Petro Vend® Inside Authorization Terminal™ Installation, Operation and Maintenance Guide

Part Number: FMM1060

Revision: 2

Inside Authorization Terminal™

IMPORTANT: Before you use this manual, make sure you have the most recent revision. Look at the revision of this document to make sure it agrees with the most current revision found in the FMS Technical Library. Download the latest revision if necessary.

IMPORTANT: If you have an installation in an area that has possible internet connectivity issues, it is recommended to either print or download these manuals to a mobile device (mobile phone, tablet or iPad) before you go to the installation site.

READ CAREFULLY: OPW Fuel Management Systems and Dover Fueling Solutions cannot be held responsible for installations, configurations or use of its products that does not comply with the most recent documentation available.

NOTE: It will be necessary to have Single Sign-On (SSO) credentials to get access to manuals, instructions, software updates and other important assets. Speak with your FMS sales representative or contact FMS Customer Service at 1-888-679-3835 (1-888-OPW-FUEL) for information. Once you have been approved for SSO credentials go to the FMS Technical Library to find the most recent revisions of all manuals and instructions.

NOTE: All references to other manuals and instructions in this manual can be found in the FMS Technical Library. Make sure you have the most recent revision.

Related Manuals

Other related manuals necessary to install, configure, maintain or use this product:

FMM1062 IAT Operator's Guide (Icon Glossary)

FMM1064-QS IAT Quick Start

FMM1060 - IAT Installation, Operation and Maintenance

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Section 1 - Introduction

The OPW Fuel Management Systems IAT (Inside Authorization Terminal) lets sites authorize pumps for inside sales. The system also supplies added functions to manage the site.

Topics in this section include:

- "Applicable Warnings" on page 8
- "Hardware" on page 10
- "Communications" on page 12
- "Power Up" on page 13

1.1 Instructional Videos

1.1.1 IAT Installation

Scan the QR code or use the link below to go to the **IAT Installation** video on the OPWglobal channel on YouTube.

https://www.youtube.com/watch?v=HLFRrdErZCg

1.1.2 IAT Interface

Scan the QR code or use the link below to go to the **IAT Interface** video on the OPWglobal channel on YouTube.

https://www.youtube.com/watch?v=Niy-yS2N6sQ

1.1.3 OPW-FMS YouTube Channel

To see more videos related to other OPW-FMS products, scan the QR code below to go to the OPWGlobal channel on YouTube:

https://www.youtube.com/results?search_query=opwglobal

1.2 Applicable Warnings

The inside of OPW-FMS system consoles contain high-voltage circuitry. ONLY certified technicians should gain access to the console.

NOTE: Only certified OPW technicians are authorized to install and program this system. Failure to comply could result in a voided warranty.

DANGER: The coin cell battery may explode if mistreated. Do not recharge, disassemble or dispose of in fire. Replace battery with Panasonic or Matsushita Electric Part Number CR-2032 ONLY. Use of another battery may present a risk of fire or explosion.

To avoid possible explosion or fire, do not replace the lithium battery with a type that is not compatible.

Battery can explode if mistreated. Do not recharge, disassemble or dispose of in fire.

The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, heat above or incinerate.

Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

The console can remain energized via the backup battery, even though the line power has been removed.

The inside of the console contains high-voltage circuitry; ONLY certified technicians should be permitted access to the console.

An external disconnect device must be installed for any permanently connected equipment!

An electrical outlet must be installed near any equipment requiring access through a plug connection!

The console has one (1) lithium battery. When the battery can no longer hold sufficient electrical power it must be replaced.

IMPORTANT: Replace the battery with recommended replacement ONLY. Use of another battery may present a risk of fire or explosion.

A used battery must be removed and brought to a battery-recycling center for approved disposal.

1.3 Hardware

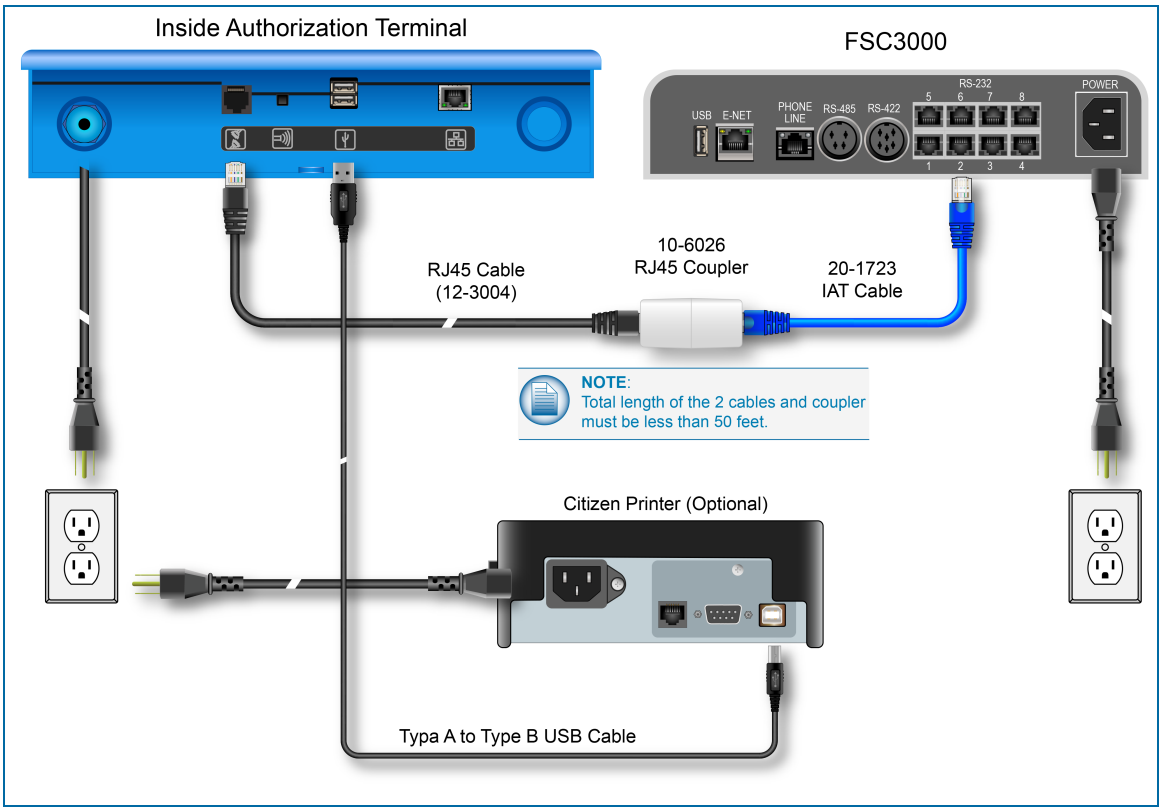
IMPORTANT: When the FSC3000 is configured to process Bankcard transactions, installation and operation of this equipment must be compliant with PCI PA-DSS. Refer to *M030001_PA1 PA-DSS Implementation Guide* for information on how to make sure that FSC installation rules are not lost.

The IAT system has these components:

- IAT console with power cable and angle adjustable stand.
- Six (6) inch RJ45 Serial Cable (OPW-FMS p/n FM20-1723).
- 10-15 ft RJ45 Serial Cable (OPW-FMS p/n FM12-3004).
- Serial Coupler (female to female) (OPW-FMS p/n FM10-6026).

IMPORTANT: The six (6) inch serial cable and coupler that is provided must be used with the console. The cable is custom wired and the coupler will let you use a regular data cable of a length applicable to your site's physical configuration. The total length of both cables and coupler must be less than 50 feet.

1.3.1 Connections

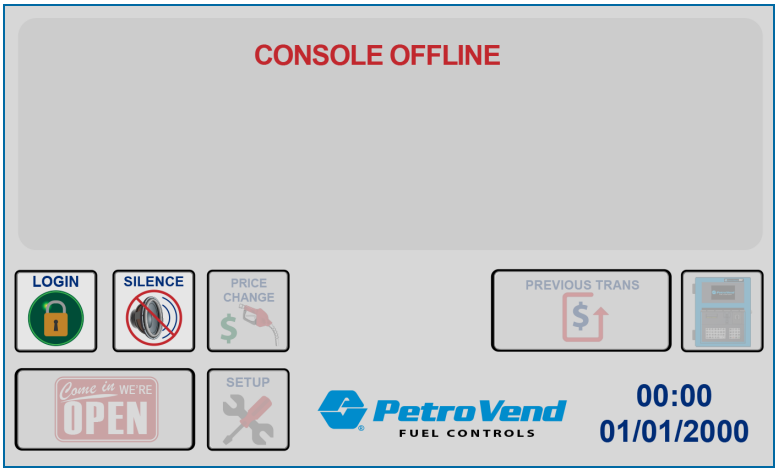


IAT/FSC3000 System Connections

- Communication, between IAT and FSC: 20-1723 IAT Cable from Port 2 of the FSC to one end of the 10-6026 RJ45 Coupler. 12-3004 RJ45 Cable from the RJ45 Port of the IAT console to the other end of the 10-6026 RJ45 Coupler.
- Citizen Printer: USB (Type A to Type B connectors) Type A connector from one of the USB ports of the IAT console to the USB Type B port of the printer.

1.4 Communications

Communication between the FSC and IAT is attempted every 15 seconds until a connection is established. The console main screen will show CONSOLE OFFLINE (logged in or logged out) until a connection is (re)established. When a connection is established the FSC will authenticate the IAT, download basic setup information and then begin to send pump status messages. The display will show pump status information in the top panel of the screen.



Initial Main Screen

Initially, when the IAT is offline from the FSC, only the Login and Silence button are on until communication is made.

Initial Main Screen Online with Pump Status

1.5 Power Up

IMPORTANT: Make sure to remove the protective tab on the battery before you start the configuration procedure of the IAT. If this tab is not removed you will lose configuration if the power is lost.

When the IAT console is plugged in, the display will show as in the image above before the main screen comes into view.

Section 2 - Setup

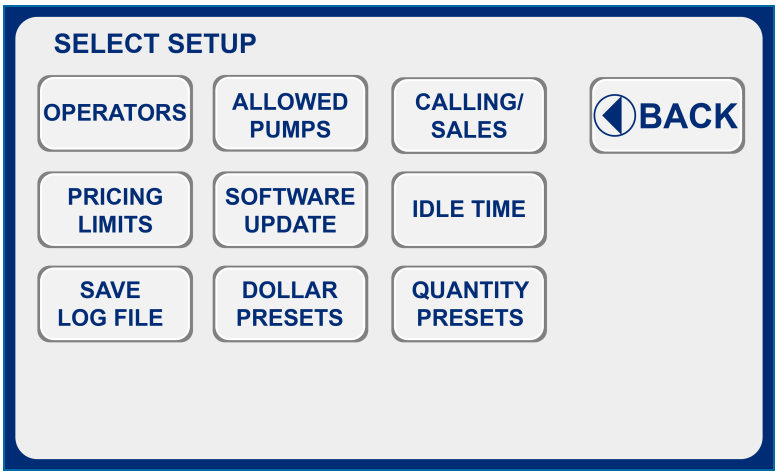
This section will show site owners, distributors and technicians how to set up their IAT system.

NOTE: Only approved Operators (OPERATOR 1 and others that have been specified by OPERATOR 1 to be approved for setup) can use the setup screens.

An approved OPERATOR must be logged in to get access to the Setup screens. To enter the SELECT SETUP screen:

Setup Button

Push the **SETUP** button. The SELECT SETUP screen will come into view (see below).



Select Setup

NOTE:
- If a selection is not entered in 10 seconds, the screen will time-out and return to the Logged In Main Screen.
- If **BACK** is selected, the display will return to the Logged In Main Screen.
- a labeled button is selected the applicable setup screen will come into view.

See the topics below for more information about the available selections on the SELECT SETUP screen.

- "Initial Setup Screen" on the next page: Shows the procedure to log in to the IAT when it is first used.
- "Operator Setup" on page 19: Shows the procedure to select options for Operators and to set up security and card numbers.
- "Console Setup" on page 24: Shows the procedures to set up:
  - "Allowed Pumps" on page 24
  - "Calling/Sales" on page 25
  - "Pricing Limits" on page 26

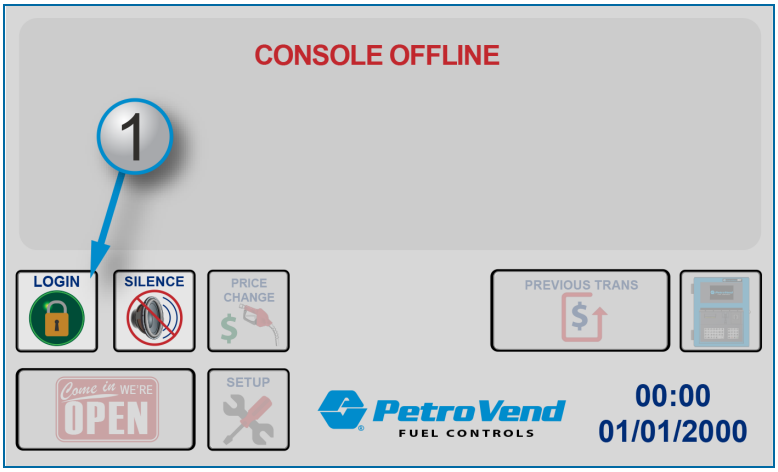
2.1 Initial Setup Screen

To initially get access to the Setup screen so the site owner/manager can first log in to the IAT, see the steps that follow.

When the IAT console is plugged in and powered up for the first time, the console splash screen will come into view.

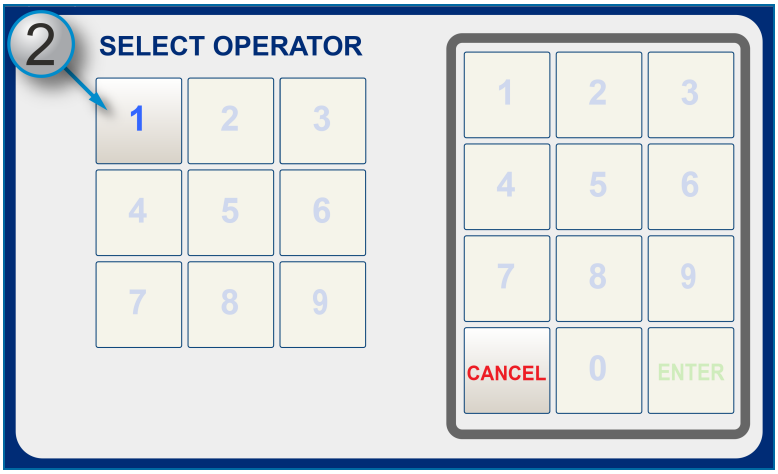
IAT Splash Screen

Momentarily, the Main Screen will come into view and will show that the console is logged out as seen below.



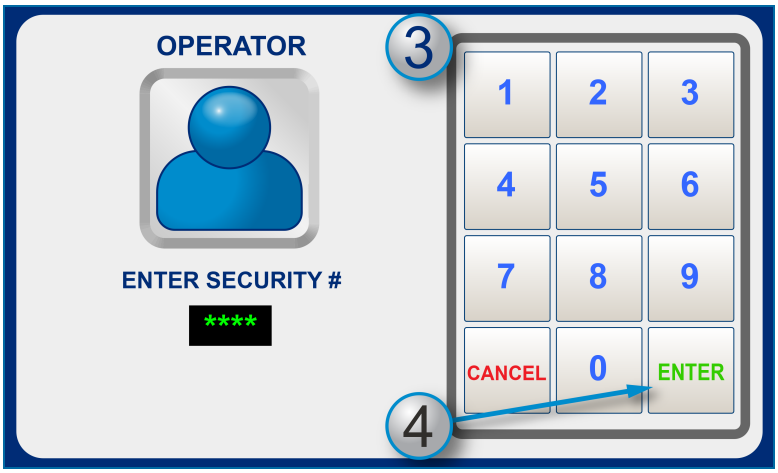
IAT Logged Out

1. Push the **LOGIN** button. The SELECT OPERATOR screen will come into view.



Select Operator

2. The only available selection is "1." This OPERATOR number is set up for site owners/managers and has all system options automatically available by default. Push the **1** button. The OPERATOR - ENTER SECURITY # screen will come into view.



Enter Security Number

3. The default system SECURITY NUMBER for OPERATOR 1 (site owner/manager) is "1111." Use the keypad to enter the default **SECURITY NUMBER**.
4. Push the **ENTER** button.

NOTE:

- If the default OPERATOR *Security Number* "1111" is not entered in 20 seconds, the screen will time-out and return to the Main Screen.
- If **Cancel** is selected, the display will return to the Main Screen.
- If an incorrect Security Number is entered the display will return to the Main Screen.
- If a correct Security Number is entered, the Logged In Main Screen will come into view.

Logout Button

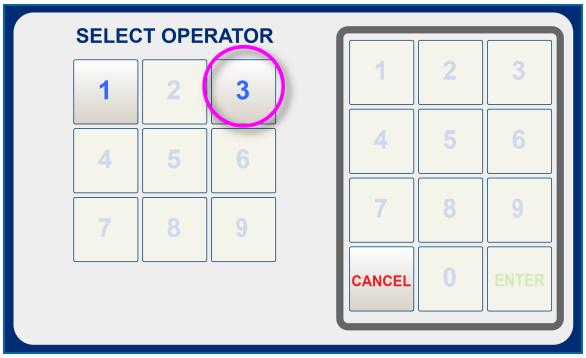
The Logged In Main screen will show a person icon with the number "1" on the LOGIN/LOGOUT button to identify OPERATOR 1 (site owner/manager) as the current Logged In OPERATOR.

IMPORTANT: It is recommended to continue to the next section and set up OPERATORS. Start with OPERATOR 1 to change the Security Number from the default to a unique number.

2.2 Operator Setup

The IAT can have up to nine (9) Operators. Each Operator has pump console control and as well as specified options that include:

- Setup: This selection gives an Operator the administrative rights to set all other parameters for other Operators.
- Open/Close: This selection lets an Operator control the Open/Close function in the FSC.
- Price Change: This selection lets an Operator control the Price Change function in the FSC.
- Software Update: This selection gives an Operator the administrative rights to update the system software when an update is available.
- Valid: VALID shows that the selected OPERATOR is available as an applicable LOGIN. Its OPERATOR NUMBER will be enabled in the SELECT OPERATOR screen during the LOGIN procedure. See the image below that shows OPERATOR 3 as a VALID LOGIN.



Select Operator

Operator 1 is set up by default to have all available options and cannot be changed. Operator 1 should be used only by the site owner/manager. All other Operators must be given a different operator number, security number and card number.

IMPORTANT: The card number given to each of the IAT operators MUST be configured in the FSC Proprietary Card File before the IAT can authorize pumps for use.
NOTE: Quantity Restriction limits on the operator's Card or it's related Account record are used when a pump is authorized from the IAT.

NOTE: The card number will be used when an Operator uses the IAT to authorize a pump. This IAT authorized transaction will be recorded in the **Card 1** field of the FSC3000 transaction record.

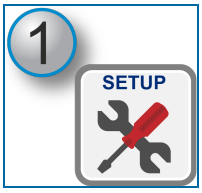
NOTE: OPERATOR 1 options are always on and available. You can *only* change the SECURITY number and/or CARD number.

Back Button

Push the **BACK** button to navigate to the screen that comes before the current screen. Push the BACK button for each screen to navigate through more screens. You can navigate as far back as the Main Screen.

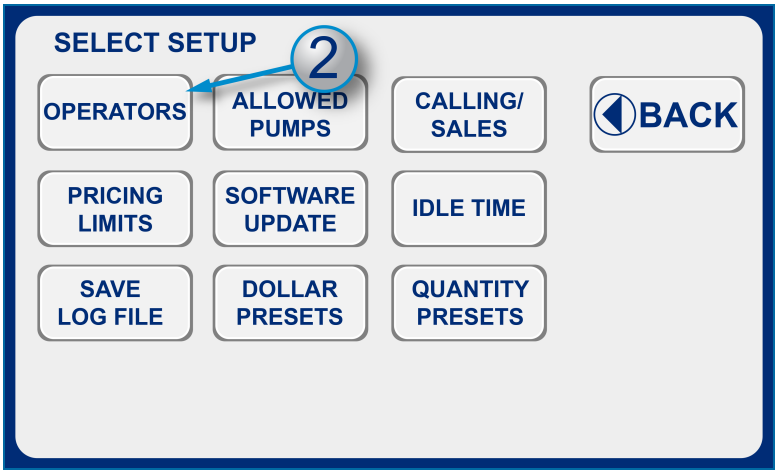
Operator Setup Procedure

An approved OPERATOR must be logged in to get access to the Setup screens. To enter the SELECT SETUP screen:



Setup Button

1. Push the **SETUP** button (in the lower right corner of the Main Screen). The SELECT SETUP screen will come into view.

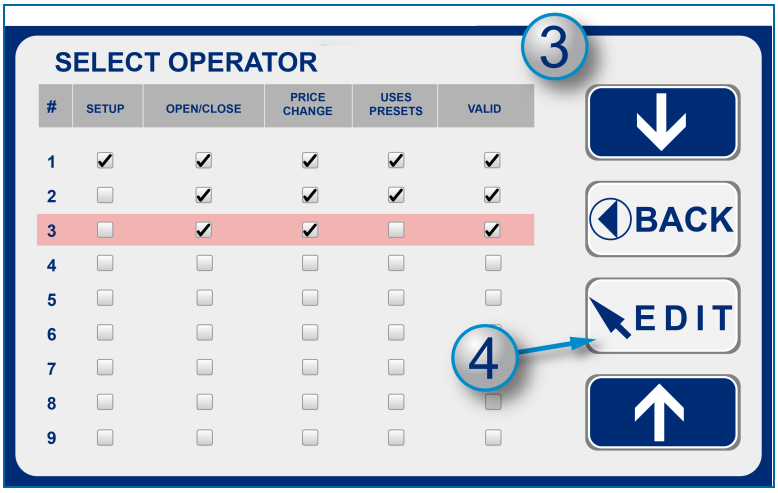


Select Setup

2. Push the **OPERATORS** button.

NOTE:

- If the selection is not entered in 10 seconds, the screen will time-out and return to the Logged In Main Screen.
- If **BACK** is selected, the display will return to the Logged In Main Screen.
- If the OPERATORS button is correctly selected the SELECT OPERATOR screen will come into view.



Select Operator

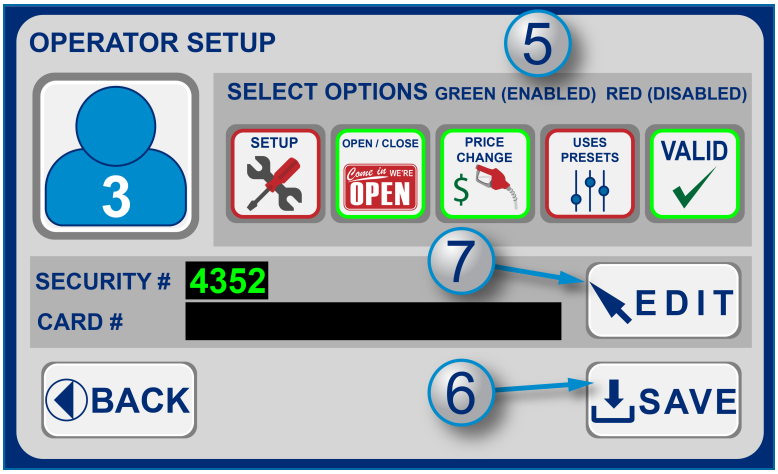
3. Use the up and down **arrow buttons** to move the highlight bar to select an OPERATOR number.

EXAMPLE:

In the illustration above, OPERATOR 3 was highlighted and three (3) features show *enabled* in the grid:

- OPEN/CLOSE
- PRICE CHANGE
- VALID

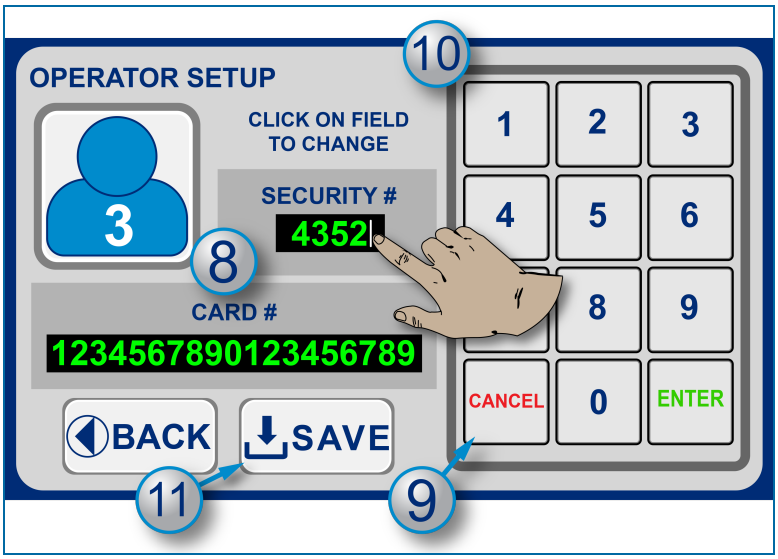
4. Push the **EDIT** button to go to the next screen. The EDIT OPERATOR selections screen will come into view.



Operator Setup - Edit Operator

5. Enable or disable options for a specified OPERATOR in the top field of this edit screen. Push a button again and again to toggle the button outline status to GREEN (Enabled) or RED (Disabled).
6. Push the **SAVE** button to save the OPTIONS you have selected for this OPERATOR.
7. Push the **EDIT** button to make changes to the SECURITY Number and CARD Number if applicable. The EDIT screen will come into view.

NOTE: Card Numbers must be set up in the FSC before they are entered in the IAT. If the card number entered here is not added to the FSC, this operator cannot authorize available pumps.



Edit Security and Card Numbers

8. Tap the **SECURITY** or **CARD** number (to the right of the current entry) to place a cursor in the field.

9. Push the **CANCEL** button again and again to backspace out all of the numbers in the field as shown below.

EXAMPLE:

The illustration below shows the blank field with cursor after the numbers were backspaced out of a SECURITY # field.

10. Enter the **new number** into the field from the numeric keypad.

NOTE: The IAT system will accept a four (4) digit number only for the SECURITY field and up to 19 numeric characters in the CARD field. If the security number field is cleared and saved, that user can log into the IAT without a security number.

11. Push the **SAVE** button to save the new number. Use the new SECURITY Number to Log in for this Operator.

2.2.1 System Defaults: OPERATORS

The system defaults for each OPERATOR Number are listed in the table below.

OPERATOR #	*OPERATOR Access*	*Default SECURITY #*
1	VALID	1111
2	INVALID	2222
3	INVALID	3333
4	INVALID	4444
5	INVALID	5555
6	INVALID	6666
7	INVALID	7777
8	INVALID	8888
9	INVALID	9999

IMPORTANT: If the Operator 1 Security Number is changed it is recommended to write it down and keep it in a safe location.

2.3 Console Setup

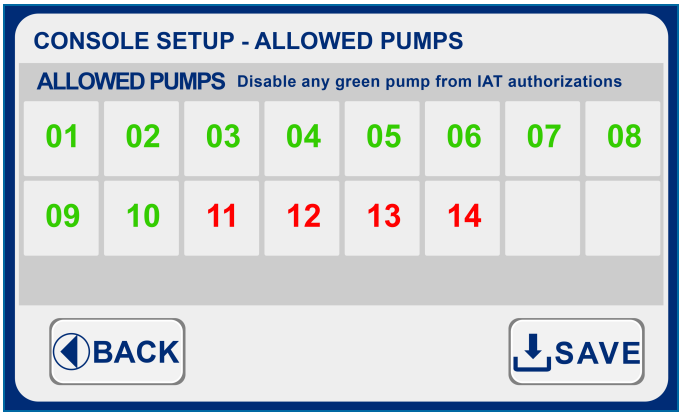
Operators that are set up as administrators with setup rights can make changes to console parameters. The parameters that can be changed include:

- "Allowed Pumps" below
- "Calling/Sales" on the next page
- "Pricing Limits" on page 26
- "Software Update" on page 27
- "Idle Time" on page 28
- "Save Log File" on page 29
- "Dollar and Quantity Presets" on page 30

2.3.1 Allowed Pumps

There can be times when it is necessary for a pump(s) to not be authorized from inside. ALLOWED PUMPS lets you configure which of the FSC configured pumps can be authorized from the IAT main screen.

NOTE: Allowed Pumps can only be set up when the IAT is Online (connected to the FSC).



Allowed Pumps

When the ALLOWED PUMPS screen is opened the IAT will show the first 16 pumps in the FSC for all installed pumps. Installed pumps are shown in green numbers.

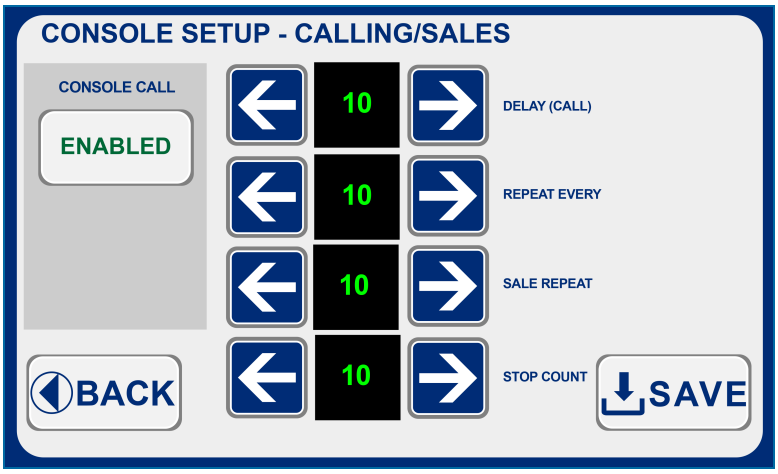
An installed pump (shown in green) can be disabled if necessary. To disable a pump, push the applicable pump number and the number will show in red. On the Main Screen, disabled pumps show with a "grayed-out" pump icon.

Push the number button again to re-enable a pump. The number will show as green once again to indicate that the installed pump is enabled.

Pumps that are not installed will show a blank button. In the example above the screen shows that there are only 14 installed pumps.

2.3.2 Calling/Sales

Operators that are approved to use Setup can enable and disable pump "calling" (sounds) in the IAT console.



Calling/Sales

Use the right and left arrow buttons to set the time in seconds for each of the parameters below.

DELAY (CALL): Time in seconds that the IAT will wait before the "calling" (sound) occurs. Default is 1 and the range is 0-99 seconds.

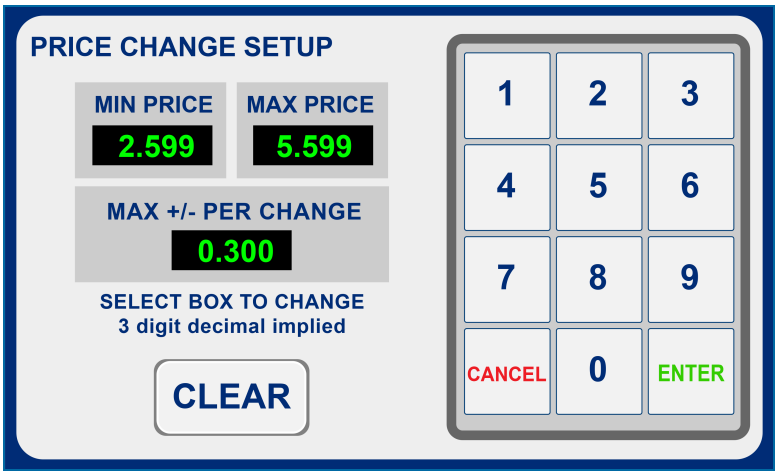
REPEAT EVERY: Time in seconds that "calling" (sound) will repeat. Default is 1 and the range is 0-99 seconds.

SALE REPEAT: When a sale is complete the IAT will make a sound that will repeat at a specified number of seconds. Default is 1 and the range is 0-99 seconds.

STOP COUNT: This feature is for Pump Control Module software before v1.07 (for older mechanical PCMs). This count (FSC pump idle status counts) is tracked to simulate a "handle up state" in the IAT. This interval is added before a Sale alert is raised by the IAT in the event that a subsequent Calling occurs so the pump sale can be collected. A Stop Count of 2-3 is recommended. Default is 1 and the range is 1-20.

2.3.3 Pricing Limits

Operators that are approved for Price Change can help keep the risk of incorrect price changes to a minimum in this screen.



Price Change Setup for Pricing Limits

A Minimum and Maximum price can be specified.

A Maximum price *difference*can be set for each price change.

> **EXAMPLE:** An administrator has set the MAX +/- PER CHANGE field at 0.100. An Operator with rights to Price Change must increase the current price by 0.150. That Operator must first change the price by .100 then change the price again by the remaining 0.050.

NOTE: A value must be set in this field so future price changes can be done.

NOTE: To bypass this feature, set the values high and low enough to not affect price changes. A Site Owner/Manager can also specify which Operators can change prices in "Operator Setup" on page 19.

To set new values in the fields:

- Tap the applicable number field to change the number. A cursor will show.
- Push the **CLEAR** button again and again to delete numbers in the field from left to right.
- Use the numeric keypad to enter the new value into the field.
- When you are done with all price change setups push **ENTER** to save or **CANCEL** to return to the SELECT SETUP screen.

NOTE: A three (3) digit decimal is default. Use trailing zeros for decimal places not specified.

IMPORTANT: The CANCEL button will always send you back to the SELECT SETUP screen. You must select ENTER to save all changes before you select CANCEL to go back to the SELECT SETUP screen.

2.3.4 Software Update

To update the IAT software when an upgrade becomes available:

Go to the IAT folder in the FMS Technical Library.

FMS Technical Library - IAT

- Find the IAT firmware upgrade entry in the list.
- Download the .zip file to your PC.
- Unzip the downloaded file onto the ROOT folder of a USB key. This will make a folder identified as "firmware"

NOTE: The USB key must be formatted as a FAT32 file system.

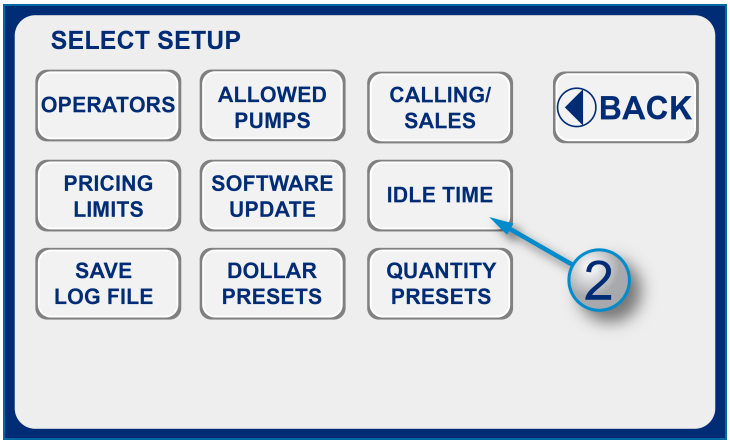
- Insert the USB key into one of the USB ports on the bottom port panel of the IAT console.
- Wait approximately 3-4 seconds to make sure the console has sensed the USB key.
- Push the SETUP button on the Main Screen.
- Push the SOFTWARE UPDATE button on the SELECT SETUP Screen.
- A sequence of prompts will point you through the Software Update procedure steps.

2.3.5 Idle Time

Operators that are approved for Idle Time setup can set an interval of time that will automatically log off the current Operator. To set this parameter:

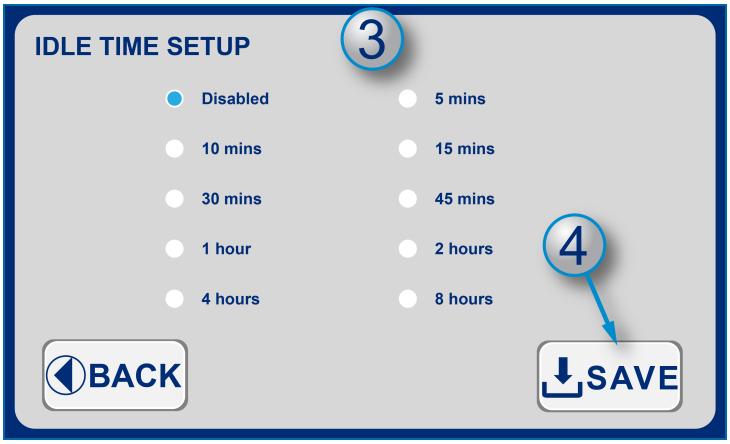
SETUP Button

1. Push the **SETUP** button on the Main Screen. The SELECT SETUP screen will come into view.



Select Setup Screen

2. Push the **IDLE TIME** button.

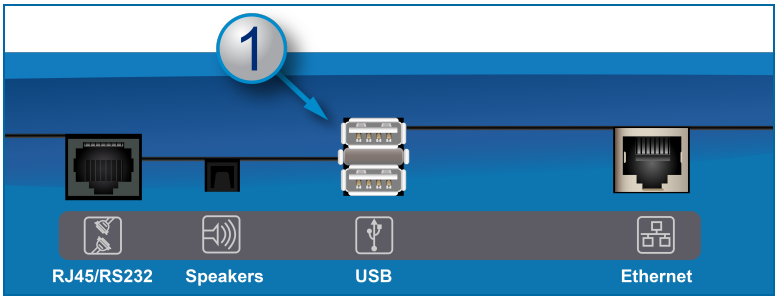


Idle Time Setup

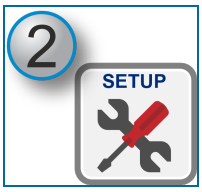
3. Tap a **radio button** to select the applicable time or to disable this feature.
4. Push the **SAVE** button. The Main Screen will come back into view.

2.3.6 Save Log File

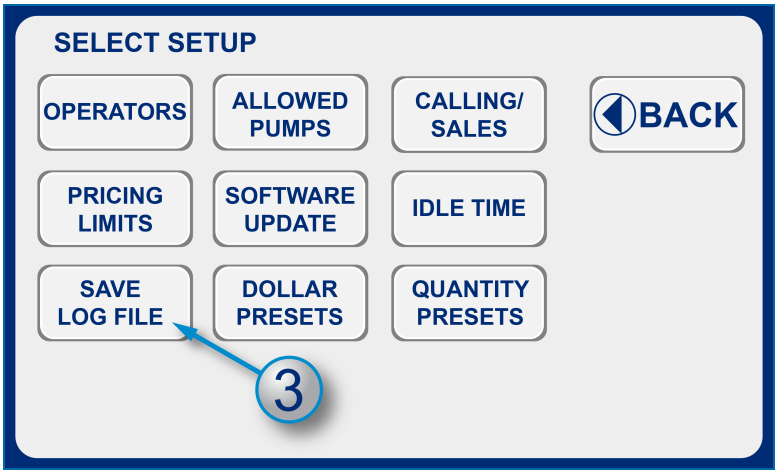
A logged-in Operator can download the Log File from the IAT to a USB flash drive.



1. Put a USB flash drive in one of the two USB ports (on the bottom of the IAT unit).



2. Push the **SETUP** button on the Main Screen. The SELECT SETUP screen will come into view.



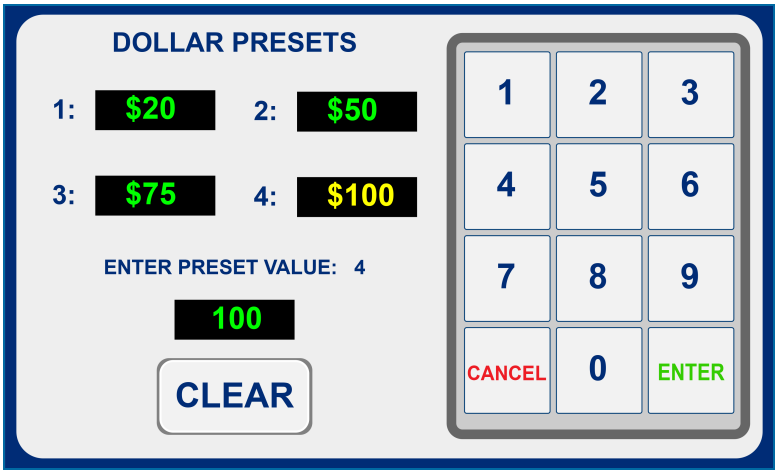
3. Push the **Save Log File** button.

A confirmation message will come into view that the Log File was downloaded to the USB drive. Remove the USB flash drive. To see the file, open the USB flash drive on a PC or laptop. The flash drive has a folder named "Log." All of the available log files are saved in this folder.

NOTE: This folder can be as large as 11 MB in size.

2.3.7 Dollar and Quantity Presets

Operators that are approved for "Uses Presets" in the Operator Setup can enter up to four (4) Dollar and Quantity preset values. The procedure is the same for Dollar and Quantity. The Dollar Preset screen shows values in US dollars and the Quantity Preset screen shows values in gallons. The example below shows the Dollar Preset procedure.



- Select the **Dollar Presets** button on the SELECT SETUP screen.
- Tap the applicable field of the value to be set or changed. The value that shows in that field will change from green to yellow.
- The preset value number next to **Enter Preset Value** will change to show the selected value field .
- Push the **CLEAR** button to delete the value that shows in that field.
- Use the numeric keypad to enter the new value into the field.
- Push **ENTER** to save or **CANCEL** to return to the SELECT SETUP screen.

Section 3 - Operation

The top half of the IAT Main Screen shows the status of FSC installed pumps (01 - 16).

A status will be sent from the FSC to the IAT for each installed pump and the IAT will show the applicable color icon to indicate the pump status. The status of pumps is always available with or without an Operator logged in. A logged in Operator has inside control of all enabled pumps. When a pump is in green “READY” or yellow “CALLING” state the Operator can authorize a pump from inside. A green “AUTH’D” or green “RUNNING” pump can be de-authorized by the Operator. A green with flashing dollar sign “SALE” icon tells the Operator that there is a sale to be closed (collected). A gray “READY” pump shows that the pump has been setup in the IAT for no inside pump control. All other gray pump icons show pumps that have been authorized by outside terminals. This blocks the IAT from inside control until the pump is back to a green “READY” state.

More information on pump and terminal icons and Operator control of inside authorization will be given in the Main Screen and Pump Authorization topics in this section.

Topics in this section include:

- "Login/Logout" on the next page
- "Main Screen" on page 36
- "Pump Authorization" on page 39
- "Pump De-Authorization" on page 41
- "Close a Pump Sale" on page 43
- "Pump Transaction History" on page 46
- "Outdoor Terminal Status" on page 49
- "Price Change" on page 51

3.1 Login/Logout

Before the IAT console can operate an Operator must be logged in to the system.

The IAT can have up to nine (9) Operators. Each Operator will have a different, configurable 4-digit *Security Number*and a Proprietary Card Number used by the FSC to authorize the pump for use.

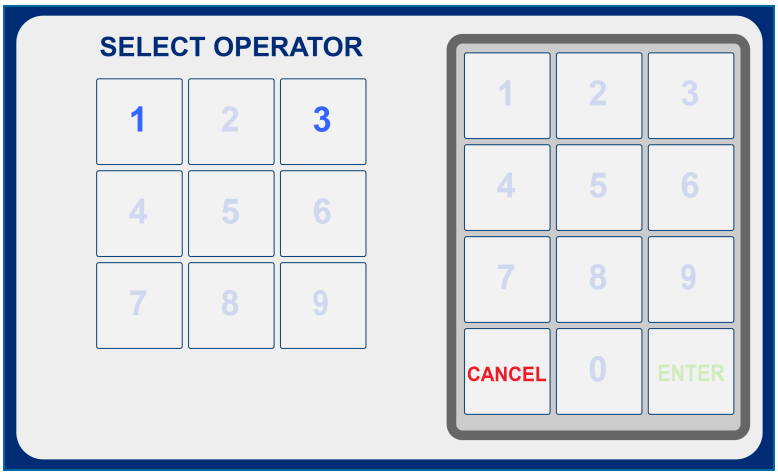
Each Operator can have configurable rights to limit or permit these features:

- Setup
- Open/Close
- Price Change

3.1.1 Login Procedure

Main Screen (Logged Out)

OPERATOR: Push the **Login** icon on the *Main Screen*. The **Select Operator** screen will come into view.



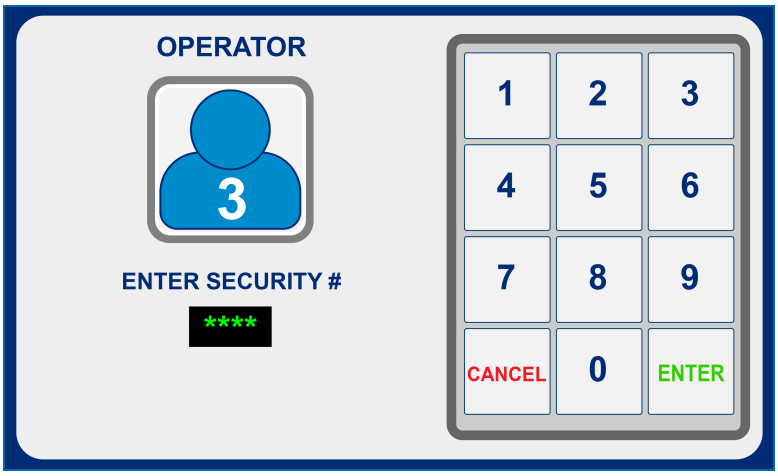
Select Operator

NOTE: Only OPERATORS that were set up in "Operator Setup" on page 19 can be selected on this screen. All other selections will be "grayed out."

If a number is not selected in 10 seconds, the screen will time-out and return to the Main Screen.

If **Cancel** is selected the display will return to the main Screen.

When a number is selected the screen below will come into view.



Operator - Enter Security Number

If the Operator's *Security Number* is not entered in 20 seconds, the screen will time-out and return to the Main Screen.

If the Operator selects **Cancel** the display will return to the Main Screen.

If the Operator enters an incorrect Security Number the display will return to the Main Screen.

If the Operator enters a correct Security Number and pushes **ENTER**, the Logged In Main Screen will come into view (see below).

NOTE: If no security number is set up for an Operator, when that operator is selected above the IAT will automatically log them in.

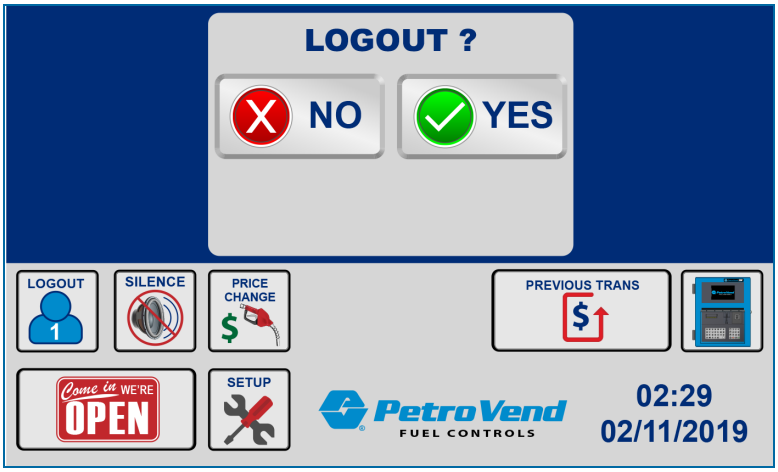
Main Screen- Logged In

NOTE: The *Login* button will be replaced by the **Logout** button.

3.1.2 Logout Procedure

Main Screen(Logged In)

To Log Out, push the **Logout** icon. The Logout prompt will come into view.



Logout Prompt

If a selection is not made in 10 seconds, the screen will time-out and return to the Main Screen.

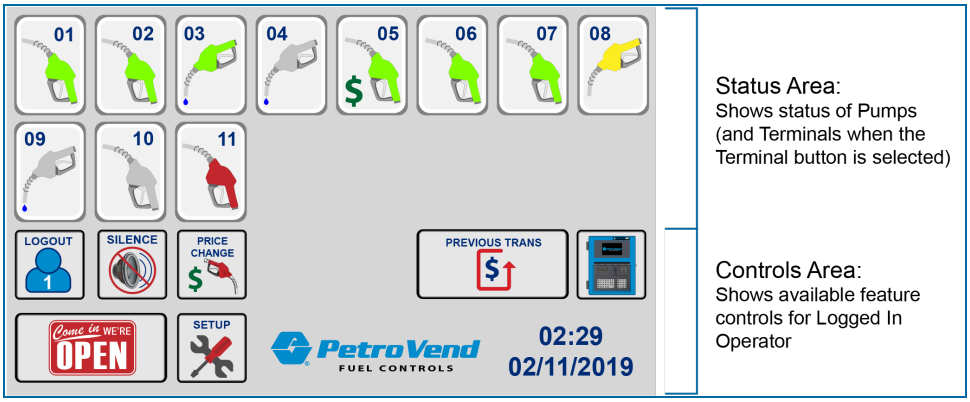
If **NO** is selected, the display will return to the *Logged In* Main Screen.

If **YES** is selected, the display will return and show the *Logged Out* Main Screen(see below)

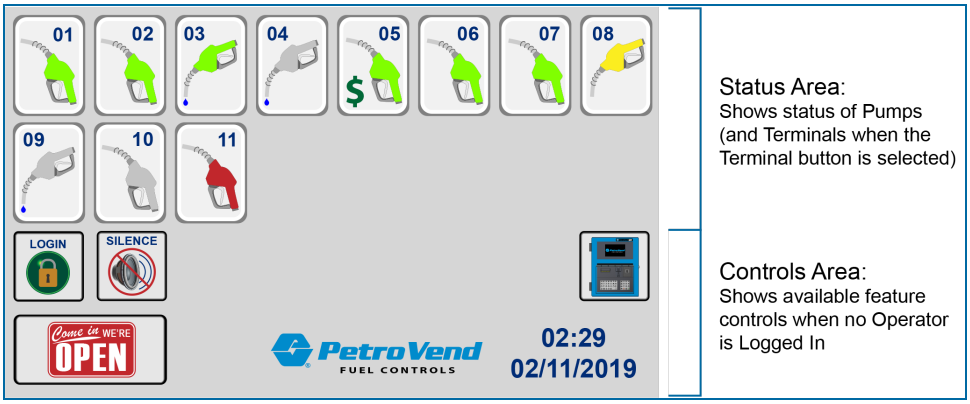
Main Screen- Logged Out

NOTE: The *Logout* button will be replaced by the **Login** button.

3.2 Main Screen



Main Screen - Logged In



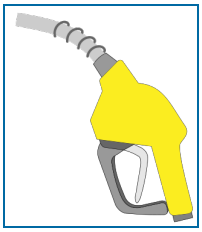
Main Screen - Logged Out

3.2.1 PUMP ICON Color/State Chart

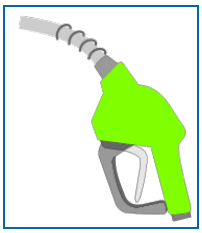
Icon	Color	State	Description
	Green (Up)	Ready	Pump online. Ready to authorize by FSC or IAT.
	Yellow (Up)	Calling	Pump online. Pump handle is lifted on a non-authorized pump. The IAT will beep XX times every XX seconds. (See "Calling/Sales" on page 25).
	Green (Down)	Authorized	Pump online. Pump authorized by IAT but not dispensing.
	Green (w/drip)	Dispensing	Pump online. Pump authorized by IAT and dispensing fuel.
	Yellow (Down)	Stopped	Pump online. Pump is in a Stopped state (most likely to time-out or max limit reached) and was authorized by IAT. The Pump will not go to sale state until the handle is hung up.
	Green Dollar Flash	Sale	Pump online. Pump sale waiting for IAT to close sale.
	Gray	Ready	Pump online. Ready to authorize by FSC only.
	Gray	Calling	Pump online. Pump calling. Only available for FSC authorization.
	Gray	Reserved	Pump online, Pump reserved by FSC
	Gray	Authorized	Pump online. Pump authorized by FSC but not dispensing.
	Gray	Dispensing	Pump online. Pump authorized by FSC and dispensing fuel.
	Gray	Stopped	Pump online. Pump is in a Stopped state (most likely to time-out or max limit reached) and was authorized by FSC. The Pump will not go to sale state until the handle is hung up.
	Red	Sentry	Pump online. Shut down by Pump Sentry.

Icon	Color	State	Description
	Red	Down	Pump is offline.

3.3 Pump Authorization



Calling



Ready

When a pump is in a yellow CALLING, or green READY state, the operator (must be logged in) can push the pump icon and the AUTHORIZE screen will come into view.

NOTE: Gray READY or CALLING icons cannot be authorized from the IAT.

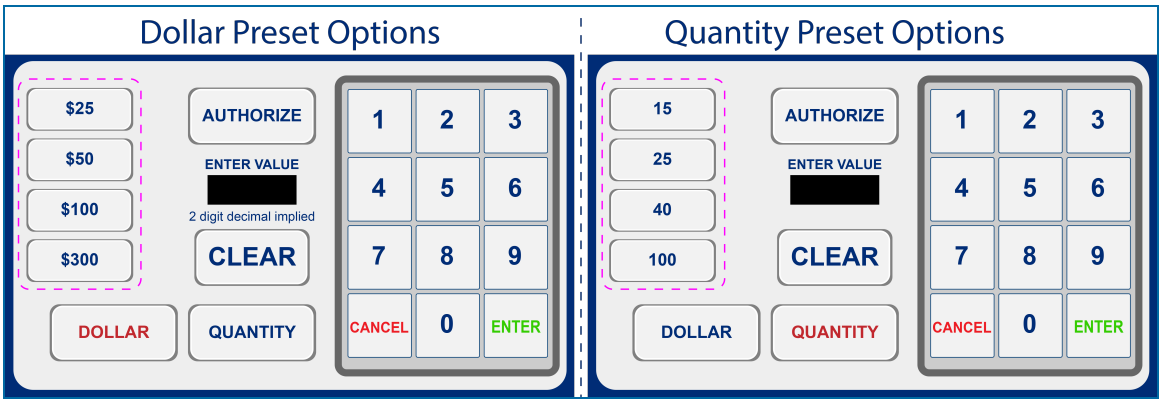
When the IAT authorizes a pump it will send the OPERATOR's Card Number and requested pump to the FSC for authorization.

NOTE: If OPW FMS Phoenix software is used for polling of transactions, the operator's FSC card number must also be configured to make sure that correct IAT transactions are reported.

NOTE: Card Numbers must be set up in the FSC before they are entered in the IAT.

NOTE: Quantity Restriction is the only feature of the FSC Proprietary Card File that is supported against operator card numbers. Thus, when a multi-hose pump is authorized from the IAT all configured nozzles/hoses are active for use.

3.3.1 Uses Presets - Options

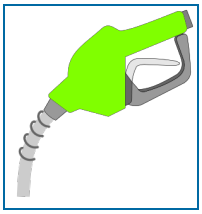


- Select the applicable unit to authorize for the transaction, **Dollar** or **Quantity**. The selected button text will change to red.
  - If the logged in OPERATOR was approved for "Uses Presets" (refer to "Operator Setup" on page 19) one of the two (2) *Presets* screens above will come into view. The OPERATOR can use one of two (2) ways to authorize a pump:
    - Use a specified value that was set under Console Setup (refer to "Console Setup" on page 24). These values show on the left side of the screen above.
    - Manually enter a value from the numeric keypad.
  - If a preset value is to be used, select the correct value and the IAT will automatically authorize the pump for that value. The Main Screen will come back into view.
- To authorize a non-preset value:
  - Use the keypad to enter the value into the **ENTER VALUE** field.

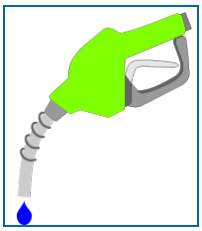
NOTE: For Dollar values a 2 digit decimal is implied (dollars and cents).

  - Push the **AUTHORIZE** button (or the **ENTER** button). The IAT authorizes the pump. The Main Screen will come back into view.
  - To delete an entered value, push the **CLEAR** button again and again to backspace the numeric characters in the field.
  - To Cancel authorization, push the **Cancel** button. The Main Screen will come back into view.

3.4 Pump De-Authorization

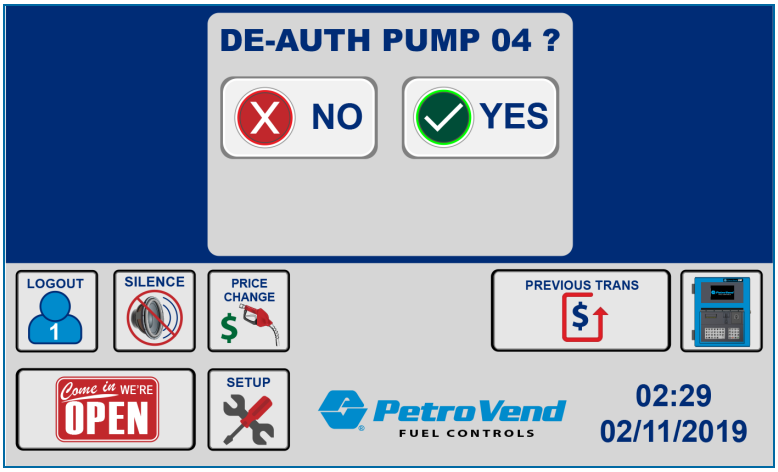


Authorized



Dispensing

When a pump is in a green AUTHORIZED/DISPENSING state, a logged in Operator can push the pump icon and the prompt screen that follows will come into view:



Pump De-Authorization Prompt

The logged in Operator can select between:

- YES: The IAT De-Authorizes the pump and is acknowledged.
  - From AUTHORIZED, goes back to READY or CALLING status.
  - From DISPENSING, goes to SALE
- NO:
  - IAT returns to main screen and pump status continues accordingly.

NOTE: Pumps with a gray icon cannot be De-authorized in the IAT because the pump was authorized by the FSC.

3.5 Close a Pump Sale

Sale

IAT authorized pumps in a SALE state can be closed by a logged in Operator. A sales ticket can be printed if an optional printer is connected to the IAT console. When a sale is closed the pump will again be available for IAT. Refer to "Pump Authorization" on page 39.

When the IAT closes a sale, data from the FSC and the IAT are put together and kept in the IAT. Data from each transaction includes:

Card # (OPERATOR #), Pump #, Hose #, Time, Product, Product Name, Quantity, Price, Total, Date

NOTE: Green text shows data from the FSC. Blue text shows data from the IAT.

The FSC transaction sequence for IAT authorized pumps is shown in the table below:

Typical User Action	*Operator/FSC/IAT Action*	*Pump Icon (s)*
User requests pump use		/ Ready / Calling
	IAT operator pushes the pump icon that is in a READY or CALLING state. The IAT sends an Authorization command to the FSC and the FSC Authorizes the pump.	Authorized
Starts to dispense fuel...	The IAT receives a new pump state from the FSC.	Dispensing
If the pump gets to timer or max quantity limit...	The pump is stopped and the IAT receives a new pump state from the FSC.	Stopped
Returns the nozzle back to the pump.	» The FSC keeps the sale with the card number sent during authorization. » The FSC then sends the sale to the IAT » The IAT manages the SALE state for the specified pump position. » The IAT will not authorize another IAT transaction for the pump position until the sale is cleared. **NOTE**: The FSC can continue to authorize that pump position from any outdoor terminal, but the IAT will only show the SALE state until the sale is closed. » When the IAT sale is closed, the IAT will show the current state of the pump.	Sale
	The IAT operator closes the sale.	Ready

To close the sale, when the Operator pushes the Sale icon the prompt screen that follows will come into view:

Close Sale

The Operator can select between:

YES: The IAT will close the sale, go back to the Main Screen Status Area and show the pump in its current state.

NO: The Main Screen Status Area will come back into view and show the pump in SALE state.

YES / PRINT: If an optional printer is connected to the IAT this selection will show. The IAT will close the sale and print a sales ticket.

3.5.1 Silence

Silence

An Operator can silence the IAT sound for pumps in a CALLING or SALE state. This is only applicable to current CALLING or SALE pumps. When another CALLING or SALE state occurs the IAT sound will come on again.

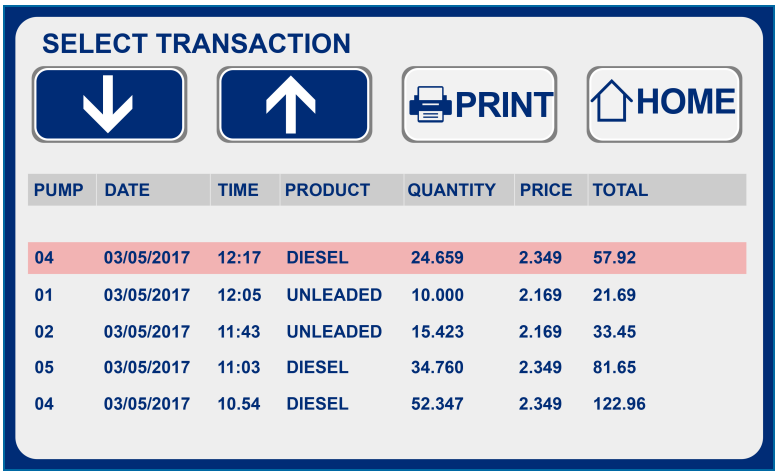
3.6 Pump Transaction History

An Operator can see all closed IAT pump transactions. If an optional printer is connected it is possible to print the transaction report.

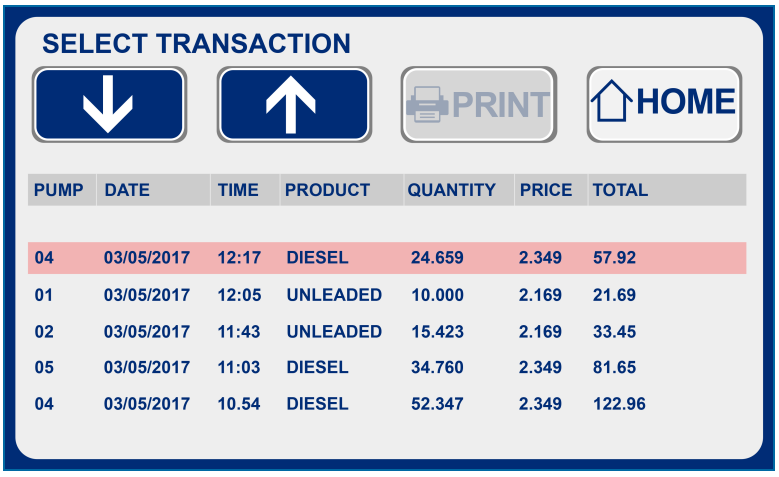
The IAT holds up to seven (7) days of closed transactions.

Transaction History

Push the **PREVIOUS TRANS** button. The **SELECT TRANSACTION** screen will come into view. If an optional printer is connected the screen will have a PRINT button turned on.



Select Transaction (with Optional Printer Connected)



Select Transaction (No Printer)

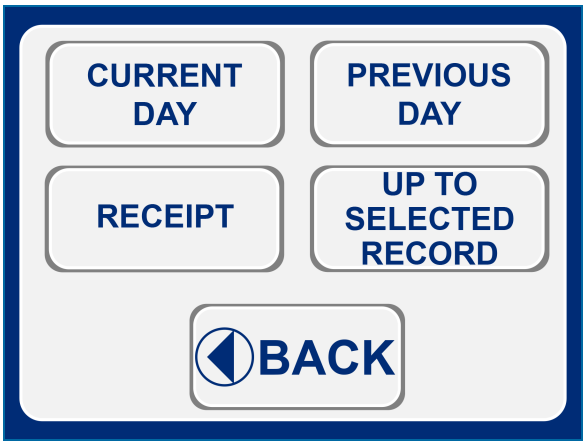
The Select Transaction screen will show the last six transactions.

Use the **arrow buttons** to highlight a transaction. If there are more transactions available, push the **down arrow** button when the last transaction on a page is highlighted. The next six (6) transactions will come into view. Repeat this procedure to see all of the stored closed transactions for up to seven (7) days.

3.6.1 Print Transactions

To use a connected printer to print a copy of transactions:

- Push the **PRINT** button on the SELECT TRANSACTIONS screen. See "Select Transaction (with Optional Printer Connected)" on the previous page. A print selection dialogue box will come into view.



Print Selection Dialogue

- Select one of the radio buttons for the applicable option.
  - Receipt:: Print a receipt for a selected transaction.
  - Current Day: Print all transactions for the current day.
  - Previous Day: Print all transactions for the day before the current date.
  - Up to Selected Record: Print all transactions from the last stored record in the system to the currently selected transaction.
- Push the **PRINT** button to send the selected data to the connected printer. To cancel the print job push the **BACK** button to go back to the Select Transactions screen.

NOTE: The header and trailer information on the receipt comes from the FSC.

Receipt Example

```
       INTRODUCING
     THE ART SYSTEM
           BY
   OPW FUEL MANAGEMENT

Cash Sale
JUL 31,18 at 14:05

Cash Sale
JUL 31,18 at 14:05


Pump:           1
Product:        17:ULS BIO 2%
Quantity:       74.000
Price:          1:00
Sale Total:     74.00

Attendant       2:2


THANKS FOR STOPPING BY
```

Transaction Example

```
      IAT Transactions from: 05/18/18
                          to: 05/23/18


Time  P#/H Product     Qty    Price   Total

05/18/18
09:45 1-3 MID-GRADE    1.657  3.456    5.73
09:46 5-1 #1 DIESEL    2.550  5.678   14.48
09:46 6-1 #2 DIESEL    2.460  6.789   16.70
09:47 7-1 DSL #2 DYED  2.370  7.890   18.70
09:49 8-1 OFF RD DSL   2.330  8.901   20.74

05/23/18
09:10 2-3 MID-GRADE    4.907  3.456   16.96

#Sales:6       Qty:   16.274  Ttl:    93.31
```

3.7 Outdoor Terminal Status

Terminal Status Button

An FSC **Terminal Status** button is always available on the Main Screen. It is not necessary for an Operator to be logged in to see the status of Terminals in the system.

3.7.1 Terminal Status Button

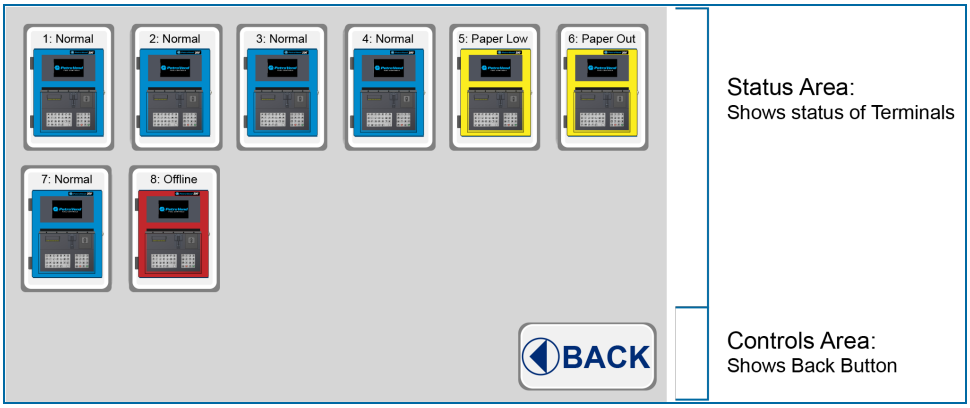
The Terminal Status button on the Main Screen will identify the state of Terminals in the system in one of three colors:

Icon	*Color*	*State*	*Description*
	Blue	Ready	All Terminals are in a normal, ready state.
	Yellow	Non-Critical Error	One or more terminals indicate a non-critical error (such as low paper or out of paper). The terminal is operational for outside transactions and no other terminals are in a red (Critical) state.
	Red	Critical	One or more terminals indicate a critical error (such as no communication) and are not operational for outside transactions. This is a top priority status.

3.7.2 Terminal Status Screen

To see the status of all Terminals in the system:

Push the **Terminal Status** button on the Main Screen. The Terminal Status screen will come into view.



Terminal Status Screen

3.7.2.1 TERMINAL ICON Color/State Chart

Icon	*Color*	*State*	*Description*
	Blue	Normal/Ready	The Terminal is online, ready to use. There are no errors.
	Yellow	Paper Low	The Terminal is online. Receipt printer paper is low (where applicable).
	Yellow	Paper Out	The Terminal is online. Receipt printer is out of paper (where applicable).
	Yellow	Paper Jam	The Terminal is online. A receipt printer paper jam has been detected (where applicable).
	Red	Offline	There is no communication between the IAT and the Terminal.

3.8 Price Change

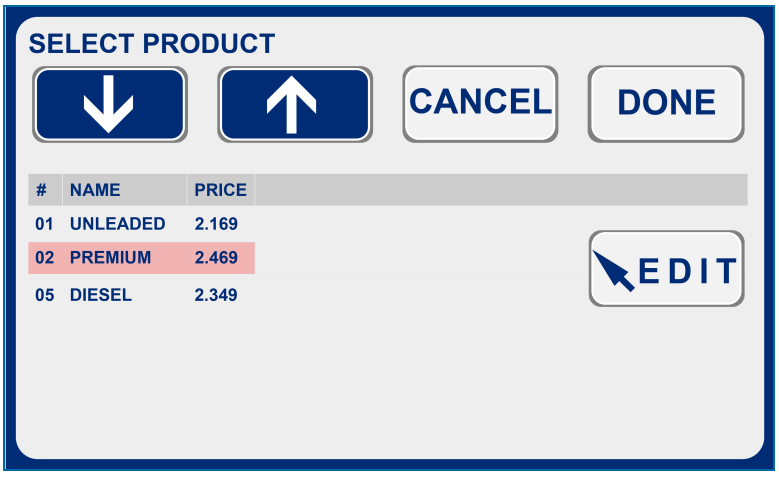
The IAT can maintain price changes of products in the FSC.

IMPORTANT: The Price Change procedure is set up in a structure that lets the Operator change all prices first before they are sent to the FSC. This prevents price changes sent independently to a site's Price Sign.

An approved OPERATOR must be logged in to get access to the Price Change screens. To enter the SELECT PRODUCT screen:

Price Change Button

1. Push the Price Change button on the Main Screen. the SELECT PRODUCT screen will come into view.



Select Product Screen

2. The IAT will query all Products that are currently configured on all installed pumps on the FSC. Product Number, Name and Price will show for each Product.
3. Use the **arrow buttons** to highlight the applicable Product.

4. Push the **EDIT** button. The SELECTED PRODUCT screen will come into view.

NOTE:
- If a Product selection is not made in 10 seconds, the screen will time-out and return to the Logged In Main Screen.
- If the **CANCEL** button is selected, the display will return to the Logged In Main Screen.
- If the **EDIT** button is selected the SELECTED PRODUCT screen will come into view.

Selected Product Screen

5. Tap the **ENTER NEW PRICE** field to change the number. A cursor will show.
6. Push the **CLEAR** button again and again to backspace all of the numbers in the field.
7. Use the numeric keypad to enter the new value into the field.

NOTE: A three (3) digit decimal is default. Use trailing zeros for decimal places not specified.

8. When you are done, push **ENTER**. The SELECT PRODUCT screen will come back into view.

NOTE:
- If a New Price is not entered in 20 seconds, the screen will time-out and return to the SELECT PRODUCT screen.
- If the **CANCEL** button is selected, the display will return to the SELECT PRODUCT screen.
- If an incorrect New Price is entered, push the **CLEAR** button to clear the price entry and try again.

9. Repeat this procedure from Steps 3 through 8 for each applicable Product in the SELECT PRODUCT screen list.

10. When all new Prices have been configured, push the **DONE** button on the SELECT PRODUCT screen. The prompt that follows will come into view.

Modified Prices Prompt

NOTE:
- If **YES** is selected **the IAT will send all new prices to the FSC at one time**. The Main Screen will come back into view.
- If **NO** is selected the prompt that follows will come into view.

Cancel Price Prompt

IMPORTANT:
- If **YES** is selected, all modified prices will not be saved and the Main Screen will come back into view.
- If **NO** is selected, the SELECT PRODUCT screen will come back into view.

NOTE:
- If the **CANCEL** button on the SELECT PRODUCT screen is selected *before* Prices are changed the Main Screen will come back into view.
- If the **CANCEL** button on the SELECT PRODUCT screen is selected *after* Prices have been changed the Cancel Price prompt above will come into view. The YES/NO selections of the IMPORTANT note above will be applicable.

REMINDER: Pricing limits can be set up by the Site Owner/Manager in "Pricing Limits" on page 26. If a price is set out of the limits an error message will come up. Reset a new Price that is in the limits.

Appendix A - Troubleshoot Connection Issues

If you have connection issues see the instructions that follow:

- Check the cables for loose connections at the IAT, FSC and the RJ45 coupler.
- Make sure the FSC is on and operational.
- On the FSC, use the left button to scroll to the IAT status (it shows immediately after the CAP status screen). If the IAT was previously connected, the IAT status and version should show.
- If there is no IAT status screen:
  - Go to the FSC command line and use the SHOW SYS command.
  - Make sure that Multitrucking 1.20 or higher is in use (see example below).
  - Make sure that the IAT status shows installed and connected (see example below immediately before tank status).

EXAMPLE:

```
P>show sys
FSC3000: PA-DSS Certified Version: 3.1
Card Record Features Version #: 1.20b - Build:7067 - Serial #: ...
Loader Ver: 1.01A Jun 30,2005 Loader2: 1.03A FPGA Ver: 2.0
Multi-Trucking Network Package *** System Stopped ***
...
FLASH APP CHECKSUM: 10B7
DISPLAY: 2x40 - (GRAPHICS) PNET: 9600
JAN 01,2010 12:00 AM System ON
Installed FITs:
1: Status --running
Installed PCTs:
(std) PCT 1, Positions: 1, 2
Status --running
Price Sign COM: active
IAT: Installed : Status --disconnected.
LOW Tanks: NONE
Power Fail Times:
JAN 01,2010 12:00 AM
...
```

- If the IAT status is missing, use the SHOW FLAGS command to see if the INDOOR AUTH TERMINAL option is enabled.

Appendix B - Recover a Lost IAT Security Number

IMPORTANT: It is recommended that you write down your Operator 1 Security Number and keep it in a safe location. Use the instructions below only when necessary.

All IAT transaction data and configuration will be lost.

- Unplug the unit

WARNING: To prevent the possibility of electrical shock you must unplug and de-energize the IAT before you do the remaining steps of this procedure.

- Remove the cover of the unit
- Remove the SD card
- Use an applicable PC card reader to get access to the files on the SD card.
- In the root folder:
  - Rename the file currently called: *System_Data.db* to **orig_system_data.db**.
  - Right click on the file called: *Empty_ System_Data.db* and select **COPY**.
  - Right click in the folder whitespace and select **PASTE**.
  - Select the pasted file and push the **F2** function key.
  - Rename the file to **System_Data.db**.
- Eject the SD card from the PC card reader.
- Put the SD card back into its slot in the IAT.
- Close the cover.
- Plug in the IAT unit.
- Reconfigure the IAT. You will need to specify a Security Number for Operator 1.
- Make sure you write down the new Security Number you entered for Operator 1 and keep it in a safe place.

Revisions

Revision #	ECO	Effective	Software Version	Key Changes
0	1289	8/15/18		Initial Release
1	1538	3/15/19		Add Save Log File and Uses Pre-sets support
2	1861	2/16/21		Update SW update procedure. Add links to YouTube channel videos.

NOTE: It is possible that older software versions might not support all features

Warranty

OPW Fuel Management Systems warrants that all OPW Tank Gauge and Petro Vend Fuel Control systems supplied by OPW Fuel Management Systems to the Original Purchaser will be free from defects in material and/or workmanship under normal use and service for a period of 12 months from the date of installation or 15 months from the date of shipment from OPW. Additionally, OPW Fuel Management Systems warrants that all upgrades and replacement parts (new and remanufactured) supplied by OPW Fuel Management Systems will be free from defects in material and workmanship under normal use and serviced for a period of 90 days from the date of installation or for the remainder of the system's original warranty, whichever is greater, as set forth in the first sentence of this statement. The foregoing warranties will not extend to goods subjected to misuse, neglect, accident, or improper installation or maintenance or which have been altered or repaired by anyone other than OPW Fuel Management Systems or its authorized representative. The buyer's acceptance of delivery of the goods constitutes acceptance of the foregoing warranties and remedies, and all conditions and limitations thereof.

If a claim is made within the warranted time period that any equipment and/or remanufactured part is defective in material or workmanship under normal use and service, such equipment and/or remanufactured part shall be returned to OPW Fuel Management Systems, freight prepaid. If such equipment or remanufactured part is found by OPW Fuel Management Systems in its sole judgment to be defective in material or workmanship under normal use and service, OPW Fuel Management Systems shall, at its sole option, repair or replace such equipment and/or remanufactured part (excluding, in all instances, fuses, ink cartridges, batteries, other consumable items, etc.) OPW Fuel Management Systems shall not be held responsible for data loss or retrieval on returned products.

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TERMS

Ex-works our factory, Hodgkins, Illinois, USA
Installation not included.
All trade names are registered. Patents pending.
Subject to engineering improvement and/or other changes.

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