

C5000 ComTank Installation and Setup Instructions Version No: 1.0.3

Model: C5000 On-tank Pump/Dispenser (ComTank)

Date: 13/07/2020



Conditions of Use

- Read this manual completely before working on, or making adjustments to, the Compac equipment
- Compac Industries Limited accepts no liability for personal injury or property damage resulting from working on or adjusting the equipment incorrectly or without authorization.
- Along with any warnings, instructions, and procedures in this manual, you should also observe any other common sense procedures that are generally applicable to equipment of this type.
- Failure to comply with any warnings, instructions, procedures, or any other common sense procedures may result in injury, equipment damage, property damage, or poor performance of the Compac equipment
- The major hazard involved with operating the Compac C5000 processor is electrical shock.
 This hazard can be avoided if you adhere to the procedures in this manual and exercise all due care.
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- Compac Industries Limited has made every effort to explain all servicing procedures, warnings, and safety precautions as clearly and completely as possible. However, due to the range of operating environments, it is not possible to anticipate every issue that may arise. This manual is intended to provide general guidance. For specific guidance and technical support, contact your authorised Compac supplier, using the contact details in the Product Identification section.
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 omissions in this publication.



Product Identification

Specifications

This manual applies to C5000 Comtank dispensers

Models Covered

NOTE: Do not use this manual for earlier models. Contact Compac for archived manuals if required.

Validity

Compac Industries Limited reserves the right to revise or change product specifications at any time. This publication describes the state of the product at the time of publication and may not reflect the product at all times in the past or in the future.

Manufactured By:

The Compac Comtank Dispenser is designed and manufactured by Compac Industries Limited.

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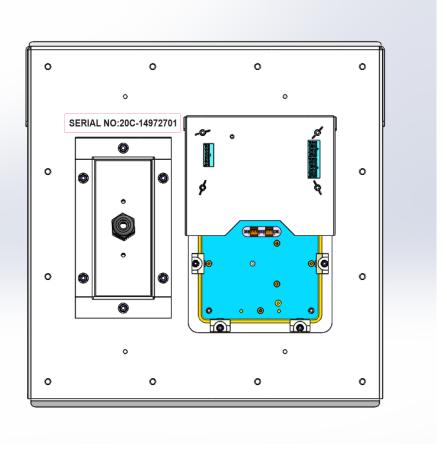
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Product Identification

Ensure you are using the correct installation instructions and footprint drawing before commencing site work or installation.

The serial number label is located above the reader wedge on the rear of the front fascia plate.



Footprints

Authorisation panel

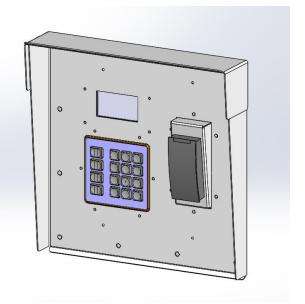
The display for each pump must be mounted on a flat steel plate with cutout and fastener holes as per the drawing below.

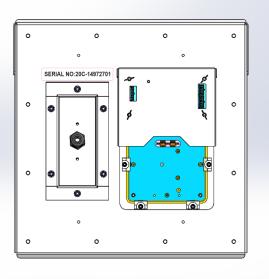
NOTE: No gasket is supplied with the C5K Comtank module. Appropriate measures must be taken to provide an effectual "weather seal" between the "rear" of the module and the "mounting face".

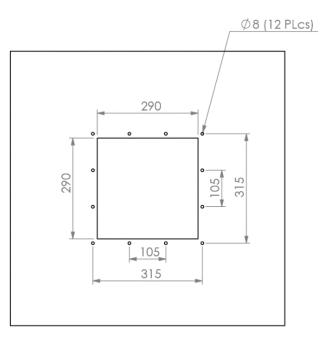
Adequate clearance is required behind the display to access fasteners and wiring. A suggested minimum is 500 mm.

For installation, the unit is supplied with:

- 12x M6 x 19(0/D) stainless steel flat washers
- 12x M6 stainless steel spring washers
- 12x M6 stainless steel nuts







Cut-out Dimensions

Safety

Static Electricity Precautions

Electronic components used are sensitive to static. Please take anti-static precautions.

An anti-static wrist strap should be worn and connected correctly when working on any electronic equipment. If an anti-static wrist strap is unavailable, or in an emergency, hold onto an earthed part of the pump/dispenser frame whilst working on the equipment. This is not a recommended alternative to wearing an anti-static wrist strap.

NOTE: Compac Industries Limited reserves the right to refuse to accept any circuit boards returned, if proper anti-static precautions have not been taken.

Pre-Installation Check

Once the unit is received on site, check that no damage has occurred while in transit – in particular, damage to electronics due to vibration or jarring. All terminals and plugs should be checked, including IC chips, to ensure they are securely in place.

Installation

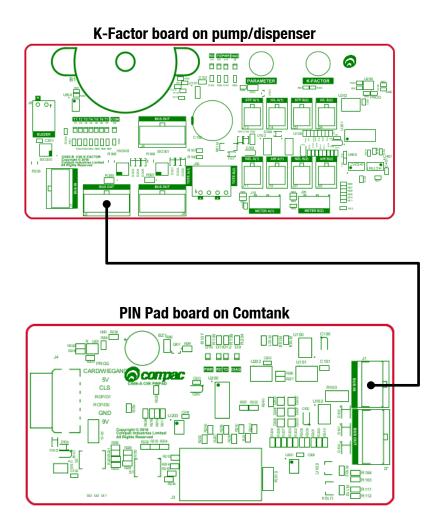
Comtank units are designed to be attached to existing pumps and dispensers. Before installing a Comtank, a pump or dispenser must be already installed and working correctly. To install the relevant pump or dispenser, refer to their respective installation manuals, which will have been provided with the unit, or are otherwise available on the Compac website in the Resources section:

https://www.compac.biz/resources/c/48#listingResources

When installing pumps and dispensers, the setup section can be ignored as set up can be done from the Comtank unit once connected.

Connecting the Comtank

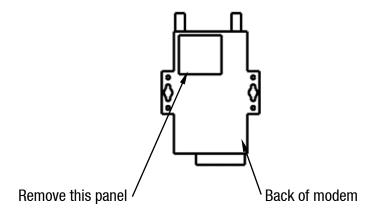
Once the pump or dispenser has been installed, mount the Comtank as directed in the Footprints section (see page 2.) The Comtank can be connected to the pump/dispenser with a supplied 5 metre cable that runs between the PIN pad board of the Comtank and the K-Factor board of the pump/dispenser. Connect the cable to the bus in port on the PIN pad board and the bus out cable on the K-Factor board as shown:



Installing the Sim Card

When installing the Comtank, the supplied sim card must be installed into the modem to access Compac Onsite. The modem will need to be removed to install this. The modem is generally housed in a plastic enclosure on the back left side of the pump/dispenser unit.

As shown, there is a small plastic panel on the back of the modem. This can be removed. The supplied sim card should be installed under this panel. The panel and modem should then be replaced.



Software

This section details what options are available for the unit and what each setting means. Some settings may not be available for each specific unit.

System

Card Records

Before cards can be added, card records need to be set up from the unit. When setting up card records, a PAN length, BIN range, and access number can be specified. These are encoded onto the card and can be used to restrict access to the pumps. PAN length is the number of digits that make up the BIN number and card number. The BIN range gives access to a range of cards that have similar BIN numbers. BIN numbers are always 6 digits long. To make this into a BIN range, two numbers must be added. For example, if a card had the following card number:

7824331000132017

The card is 16 digits long, therefore the PAN length is 16.

The BIN number is 782433. To allow all cards with the same BIN number access:

BIN low should be set to 78243300. BIN high should be set to 78243399.

This would allow all cards with a BIN number of 782433 access. The Access number is used to further restrict cards. This is a 5-digit number and will be encoded onto the cards. O should be entered into the Access field if the card does not have an access number. Once the card records are set up, specific cards can be entered into the system using PAN numbers.

If a card is hotlisted, it will be accepted even if the card PAN number has not been entered. Otherwise, the card's individual PAN number will have to be entered as a card. Prompts are an optional setting which may be chosen when setting card records. The prompts that are selected when entering a card will appear when that card is swiped; for example, if odometer is selected, the card holder will have to enter an odometer number to access the fuel pump. Cards can be enabled or disabled.

Passcode

For security, the unit has a passcode. This can be used to access settings from the unit. For extra security, if the settings are accessed with the passcode, some options are not able to be changed, such as the K-Factor setting. These must be accessed by pressing the K-Factor switch.

The unit supports three different authorisation modes: PIN, HID or Cardreader. The system can be set up from either CompacOnsite or from the unit itself.

Pumps

The Comtank supports two configurations, single and dual, enabling two pumps to be used simultaneously if one card is used. These pumps are assigned a side so that they may be individually customised. Each side must be numbered between 1-99.

NOTE: Entering a pump number 0 will disable the pump.

Individual settings for each pump include the fuel product used, which has a name and product code, and the meter used at each pump. The unit supports encoder meters (max frequency 3.5Khz) or V50 meters. The K-Factor, used to calibrate fuel flow, can also be set for each pump. The state of the pumps can be either operational or locked, which may be desired if the pump is not operating normally. Pumps have two solenoids for product flow. If the solenoids are unavailable, the pump preset should also be unavailable. Solenoid delay, the amount of time it takes the solenoids to turn on after lifting the nozzle, can be customised for each side. Auto authorisation can be enabled for a pump, allowing the pump to be authorised without lifting up the nozzle.

Preset Cut-off and Rounding

Preset cut off is used to deliver an accurate amount of fuel. When dispensing fuel, two solenoids are used for fuel flow. When the dispensed amount of product reaches the preset cut off, one solenoid is turned off to slow delivery rate and dispense an accurate volume of product.

A two-digit number can be assigned to determine the preset rounding in litres. The first digit determines how the preset is rounded down, and the second digit determines how the preset is rounded up. For example, if Preset Rounding is set to 89 and the preset is 40;

40.08 is within .08 of 40 and would therefore be rounded down to 40.

39.91 is within .09 of 40 and would therefore be rounded up to 40.

Flow Range

A flow range is needed for each pump to dispense an accurate amount of product. If too much or too little fuel is dispensed, the meter cannot accurately measure the dispensed fuel and therefore should cut off and display an end of sale message. The flow range will vary for different products. Flow low should be the lower value of the flow range, while Flow high is the highest possible flow.

NOTE: Flow range is optional. The default value is 0.

A flow timeout can be set, which cuts off the motor after the set amount of time. The default is 000, which is 20 seconds.

Unit Price and End of Sale

The unit price is the price per litre of fuel dispensed. For this unit, it is displayed in the Card Totals window.

End of sale indicators show why the motor stopped during the last sale.

Cards and Card Users

Card numbers must be added for a card to be valid. Card or HID numbers can be added. These numbers should correlate to the earlier card setup done in the system section.

Cards can also have User IDs, which are optional prompts for cards. If a User ID is asked for the customer dispensing fuel will have to enter a valid User ID. If a user ID is not required, and instead the retailer wants a different prompt (such as Fleet number) user ID can be configured to ask for different prompts.

Meters

The unit supports encoder or V50 Modbus meters. The encoder meters can be single, dual or triple channel. Single channel encoders measure the fuel dispensed. Dual channel encoders do this as well as determine the rotation of the meter (and therefore the direction of fuel flow). Triple channel meters can determine if the meter is correctly connected and functioning.

K-Factor

The K-Factor is used to calibrate product flow. It is a ratio of litres dispensed per revolution of the meter. The K-Factor may need to be calibrated after periods of time. To calibrate the pump, dispense fuel into a certified measuring container and compare the display value with the one dispensed.

Example:

Display shows 10.00 True volume 20.00

To calculate the correct K-Factor from the information above; firstly, record the existing K-Factor.

New K Factor = Existing K Factor *
$$\frac{Dispensed\ Amount}{Displayed\ Amount}$$

= Existing K Factor * $\frac{20}{10}$
= Existing K Factor * 2

Unique ID is for a V50 meter only.

Once the K-Factor has been determined, refer to Setup Instructions (see page 9) for instructions on how the change the K-Factor,

Tanks

Tanks can be set up with their corresponding product, number and capacity.

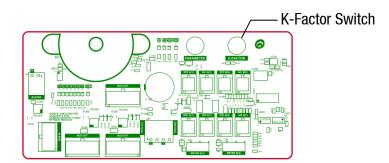
Tank Gauging

Tank gauging is used to determine how much fuel is left in a tank. The Comtank supports four tank gauges; Veeder-Root, Fafnir, Vega and Virtual. To accurately gauge the volume of fuel, the tank number, safe fill level and capacity are required. These depend on the tanks onsite. If a Vega electronic dipstick is used, please note that more information will be required; the position of the probe in the tank is needed. A Tank Strapping table ID will be required to calculate

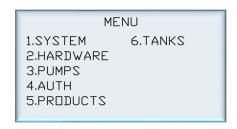
volume. A Vega electronic dipstick may also be connected differently; the gauge channel may change depending on the connection to the Comms board.

Software Setup

To change settings from the unit you must either have access to the K-Factor switch, which is located on the inside of the pump/dispenser unit on the K-Factor board, or have the passcode to the unit.



Pressing the K-Factor switch will bring up a menu displaying set up options on the Keypad display. The available options are shown below. The same menu can be accessed by pressing Cancel on the standard display and entering the passcode.



NOTE: If the menu is accessed by entering the passcode, not all the settings will be available. K-Factor and meter setup can only be accessed by pressing the K-Factor switch.

The K-Factor switch must be sealed after servicing.

NOTE: The system has a timeout of one minute.

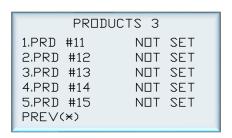
Some software setup options are not shown here. Instead, only options which are required to set up the unit are explained.

Setup Instructions

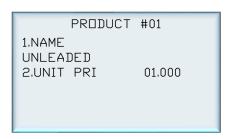
To set up the site, first set up the available products. Select PRDDUCT from the main menu.

		PRE	IDUCTS 1
ı	1.PRD	#01	UNLEADED
ı	2.PRD	#02	NOT SET
ı	3.PRD	#03	DIESEL
١	4.PRD	#04	DIESEL A
ı	5.PRD	#05	NOT SET
ı			Next(#)

PRODU	CTS 2
1.PRD #06	NOT SET
2.PRD #07	NOT SET
3.PRD #08	NOT SET
4.PRD #09	NOT SET
5.PRD #10	NOT SET
PREV(*)	Next(#)

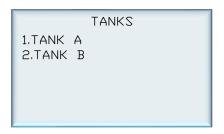


Select any product to set a new product or change an existing product.

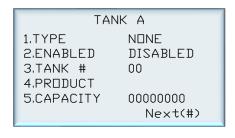


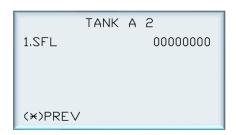
- 1. Products can be named by selecting a desired product number and entering a name.
- 2. Once a product is established, a unit price can be set for each product.

Once products have been set, the site tanks can be set up.



Select TANKS from the main menu and select TANK A or TANK B.





- 1. The tank gauge type can be changed by selecting 1.
- 2. The options are VDR, Vega, Virtual, Fafnir.
- 3. Tank gauging can be enabled or disabled by pressing 2.
- 4. The tank number and capacity can be set by selecting the desired functionality and entering the new value.
- 5. The product can be set by pressing 4 and selecting an established product.
- 6. Safe fill level can be changed by pressing 1 and entering the new value in litres.

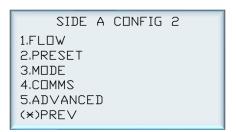
Now the site tanks have been set up. Next, the pumps should be configured for the unit. To do this:

1. Go to Pumps > Select the relevant pump

		PUMPS
ı	1.SIDE	А
ı	2.SIDE	В
ı	3.PUMP	01
ı	4.PUMP	02
ı	5.PUMP	03
ı	6.PUMP	04
	5.PUMP	03

- 2. To allow the pump to be used, first set a pump number
- 3. Select the product that will be used at the pump
- 4. Enable the pump
- 5. Used the (#) key to scroll for more options. Ensure the unit price is correct

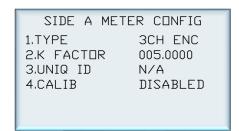
SIDE	Α	CONFIG 1
1.NUMBER		05
2.PRODUCT		UNLEADED
3.ENABLED		ENABLED
4.INFO		IDLE
5.METER		
		Next(#)



All other options for pumps are optional or have default values. If these optional settings are desired, the pump can be customised. Refer to Software for information on these options. To change these settings, simply scroll between options using the (#) and (*) keys. Select the desired setting and enter the desired value.

Next, the meter should be set up. To set up the meter:

- 1. Go to Meters > select the required side
- 2. Ensure the correct meter is selected. Comtank currently only has 3 channel encoder, so this should be selected
- 3. Ensure the K-Factor is correct. Refer to software for instructions on how to calibrate the K-Factor



The unit is now operational. For further settings and customisation of the unit refer to the service manual supplied with the unit.

Finding the Device ID

The device ID is required to log on to CompacOnsite. If this is not known, it can be found by going to Site > Device.

DE∨ICE ID

CFM000000

.compaconsite.com

CompacOnsite

The unit can be set up online via CompacOnsite. To access CompacOnsite, the device ID is needed. The following should be entered into an internet browser, replacing device ID with the specific ID of the unit. Refer to Software Setup for instructions on finding the Device ID.

https://deviceID.compaconsite.com

The standard passwords are shown below.

IMPORTANT NOTES:

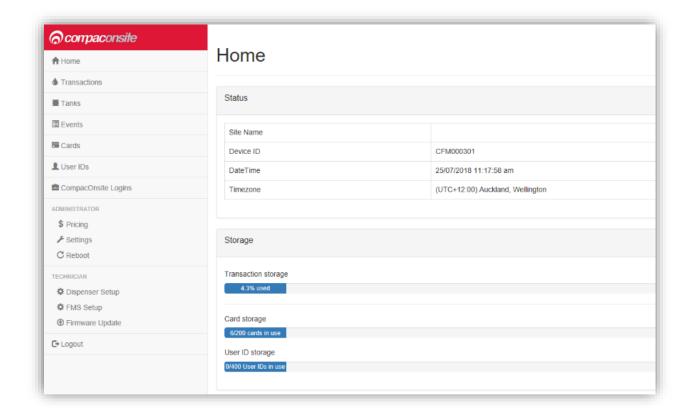
For the security of the site, ensure the passwords are changed once the unit is installed.

Access to online data is heavily dependent on the unit being powered on and connected to the internet. Ensure the unit is online in order to have full access to all site data.

Username	Password
user	c0mpac5KUser
admin	c0mpac5KAdmin
tech	c0mpac5KTech

After log in, the CompacOnsite home screen will appear.

NOTE: The side bar will look different depending on the access level of the user.



Users

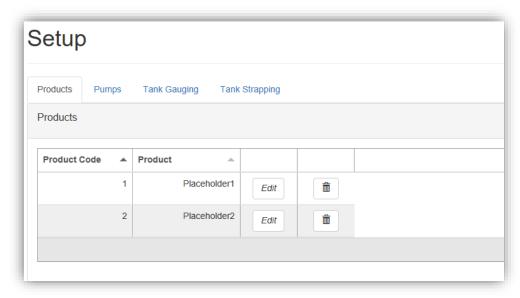
There are three different user options when logging into Compac Onsite; standard, technician and administrator. Each user can access different functionalities. Standard users can access all basic functionalities, such as tanks, cards and transactions. Admin users can also access these, as well as being able to access the system settings and reboot. The technician can access all these options, as well as being able to access set up options which are needed when setting up the site.

Technician Options

Technician users can access both administrator and standard user options. As well as this, they can access site setup options.

Dispenser Setup

Dispenser Setup will bring up a setup menu with four options; Products, Pumps, Tank Gauging and Tank Strapping.



In the Products tab, the current products can be viewed.

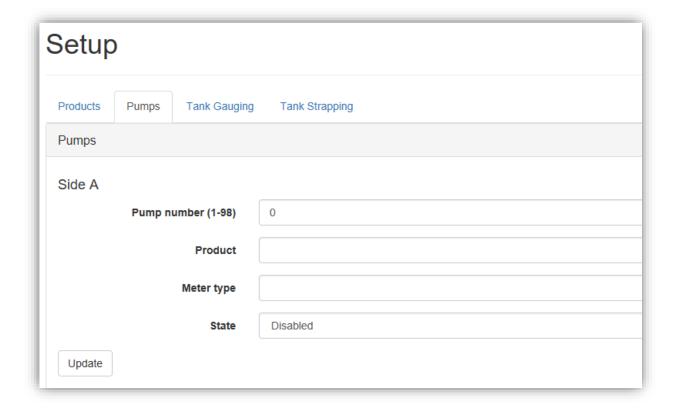
To create a product, Add Product can be selected. The product must be named and numbered before it can be saved. The following menu will appear.



Pressing Submit will add the product. When a product is edited the same menu will appear, and the product's name and number can be changed before resubmitting.

To delete a product, select the recycle bin icon in the products table, and click OK on the popup.

The next tab is the Pumps tab. From this tab, the configuration of the unit (single or dual) can be chosen, as well as the settings for each pump.

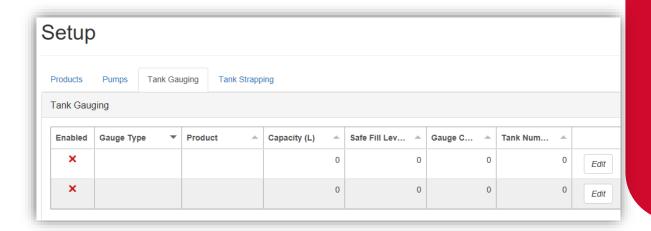


Depending on the chosen configuration, only one side may be displayed.

To change the Pump number simply enter the new value and press Update.

To change the product, meter type or state, select the relevant option from the drop down menus and press update.

The Tank Gauging tab shows which tank gauge is selected for each tank.



The current settings can be viewed. To edit a row, select Edit.

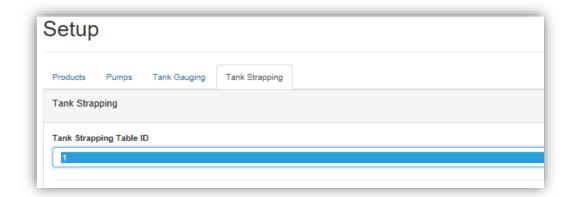


To change a setting, enter the new setting and Submit the new values.

If a Vega tank gauge is being used, more information is required. The required fields will automatically appear if a Vega meter is selected.



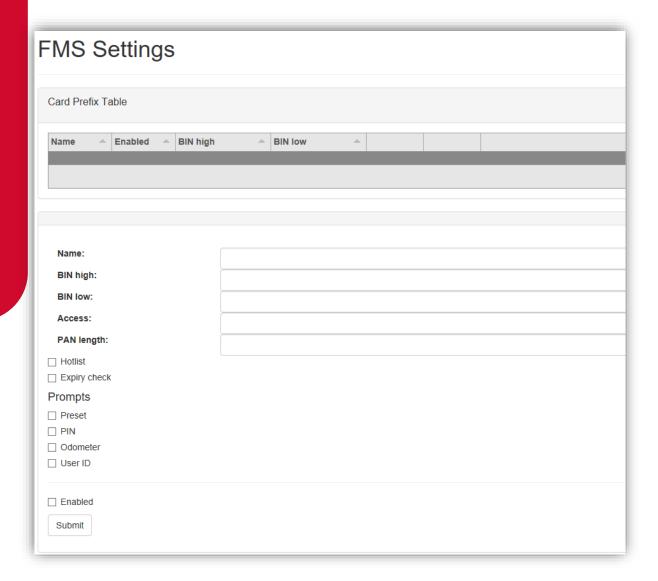
The final tab in Dispenser Setup is the Tank Strapping section. This section is only relevant if a Vega meter is fitted. Refer to Vega Tank Strapping for information.



To download the tank strapping table, select download current strapping table. At the bottom of the page, tables can be uploaded and the table template can be downloaded. Use the table ID drop down menu to select the table ID.

FMS Setup

When setting up the unit, the FMS setup tab can be used to set up card records.



Cards can be imported and exported as .csv files. This option can be found in this tab. To add a new card, fill in the required fields and check which prompts are desired. Checking Enabled will enable the card. When the card is finished, press Submit. Current cards can be viewed in the Card Prefix Table.

Vega Tank Strapping

If a Vega electronic dipstick is being used, a tank strapping table will need to be created to gauge the amount of liquid in a tank. To do this, the tank dipstick will need to be accessed. This is a ruler showing volume that is a component of tanks.

To make a tank strapping table:

- 1. Download the table template from the Tank Strapping section on CompacOnsite. The table is shown below
- 2. Take the dipstick from the tank
- 3. Using a measuring tape and the dipstick, record the readings on the dipstick (these will be a volume) and the corresponding length from the bottom of the dipstick (which rests on the bottom of the tank)
- 4. Fill the table template with a table relating length from the bottom of the tank and volume. This will be the Tank Strapping table
- 5. Upload this onto CompacOnsite

After making a table, reinsert the dipstick into the tank and then read the volume of fuel in the tank. This is also required on CompacOnsite.

NOTE: The more readings done on the tank, the more accurate the tank gauging will be.

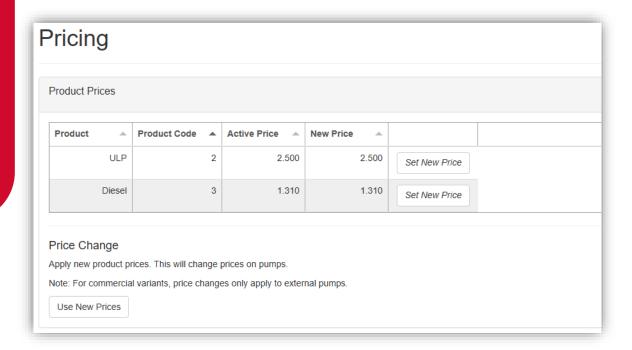
Level (mm)		Volume (I)	
	65535		65535
	65535		65535
	65535		65535
	65535		65535
	65535		65535
	65535		65535
	65535		65535
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Administrator Options

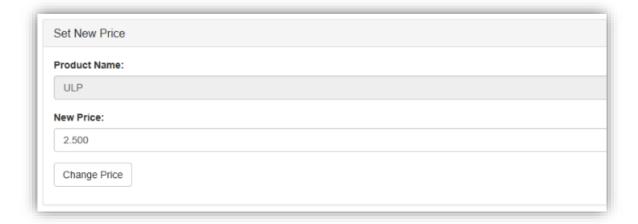
Administrators can access all the above options, as well as being able to access pricing, settings and reboot.

Pricing

From pricing, the pricing for different products can be viewed and changed.



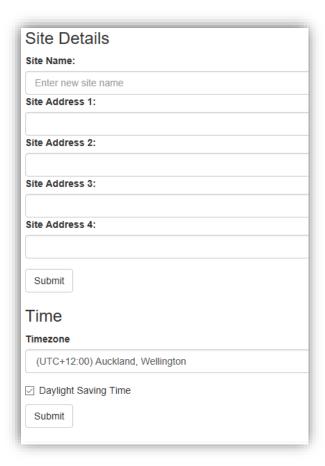
The Active Price is the price being used currently for the pumps. To change this, select Set New Price.



Enter the new price for any product and select Change Price. This will change the New Price. However, the unit will continue to use the Active Price until Use New Prices is selected, under Price Change. Clicking this will change the Active Price and update them to the New Price.

Settings

Settings can be used to set site details. Enter the site details and press submit.



Timezone can also be set. In some cases, timezone will be automatically synced. Enter the timezone and press submit.

Reboot

Reboot is used to restart the application. Some settings require rebooting to update recent actions. The page needs to be refreshed after the Reboot process has been completed.

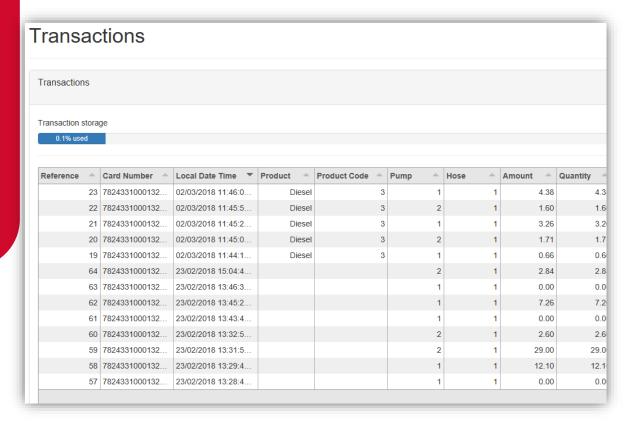
NOTE: The unit can only be rebooted when no transactions are taking place.

When someone is refuelling the C5000 unit can not be rebooted. The pumps may stop fuelling as the transaction has been interrupted.

Standard User Options

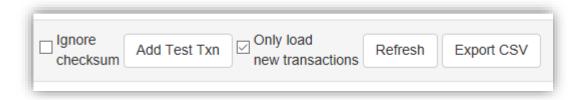
Users have access to all the following basic functionalities.

Transactions



NOTE: Table columns shown on page can be expanded.

The Transactions storage is limited. When Transaction storage is at 100%, the user will have to Export CSV. This will reset the Transaction storage bar and cause the data to be stored in a separate place in the system. This allows more transactions to be recorded.

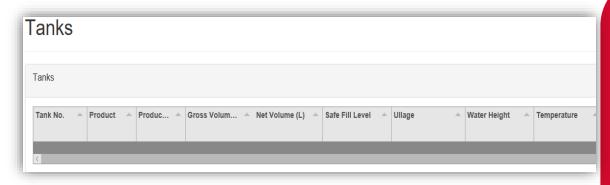


NOTE: Select Refresh before adding more transactions.

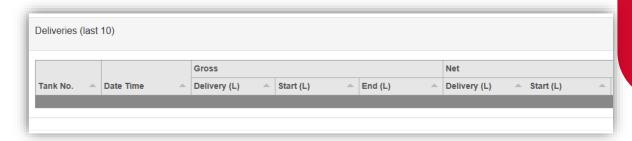
Transactions that have not been exported will be viewed in the screen as default. To show exported transactions untick 'Only load new transactions'.

Tanks

The Tanks section indicates product details and volume of fuel in the tank.



Deliveries indicate when the last transaction occurred, including tank number and date time.

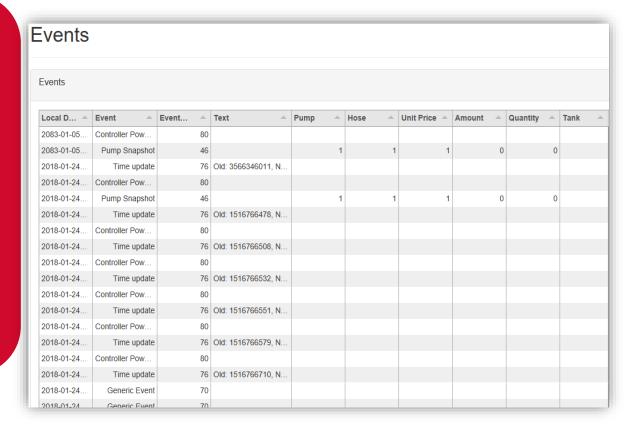


The data in this section can be downloaded by pressing Download. Select Refresh to view new data.

NOTE: A reboot is required for any changes to be applied.

Events

Events are notable events that occur with the pumps. The main event that should be examined is the Pump Snapshot event. This is an accumulative amount of fuel that has been pumped from the selected pump. Select Download to download the list of events on screen. Select Refresh to load the most recent events.

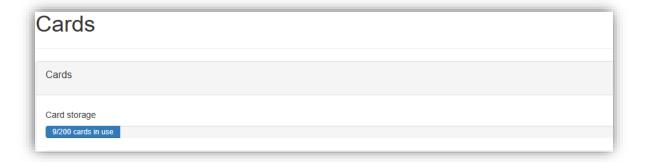


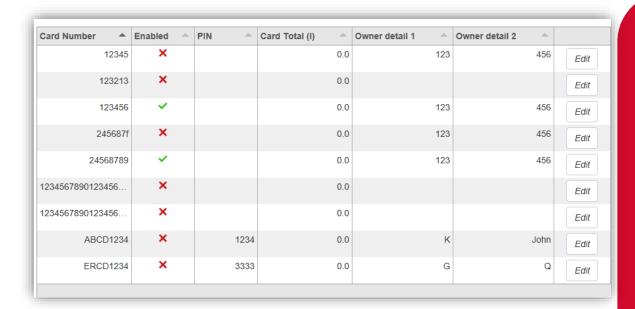
Cards

In this section, a new card can be created with Create New card. Decide on a card number, PIN and owner details, then select Submit.

NOTE: Ensure Enabled box is ticked to validate card.

If a mistake has been made, select Edit and edit card details. Select the trash can icon if a card is not needed. The maximum Card storage is limited at 200 cards.





User IDs

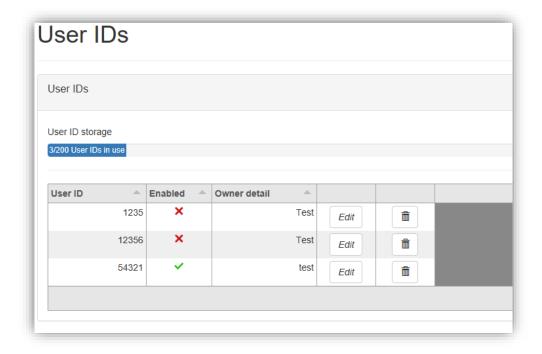
User IDs consist of any 6 numbers or less. Select Edit to Edit User IDs and owner details. Tick the enable box to make the User ID valid for use. The trash can icon can be selected to permanently delete the user.

NOTE: A card can have multiple users.

Different users will have different User IDs. The purpose of this is to know which user has made a transaction, and ensure they are only fuelling when required.

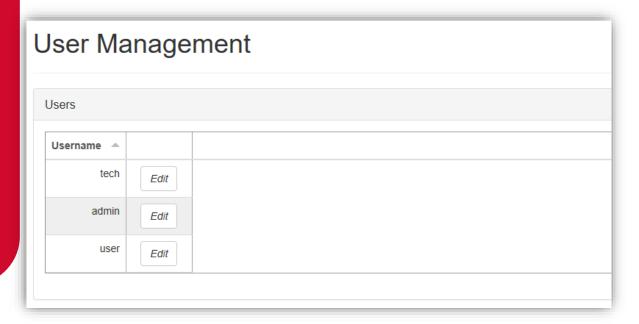
NOTE: All files created **MUST** be a csv file not an excel file.

Import User IDs is another way of inserting new users. It may be easier for bulk user adding.

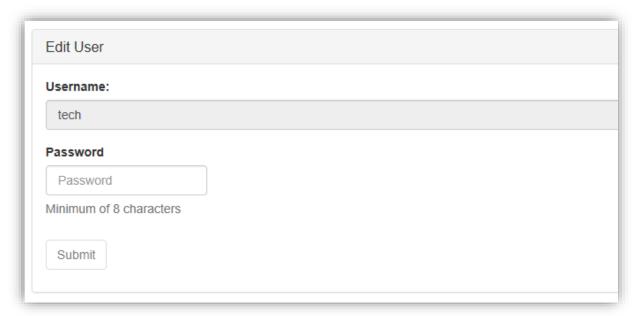


CompacOnsite Logins

For the security of the site, the standard passwords should be changed during set up of the unit. In case the passwords were not changed during installation, the process is outlined here. To change the passwords, go to CompacOnsite Logins, shown in the left options tab.



Not all users may be shown depending on the access level of the user. To edit, select Edit.



Enter the desired new password, confirm this and press Submit.

Error Codes

Error codes will show on the litres display when common faults occur. Use the following table to diagnose these faults.

Error Code	Fault	Action
ErFLo	Excess flow	Maximum flow rate exceeded
Err 8	Excess reverse flow	Check product is not flowing back into the tank once the delivery has finished
Err 9	Pulse Meter Error	If the problem persists, repower the unit. Replace the meter if necessary.
Er 50	Meter Modbus error	Check that the meter is plugged in correctly. Check correct configuration and correct software installed
Er 52	Meter error	If the problem persists, repower the unit. Replace the meter if necessary
Er 53	Meter stopped vibrating	Replace meter
Er S4	Temperature sensor failure	Replace meter
Er 55	Meter not ready	Wait for meter to calibrate. If the problem persists, repower the unit
Abd	Display error	Check display cable for loose wires/crimps. Replace display PCB if necessary

Installation Checklist

When a new unit is being installed use the following checklist to make sure the unit is fully operational. Check each box or write N/A where not applicable.

Mechanical Checklist	
Check that the pump/dispenser unit is securely mounted and does not shake	
Check that the pump/dispenser unit will not be exposed to harsh weather conditions	
Ensure the pump/dispenser unit is connected properly	
Check that the unit is not damaged and all signage is visible	
Check that the K-Factor switch is properly sealed	
Thoroughly check the pump/dispenser unit for leaks	
Ensure the covers are attached and secured	
Check that flow is correct	
Ensure the K-Factor has been calibrated	

Transaction Checklist	
Perform a test transaction with a valid PIN, card or HID (whichever is applicable)	
Check price and ensure correct amount of fuel is being dispensed	
Try to take fuel with an invalid PIN, card or HID and ensure it declines	
Lift the nozzle without entering a transaction and ensure no fuel is dispensed	

Electrical Checklist	
Ensure the motor(s) are running correctly	
Check that the incoming mains has been properly connected	
Check that the dispenser contactor connections have been made	

Software Checklist	
Check that the set up menu can be accessed from the unit with the passcode (Refer to Software Setup)	
Check that transactions are being recorded on CompacOnsite	
Check that when settings are changed from the unit, they are also changed on CompacOnsite (and vice versa)	
Check that the retailer understands how to use CompacOnsite to get transactions	
NOTE: It is recommended to give the retailer User rights to prevent them changing the settings of the software.	
Ensure that the CompacOnsite standard passwords have been changed	