FUELFIX
energy & emissions solutions
TANKS2GO®

Fuelfix FMS

Measure, Control & Conserve Fuel

Operation & Administration Manual

Fuelfix FMS Gen 3

Contents

1. Introduction

This manual is designed to step through the operation and administration setup of a Fuelfix FMS unit system. Please contact the manufacturer should you have any suggestions or error corrections.

There are icons used in this manual which are designed to draw your attention to a particular area of importance. There are only 2 used, and their meanings are as follows:

WARNING: This icon indicates that the relevant information is warning you of a potential hazard, or mishap event that may occur if you do not read and follow the advice. It is extremely important that you read and fully understand any information following a Warning Icon.

TIP: This icon indicates that the information is a tip to assist you, a suggestion, or a shortcut to a better method.

2. Overview

Fuelfix FMS is a state-of-the-art fuel management system specifically designed to work in the most demanding of environments. It is housed in a rugged automotive-grade nylon enclosure and its modular designed ensures ease of installation, upgrade and repair.

Users access fuel by using either keys or entering identification information via the keypad. Transactions always include the vehicle identification, the time and date, the amount of fuel dispensed, the pump from which the fuel was taken and if enabled, the driver, the odometer / hours of the vehicle or plant equipment.

All data is stored in the unit and, if connected to the Internet, automatically sent to a secure website: https://fuelfixfms.com.au/.

The unit can be connected to the website using a direct network connection that has a connection to the Internet, a Wi-Fi connection or a 4G/5G connection.

The unit can be configured locally using the keypad and on-screen menus or via the website.

Unless you are a qualified electrician, for your safety, please do not attempt to: (1) wire any part of the Fuelfix FMS unit; (2) install, replace, or move any internal components; (3) carry out any electrical maintenance on the Fuelfix FMS unit.

Please ensure that the Fuelfix FMS unit is closed and locked at all times.

If the Fuelfix FMS unit is not working, please contact your Fuelfix representative or call a licensed electrician to troubleshoot the issue.

3. Terminology

Term	Meaning
Key	iButton, Swipe card or NFC card/Fob used to identify a driver or vehicle.
Module	A plug-in module that is used in the unit e.g., pump module.
AC	Alternating Current - normally 240VAC/Mains power.
DC	Direct Current - either 12V or 24V DC.

4. Warranty Information

NOTE: The current warranty policy can be found at https://www.fuelfix.com.au/warranty/ on the Fuelfix website.

Part 1: Fuelfix FMS Operation and Administration

5. Communications Setup

The Fuelfix FMS is designed to automatically send data to a central website using either a direct Ethernet connection, 4G/5G or Wi-Fi. Ethernet is standard with all units and 4G/5G or Wi-Fi are optional modules that can be ordered with the unit or fitted later.

NOTE: Please contact your local Fuelfix FMS Support for more information.

6. Accessing the Admin or Installer Menu

At the Fuelfix FMS unit hold down the <**CLR**> & <**ENT**> keys at the same time for 3 seconds, or until the display shows "Enter Admin or Installer PIN".

If it shows anything else, then press <**CLR**> to return to the default display and try again.

The admin PIN is 1, 2, 3, 4, <**ENT**>.

The installer PIN is 6, 7, 8, 9, <**ENT**>.

Normally, using the admin menu is enough for adding keys/drivers and downloading transactions.

The installer menu is used for setup of the unit. The operations manual is only concerned with the admin menu. For information on unit set up, please refer to the separate installation manual.

We strongly suggest changing the Admin and Installer PIN after successful installation of the Fuelfix FMS. See section 11.7.

7. Using the System to Get Fuel

The following methods will start the transaction process:

- Hold the NFC fob to the Wi-Fi symbol below the screen. This is the area where the NFC receiver is strongest and is shown by a  symbol.
- Hold an NFC card to the NFC reader position below the screen.
- Hold an i-Button to the i-Button reader. Ensure connection is made.
- Enter a valid code into the keypad.

The Fuelfix FMS unit checks if the key/code is authorized. If the key/code is not authorized, the pump will not start, and the display will show "Invalid Key/Code".

This system identifies whether a driver or vehicle key has been used. If a vehicle key has been used, it may request the driver to enter a PIN, and/or an odometer reading depending on how the system has been configured.

The following configuration options are available and are entered using the keypad:

- Odometer / hour meter reading.
- Driver PIN number.
- Job number.

- User data.
- Pre-set Amount.

The Fuelfix FMS unit can also be configured with specified time access for each vehicle or fill limits per vehicle via the Fuelfix FMS website (https://fuelfixfms.com.au/).

Once all the pre-transaction information has been entered, the driver fuels the vehicle. Once the fuel delivery is complete, the Fuelfix FMS unit stores the details. If the system is online, the transaction information is automatically sent to your secure account on the Fuelfix FMS website (https://fuelfixfms.com.au/).

8. Short Cut Keys

The Fuelfix FMS unit has a series of short cut keys that allows easy access to commonly requested information. These are accessed by holding down the relevant key:

- **CLR** - Displays the current tank levels if a Fuelfix ATG module is fitted and configured.
- **0** - Enables the entry of details regarding a fuel delivery.
- **4** - Displays the status of the network connection, which can be either 4G/5G, Wi-Fi or Ethernet.
- **5** - Displays the details of the most recent transactions.
- **6** - Displays the unit's model, serial number, and current software version.
- **7** - Displays the last time the unit synchronised with the website.
- **9** - Displays the connection status if using a Fuelfix EZY Reader (Automatic Vehicle Identification Device).

9. Adding Vehicle Keys/PINs and/or Driver Keys and PINs

Keys/codes for drivers, vehicles and plant can either be added directly at the unit using the Admin menu options or through the website. If the Fuelfix FMS unit is online, then all information will be synchronised every 1-2 minutes.

If the Fuelfix FMS unit is online, then it is recommended that all administration of the Fuelfix FMS unit be completed using the website.

Keys or PINs/VINs deleted at the website must be added back at the website if they are to be reinstated. Adding them at the unit will result in them being removed when the unit synchronises with the website.

10. Unit is offline and data transfer is done via a USB stick

The Fuelfix FMS unit must have 1.07.xxx software or later to use this procedure. It is recommended that a single USB drive be used for all Fuelfix FMS units and files.

The files exported from the website and the Fuelfix FMS can only be read by the website and the Fuelfix FMS. They should not be opened in any other program.

At the Website:

1. Insert the USB drive into the computer.
2. Log in to your account and select the “Units” menu.
3. Select “Import/Export” to the right of the Fuelfix FMS unit’s name.
4. Select the Export option to export data from the website.
5. When prompted to download the file, press the “Download File” button.
6. The downloaded file will be called xxxxxunit.dat, where xxxxx is the Fuelfix FMS unit’s serial number. See section 10.1 for browser notes on downloading unit files from the website. Find the file and copy it to your USB drive.
7. Repeat steps (1) - (6) for any remaining Fuelfix FMS units allocated to the website that require USB download.
8. Eject and remove the USB drive.

At the Fuelfix FMS Unit:

1. Insert the USB drive.
2. Enter the administration menu (hold CLR and ENT keys together for a few seconds, enter 1234 at the prompt, then press ENT).
3. Select (5) for Unit.
4. Select (2) for Import. (If you get an error, remove and re-insert the USB drive and try again).
5. Choose the xxxxxunit.dat file you downloaded for this Fuelfix FMS.
6. When import data operation is complete select (1) for Export.
7. When the export has completed successfully (“Press any key to continue” is displayed), remove the USB drive.
8. Repeat steps (1) - (6) for the other Fuelfix FMS units.

At the Website:

1. Insert the USB drive into the computer.
2. Log in to your account and select the “Units” menu.
3. Select “Import/Export” to the right of the Fuelfix FMS unit’s name.
4. Select the “Import” option, by clicking inside the rectangle or dragging and dropping the file.
5. Click “Import”.
6. Eject and remove the USB drive.

You can now select the “Transactions” menu to view the transactions.

10.1. Browser Notes

Depending on the browser used, saving the file will be different. It is important to do this correctly to prevent any problems. Here are some notes for the latest versions of the most common browsers.

- **Internet Explorer (IE):** You will be prompted at the bottom of the screen to open or save the file. Press the small triangle to the right of the Save button and select “Save as”. Select the top-level directory of the USB drive and press “Save”. If prompted to replace it, press “Yes”. You can then cancel any remaining messages at the bottom of the browser screen.

- **FireFox:** When prompted where to save the file, select the top level directly of the USB drive and press “Save”. If prompted to replace it, press “Yes”. If you are not prompted where to save the file, this must be changed in the FireFox settings, as follows. Press the FireFox settings icon (three stacked horizontal lines to the far right of the address bar). Make sure the General tab is selected (first on the left). Under “Downloads”, select “Always ask me where to save files”.
- **Chrome**: When prompted where to save the file, select the top level directly of the USB drive and press “Save”. If prompted to replace it, press “Yes”. If you are not prompted where to save the file, this must be changed in the Chrome settings, as follows. Press the Chrome settings icon (three stacked horizontal lines to the far right of the address bar) and select “Settings”. You will see a blue link at the bottom of the page saying, “Show advanced settings…”, press it. Scroll down to the “Downloads” heading and select “Ask where to save each file before downloading”.

11. The Fuelfix FMS Unit Admin Menu

To access the Admin Setup Menu, you need to have a valid admin PIN. The default PIN is: **1234**.

To access the PIN entry screen, hold down the **CLR** and **ENT** keys for 4 seconds until you receive the message “**Enter Admin or Installer PIN**”. If anything else is displayed, press the <**CLR**> key to go back to the default display and try again. Enter the admin PIN and press <**ENT**>. Once your PIN has been accepted you will be presented with the following menu:

Figure 1: Admin Menu

To select a menu item, push the corresponding key on the keypad. On the bottom of the screen, you will see a guide to which keys to use to navigate around the menu.

Upon selecting one of the menu options, you will then be presented with the choices available for that menu selection. The menu below appears if you push key number “1” - Vehicles.

11.1. Vehicles

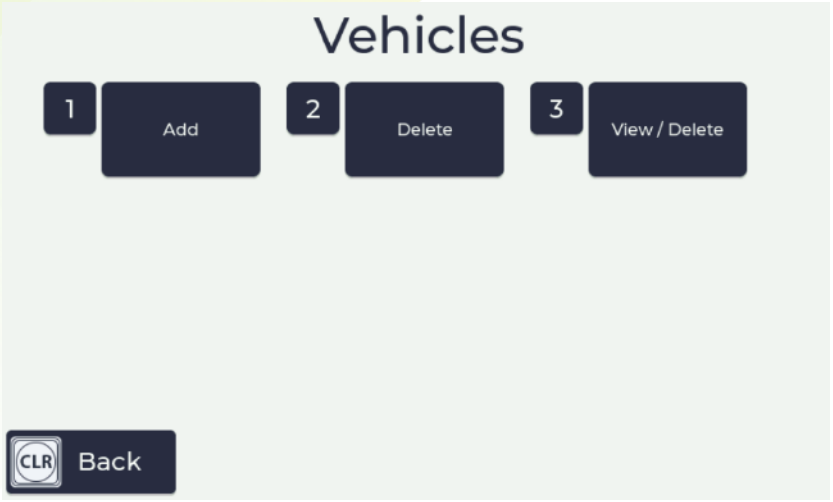

Figure 2: Vehicles Menu

This menu is used to set the inputs the user will be asked to enter to identify a vehicle and allows codes or keys to be added, deleted, etc. There are three items in this menu:

1. **Add** - allows the addition of vehicle Keys or Codes to the system. To Add a Key the key must be presented to the system to enter it. Codes are added by using the keypad to enter the value.

If a key or code has been deleted from the website, then it is not possible to add the key again directly at the unit.

2. **Delete** - allows Keys or Codes to be deleted from the system. Keys can be deleted by presenting the key to be deleted. Codes can be deleted by entering the code via the keypad.
3. **View/Delete** - Keys or Codes in the system can be viewed. Any Key or Code can be deleted by this screen by first selecting it and then selecting delete (Key <5>). Deleting a key removes it from the unit and removes it from being associated with this unit on the website, but not other units that are connected to the website.

11.2. Plant

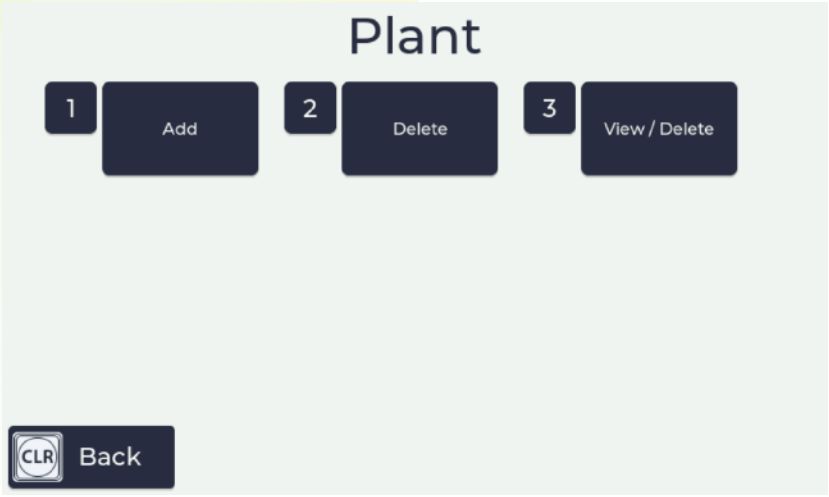

Figure 3: Plant Menu

This menu is used to set what inputs the user will be asked to enter to identify a piece of plant e.g., Gen Set or tank and allows codes or keys to be added, deleted, etc. There are three items in this menu:

1. **Add** - allows the addition of plant Keys or Codes to the system. If Key has been selected the actual key must be presented to the system to enter it. The key number cannot be directly entered. Codes are added by using the keypad to enter the value.

If a key has been deleted from the website, then it is not possible to add the key again directly at the unit.

2. **Delete** - allows Keys or Codes to be deleted from the system. Keys can be deleted by presenting the key to be deleted. Codes can be deleted by entering the code from the keypad.
3. **View/Delete** - Keys or Codes in the system can be viewed. Any key or code can be deleted by this screen by first selecting it and then selecting delete. Deleting a key removes it from the unit and removes it from being associated with this unit on the website, but not other units that are connected to the website.

11.3. Drivers

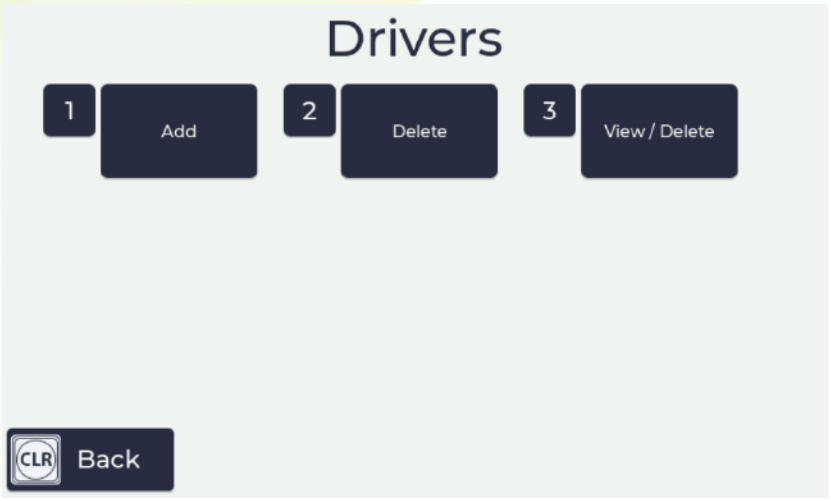

Figure 4: Drivers Menu

This menu is used to set what inputs the user will be asked to enter to identify a driver and allows codes or keys to be added, deleted, etc. There are three items in this menu:

1. **Add** - allows the addition of Driver Keys or Codes to the system. If Key has been selected in the Transaction Inputs Menu, the actual key must be presented to the system to enter it. The key number cannot be directly entered. Codes are added by using the keypad to enter the value.

If a key has been deleted from the website, then it is not possible to add the key again directly at the unit.

2. **Delete** - allows Keys or Codes to be deleted from the system. Keys can be deleted by presenting the key to be deleted. Codes can be deleted by entering the Code from the keypad.
3. **View/Delete** - Keys or Codes in the system can be viewed. Any key or code can be deleted by this screen by first selecting it and then selecting delete. Deleting a key removes it from the unit and removes it from being associated with this unit on the website, but not other units that are connected to the website.

11.4. Transactions

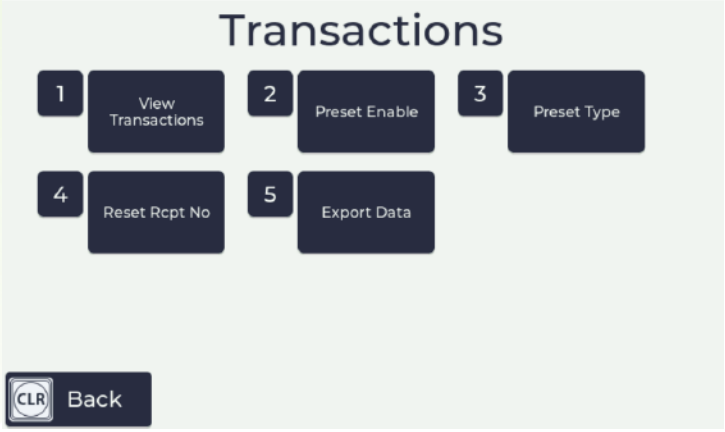

Figure 5: Transactions Menu

This menu is used to view transactions that are stored in the unit or to set transaction options. There are five options:

1. **View Transactions** - shows all the transactions stored in the unit.
2. **Preset Enable** - setting to yes will require each transaction to input the required amount for that transaction.
3. **Preset Type** - there are 3 options: Volume, Money, and Manual. Volume is for the amount of Fuel to be dispensed, Money is for the financial amount of the Fuel to be dispensed, and Manual allows either option to be selected at the time of filling.

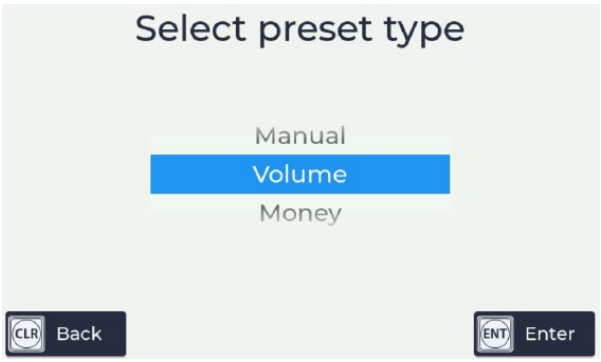

Figure 6: Transactions – Preset Type

4. **Reset Receipt Number** - if a receipt printer is being used with the Fuelfix FMS, this will reset the receipt number to zero.
5. **Export Data** - allows exporting of transactions to USB.

11.5. Unit

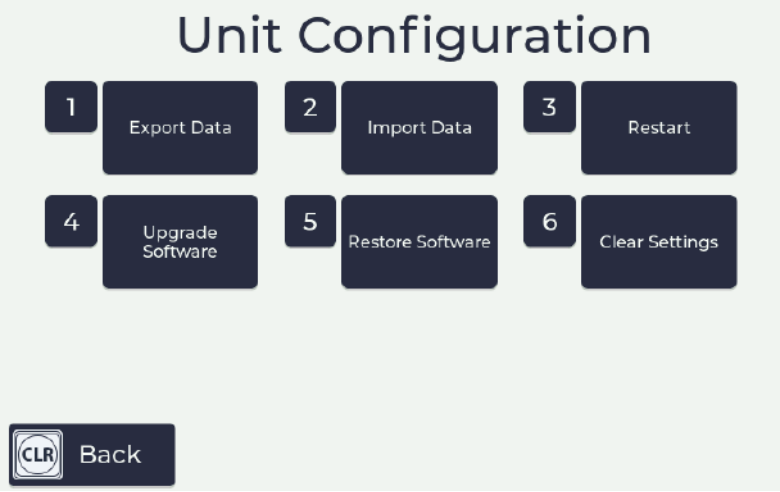

Figure 7: Unit Menu

This menu is used to configure the Fuelfix FMS.

1. **Export Data** - exports a file to USB with all the vehicle keys, driver codes and any un-exported transactions. This can then be imported into the website.
2. **Import Data** - imports the file that is created from the website export function. This imports all keys, codes and configurations that exist on the website but are not in the unit.
3. **Restart** - reboots the unit.
4. **Upgrade Software** - is used to upgrade the unit's software via the USB port.
5. **Restore Software** - is used to restore the previous version of the software that was installed prior to the last upgrade.
6. **Clear Settings** - has two options:

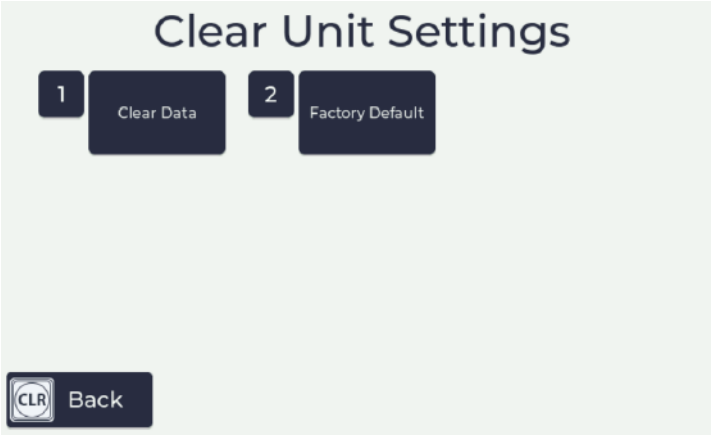

Figure 8: Clear Unit Settings

(a) **Clear Data** - clears all keys, codes, and transactions.
(b) **Factory Default** - clears all keys, codes, transactions and returns the configuration to the original factory settings.

11.6. Time and Date

Figure 9: Time and Date Menu

This menu is used to set the system time and date and set whether the time and date will appear on the display. There are four menu options:

1. **Time** - allows you to set the system time.
2. **Date** - allows you to set the system date.
3. **Display On/Off** - has two options:

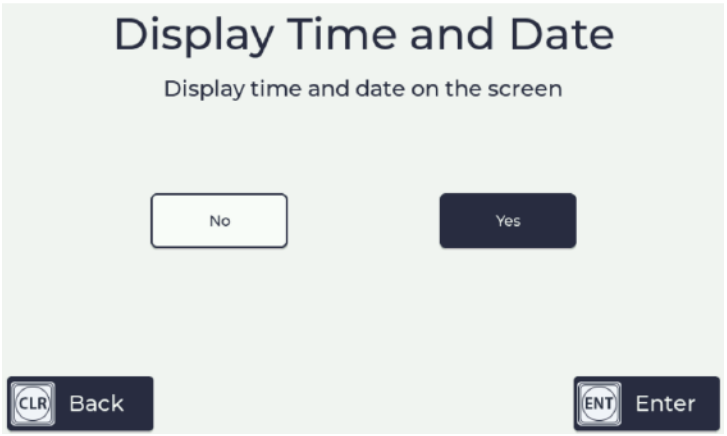

Figure 10: Display On/Off

   (a) **No** - do not display the time and date.
   (b) **Yes** - display the time and date.
4. **Auto Update** - setting this to "Yes" will let the Fuelfix FMS update its date and time from the connected network's date and time. This setting only applies to 4G/5G connections.

11.7. Access

This menu is used to change the Admin password, change the Installer password, and enable and disable installer access.

We strongly suggest that the admin and installer passwords are changed after successful installation to prevent unauthorised access to the Fuelfix FMS.

Figure 11: Unit Access Menu

1. **Admin** - used to change the admin password from the default of 1234 to some other code.
2. **Installer** - the installer menu has two options:

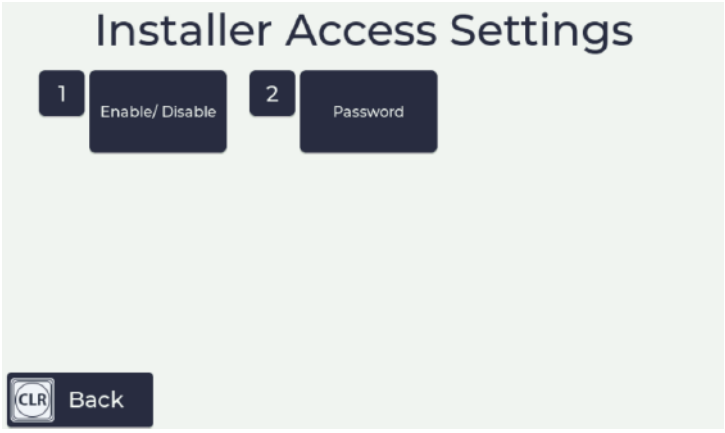

Figure 12: Installer Access Settings

(a) **Enable/Disable** - enables or disables installer access. If disabled, no one is able to access the unit's set up configuration.

(b) **Password** - allows the default password to be changed from 6789 to some other password.

If you have the same Admin and Installer password, only the Admin menu will be available.

11.8. Import/Export to Website

Figure 13: Import/Export Menu

This menu is used to import and export all data (transactions, vehicle/plant, and driver details) to and from a USB drive for use with the website. There are two options:

1. **Import** - imports a file exported from the website into the unit. This includes all vehicle, plant, driver details, job numbers and user defined field data. The export file is created using the export link on the Fuelfix FMS Units page on the website.
2. **Export** - creates an export file that can be imported into the website. The resultant file is imported using the import link on the Fuelfix FMS Units page of the website.

The files exported from the website and the Fuelfix FMS can only be read by the website and the Fuelfix FMS. They should not be opened in any other program.

11.9. System Language

Currently English and Spanish

12. Fuelfix FMS Unit Website Operation and Configuration

The Fuelfix FMS secure website is used to store all transactional data from the units, configuration information for the unit, and data that is associated with transactions, such as a driver's name or the department to which the vehicle belongs. The website is located at https://fuelfixfms.com.au/.

12.1. Creating Your Website and Adding Your First Unit

To set up your website and add a unit for the first time, use your web browser to navigate to https://fuelfixfms.com.au/new.

Once you arrive at this page, select whether you have an existing account on the fuelfixfms website, if you do not have an existing account, click on "**No**", and then enter the serial number and code provided with the unit. A copy of this information is contained on the USB drive supplied with the unit and a hard copy is supplied with the unit.

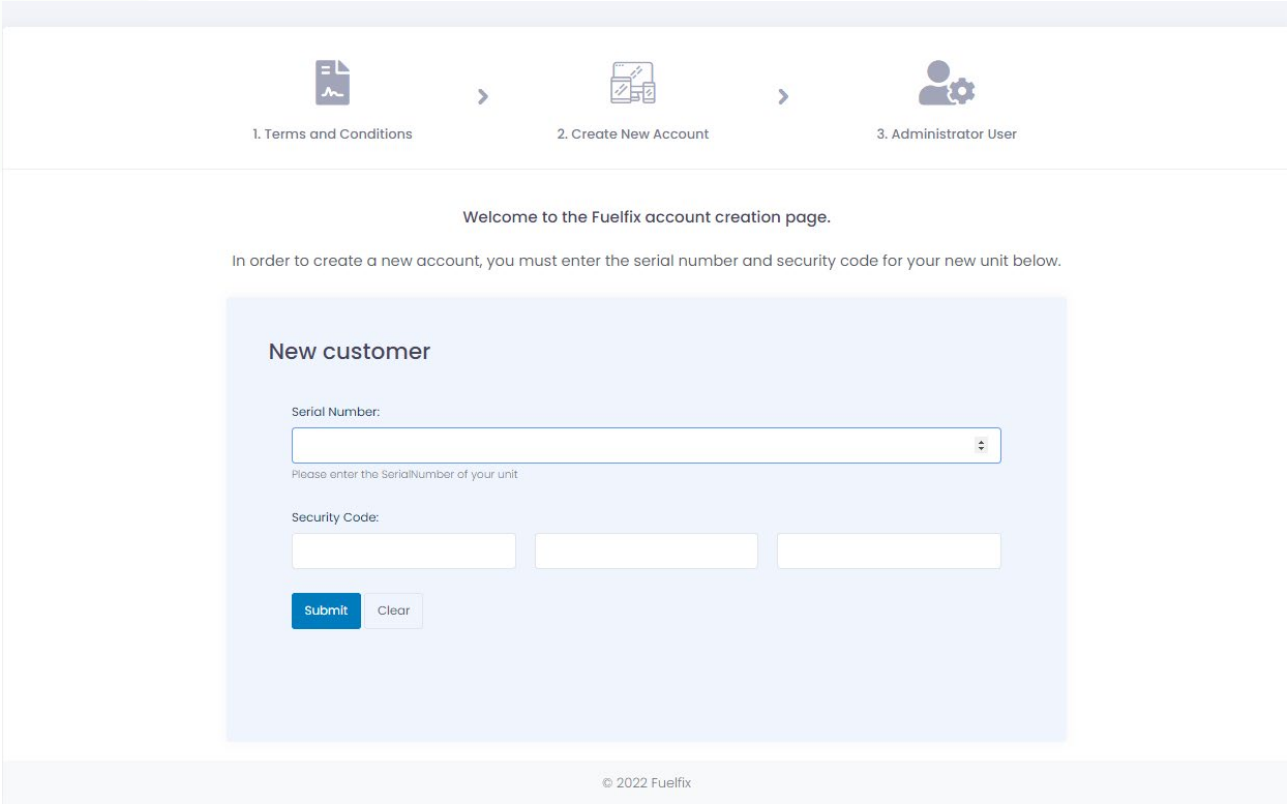

Figure 14: Initial Account Activation Page

Once you do this you will be asked to fill in some company details and create an Admin username and password. Unless you change them, these are the credentials you will use from now on to log on to the website. Once you have completed this step, you will be taken to the first page of your website.

12.2. Logging In Once the Website is Created

Once you have created your website you can log in using the credentials you created in 12.1 at https://fuelfixfms.com.au/.

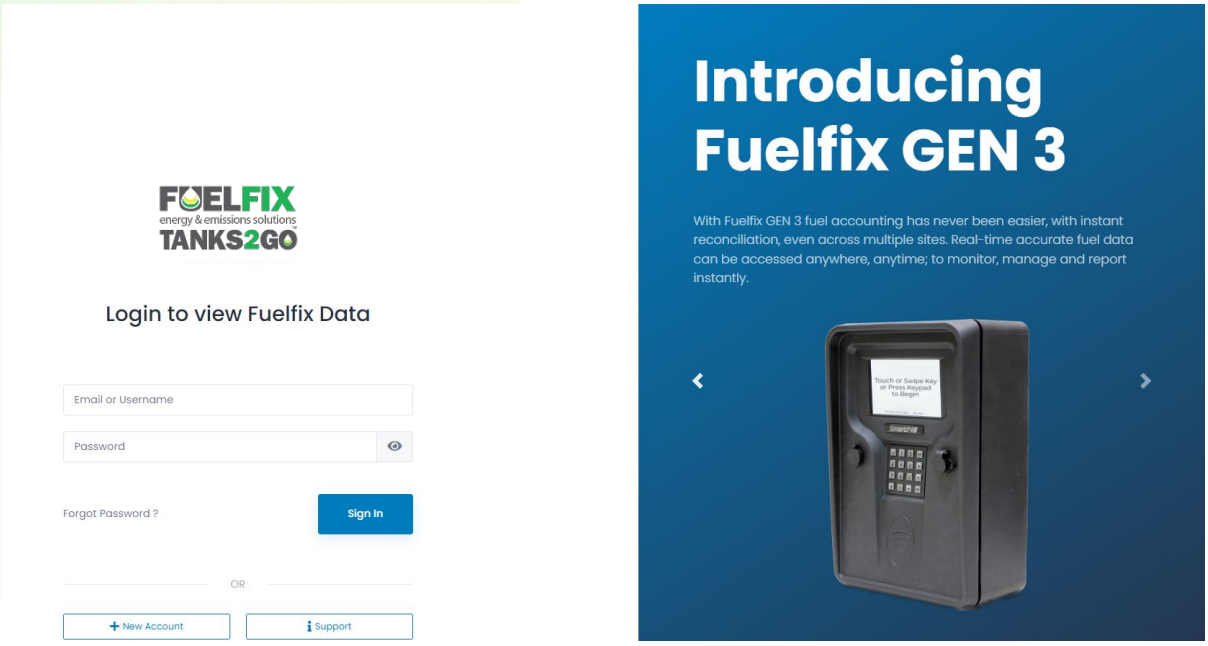

Figure 15: Website Log-in Page

12.3. Dashboards

This feature requires a subscription to our Pro Monthly Report website add-on.

From here, you can create custom dashboards to view details about total transactions, fuel consumed, total vehicles, daily fuel usage, and more.

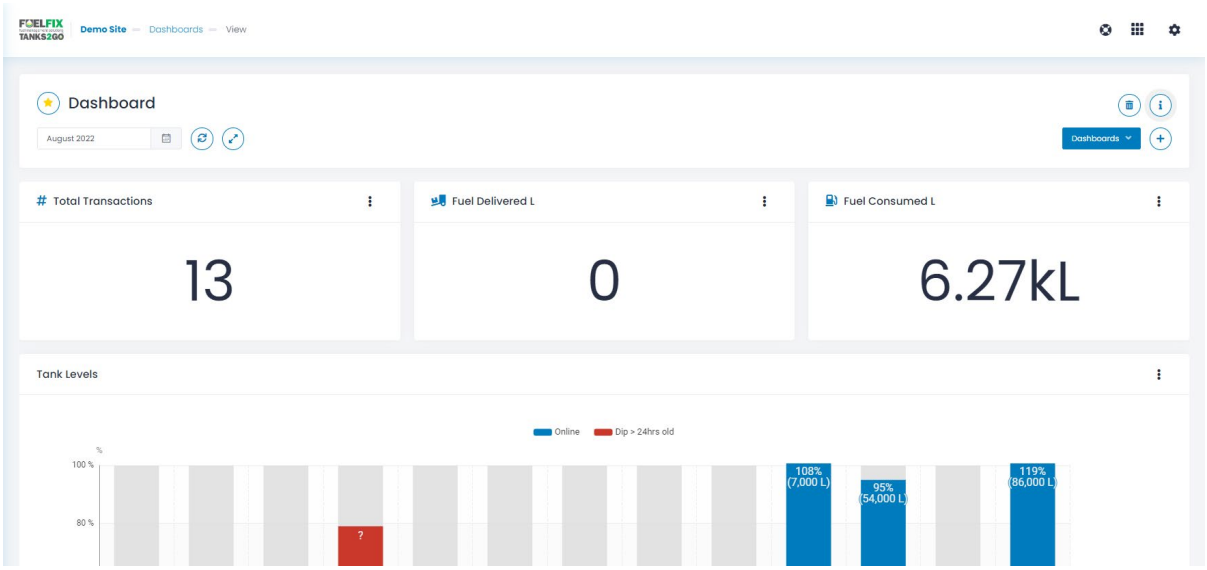

Figure 16: Dashboard Page

12.4. Transactions Page

The Transactions page is the first one that appears when you log on if you are not subscribed to Pro Reports. It displays transactions in the selected date range that have been transferred to the website from all associated units. You can select the required date range from the drop-down menu at the top of the screen.

It is recommended that the date range be kept as short as possible to ensure that the website loads quickly.

If you need to find a particular transaction, start by typing into the filter section which will continually update and display transactions that match the provided filter.

Clicking on the column heading will sort the transactions by the details in that field.

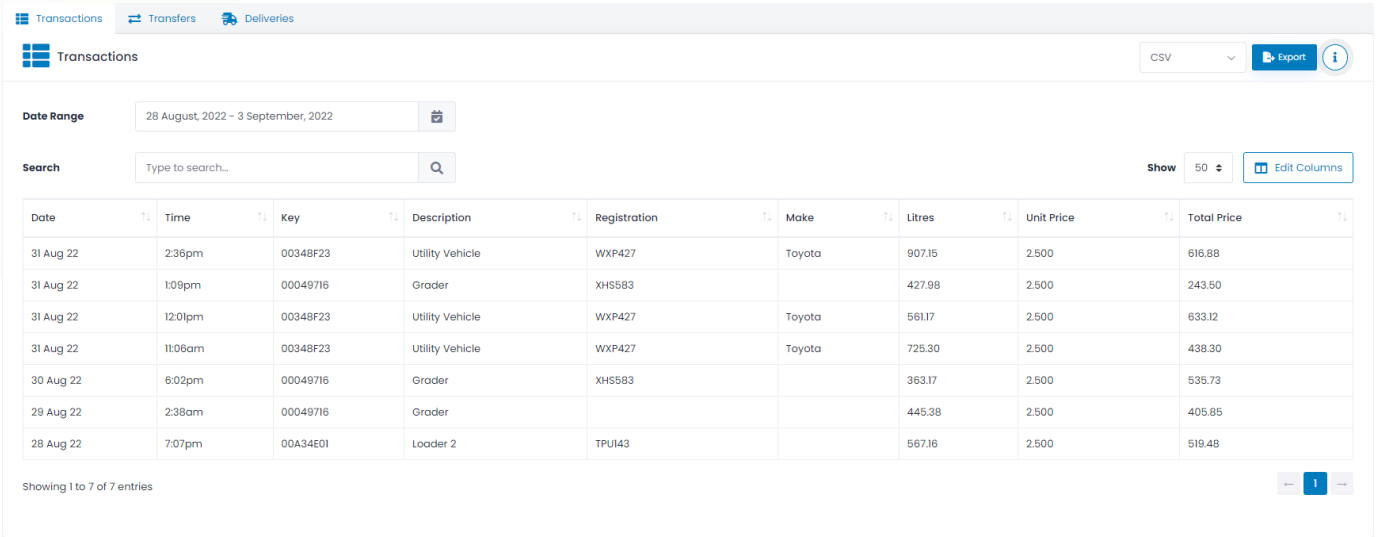

Figure 17: Website Transaction Page

12.4.1. Transactions

Displays the main transaction screen. From here you have the following options:

1. **Date Range** - from the drop-down menu, select the date range you want to display and export. If you want a custom date range, then select custom and click on the “From” and “To” dates to set them to the dates required.
2. **Export** - exports all transactions in the date range to a .csv, .xls, or .xlsx file that can be viewed in any spreadsheet program (e.g., Microsoft Excel).
3. **Show** - defines how many rows will be shown at a time.

Select to show 50 row per page to enable the website to open quickly. The more rows the website has to show, the longer it will take to load. When exporting transactions, all transactions within the specified date range will still be exported regardless of the number of rows.

4. **Transfers** - displays fuel transfers between tanks for a set date range.
5. **Deliveries** - shows fuel deliveries made, both manual and automatic, in a chart and list format.

12.4.2. Transactions – Edit Columns

If you select “Edit Columns” on the Transactions page, you will be presented with the Transaction Page Configuration page. This page enables you to choose which columns are displayed and the order they appear in.

At the top of the page are the selected columns. You can change the column headings by selecting the heading name and then replacing it with the new name by typing over it. Headings that are greyed out are set in one of the other configuration screens. You can choose which columns are displayed by dragging and dropping those required into the top section or by clicking the “**+**” symbol. The columns are removed by dragging them into the bottom section or clicking the red “**X**”.

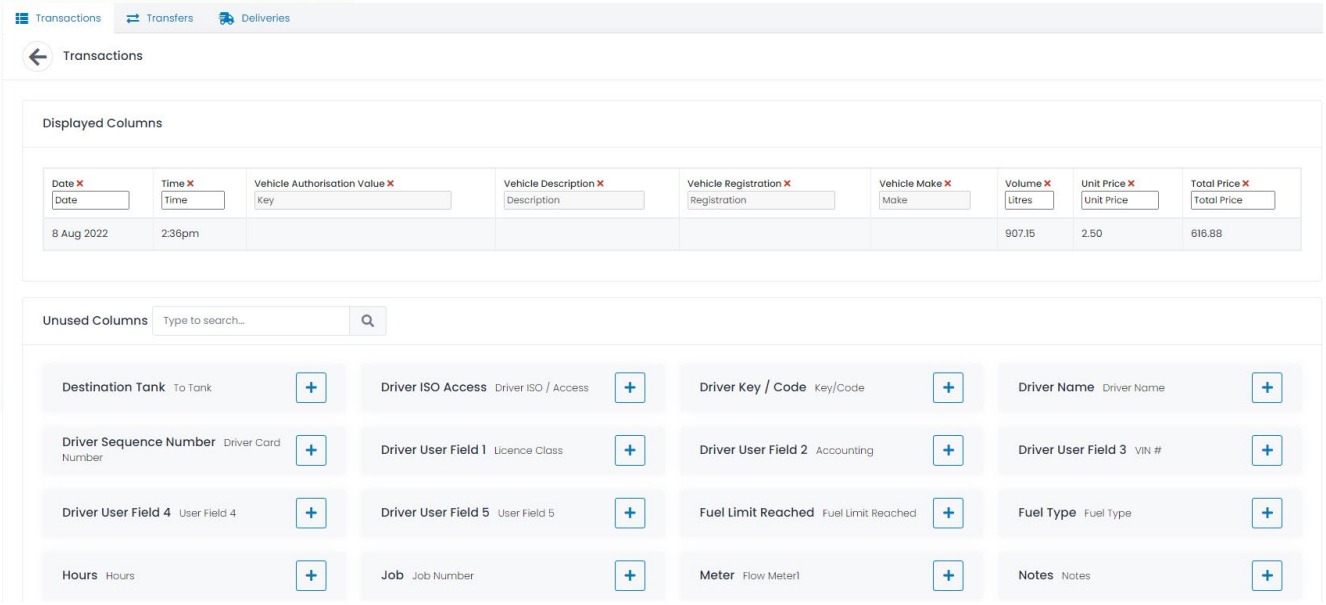

Figure 18: Configuring the Transactions Page

12.5. Reports

These settings relate to the pro version of the website. Use these to define desired report settings.

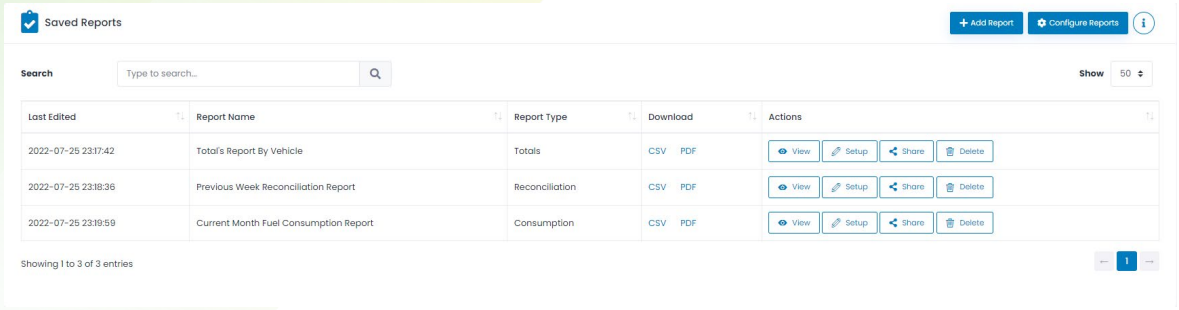

Figure 19: Reports Page

1. **Search** - use this field to search for reports by typing in a keyword related to the report that you are searching for.
2. **Show** - use this drop box to define how many reports you would like to see per screen. The default is 50.
3. **Download** - choose one of the displayed formats to download the saved report.
4. **Actions** - View, Setup (Edit), Share or Delete a saved report.
5. **New Report** - click to generate a new report. The report generated can either be viewed as a one-off or saved for later use. Saved reports can be viewed from the Reports page (Fig. 19).

There are 7 reports you can create. Each type is designed to give you specific information.

   (a) **Totals** - shows accumulated fuel totals per vehicle, per driver, or by any other data point available.
   (b) **Reconciliation** - the reconciliation report will compare the sum of all deliveries and transactions using the starting and ending dips for the time period specified.
   (c) **Service** - service report will list all vehicles that are due, overdue, or coming up for a scheduled service. Requires vehicle/plant to have odometer / hours enabled, columns configured with service intervals, and the last serviced field populated with valid data.
   (d) **Consumption** - shows the fuel consumption of each vehicle based on fuel taken and odometer readings. Must have odometer / hours enabled to calculate the consumption.
   (e) **Trip Consumption** - shows the fuel consumption per trip for each vehicle based on fuel taken and odometer readings. Must have odometer / hours enabled to calculate the consumption.
   (f) **Transactions** - shows the transactions made on your Fuelfix FMS unit(s). You can filter the data to output the results you need.
   (g) **Deliveries** - shows the fuel deliveries received within a period of time. You can apply filters to this report to output the desired data.

6. **Configure Reports** - click configure reports to change the settings related to the report outputs.
7. **Page Size** - select the page size that the report will be printed on when using .pdf reports. The options are A4, A3, US Letter, or US Ledger.
8. **Page Orientation** - selects whether the .pdf report will be printed vertically or horizontally.
9. **End Page** - set whether an “End of Document” page is added to the end of every report.
10. **Account Currency** - sets the currency used to calculate prices (if enabled).

12.6. Accounts

Accounts are a way for you to identify certain vehicles and apply a discount/mark up depending on your preference. You can associate an account with a vehicle to ensure transactions are linked to the correct account.

The Accounts page displays all created accounts and allows you to delete from the Accounts page.

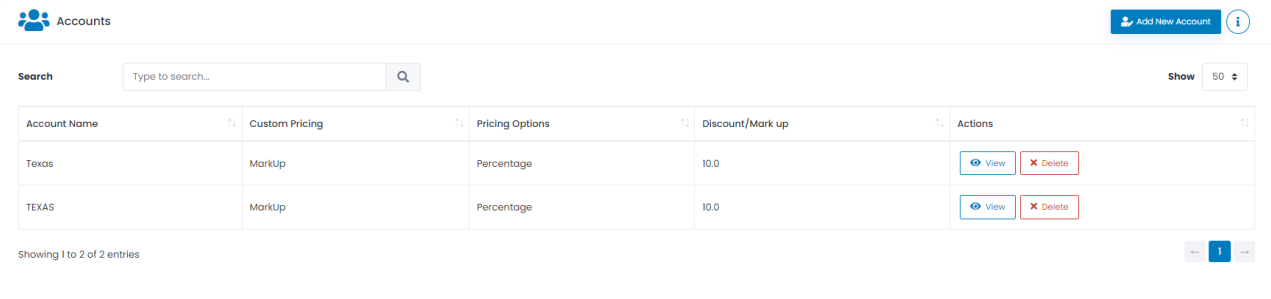

Figure 20: Accounts Page

1. **Accounts: Add New Account** - click “Add New Account” to create an account to be displayed on the Accounts page and configured for custom pricing or discounts.
2. **Accounts: View** - once you have created an account, click “View” from the Accounts page to add a vehicle key or code to be associated with this account.
3. **Accounts: Delete** - delete an account by pressing “Delete” on the Accounts page. The website will ask you to confirm the action. No associated customers will be deleted by pressing this, only the account.

12.7. Vehicles

Details for vehicles, such as which key or code (PIN or VIN) is used to identify the equipment and description are set up by clicking on “Add”, then the Vehicles page or the buttons on the side toolbar if you already have vehicles set up.

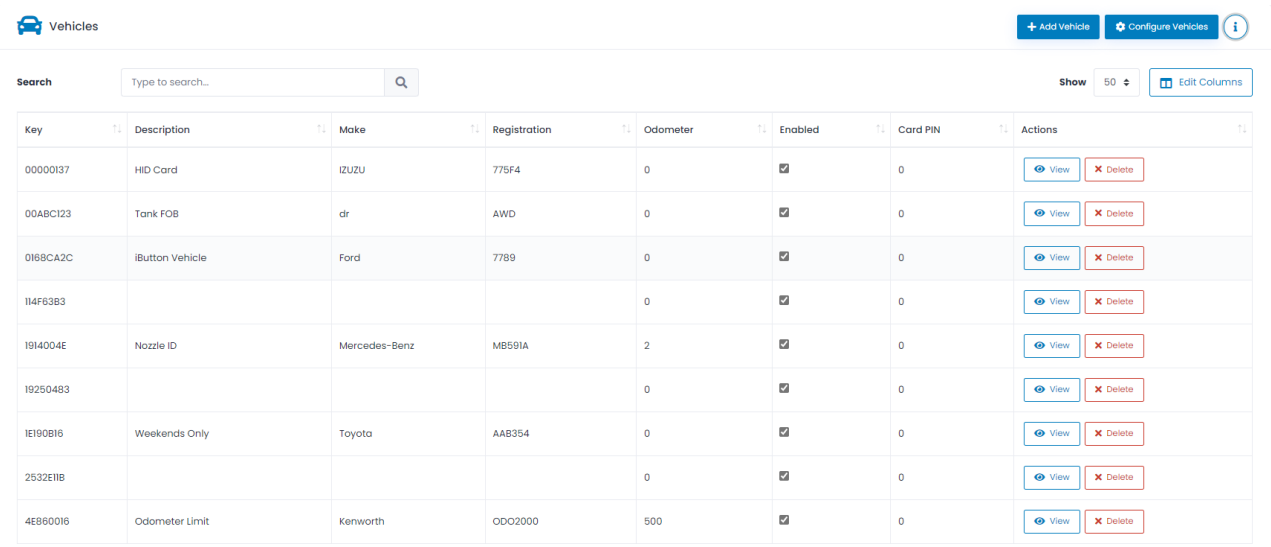

Figure 21: Vehicles Page

12.7.1. Add Vehicle

Use this to add a new key or code. You will be prompted to enter data for all the columns you currently have selected for display e.g., make, model, registration number.

If you are using swipe cards, then you will need to add the ISO/Access pair name as well as the card number. The ISO/Access pair should be added first.

12.7.2. View

The Main page provides an overview of existing vehicles and the details that have been associated with them. Details of the key or code are automatically transferred to all selected units.

In addition, for vehicles the description and registration details are automatically transferred to all selected, connected units. Details for existing vehicles can be changed by selecting a cell, such as description, and replacing existing text by typing over it.

Vehicles can be disabled by deleting them in the unit or selecting the action button next to key or code on the website.

NOTE: If a vehicle is deleted from the website, it cannot be re-added directly at the unit.

12.7.3. Edit Columns

If you select "Edit Columns" on the Vehicles page, you will be presented with the Columns Configuration page. This page enables you to choose which columns are displayed and the order they appear in.

At the top of the page are the selected columns. You can change the column headings by selecting the heading name and then then replacing it with the new name by typing over it. Headings that are greyed out are set in one of the other configuration screens. You can choose which columns are displayed by dragging and dropping those required into the top section or by clicking the "**+**" symbol. The columns are removed by dragging them into the bottom section or clicking the red "**X**".

12.7.4. Configure Vehicles

1. **Unit Allocation** - accessed by clicking "Configure Vehicles", allows keys to be allocated to specific units that report to this website. The default settings are that keys/codes are allocated to all units.
2. **Transaction Input** - accessed by clicking "Configure Vehicles", use this to select what inputs are requested on a per vehicle basis. The options are:
    (a) **Enable Odometer** - driver must enter odometer when refuelling the vehicle or piece of plant associated with the key or code.
    (b) **Enable Hourmeter** - driver must enter hourmeter when refuelling the vehicle or piece of plant associated with the key or code.
    (c) **Enable Job Input** - driver must enter a job number when refuelling the vehicle or piece of plant associated with the key or code.
    (d) **Enable User Data Input** - driver must enter User Data when refuelling the vehicle or piece of plant associated with the key or code.

3. **Time of Day Access** - accessed by clicking “Configure Vehicles”, used to set during what periods of time a specific key/code associated with a vehicle or piece of plant will be able to access fuel. Use “Edit Time of Day List” button to edit existing time of day configurations or add new ones.

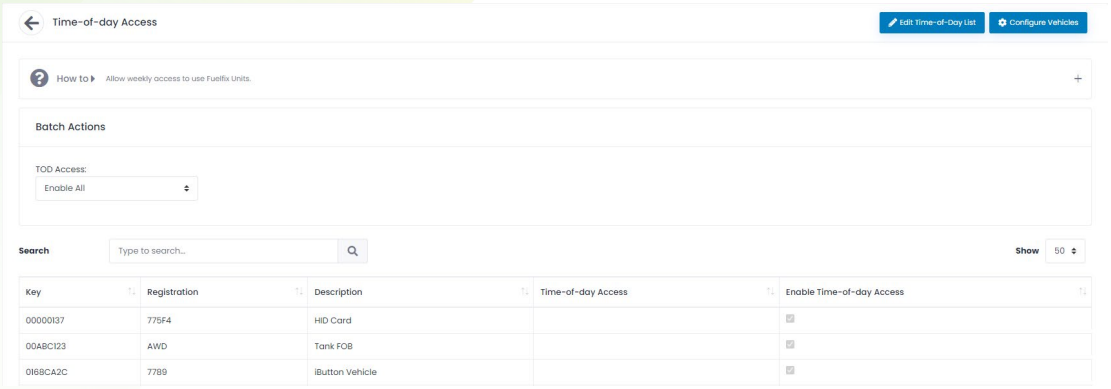

Figure 22: Time of Day Setup

4. **Fill Limits** - accessed by clicking “Configure Vehicles”, sets a fill fuel limit for a specific key/code associated with a vehicle or piece of plant. This prohibits more than the specified amount of fuel being dispensed into a given vehicle or piece of plant on a given transaction. To change the limit, click in the “Allocation per Fill” field and either enter the value or replacing the existing value by typing over it.
5. **Daily Allocation** - accessed by clicking “Configure Vehicles”, sets a total daily allocation of fuel for a specific key/code associated with a vehicle or piece of plant. If this feature is used, the daily limit must be more than the fill limit, or the vehicle will be unable to be filled to specified limit. The two settings interact and the lower of the two will determine how much fuel can be taken.

12.8. Setting up Drivers

Driver details are set up on the Drivers page. The name of the driver can be associated with a key or code and when this is used the driver’s name will be shown in the transaction as long as name has been chosen as one of the displayed fields in the Transactions Columns page.

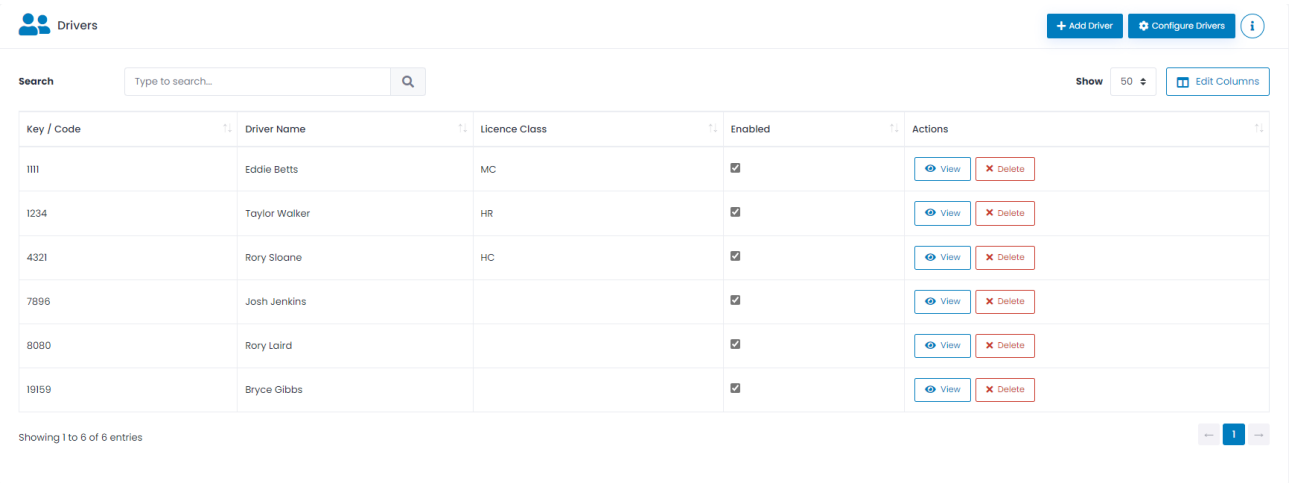

Figure 23: Drivers Page

12.8.1. Add Driver

The add driver button allows you to add a new driver. You will be prompted to enter data for each of the columns that are displayed on the Drivers page. On the input type you must select whether the entry is a key or a code (PIN/VIN). Once a driver is added you can edit it from the Drivers page by selecting and typing over the entry.

If you are using swipe cards, you will need to add the ISO/Access pair name as well as the card number. The ISO/Access pair should be added first.

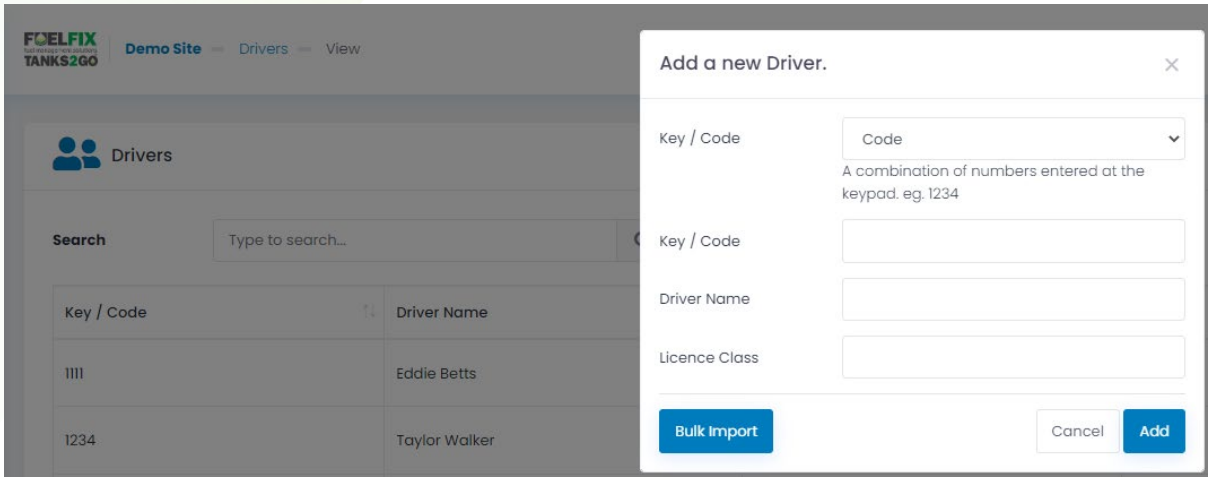

Figure 14: Add Driver Page

12.8.2. Drivers - View

The Main page provides an overview of existing codes or keys and the names that have been associated with them. Details of the key or code are automatically transferred to all selected units. In addition, the driver names are automatically transferred to all selected, connected units.

Details for existing drivers can be changed by selecting a cell, such as description and typing over the existing text. Drivers can be disabled by deleting them in the unit or selecting the action button next to key or code on the website.

12.8.3. Drivers - Edit Columns

If you select "Edit Columns" on the Driver pages, you will be presented with the Columns Configuration page. This page enables you to choose which columns are displayed and the order they appear in. At the top of the page are the selected columns. You can change the column headings by selecting the heading name and then typing over it with the new name. Headings that are greyed out are set in one of the other configuration screens. You can choose which columns are displayed by dragging and dropping those required into the top section or by clicking the "**+**" symbol. The columns are removed by dragging them into the bottom section or clicking the red "**X**".

12.8.4. Drivers - Configure Drivers

1. **Unit Allocation** - accessed by clicking "Configure Drivers", allows drivers to be allocated to specific units that report to this website. The default setting is that drivers are allocated to all units. Drivers can be unallocated or allocated to specific units that report to this website.

2. **Time of Day Access** - accessed by clicking “Configure Drivers”, used to set during what periods of time a specific key/code associated with a driver will be able to take fuel. Use the “Edit Time of Day List” button to edit existing time of day configurations or add new ones.
3. **Fill Limits** - accessed by clicking “Configure Drivers”, sets a fill fuel limit for a specific key/code associated with a driver. This prohibits more than the specified amount of fuel being dispensed into a given vehicle or piece of plant by the driver on a given transaction. To change the limit, click in the “Allocation per Fill” field and either enter the value or type over type an existing value.
4. **Fuel Allocation** - accessed by clicking “Configure Drivers”, sets a total daily allocation of fuel for a specific key/code associated with a driver. If this feature is used, the daily limit must be more than the fill limit, or the vehicle will be unable to be filled to the specified limit. The two settings interact and the lower of the two will determine how much fuel can be taken.
5. **Transaction Inputs** - accessed by clicking “Configure Drivers”, use this to select what inputs are requested on a per driver basis. The options are:
    (a) **Second ID** - can be a key or code that the driver must use in addition to his primary key or code to get fuel.
    (b) **Enable Job Input** - driver must enter a job number when refuelling the vehicle or piece of plant associated with the key or code.
    (c) **Enable User Data Input** - driver must enter User Data when refuelling the vehicle or piece of plant associated with the key or code.
    (d) **Supervisor** - when a selected driver is designated a supervisor, this means he can issue fuel to a vehicle or piece of plant without needing to enter a vehicle/plant key or code. A user can be both a driver and a supervisor. If a vehicle key or code is entered before the driver ID, the user is treated as a driver. If no vehicle identification (key or code) is used to start a transaction and only a driver ID is entered/presented, the user is treated as a supervisor if the supervisor check box has been selected.
6. **Supervisor Inputs** - accessed by clicking “Configure Drivers”, use this page to select the inputs a driver that is designated as a supervisor must enter when they are operating as a supervisor. The options are:
    (a) **Enable Job Entry** - requires the supervisors to enter a valid job number.
    (b) **Enable User Defined Entry** - requires the supervisors to enter a valid user defined value, such as location.
7. **Import/Export Drivers** - Import or Export .csv files pre-filled with driver’s details. This is useful for batch importing a large number of drivers to the Fuelfix FMS system.

12.9. Tanks

Use this page to add tanks if your Fuelfix FMS system has a Fuelfix ATG interface fitted. If your Fuelfix FMS does not have a Fuelfix ATG, you can create virtual tanks called Smart Tanks. These allow you to track your tanks with manual dips whereby any transactions that occur will automatically be subtracted from the tank volume so you can monitor your tanks in real-time. The Smart Tanks feature requires a subscription to our Pro Reports website addon.

12.9.1. Tanks Page

This is the Tanks page and allows you to view in almost real time, the levels in your tanks. This page shows a combination of tanks with Automatic Tank Gauging (ATG) and Smart Tanks.

The graphics displayed at the top of the page give you a visual indication of the status of your tanks, these graphics are available with PRO reports.

The table at the bottom of the Tanks page lists all your tanks and the current status including the capacity of the tank, safe fill limit, current volume, last dip, and the tank name.

The colours indicate the type of tank and status of the tank. A tank with a Fuelfix ATG will be listed in the table as a white row. A Smart Tank will be listed as a green row if it has had a recent DIP, or as orange if a DIP is required.

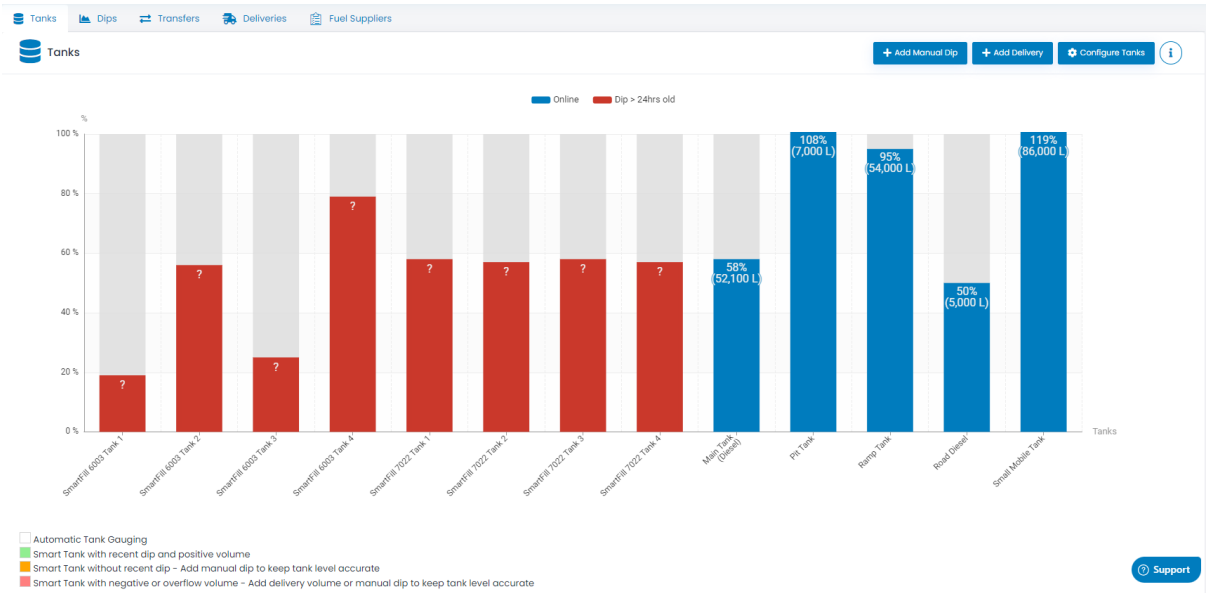

Figure 25: Tanks Page with Pro Reports

From the Tanks page you may edit the description of the tank by clicking into the description cell and editing the value. If you are using Pro Reports, the tank description will appear as the tank name on all charts and graphs. You can see this in figure 25, the name of the tanks in the graphics is the tank description.

1. **Add Manual Dip** - allows you to enter the date, time, volume, and volumetric unit of a manual tank dip.
2. **Add Delivery** - allows you to enter the date, time, volume, and volumetric unit of a fuel delivery. You can also include supplier, reference number, and delivery price.

12.9.2. Tank Level - Columns

If you select columns below the Tank Level heading, you will be presented with the Configuration page for the live view of the tanks. This page enables you to choose which columns are displayed and the order they appear in.

At the top of the page are the selected columns. You can change the column headings by selecting the heading name and typing over it with the new name. Headings that are greyed out are set in one of the other configuration screens. You can choose which columns are displayed by dragging and dropping those required into the top section or by clicking the "**+**" symbol. The columns are removed by dragging them into the bottom section or clicking the red "**X**".

12.9.3. Tanks - Dips

Selecting Dips on the top toolbar shows a record of all the Daily dip transactions for all the tanks. An automatic dip is done for each tank one minute after midnight or as close as practical to this time, effectively when the unit is next turned on.

NOTE: Selecting specific tanks above the graph will allow you to show or hide all tanks from the graph. It also shows all extra dips generated every 2 hours or by fluctuations outside the P-Factor setting which can be set between 0-100. The default is 1.

12.9.4. Tanks - Transfers

"Transfers To" and "Transfers From" show all transfers pertaining to all listed tanks and as all transactions, may be exported for recording elsewhere.

12.9.5. Tanks - Deliveries

When there is a large change in volume in a short period of time detected in the tank, a delivery is taken to have occurred and recorded as a tank transaction if the auto deliveries feature is enabled for the tank. This is an automatic delivery. Delivery drivers can also enter a delivery at the unit by holding down the "**0**" key. This is recorded as a manual delivery.

12.9.6. Tanks - Fuel Suppliers

Add fuel suppliers and assign them keys to use at the unit on delivery, assign supplier numbers, and designate fuel prices.

12.9.7. Configure Tanks

1. **Add Smart Tanks** - the add Smart Tank button allows you to add a new tank if you have Pro Reports enabled on your account. You will be prompted to enter data for each of the columns that are displayed on the Tanks page. Once a tank is added you can edit it from the Tanks page by selecting a field and typing over the entry.

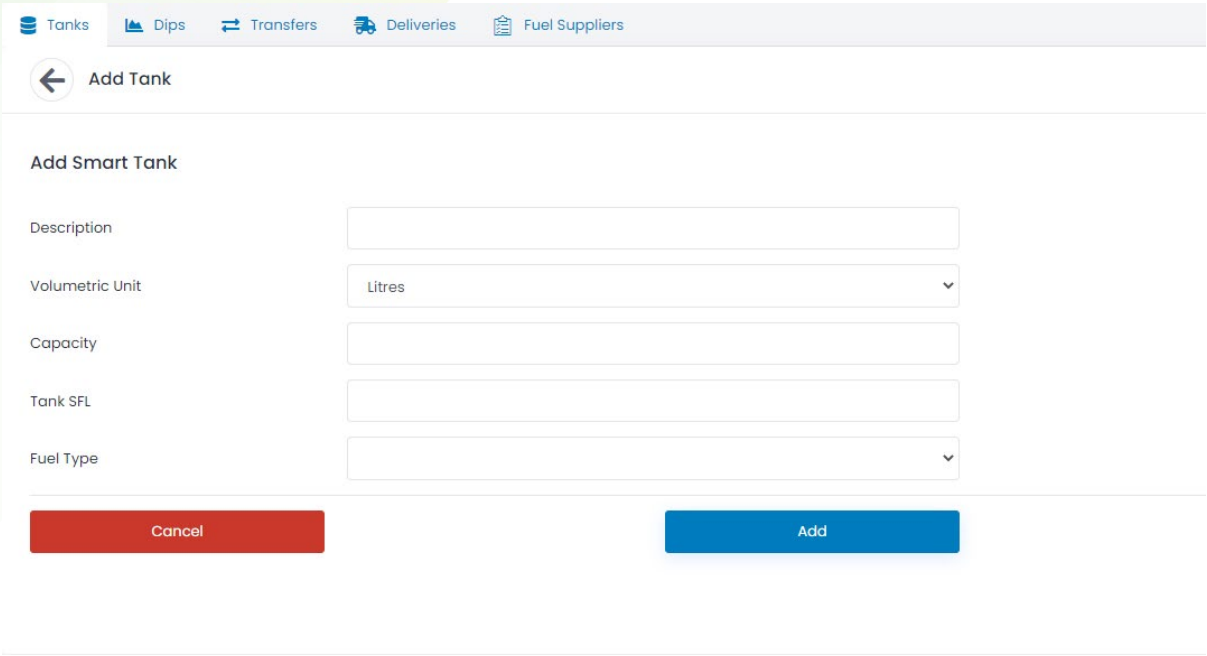

Figure 26: Add Smart Tank Page

2. **Combine Tanks** - combine tanks by assigning Fuelfix FMS units and creating a name for your combined tank.

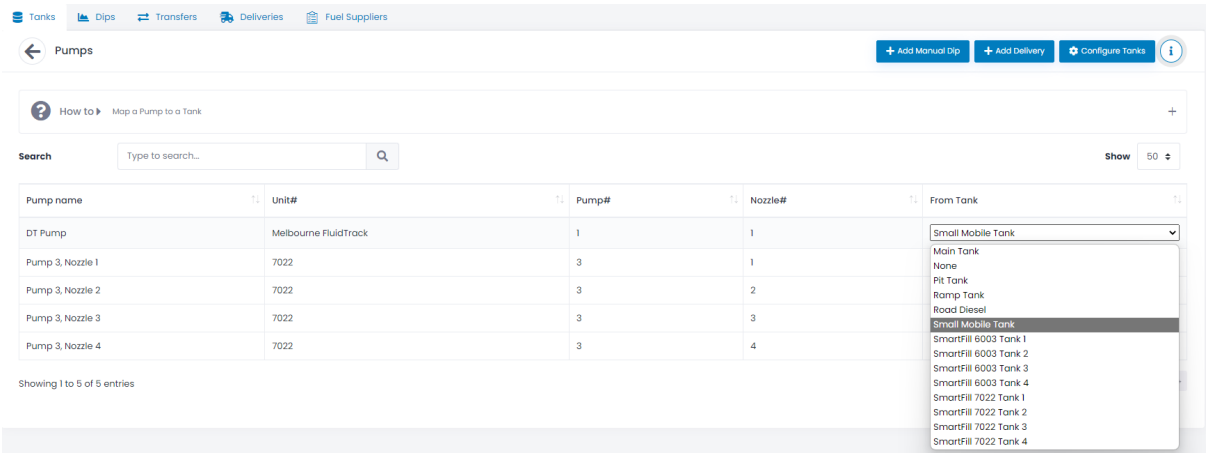

Figure 27: Pump to Tank Mapping on the Website

3. **Pumps** - after a Smart Tank is created, it is important to map your pumps to the tank to ensure accurate reporting. Connecting each transaction with a tank allows for reconciliation of fuel use. Inflow meters should be configured on the Transfer Meters page.

4. **Transfer Meters** - configuration on this page requires a Fuelfix FMS Inflow module to be installed. Once installed, set up transfer meters with “To Tank” only for deliveries, or “From” and “To” tanks for transfers.
5. **Mobile Tanks** - configuring a key/code to a tank allows you to authorise the fill of a mobile tank at the Fuelfix FMS unit. The movement will be treated as a transfer between tanks instead of a transaction. If you have a Fuelfix FMS on the mobile tank, you can then see the fuel leaving the mobile tank as transactions.
6. **Email Schedule** - tank levels may be scheduled for specific times and sent to multiple email addresses to alert you of your tank levels.
7. **Email Alerts** - you can configure email alerts for your tanks when they become offline or reach their high or low alarms, these can be sent to multiple email addresses by separating them with a comma or a semicolon.
8. **Delivery Email Alerts** - you can configure email alerts to notify you of fuel deliveries. This will send you the date, time, quantity, supplier, and price (if set).

12.10. Customer User Data

On the Custom User Data page, you can define your own data that you want a driver to enter while refuelling (e.g., a department or a location).

The driver enters a numeric code that is mapped to a value on the website. Below is a page set up for the entry of test data. To use this function, vehicle and/or drivers must have their transaction input set for a user defined field input.

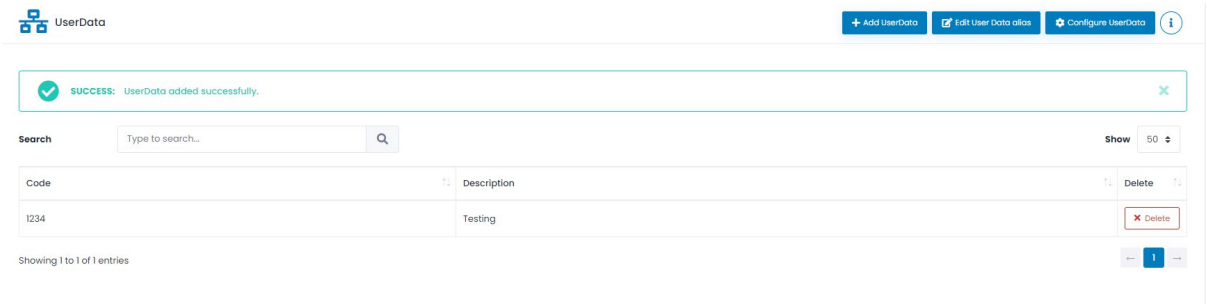

Figure 28: User Defined Data Page

1. **Unit Allocation** - allows user defined entries to be allocated to specific units that report to this website. The default setting is that they are allocated to all units. User defined data fields can be unallocated or allocated to specific units that report to this website.

12.11. Jobs

The details for job numbers are set up on the jobs page. On this page you can add new job numbers and map a numeric entry made at the unit to an internal job number that can be used on the transaction report.

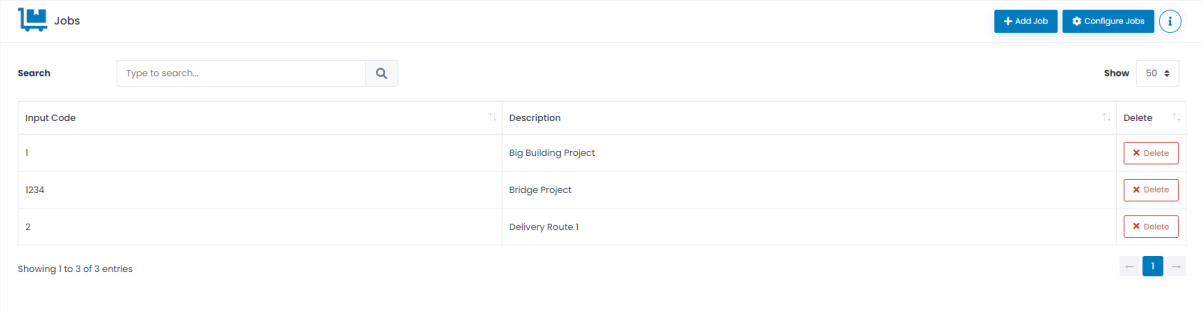

Figure 29: Jobs Page

1. **Add Job** - selecting the "Add" button on the Jobs page allows you to enter a new job number and a description for it.
2. **Unit Allocation** - allows job numbers to be allocated to specific units that report to this website. The default setting is that all job numbers are allocated to all units. Job numbers can be unallocated or allocated to specific units that report to this website.

12.12. Units

This page enables you to see the status and the configuration of units allocated to this website and add new units.

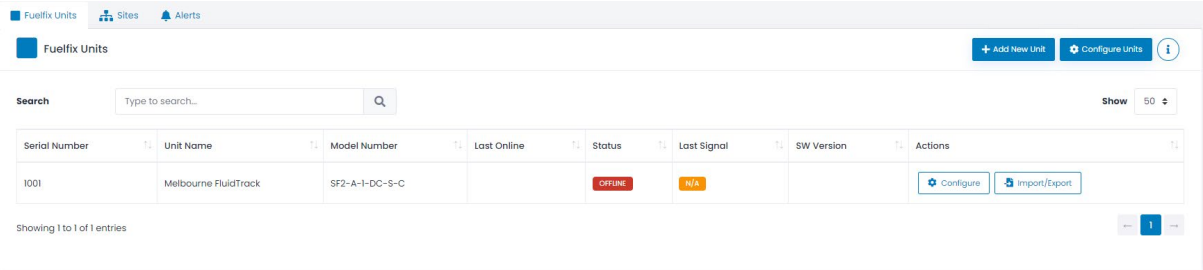

Figure 30: Fuelfix FMS Units Page

1. **Alerts** - provides alerts when the Fuelfix FMS unit goes offline.
2. **Software Update** - this is where you can check and download software updates if required.
3. **Import (From Unit to Website)** - if your unit(s) is/are not connected to the website via a network connection then transaction and configuration data will need to be transferred via a USB drive. Export data and transactions from the Fuelfix FMS onto a USB drive and then use the import function to import into the website. The Fuelfix FMS Operations manual has details on how to export data and transactions from the Fuelfix FMS.
4. **Export (From Website to Unit)** - as above, if you have no network connection then use this function to export all the website configuration onto a USB drive so it can be imported into the Fuelfix FMS. The Fuelfix FMS Operations manual has details on how to import data from a USB drive.

5. **Add New Unit** - is used to add a new unit to this website. To do this requires the security code that is shipped with the unit.
6. **Configure: Unit** - this option is shown in the action column for each unit and is used to remotely configure options in the unit. There are four pages if tank gauging is installed and three if there is no tank gauging.

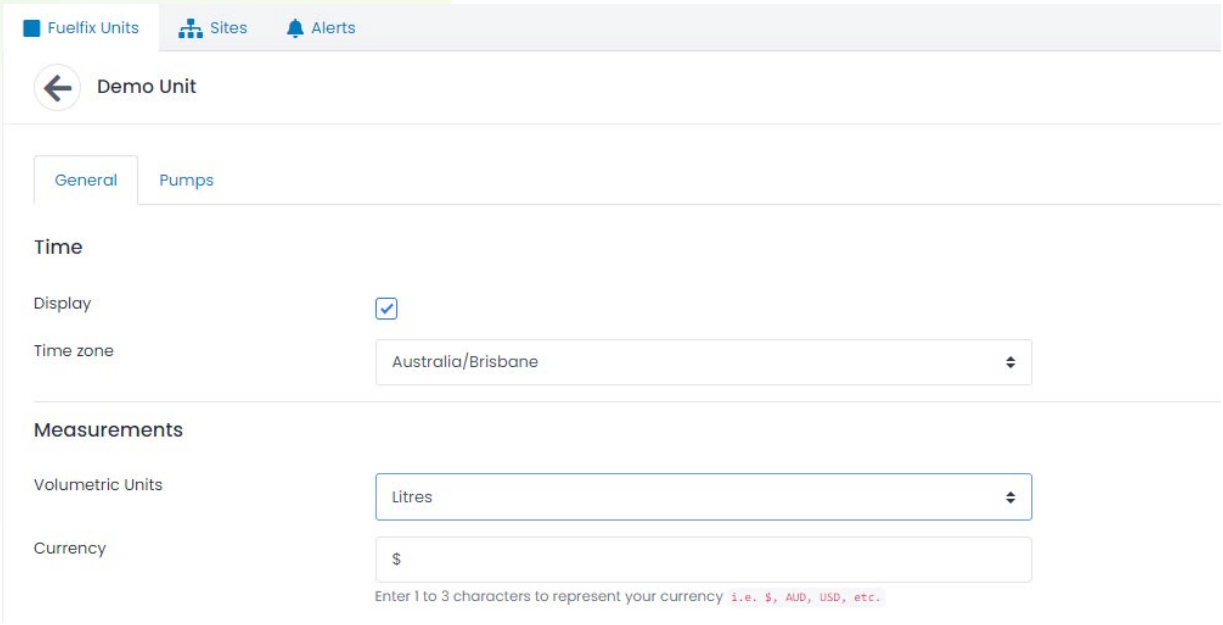

Figure 31: Configuration – General

(a) **Time**:
   i. **Display** - sets whether the time is shown on the display (default is on).
   ii. **Time Zone** - select which time zone you are in.

(b) **Measurements** - sets what units are used for measurement in the unit. The options are litres and US or imperial gallons.

(c) **Menu Access** - allows you to enable the Installer menu and change the Admin and Installer PINs.

(d) **Security** - if the hide PIN numbers is selected, PIN entries are shown as an asterisk (*) on the display when the driver enters their PIN.

(e) **Receipt Header** - sets your Company Name as the header for any receipts.

(f) **Other** - sets transaction hold time and input screen timeout.

7. **Configure: Pumps** - this page is used to remotely configure the pumps (hoses) in the unit.

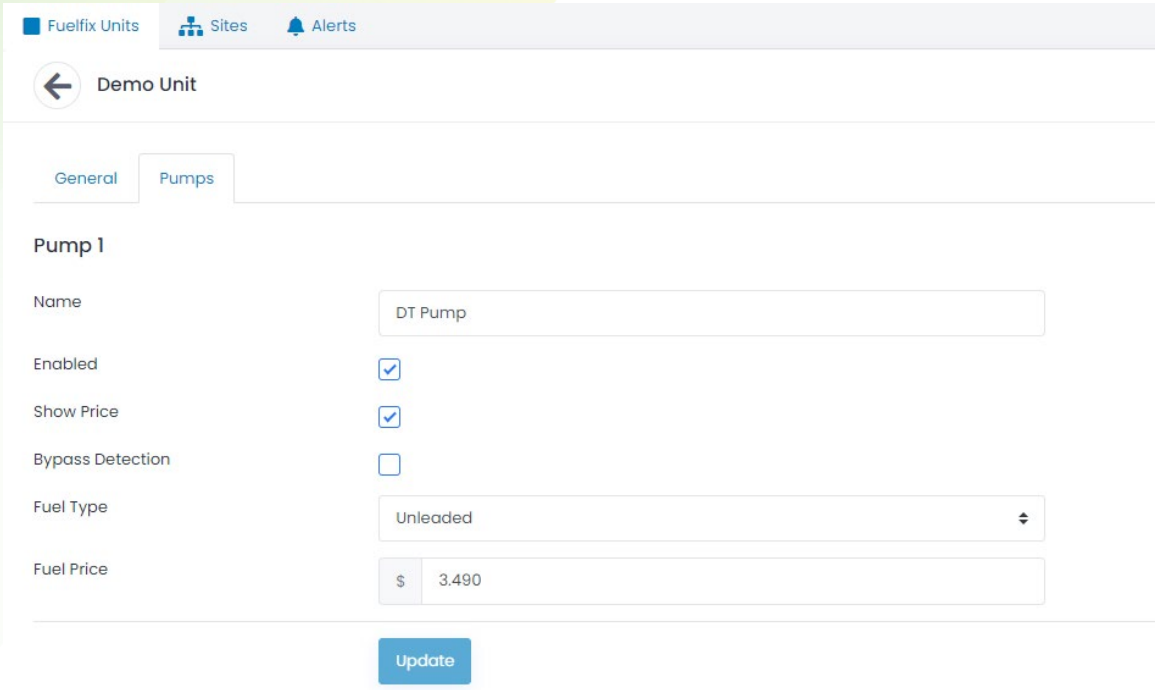

Figure 32: Configuration – Pumps

8. **Configure: Admin** - the Admin screen in the configure section is used for more advanced settings, these options are as follows:
    - **Protocol** - used to specify the pump protocol when using a Gilbarco pump.
    - **Logging** - this section has two options. These should only be changed if directed by Fuelfix FMS Support and may use additional data if enabled.
        - Persistent Logs
        - Comms Debug
    - **Printer** - used to configure a receipt printer for use with a Fuelfix FMS unit.
        - **Enabled** - Choose whether receipt printer is enabled on the unit.
        - **Baud Rate** - Default is 9600.
        - **Data Bits** - Default is 8 bits.
        - **Parity** - Default is none. Can be none, odd, or even.
        - **Stop Bits** - Default is 1 bit.
    - **Swipe Cards**
        - **Enable Expiry** - if using swipe cards this enables card expiry.

- **Offline Reboot** - if the unit goes offline, this setting specifies how long before the unit should reboot to reset the connection. The unit will not reboot if a transaction is in progress.
    - **Enabled** - choose whether to enable offline reboot.
    - **Threshold** - how long until the unit should reboot after going offline.
    - **Interval** - at which interval the unit should keep rebooting if the connection is not restored.

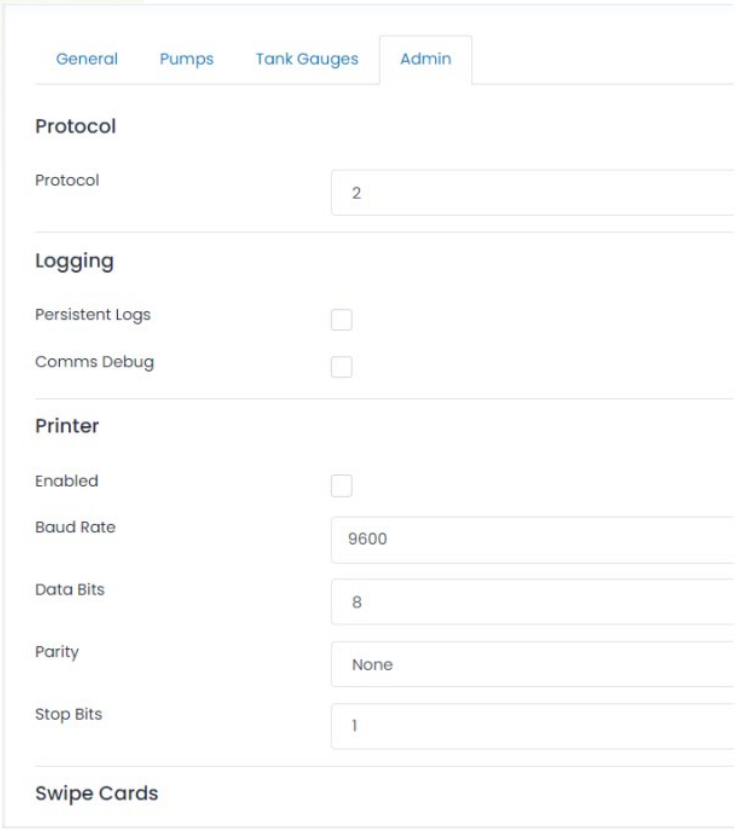

Figure 33: Configuration – Admin

(a) **Name** - used to name the pump. This name is shown on the display when the pump is in use and when the pump selection screen is shown (when there is more than one hose being controlled).

(b) **Enabled** - sets whether this pump/hose is enabled on the unit. If it is not selected, the driver will not be given the option to select this pump.

(c) **Show Price** - when set, will make the total price of the transaction visible on the Fuelfix FMS display.

(d) **Bypass Detection** - if using a pump control module with compatible software, this feature allows you to record any transaction that occurs including if an asset has not been used and the system has been bypassed.

(e) **Fuel Type** - selects the fuel type being dispensed by this pump/hose. This should ONLY be set if you are going to use fuel type checking on the vehicles or plant page.

(f) **Fuel Price** - sets the price that is displayed when the transaction is in progress. **NOTE**: This is a display only function and it DOES NOT enable the system to calculate the total price of delivery.

(g) **Cutoff Freq** - enables you to ignore flow rate/pulses that are very slow. Usually used when Walk time is set and there is an inflow/outflow meter used.
(h) **Pulser Source** - enables one pulser to be used for 2 pumps. E.g., High Flow and Low Flow Diesel using the same flow meter at a pump.
(i) **Activation** - sets the pump activation to Nozzle Switch or Walk time depending on your requirements.
(j) **K-Factor** - sets the K-Factor for the pump.
(k) **Volume Multiplier** - sets any volume multipliers needed for accurate display of volume.
(l) **Gilbarco Digits** - sets the displayed amount of digits for Gilbarco pumps.
(m) **Device Type** - read-only information about the type of Fuelfix FMS.
(n) **Version** - read-only information about the version number of the Fuelfix FMS.
(o) **Unit** - read-only information about the unit of the Fuelfix FMS.
(p) **Slot** - read-only information about the slot of the Fuelfix FMS.

9. **Tank Gauges**

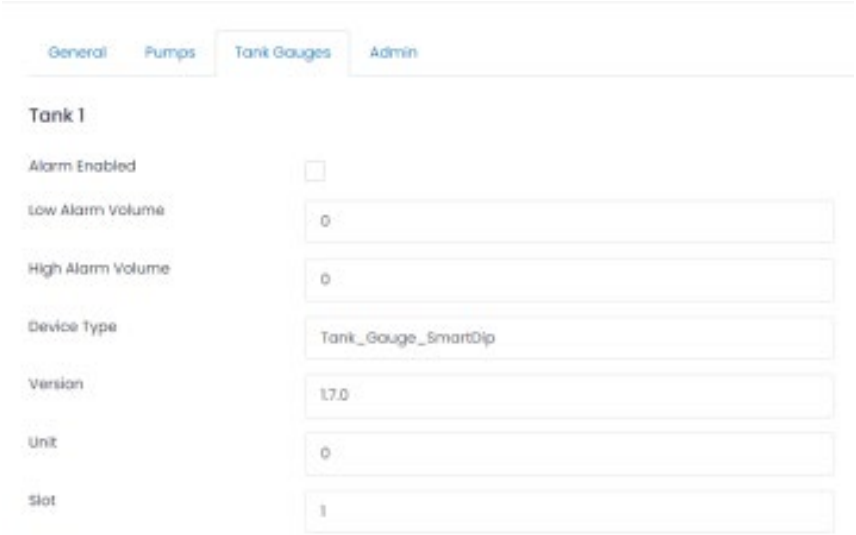

Figure 34: Configuration – Tank Gauges

(a) **Alarm Enabled** - sets whether the tank level alarms are active. If enabled and notifications are set on the tanks page, an SMS will be sent to the numbers on the notification list when either a low or high alarm condition occurs.
(b) **Low Alarm Volume** - sets the level at which the system will send a low-level alert via SMS, if configured.
(c) **High Alarm Volume** - sets the level at which the system will send a high-level alert via SMS, if configured.
(d) **Device Type** - shows the type of tank gauge used for each tank.
(e) **Version** - read-Only information about the version of the tank.
(f) **Unit** - read-Only information about the unit the tank is assigned to.
(g) **Slot** - read-Only information about the slot that tank is assigned to.

12.13. Admin

The Admin page lists out all the users who have access to your website, from here you can manage accounts and permissions, create new accounts for your website, and change your password.

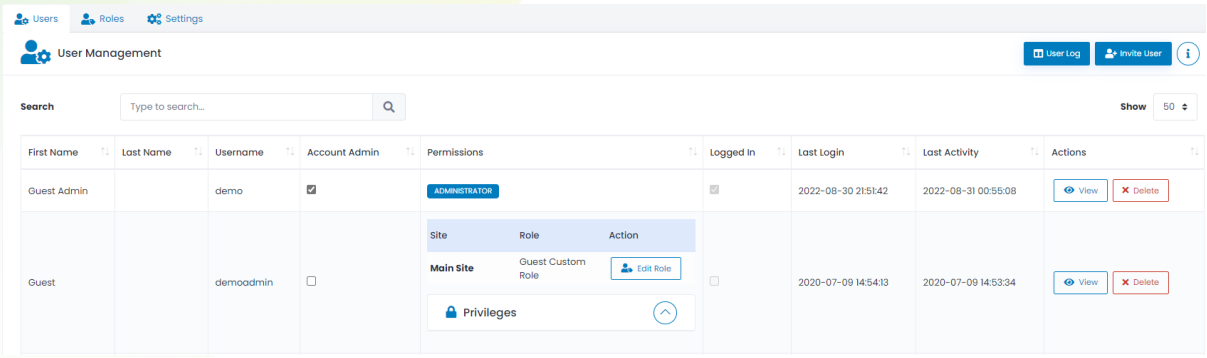

Figure 35: Admin

1. **Admin - ISO/Access Registration** - this page lists the ISO/Access pairs that are authorised for use with Fuelfix FMS units registered to this website. When adding a swipe card as a vehicle/plant/driver the ISO/Access pair name must be referenced for each card so the Fuelfix FMS unit can grant authorisation.

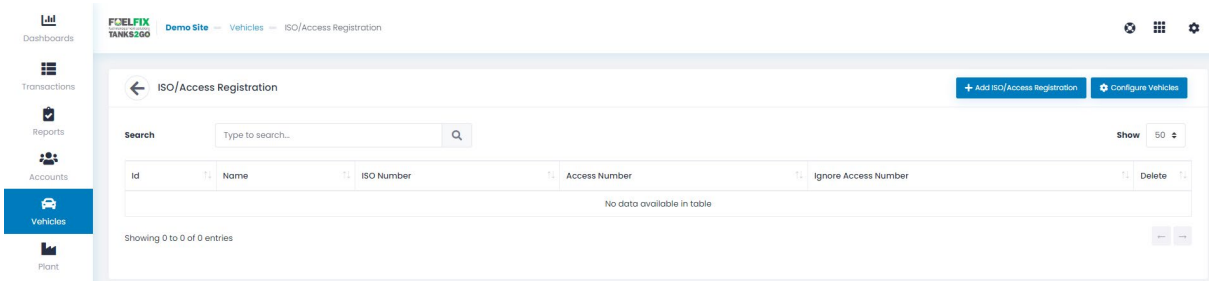

Figure 36: Admin ISO/Access Registration

To add an ISO/Access pair, click the Add button and fill out the form with the ISO and Access number and give the pair a reference name. Some cards are not encoded with an access number. For these, check the “Ignore Access Number” checkbox and only include an ISO number.

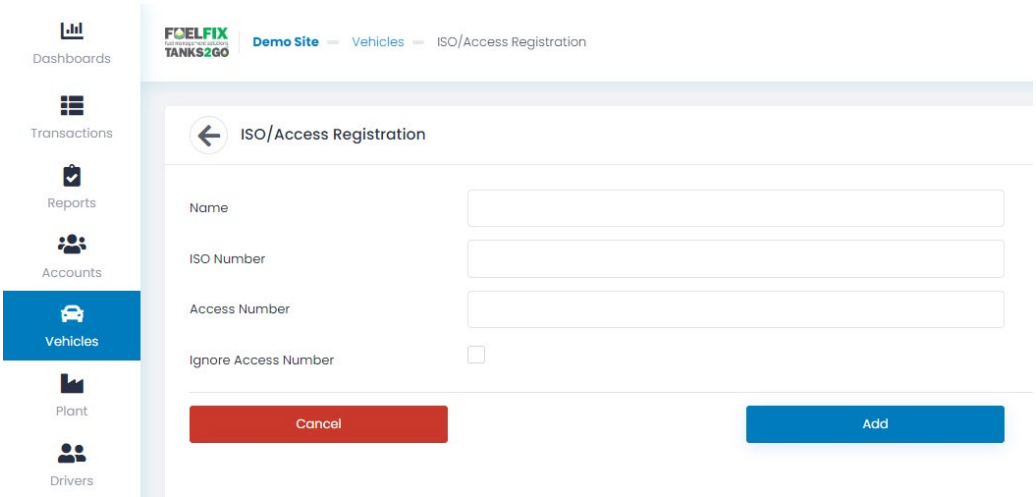

Figure 37: Add ISO/Access Pair

2. **View/Edit Users** - it is possible on this screen to view all users, define them as administrators or not, and to delete users from the system.

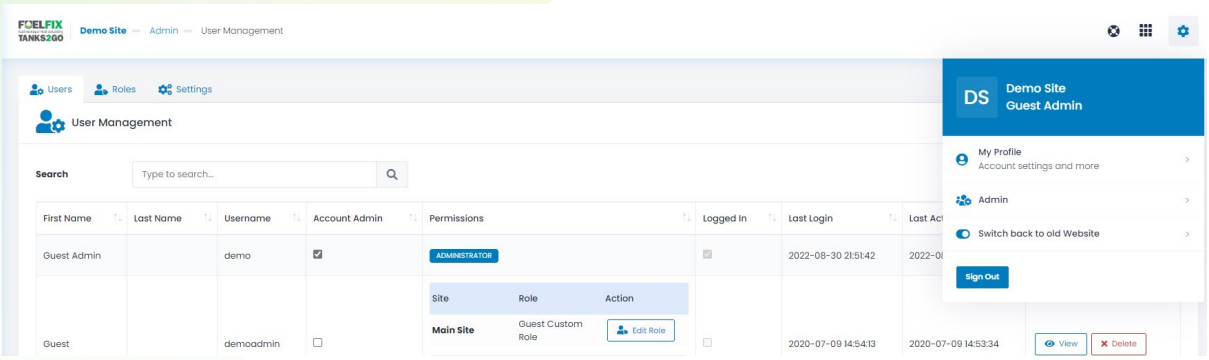

Figure 38: Admin View / Edit Users

3. **Invite New User** - use this page to add new users to the system. Fill in the details and click "Invite".

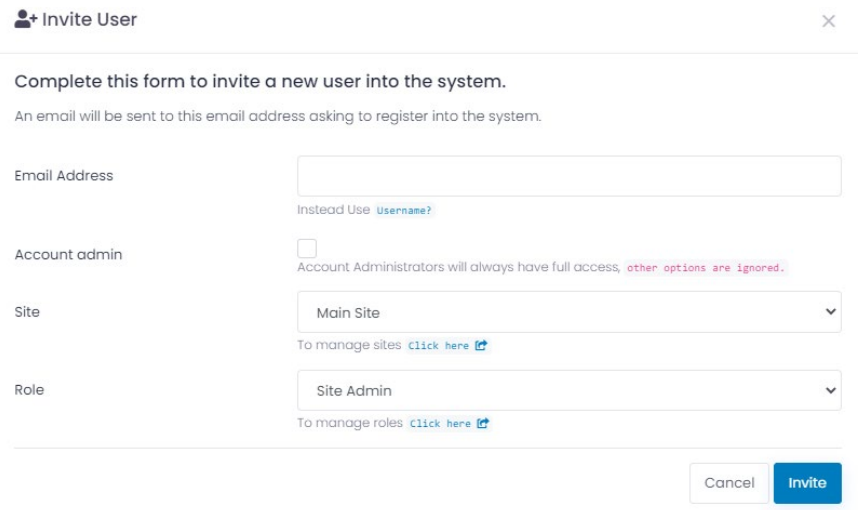

Figure 39: Admin Add User

4. **My Profile: Change Password** - use this page to change the password of the currently logged in user.

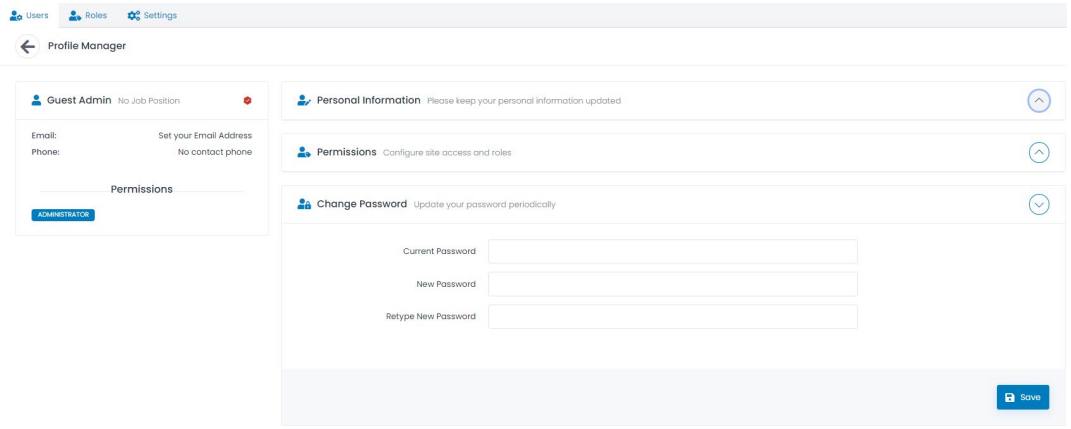

Figure 40: Admin Change Password

13. Troubleshooting at the Fuelfix FMS Unit

13.1. Key Problems

13.1.1. Require More Vehicle Keys

If you require more Fob keys, contact the Fuelfix Sales team at sales@fuelfix.com.au or contact the member of the Fuelfix Sales team who sold you the Fuelfix FMS unit.

Always use genuine Fob keys, as there are several types of buttons/Fobs and some types do not operate correctly with the Fuelfix FMS system due to differences inside the button.

13.1.2. Fuelfix FMS Does Nothing When a Key is Presented

1. Ensure that the Fuelfix FMS unit is powered on.
2. Check the area around the sensors for dirt or moisture. Clean with a soft cloth if necessary.
3. Perform a power reset by turning OFF the power to the Fuelfix FMS unit for 30 seconds before turning it on again.
4. Check that you are presenting the key in the correct area.
    (a) For iButton (Dallas keys), the iButton reader is to the right of the display.
    (b) For NFC fobs and cards, the reader is strongest at the bottom where the Wi-Fi symbol is.
5. Try another key, if it works, then the previously used key may be faulty.
6. If using another key does not work, have an electrician check if the Fuelfix FMS unit is properly powered.
7. If the key has not been supplied by Fuelfix, it may not be compatible.

If you have tried steps 1 - 7, arrange for Fuelfix FMS Support to inspect/service your Fuelfix FMS unit.

13.1.3. Keys Show as 'INVALID'

The key may not have been loaded into the Fuelfix FMS or may be an incompatible type of key (not a genuine Fuelfix supplied Fob key). You can add a key via the installation menu at the unit or by adding them on the website.

If the front of the Fuelfix FMS is wet, you may need to dry the area around the key sensors with a tissue or clean rag. Moisture around the sensors will cause the keys to misread.

If the key has already been loaded onto the website, the unit may not have synced with the website yet, or the key number might be incorrectly entered on the website.

If the key was added on the website, ensure the Input Type is set to 'Key'.

13.1.4. Lost Vehicle Keys

If you lose a vehicle key, delete the key on the website.

If you find old keys, you can use them again. Test them on the Fuelfix FMS unit to ensure they work before adding them on to the website in the usual manner. If they do operate, delete that number in the system.

13.1.5. Lost Door Lock Key

If you lose your Fuelfix FMS unit door lock key, you should replace the lock immediately. Some Fuelfix FMS unit systems have a bypass switch fitted internally and having the door key may give that person the opportunity to bypass the Fuelfix FMS unit and take fuel unauthorized and unrecorded.

13.2. PIN Number Problems

13.2.1. Not Asking for PIN Number

Check your driver and vehicle configuration. A driver who has a key and is marked as a supervisor will not be asked for a PIN.

13.2.2. Invalid PIN

Check your Fuelfix FMS configuration on the website for that PIN.

13.3. Pump / Dispenser Problems

13.3.1. Pump Stops After a Short Period

The cause of this problem is easier to identify by checking if the Litres taken were recorded or not.

1. If Litres are NOT recorded by the Fuelfix FMS unit:
    (a) The Fuelfix FMS unit is most likely not receiving pulses from the flow meter.
2. If Litres ARE recorded by the Fuelfix FMS unit.
    (a) The Fuelfix FMS unit thinks that the nozzle has been hung up. Check wiring, micros switches, etc.
    (b) The wiring to the pump/valve may be faulty or have a poor connection. Check all wiring.

13.3.2. Fuelfix FMS Unit is Not Recording Litres Accurately

1. Systems with relay pump modules (pulse input and relay / valve control).
    (a) Fuelfix FMS unit is not calibrated correctly to the flow meter / dispenser. The Fuelfix FMS unit should be calibrated with a proving measure or master flow meter.
2. Systems with a protocol (Gilbarco or NZ) comms module.
    (a) The Fuelfix FMS unit and the dispenser MUST both be in the same 5- or 6-digit mode. If they are set differently, the decimal point in the Litres reading may be in the wrong place. See the relevant installers documentation for 5/6-digit setup procedures.
    (b) The Dispenser may be set in 5-digit mode, but still allowing a fuel delivery over 999.99 Litres. This has occurred previously on PEC dispensers, and it causes the dispenser to lose the 1000's in the Litres, i.e., a delivery of 1354.77 Litres is recorded as 354.77. This is a dispenser issue, not a Fuelfix FMS unit issue. Ensure that both the Fuelfix FMS unit and the dispenser are both set in 6-digit mode wherever possible.

Part 2: Fuelfix ATG Operation

14. Overview

The Fuelfix ATG is a tank gauging product that is either fitted as an option to the Fuelfix FMS unit or supplied as a standalone unit. One Fuelfix ATG module can monitor up to four tanks. The levels from tanks can be displayed locally by holding down the <**CLR**> key if incorporated with a Fuelfix FMS unit, sent via an SMS message if a 4G/5G module is fitted, and viewed on the website.

The Fuelfix ATG has the ability to generate high and low levels alarms. On activation of the alarm, a SMS will be sent to all numbers recorded in the unit.

15. Viewing Tank Levels

If installed and configured, the tank levels can be viewed by holding down the <**CLR**> key at the Fuelfix FMS.

If your Fuelfix FMS is connected to a network, then the tank levels can also be viewed on the Tanks page of the website.

If you have the phone number of the SIM card in the 4G/5G module, then you can send it a SMS and the Fuelfix FMS will send back a SMS with the current tank levels. This option needs to be configured before it is accessible. Contact Fuelfix FMS support to do this for you.

16. Troubleshooting Fuelfix ATG

16.1. Tank Level Not Changing on the Website

This means an interruption in the communications. Check that the Fuelfix FMS unit itself is connected to the website by pressing and holding the <**4**> key to show the network status or by checking the Fuelfix FMS Units page of the website.

Also, check the wiring from the sensor to the Fuelfix ATG module. If this has been disconnected, then the website will show the last value received.

16.2. Tank Level Incorrect

Check the configuration settings for the tank at the Fuelfix FMS unit. See the installation manual for how to do this. If the problem persists, contact your Fuelfix ATG installer for them to check the sensor installation. The sensor must be fully sealed as any fluid in contact with the sensor will degrade the reading.

16.3. No Tank Level Showing

Ensure the configuration settings for the tank at the Fuelfix FMS unit has been it set to “Enable” for that tank. If this is correct, then check the wiring from the sensor to the Fuelfix ATG module as 0% means that the Fuelfix ATG module is not receiving a signal from the sensor.

16.4. Tank Level at 100%

There is either water/fluid in the pipe that houses the sensor or there is a short in the wiring from the sensor to the Fuelfix ATG module. If the pipe has been flooded, then a new sensor will be required.

16.5. The Fuelfix ATG Module

For each tank connected to the Fuelfix ATG module there should be a LED on next to that tank designation on the module. If it is not on or flashing, then that would indicate an issue with the gauging. Please call Fuelfix FMS support to identify the issue.

The following fault conditions can occur on the module:

16.5.1. Open Circuit

The level bar goes red and below it, the word “offline” appears. The corresponding tank led on the module will also not be lit up.

16.5.2. Short Circuit (current > 27.6mA)

The bar remains white with no level showing. All the tank LEDs on the module flash on and off at a 1Hz rate. Once the short is removed, the unit must be rebooted to clear the fault condition.