Step 2: Tap View/Connect</p> 	<p>Step 3: Tap Settings</p> 
<p>Step 4: Tap Learn Mode</p> 	<p>Step 5: Ensure water is running and Select Start</p> 	<p>Auto Calibration in Progress (After completing it will return to App Settings Page)</p>  <p>Calibration complete successfully message</p> 

8.8 FACTORY RESET / REMOVE DEVICE

<p>FACTORY RESET</p>  <p>The screenshot shows the 'Settings' screen of the ShowerStar app. The 'Factory Reset' option is highlighted with a green box. Other options include Firmware Version (1.0.2), Firmware Update, Field Trial, Learn Mode, Remove Device, Sensitivity (Low to High slider), and Developer Settings (Diagnostic Data).</p>	<p>To reset the ShowerStar device to its factory default settings, tap on Factory Reset.</p> <p>The Factory Reset window will then be shown, seeking confirmation that you wish to reset to factory default settings.</p> <p>Tap on RESET to continue.</p>  <p>The dialog box is titled 'Factory Reset' and asks 'Are you sure you want to factory reset this device?'. It has two buttons: 'Cancel' and 'Reset'.</p>
<p>REMOVE DEVICE</p>  <p>The screenshot shows the 'Settings' screen of the ShowerStar app. The 'Remove Device' option is highlighted with a green box. Other options include Firmware Version (1.0.2), Firmware Update, Field Trial, Learn Mode, Factory Reset, Sensitivity (Low to High slider), and Developer Settings (Diagnostic Data).</p>	<p>To remove the paired connection between the ShowerStar device to your mobile device, tap on Remove Device.</p> <p>The following Remove Device window will be shown.</p> <p>Tap on REMOVE to confirm removing the paired connection to the ShowerStar device.</p>  <p>The dialog box is titled 'Remove Device' and asks 'Are you sure you want to remove this device?'. It has two buttons: 'Cancel' and 'Remove'.</p>

8.9 FIELD TRIAL

The Field Trial Mode is a special operating mode designed to assist utility companies to determine the effectiveness of the ShowerStar device.

Tap on the toggle to enable or disable the Field Trial Mode for the device.

Step 1: Tap Device List

Step 2: Tap View/Connect

Step 3: Tap Settings

Step 3: Set Field Trial

Step 4: Turn On Field Trial

Step 5: Confirmation


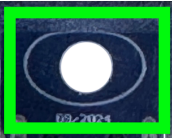
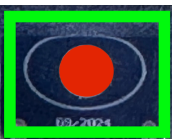
Step 6: Field Trial Started

On/Off the Field Trial

Move the slider to set number of showers for Field Trial.

9 WATER INDICATING LABEL

The label will change color (white to red) when water/moisture contact the edge of the label.

<p style="text-align: center;">ShowerStar Back Housing</p> 	 <p>White Color- No water/moisture enters inside the device.</p>  <p>Red Color - Water/Moisture enters inside the device. Remove and turn off the device.</p> <p style="text-align: center;">THE DEVICE FOR INDOOR USE ONLY.</p> <p style="text-align: center;">WATER RESISTANT, DO NOT IMMERSE FULLY IN WATER.</p>
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10 TROUBLESHOOTING

- 10.1 [False timer starts / Blue flashing but no water is running.](#)
Adjust the sensitivity from high to low and monitor again.
Refer to page 24, section 8.6.
- 10.2 [Flushing toilet / Turn On tap water, Blue is flashing](#)
Adjust the sensitivity from high to low and monitor again.
Refer to page 24, section 8.6.
- 10.3 [Cannot connect to my phone after forget the device on mobile phone.](#)
Remove the bonding on your device.
Refer to page 24, section 8.5.
- 10.4 [Phone charger with USB Type A Port.](#)
Use Type A to Type C adapter, included as an accessory.
Refer to page 4, section 2.1.

11 STATEMENTS

11.1 FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

FCC Radiation Exposure Statement: In order to comply with RED RF Exposure requirements, this device must be installed to provide at least 20 cm separation from the human body at all times.

11.2 CE INFORMATION

1. The Radio frequency working range 2402-2480MHz, the max output power 8dBm
2. The distance between user and products should be no less than 20 cm. There is no restriction to use this product across the EU countries.
3. Hereby, We TouchGrid Pty Ltd, declares that this device is in compliance with the essential requirements another relevant provisions of Directive 2014/53/EU. and provide the declares Web link: <https://touchgrid.com/>
4. EU import company and address.
Import: xxxxx,
Manufacturer: YYYYY