

# SmartDip<sup>2</sup>

WIRELESS

## Installation and Operation Guide



## Introduction

This manual serves as a comprehensive guide for the installation, configuration, and operation of Wireless SmartDip.

In this manual, you will find detailed instructions on installing Wireless SmartDip, configuring the system using the web portal, and utilizing its features for real-time data access.

Additionally, you will gain insights into the technical specifications, such as accuracy, battery life, and operating temperature ranges.

For support during the installation process or accessing your tank data, please contact FMT.

For support, please contact:

Phone: +61 8 8240 5585

Email: [support@fmtweb.com](mailto:support@fmtweb.com)

For Terms and Conditions, please visit:

<https://fmtweb.com/terms-and-conditions/>

## General Information

Wireless SmartDip is a wireless tank gauging product, designed to be installed in tanks that do not have a SmartFill Fuel Management System installed.

Wireless SmartDip's set-and-forget automatic gauging system and lightweight design can be installed in less than five minutes, without drilling holes, running wires, or draining your fuel tank.

Internally, Wireless SmartDip is comprised of a solar panel, PCB and battery. The Wireless SmartDip enclosure should always be kept closed and tightly sealed, the o-ring seal should be clean and free of debris, and the screws holding the lid down should be adequately tight.

Access to your tank data is via cloud-based web portal, FMTData.com This platform can be accessed by using a web browser and no special software is needed.

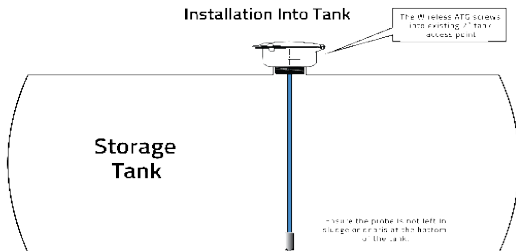
Wireless SmartDip is subject to FMT's standard 2 year warranty period. For further information and exclusions, visit: <https://fmtweb.com/terms-and-conditions/>

## Installing the Wireless SmartDip

Lower the probe into the tank.



Ensure the probe does not rest in sludge or grime in the bottom of the tank. This will cause major faults.



## Installing the Wireless SmartDip

Secure the Wireless SmartDip unit to the tank by rotating the unit clockwise until the thread is tight.



Open the Wireless SmartDip lid by removing 2 screws using a phillips head screwdriver.



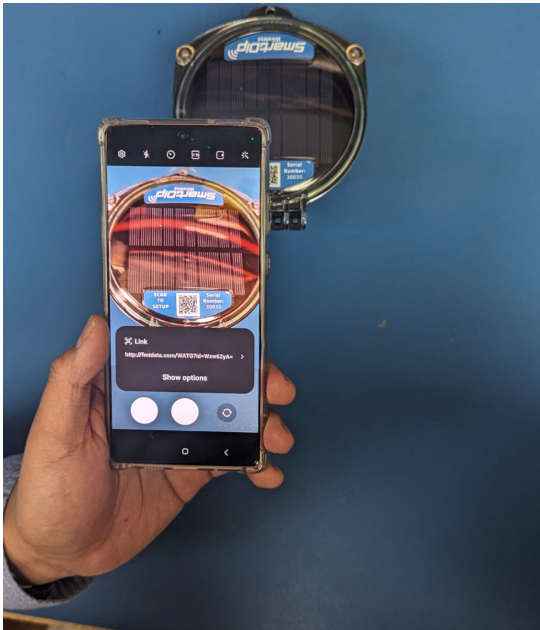
## Installing the Wireless SmartDip

Slide the battery connector on to the pins, being careful not to bend any pins.



## Installing the Wireless SmartDip

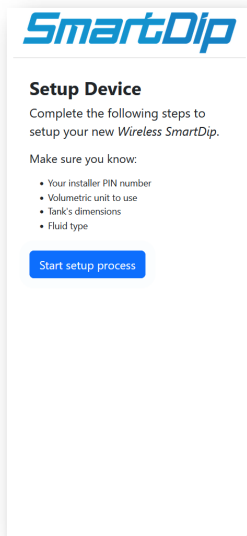
Scan the QR code on the top of the Wireless SmartDip unit to begin setting up.



## Setting the Tank Dimensions

When the QR code is scanned, you will be taken to an automated setup wizard. This wizard is designed to help you make sure the Wireless SmartDip is configured correctly and working as intended.

The first page of the wizard is a welcome page.

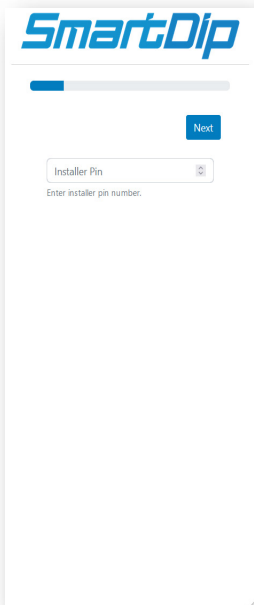




## Setting the Tank Dimensions

The second page is a security check to ensure you are authorised to setup the Wireless SmartDip.

The default PIN is **6789**

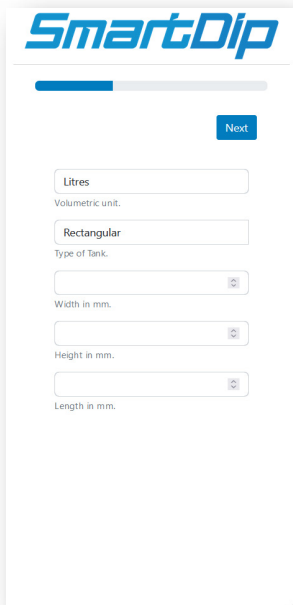


The image shows a mobile application interface for 'SmartDip'. At the top, the 'SmartDip' logo is displayed in a blue, italicized font. Below the logo is a progress bar with a blue segment on the left. To the right of the progress bar is a blue button labeled 'Next'. Below the 'Next' button is a text input field with the placeholder text 'Installer Pin' and a small icon on the right. Underneath the input field is the instruction 'Enter installer pin number.' The entire interface is presented on a white background with a subtle drop shadow.

## Setting the Tank Dimensions

The third page is the tank information page.

This page is where you will enter the dimensions or 20-point dip for the tank.

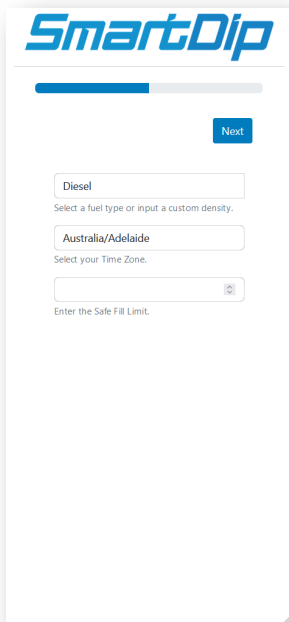


The image shows a mobile application interface for 'SmartDip'. At the top, the 'SmartDip' logo is displayed in a stylized blue font. Below the logo is a progress bar with a blue segment on the left. A blue 'Next' button is positioned to the right of the progress bar. The main form area contains several input fields:

- A text input field containing 'Litres', with the label 'Volumetric unit.' below it.
- A text input field containing 'Rectangular', with the label 'Type of Tank.' below it.
- A dropdown menu for 'Width in mm.' with a downward arrow icon.
- A dropdown menu for 'Height in mm.' with a downward arrow icon.
- A dropdown menu for 'Length in mm.' with a downward arrow icon.

## Setting the Tank Dimensions

The next page will prompt for additional information needed such as the type of fluid in the tank, and the local time of the Wireless SmartDip unit.



The image shows a mobile application interface for 'SmartDip'. At the top, the 'SmartDip' logo is displayed in a blue, italicized font. Below the logo is a progress bar with a blue segment on the left and a grey segment on the right. A blue 'Next' button is positioned to the right of the progress bar. The main content area contains three input fields, each with a label and a description below it:

- The first input field contains the text 'Diesel'. Below it, the text reads 'Select a fuel type or input a custom density.'
- The second input field contains the text 'Australia/Adelaide'. Below it, the text reads 'Select your Time Zone.'
- The third input field is empty. Below it, the text reads 'Enter the Safe Fill Limit.'

## Setting the Tank Dimensions

When prompted, press the WakeUp button on the Wireless SmartDip. Once pressed, tick the box then click Next.



**SmartDip**

Next

Connect the battery then press the **WAKE UP** button.

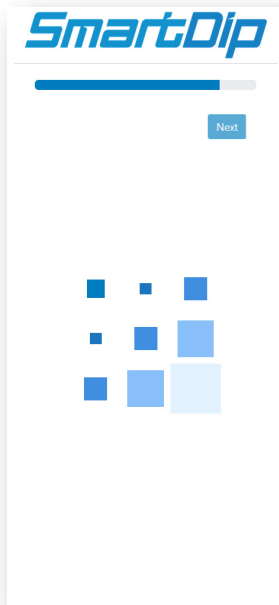


**Wake up button**

I have connected the battery and pressed the **WAKE UP** button.

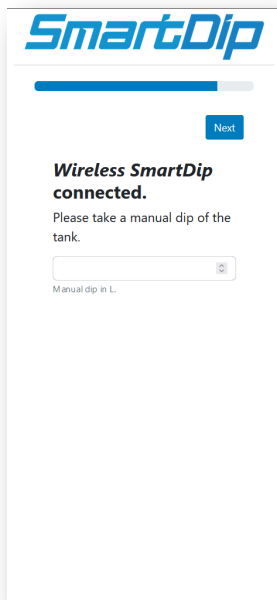
## Setting the Tank Dimensions

While the Wireless SmartDip syncs to the cloud and downloads the configuration from previous step, you will see this animation. The sync process can take up to 1 minute.



## Setting the Tank Dimensions

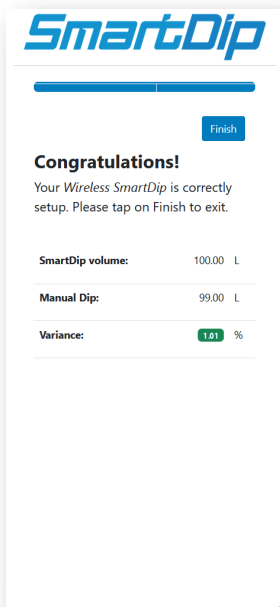
Once connected, you will need to input a manual dip of the tank level. This is a check to ensure the Wireless SmartDip is operating and configured correctly.



The image shows a mobile application interface for 'SmartDip'. At the top, the 'SmartDip' logo is displayed in a blue, italicized font. Below the logo is a blue progress bar that is approximately 75% full. To the right of the progress bar is a blue button with the text 'Next'. Below the progress bar and button, the text reads '**Wireless SmartDip connected.**' followed by 'Please take a manual dip of the tank.' Below this text is a white input field with a small icon on the right side. Underneath the input field, the text 'Manual dip in L.' is displayed.

## Setting the Tank Dimensions

Once the Wireless SmartDip confirms it's functioning correctly, you will see a congratulations screen with your tank levels displayed.



## Setting the Tank Dimensions

You've finished setting up your Wireless SmartDip!

**SmartDip**

**You have successfully  
completed your *Wireless  
SmartDip* setup.**

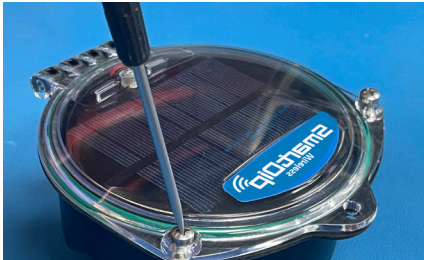


You can now close this tab.



## Installing the Wireless SmartDip

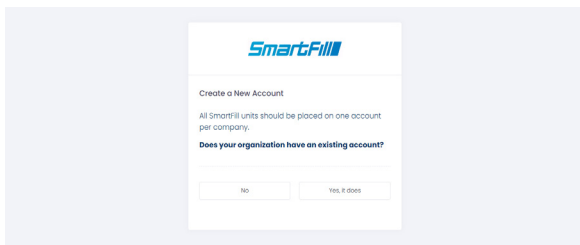
Seal the Wireless SmartDip lid and re-fasten the screws to secure it.



## Adding the Tank to your Portal

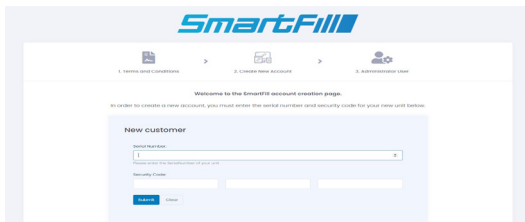
Navigate to [www.fmtdata.com/new](http://www.fmtdata.com/new)

If you currently have an account, click "Yes" then login to add your new Wireless SmartDip.



The image shows a screenshot of the SmartFill account creation page. At the top is the SmartFill logo. Below it, the heading "Create a New Account" is displayed. A note states: "All SmartFill units should be placed on one account per company." The main question is "Does your organization have an existing account?". There are two buttons: "No" and "Yes, it does".

If this is your first time using FMTData, click "No" and follow the steps to create your account.




The image shows a screenshot of the SmartFill account creation progress screen. At the top is the SmartFill logo. Below it, a progress bar shows three steps: "1. TERMS AND CONDITIONS", "2. CREATE NEW ACCOUNT", and "3. ADDITIONAL USER". The current step is "2. CREATE NEW ACCOUNT". Below the progress bar, the heading "New Customer" is displayed. A note states: "In order to create a new account, you must enter the serial number and security code for your new unit below." There are two input fields: "Serial Number" and "Security Code". Below the input fields are two buttons: "Submit" and "Cancel".

## Accessing your Tank Data

Open your web browser and navigate to [www.fmtdata.com](http://www.fmtdata.com) then log into your account.



Login to view SmartFill Data

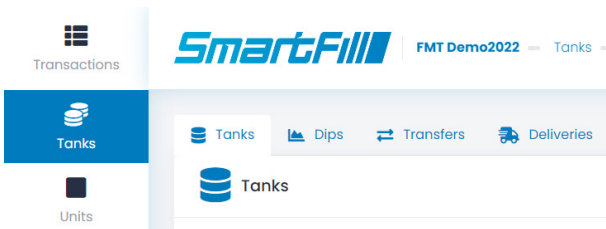
  
 Forgot Password?   
 OR


## Introducing Two-Factor Authentication

Two-Factor Authentication (2FA) helps you protect your FMTData account via an authenticator app or email, and can be enforced as a requirement for all users within the Admin Settings page.



Click the **Tanks** button along the left-hand side of the screen.




FMT Demo2022 — Tanks

Transactions

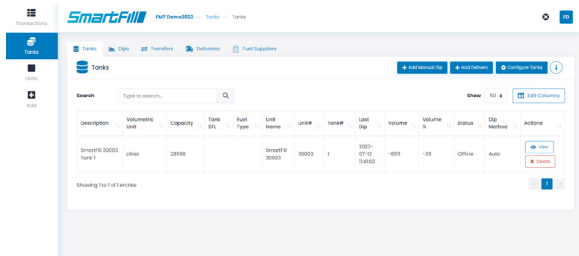
Tanks
Tanks
Dips
Transfers
Deliveries

Units

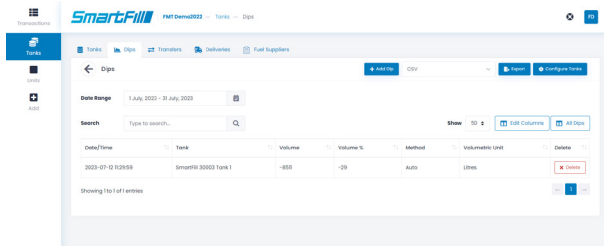
Tanks

# Accessing your Tank Data

On this page, you can see the most recent tank level readings.



To view previous readings, click the **Dips** tab and select the date range you'd like to see the readings for.



# Accessing your Tank Data

To export your dip history, check the date range, then click **Export**

The screenshot shows the SmartFill web application interface. The main navigation bar includes 'Tanks', 'Dips', 'Transfers', 'Deliveries', and 'Fuel Suppliers'. The 'Dips' page is active, displaying a table of dip history. A dropdown menu is open under the 'Date Range' field, showing options: 'Today', 'Yesterday', 'Current Week', 'Previous Week', '2023-07-12 12:21', 'Current Month', 'Previous Month', and 'Custom'. The table below has columns for 'Date/Time', 'Tank', 'Volume', 'Volume %', 'Method', and 'Volume/Litres/Liters'. A single row is visible with the following data: 2023-07-12 12:21:59, SmartFill 20003 Tank 1, 95L, -29, Auto, and 95 Litres. Buttons for '+ Add Dip', 'CSV', 'Export', and 'Configure Tanks' are visible at the top right of the table area.

To set up alerts, click **Configure Tanks** then **Email Alerts**

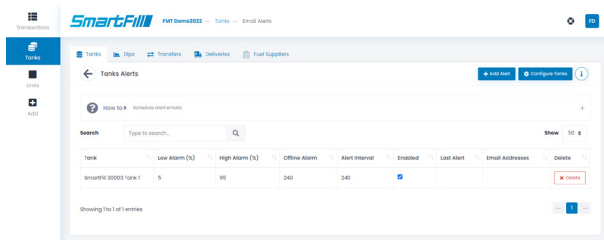
The screenshot shows the SmartFill web application with the 'Configure Tanks' modal window open. The modal contains several configuration options, each with an icon and a brief description:
 

- Add a Virtual Tank**: Add a virtual tank.
- Combine Tanks**: Combine Tanks.
- Pumps**: Map pumps to tank.
- Transfer Meters**: Map meters to tank.
- Mobile Tanks**: Map mobile tank.
- Export Tanks**: Export tank statuses.
- Email Schedule**: Scheduled tank status.
- Email Alerts**: Email tank alert - Sign Up

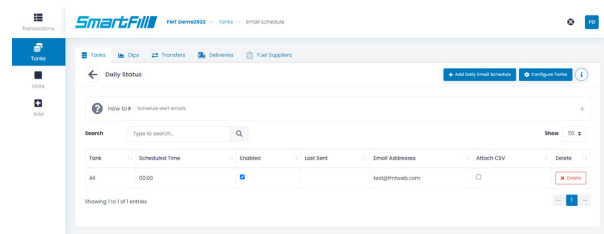
 The background shows the 'Dips' page with the table containing one row of data: 2023-07-12 12:21:59, SmartFill 20003 Tank 1, 95L, -29, Auto, 95 Litres. The 'Export' button is highlighted in red in the original image.

# Accessing your Tank Data

On this page, you can click **Add Alert** to create an alert. Your existing alerts will also be shown on this page.

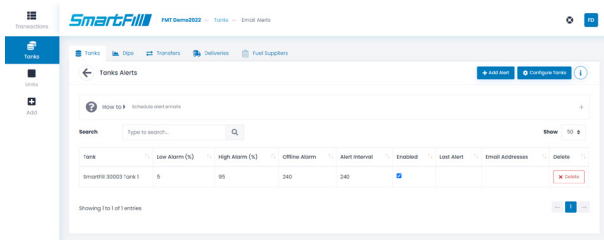


To set up a scheduled daily email of tank reading, click **Configure Tanks** then **Email Schedule**. Here you can set up daily emails.

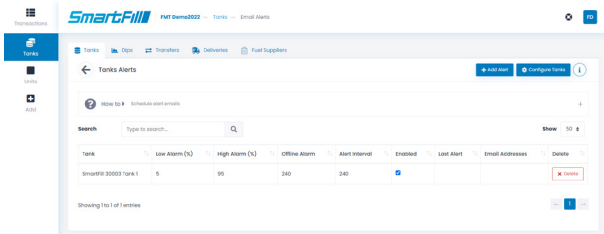


# Scheduling Dips

On the Tanks page, click Config to manage the scheduled wakeup and dip frequency.



The scheduled wakeup time will be the starting point from which a dip will be taken every X hours as specified in the Interval dropdown box.



## Wireless SmartDip Hardware

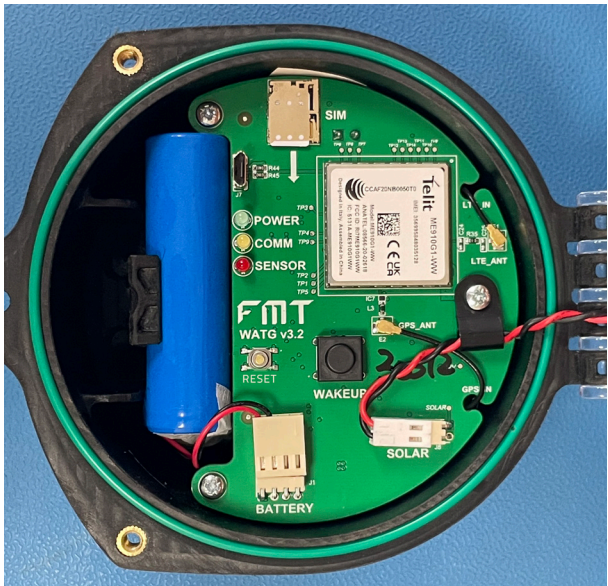
### Specifications Table

<p><b>Tank Height:</b> 0 - 10m</p>	<p><b>Long Term Stability:</b> <math>\pm</math> 0.2% FS/Year</p>
<p><b>Fuel Types:</b> Suitable for use with diesel, AdBlue, DEF and other non-hazardous liquids</p>	<p><b>Operating Temp Range:</b> -25 °C to 70 °C</p>
<p><b>Accuracy:</b> 0.25% FS (Max) 0.5% FS (Typical)</p>	<p><b>Cable:</b> Polyethylene Ventilated Cable</p>
<p><b>Battery Life:</b> 5 years* Longer when exposed to daily sunlight</p>	<p><b>Tank Thread Size:</b> 2" BSP or 2" NPT</p>
<p><b>Dips per Day:</b> 1-24 (can be changed)</p>	<p><b>Solar Power:</b> 1.25W solar panel</p>

\*based on one dip per day.



## Wireless SmartDip Hardware



## Wireless SmartDip Hardware

Wireless SmartDip has been designed for maximum ease-of-use, compatibility and accuracy.

### Thread Sizes and Adapters

Wireless SmartDip is manufactured in 2 sizes:

- 2" NPT
- 2" BSP

If your tank does not have a port that is compatible with the provided threads, Wireless SmartDip will still work correctly using an adapter.

### Wireless SmartDip Networking Information

Wireless SmartDip uses the LTE-M network.

This enables Wireless SmartDip to utilise a dedicated M2M network for the best quality connection. You must ensure 4G LTE-M is available in your installation location.

#### **Outright:**

If you've purchased Wireless SmartDip outright, your unit will come pre-installed with a data SIM that does not expire for the lifetime of the product.

#### **Subscription:**

Wireless SmartDip's purchased on a plan come pre-installed with a data SIM and the subscription needs to be managed via the SmartFill web portal.

## Wireless SmartDip Operation

To force a dip to be uploaded to the website, open the Wireless SmartDip and press WAKEUP.



To restore factory settings on a Wireless SmartDip, hold the RESET button while clicking the WAKEUP button once, and continue holding the RESET button for 10 seconds until all three LED indicators are simultaneously illuminated.



To replace the battery, open the Wireless SmartDip unit. Then slide off the battery connector and remove the battery. Reverse steps to install



## Troubleshooting

### **Dip is reading incorrect values**

1. Contact Support at [support@fmtweb.com](mailto:support@fmtweb.com)

### **Wireless SmartDip is not on the tanks page of my account**

1. Check you're logged in to the same account that was used when installing Wireless SmartDip.
2. Go to the Tanks page and check if the serial number on the Wireless SmartDip unit matches any unit listed on the page.
3. If not listed, contact support.

## Troubleshooting

### LED Definitions

Power Off: Device Off

Power On: Device On

Comms Off: Network Not Found

Comms Flashing: Searching for Network

Comms On: Network Connected

Sensor On: Dipping Tank Level



### No dip online when i press button OR missed a scheduled dip

1. Confirm that your subscription is valid
1. Open the Wireless SmartDip lid
2. Check the Power LED is on
3. Press the WAKEUP button
4. Watch the Comms LED to ensure it flashes
5. If the Comms LED turns off, contact support.
6. If the Comms LED stays solid on, check the Sensor LED lights up.
7. If the dip is not reported, contact support

## Safety Warnings

### **IMPORTANT**

It is essential that you read the instructions in this manual before operating and maintaining the product.

When the battery pack is not installed, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.

### **WARNING**

To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse the enclosure, battery pack in fluid or allow fluid to flow inside them. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach-containing products etc., can cause a short circuit.

### **TRANSPORTING LITHIUM BATTERIES**

- Transport the battery in accordance with local and national provisions and regulations.
- Failure to follow the warnings and instructions may result electric shock, fire, and/or serious injury.
- Save all warnings and instructions for future reference.
- Do not transport batteries that are cracked or leaking. Follow this rule to reduce the risk of electric shock, fire, or serious personal injury.

## Safety Warnings

- Do not place the product or battery packs near fire or heat.
- Do not crush, drop or damage the battery pack. Do not use a battery pack that has been dropped or has received a sharp blow. Properly dispose of a dropped or damaged battery immediately.
- Under extreme conditions, battery leakage may occur. If the liquid comes in contact with the skin, wash immediately with soap and water, then neutralize with lemon juice or vinegar. If liquid gets into your eyes, flush them with clean water only for at least 10 minutes, then seek immediate medical attention. Follow this rule to reduce the risk of serious personal injury.
- Save these instructions. Refer to them frequently and use them to instruct others who may use this product. If you loan someone this product, loan them these instructions also to prevent misuse of the product and possible injury.
- Use this product with specifically designated battery packs. Use of any other battery packs create a risk of injury and fire.



## Fluid Management Technology Pty Ltd

169 Grange Road, Beverley SA 5009

PO Box 1224 Flinders Park SA 5025



**Office:** (08) 8240 5585

**Email:** [sales@fmtweb.com](mailto:sales@fmtweb.com)