



Configuration Start-up guide for FSC3000 Fuel Site Controller™

Version 1.0

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1 Introduction to the FSC3000

The FSC3000 is a very powerful Fuel Site Controller that manages the operation of the Fuel Island Terminals and Pump controllers. It communicates to these devices as well as printers, modems and PCs via a serial port or Ethernet connection.

The FSC3000 must be configured to tell it what devices are connected and how you want them to operate. You must also program the pump parameters, the display messages, the receipt format, etc. This is accomplished using a PC connected to the FSC3000.

There are three ways to connect a PC to the FSC3000:

- 1) A direct serial connection from the FSC3000 to a serial port on the PC.
- 2) Via a LAN connected to the FSC3000's Ethernet port.
- 3) Via a dial-up modem connection using the FSC3000's optional internal (or external) modem.

Once the connection method has been determined, there are three communications software packages that can be used to communicate with the FSC3000:

- 1) You can use the Windows communication utility Hyper-Terminal to issue configuration commands. The FSC3000 Command Line Configuration guide(M00-052.00) file, containing the complete list and description of the configuration commands is located on the disk supplied with the FSC3000.
- 2) You can use the Phoenix for windows terminal emulation mode in place of Hyper-Terminal. (See Phoenix for Windows below).
- 3) You can use the ARTWare configuration utility supplied with the FSC3000. This manual is a guide to use ARTWare.

1.1 Positive Card File maintenance

The FSC3000 contains a positive card file that stores information about locally authorized cards. ARTWare was not designed to manage this card/account file. If you are using the positive card file feature, you can use the FSC3000 configuration guide (M00-052.00) commands or the Phoenix for Windows software.

1.2 Phoenix for Windows

Phoenix TM, Phoenix PlusTM, and Phoenix PremiereTM, are fuel management software packages that run on a Windows compatible PC.

Phoenix Basic software features, back-up & restore, terminal emulation, on demand transaction polling and automatic transactions polling data export.

Phoenix Plus software allows you to navigate between site, account, and card and transactions screens and features back-up and restore, terminal emulation, on-demand transaction polling and data export.

Phoenix Plus also adds the ability to schedule automatic transaction polling and card updates for multiple locations.

Phoenix Premiere has all of the Phoenix Plus features and adds the ability to poll tank gauge data and reconcile the inventory.

Visit opwfms.com or contact your OPW Fuel management Systems distributor for more information.

1.3 Configuration Utility

The configuration program runs on any Windows PC and allows online or offline configuration of the FSC3000. It has an intuitive user interface that eliminates using programming commands and maintains a global database of configuration settings that are common to multiple sites.

Also maintains separate site databases for unique parameters, and automatically uploads any changes made to configuration settings when a connection is made to the FSC3000. Changes to global configurations settings are saved in and automatically loaded to other sites.

1.4 OFF line mode

You can use it to create a database for site configuration without connecting to the FSC3000. Once the database is created, you can connect to the site and download the data.

1.5 ON line mode

You can be connected to the FSC3000 and make configuration changes in real time.

1.6 Connecting to the FSC3000

If you are connecting via a direct connect serial connection or a modem, the communication parameter in the FSFC3000 must match those of your PC's serial port. The FSC3000 communicates with 7 data bits and even parity. The baud rate is selectable between 2400, 9600, 19200, and 38,400. Refer to the FSC3000 installation manual for more information.

If you are connecting via a LAN (Ethernet) connection, you must configure the FSc3000's Ethernet port. Refer to the FSC3000 installation manual for more information.

2 Site Configuration

2.1 Site Setup

NOTE: A site short name must contain exactly 12 characters. Spaces can be used, but not as the first character.

The screenshot displays the ARTWare - TEST.mdb :: XXXXXXXXXXXX software interface. The window has a menu bar with File, View, Global Settings, Online, Connection, and Help. Below the menu bar is a table with columns: Site ID, Short Name, Address, City, State, and Zip Code. The table contains two rows: 000 XXXXXXXXXXXX 6900 Santa Fe Drive Hodgkins IL 60525 and 001 Test 6900 Santa Fe Drive Hodgkins IL 60525. Below the table are tabs for Site, Pump Controllers, Pumps, Terminals, and Networks. The Site tab is active, showing Site Information, Communication Options, Display Options, Direct Pump Control, and Site Connection Passwords. The Site Information section includes fields for Site ID (000), FSC3000 Serial No., Short Name (XXXXXXXXXXXX), Firmware Version, Address (6900 Santa Fe Drive), City (Hodgkins), State (IL), Zip Code (60525), and Phone ((708)485-4200). The Communication Options section includes a dropdown for TCP/IP and buttons for Add, Delete, and Reset. The Display Options section includes a checkbox for Enable 2nd Language and a dropdown for Display Type (2X16). The Direct Pump Control section includes a checkbox for Enable, a dropdown for Gilbarco, a dropdown for Pump Type (Normal), and a dropdown for Trans. Delay. The Site Connection Passwords section includes fields for Password1 (HELLO) and Password2 (HELLO). The bottom status bar shows Status: Disconnected, Site Port Settings, and Connected Time.

Site ID	Short Name	Address	City	State	Zip Code
000	XXXXXXXXXXXX	6900 Santa Fe Drive	Hodgkins	IL	60525
001	Test	6900 Santa Fe Drive	Hodgkins	IL	60525

Site Information

Site ID: 000 FSC3000 Serial No.:
Short Name: XXXXXXXXXXXX Firmware Version:
Address: 6900 Santa Fe Drive
City: Hodgkins State: IL
Zip Code: 60525 Phone: (708)485-4200

Communication Options

TCP/IP Add Delete Reset

Display Options

Enable 2nd Language
Display Type: 2X16

Direct Pump Control

Enable
Gilbarco Pump Type
Normal Trans. Delay

Site Connection Passwords

Password1: HELLO Password2: HELLO

Status: Disconnected Site Port Settings: Connected Time:

- Click on the Site tab.
- Click on Add. The default site information is displayed.
- Click in the Site ID field and enter a three digit site ID. This must be a unique number.
- Enter a 12 characters site short name in the Site Name field.
- Enter the site address in the Address field.
- Enter the site city in the city field.
- Enter the site state in the state field.
- Enter the site zip code in the zip code field.
- Enter the site phone number, in the Phone field.
- Click in the enable 2nd language box if you wish to enable a second language.
- Select the display type by clicking the drop-down menu in the display type field.
- To enable direct pump control, click in the check box next to Direct Pump Control.
- If you enable direct pump control, set the pump type by clicking the drop down menu next to Pump Type and selecting the pump type.
- Select the trans. delay by clicking the drop down arrow and selecting either normal, short, shorter, or shortest.
- Enter the Site Connection Passwords, by typing a password in the Password 1 and Password 2 fields. See the Passwords help page for detailed information about passwords.
- Click Save to save the site information.



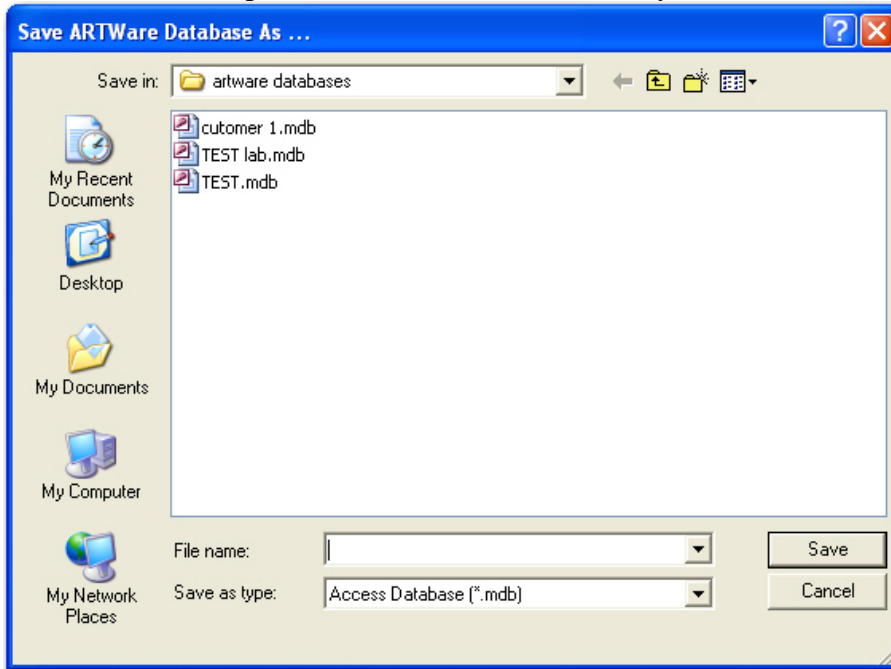
2.2 Save Database As

You can create a new database, by saving any current database under a new name and modifying the information in the newly saved database. The functionality of the Save As button is to just copy the database; it is not made the "current database". This is only done by using File->Open.

Follow the steps below to save a database under a new name:

- Click on File>Save Database As.
- Click on the file you wish to modify.

- Type the new name of the database in the File name field, at the bottom of the window.
- Click on Save.
- The new database is created and appears as one of the choices in the Database folder.
- You can now open the new database and modify it.



2.3 Open Database



A database is specific for each customer. A customer can have multiple sites in one database. The Open Database option allows you to open the database for a specific customer. Follow the steps below to open a new database.

- Click on File >Open Database. The Select FSC3000 Database window is opened.
- Click on any new database in the window, or search for the new database on your computer.
- Click on open.
- The new database is opened by your system.

2.4 Set your Communication Options

This option is available to you in the drop-down box on the Site Tab in the Communication Options area.

The screenshot shows the ARTWare - TEST.mdb :: new sites window. The 'Site' tab is selected, displaying site information and communication options. The 'Communication Options' section is highlighted, showing a drop-down menu set to 'Direct'. Below this, the 'Com Port Preferences' section includes fields for Port (COM1), Baud Rate (38400), Data Bits (7), Parity (Even), and Stop Bits (1). The 'Site Information' section contains fields for Site ID (003), Short Name (new site), Address (6900 Santa Fe Drive), City (Hodgkins), State (IL), Zip Code (60525), FSC3000 Serial No., Firmware Version, and Phone ((708)485-4200). The 'Display Options' section has a checkbox for 'Enable 2nd Language' and a 'Display Type' dropdown set to 'Graphics'. The 'Direct Pump Control' section has a checkbox for 'Enable' and a 'Pump Type' dropdown set to 'Normal'. The 'Site Connection Passwords' section has fields for 'Password1' and 'Password2', both set to 'HELLO'. The status bar at the bottom shows 'Status: Disconnected', 'Site Port Settings:', and 'Connected Time:'.

Site ID	Short Name	Address	City	State	Zip Code
000	XXXXXXXXXXXX	6900 Santa Fe Drive	Hodgkins	IL	60525
001	Test	6900 Santa Fe Drive	Hodgkins	IL	60525
002	new sites	6900 Santa Fe Drive	Hodgkins	IL	60525

Site Information

Site ID: 003 FSC3000 Serial No.:
Short Name: new site Firmware Version:
Address: 6900 Santa Fe Drive
City: Hodgkins State: IL
Zip Code: 60525 Phone: (708)485-4200

Communication Options

Communication Options: Direct
Com Port Preferences:
Port: COM1
Baud Rate: 38400
Data Bits: 7
Parity: Even
Stop Bits: 1

Display Options

Enable 2nd Language
Display Type: Graphics

Direct Pump Control

Enable
Pump Type: Normal Trans. Delay

Site Connection Passwords

Password1: HELLO Password2: HELLO

Status: Disconnected Site Port Settings: Connected Time:

- Click on the Site tab.
- Click on Add, or select the site. The default site information is displayed.
- Click on the drop-down menu next to the Communication Options field to select the communication type.
- If your site connection type is through a modem, the FSC Phone Number field will display. Enter the FSC Phone Number in the FSC Phone Number field.

- If your site connection type is TCP/IP the TCP/IP Networking field will display. Enter the Address and the Socket Port, and click on Save to save the communication options. Enter the network address using the standard "dotted quad" notation. For example, 10.0.0.165. The FSC3000's network port site is set to 2101 when it is manufactured, but might have been changed during the FSC3000's network setup. Match the port settings.
- For direct and modem connections follow the steps below.
- Look at the Com Port Preferences box.
- Select the Port from the drop-down menu in the Port field. If modem is selected, phone # entry required.
- Select a Baud Rate from the drop-down menu in the Baud Rate field. Match FSC3000 Dip switch settings.
- Select Data Bits from the drop-down menu in the Data Bits field (7).
- Select Parity from the drop-down menu in the Parity field (EVEN).
- Select Stop Bits from the drop-down menu in the Stop Bits field (1).
- Click Save to save the communication port preferences.

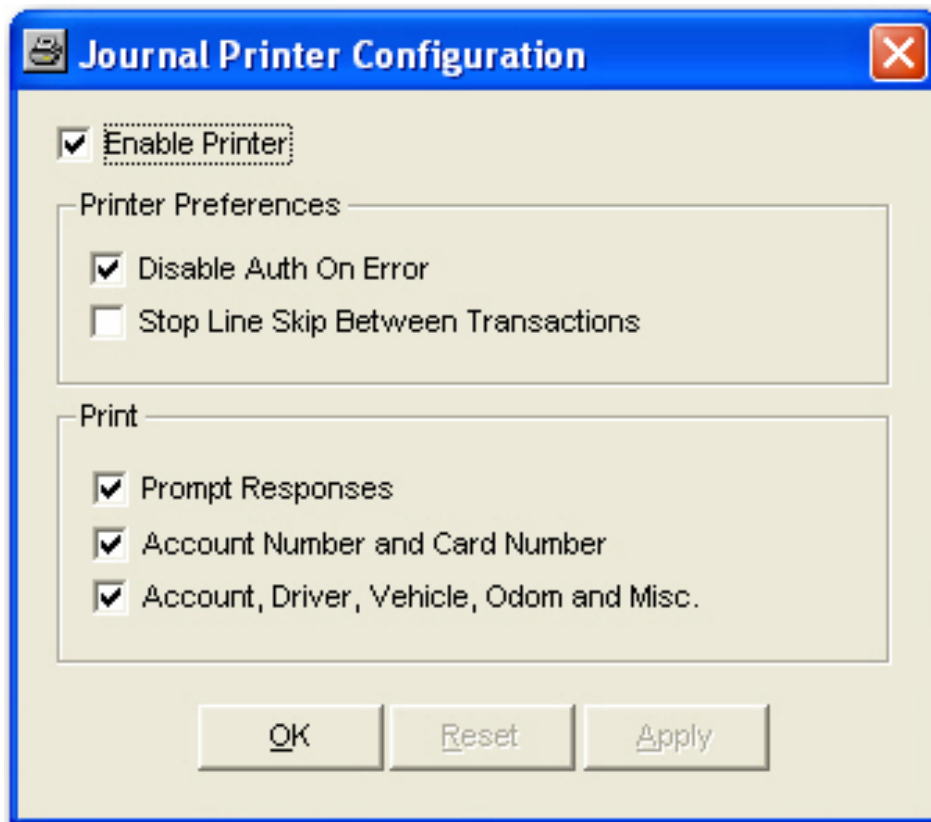
2.5 Password Setup

When setting up a site, you will enter site connection passwords. When the FSC3000 ships from the factory all passwords will be set as HELLO. Although we suggest you set your own passwords, the default passwords do not have to be changed for the FSC3000 to operate. This feature only changes the password that uses to access the FSC3000. Password 1 is the "modem" password, and Password 2 is the "privilege password".

- Click on the Site tab.
- Click on Add. The default site information is displayed.
- Click in either the Password1 or Password2 field, located at the bottom left of the screen.
- Type a new password.
- Click on save to save the new password(s).

2.6 Printer Configuration

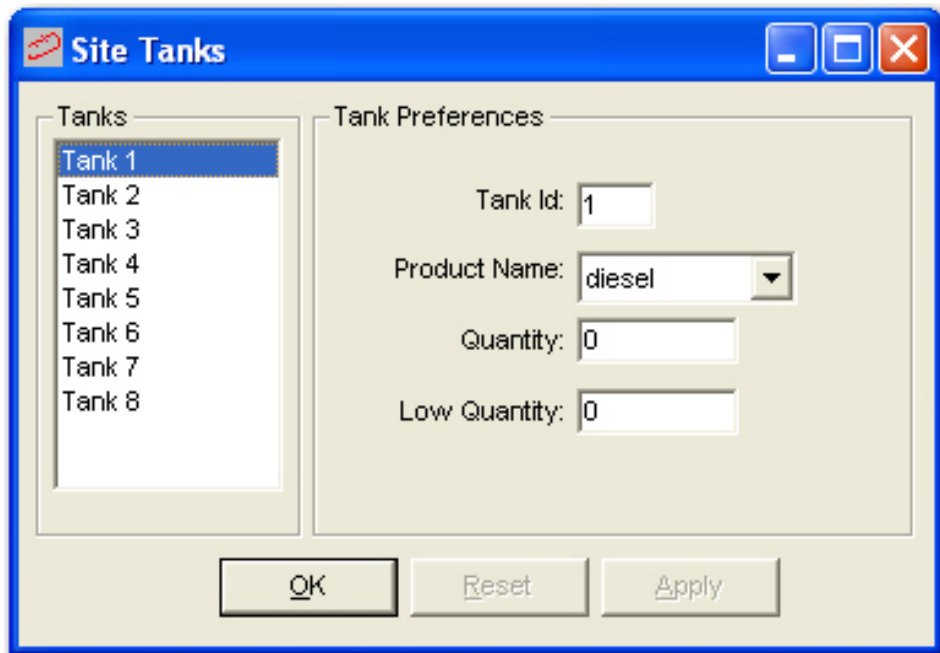
An external printer can be connected to the printer port # 3 on the back of the FSC3000 to make a hard copy of all transaction data, providing added protection against data loss. The journal printer records transaction, pump and product numbers, date and time, first card number, the product quantity and dollar total.



- Click on the Site tab.
- Click on the Printer button located on the right side of the screen.
- The Journal Printer Configuration screen is displayed.
- Click on the check box next to Enable Printer to enable and external printer.
- Under Printer Preferences, click in the check boxes next to Enable Auth on Error and Line Skip Between transactions, if you wish to enable these preferences. Leave the check box empty next to any of these preferences you do not want to enable.
- In the Print box you can specify what you would like printed. Enable any of the preferences by clicking in the checkbox.
- If during the printer configuration you make an error, click on the Reset button to cancel all of your previously unsaved selections.
- If you are satisfied with your printer configuration selections, click Apply to save your preferences.
- Click OK, to exit from this window.

2.7 Site Tanks Setup

On the Site Tanks screen you can see the following information for each programmed tank. Tank numbers, Fuel types, Current quantities, Low-level tank alarm quantities.



- Click on the Site tab.
- Click on the Tanks button, on the right side of the screen.
- The Site Tanks window is displayed.
- Click on the tank you would like to program, on the left side of the window.
- There is a default tank ID assigned to each tank. Click in the Tank ID field to change the tank ID.
- To change the default fuel, click on the drop-down menu in the Fuel Name field, and select a fuel.
- Click in the Quantity field and enter the current fuel quantity for the tank.
- Click in the Low Quantity field and enter the low tank alarm level.
- If you make an error and would like to erase all of your current unsaved selections, click on the Reset button to start over.
- Click on Apply to save your Tank Preferences.
- Click on OK to close this window.

2.8 FSC3000 Port Information

There are only two FSC3000 ports that allow edits to the parameters:

Port 04 DPC

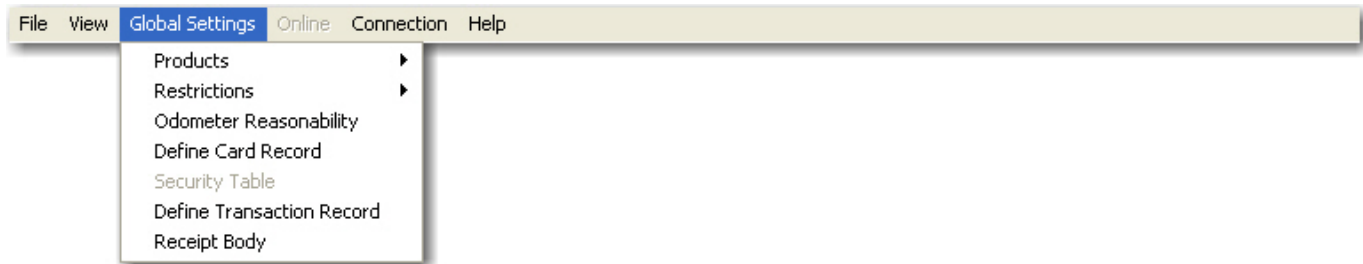
Port 10 Petronet

All other ports cannot be edited. They can only be viewed. The Send button is only enabled for the editable ports above.

- Click on the Site tab.
- Click on the FSC Ports button, on the right side of the screen. The FSC3000 Port Information window is displayed.
- The FSC Ports are listed on the left side of the window.
- To change Com Port Preferences for an FSC Port, click on the desired FSC Port (either port 04, or 10).
- Click in the Port Name field and type in a new port name.
- Select a Baud Rate from the drop-down menu in the Baud Rate field.
- Select Parity from the drop-down menu in the Parity field.
- Select Data Bits from the drop-down menu in the Data Bits field.
- Select Stop Bits from the drop-down menu in the Stop Bits field.
- If you make an error and would like to erase all of your unsaved selections click reset to start over.
- Click Send to save your new Com Port Preferences.
- Click OK exit from this window.

2.9 Global Settings

Global Settings are settings that apply to all sites in the database. Products Restrictions, Odometer Reasonability, (Define) Card Records, (Define) Transaction Records, and Receipt Body.



2.10 Fueling Unit Labels

You can associate one of three units of measure to your product types. These are labels. No conversion is done. The default labels are as follows:

Unit One: Gallon

Unit Two: Liter

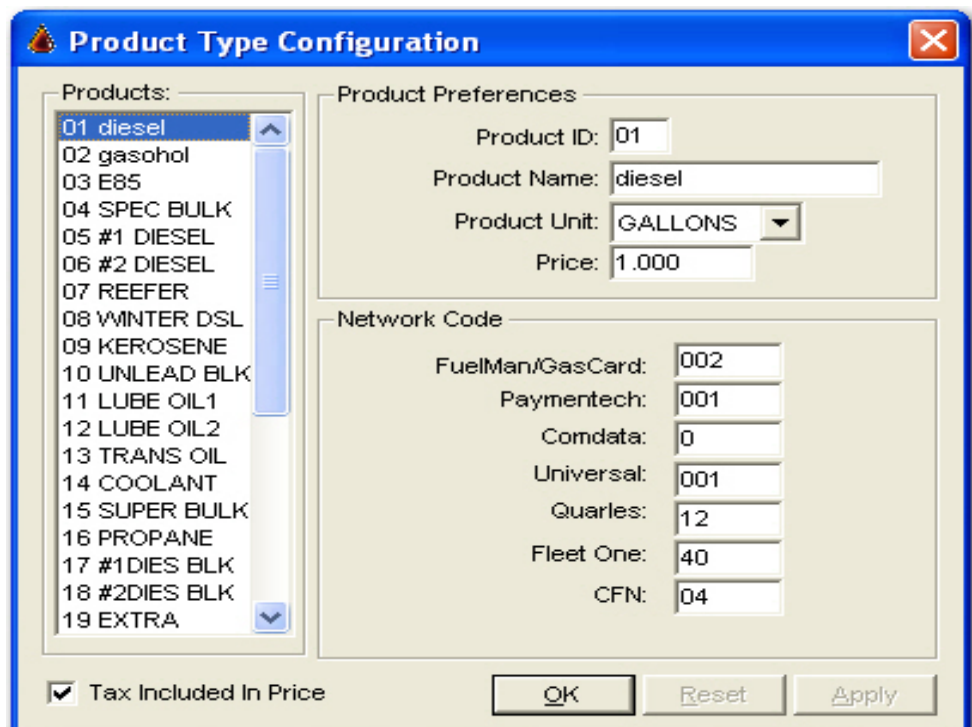
Unit Three: Quart



- Click on Global Settings on the task bar.
- Go to Products > Fueling Unit.
- The Fueling Unit window is displayed.
- Enter a label of up to 10 characters for the unit or units you wish to change.
- When you have changed all desired labels, click Apply.
- Click on OK to close out of the window.

2.11 Product Types

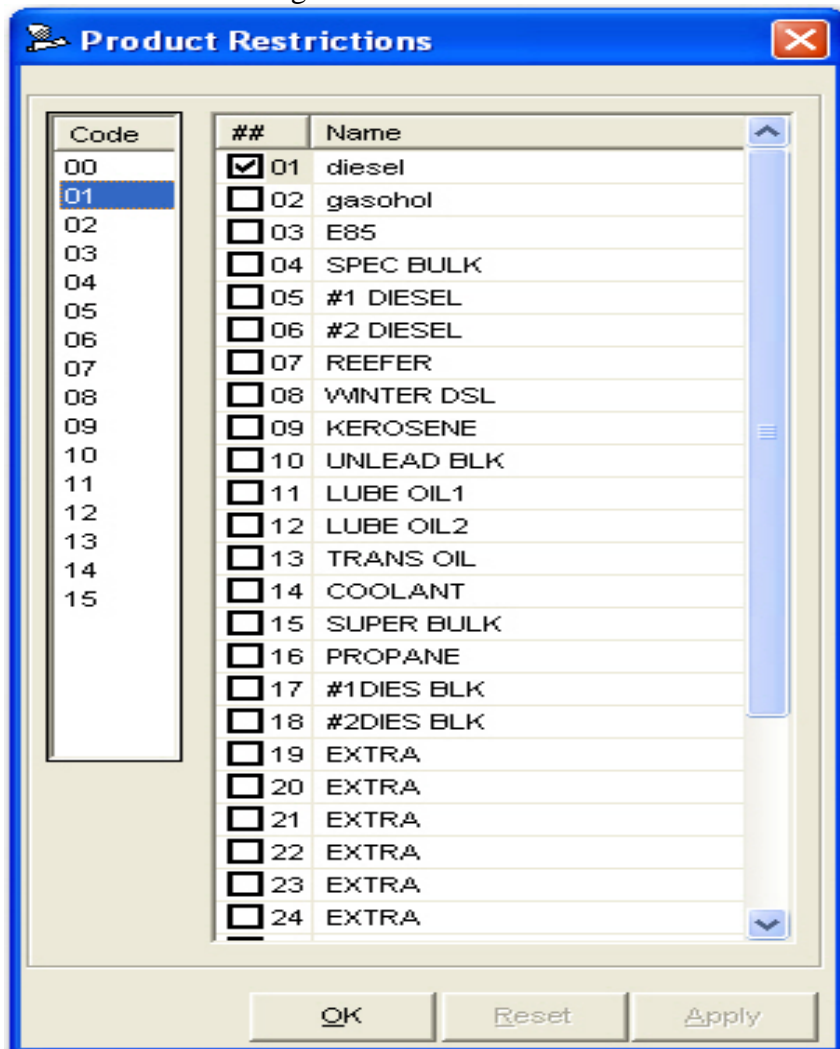
You can define up to 32 products in. You can set each product's unit of measure, price per unit, and name. Each product has a code number. The code is assigned to a pump hose during PCT configuration.



- Click on Global Settings on the task bar.
- Go to Products >Product types.
- The Product Types window is displayed.
- Select the Product you wish to change from the Products Window.
- The Product Preferences fields and the Network Short Code fields will automatically display the default information for the product you have selected.
- Click in any of the fields to change the information for the product type.
- When you are finished making your changes, click on apply.
- Click on OK to close the window.

2.12 Product Restrictions

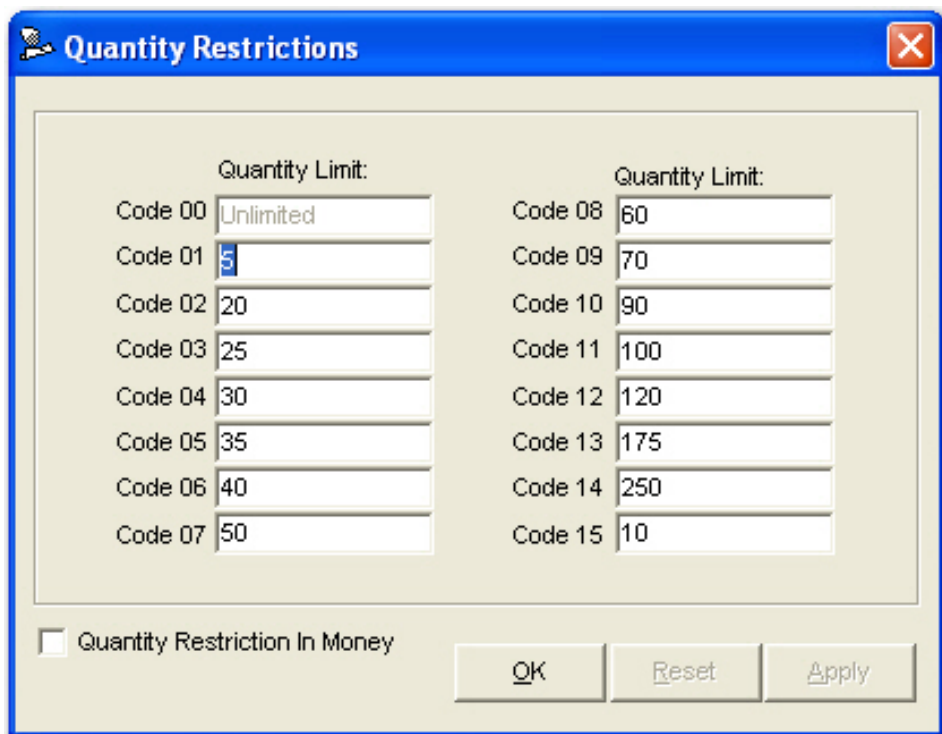
Restrictions let you control which products vehicles and/or users can dispense. Click on Global Settings on the task bar.



- Go to Restrictions>Product.
- The Product Restrictions window is displayed.
- The table in the Product Restrictions window defines codes for up to 15 sets of product restrictions. Use restriction codes when configuring card files. They define which customers can use what type of fuel.
- Select the product code(s) for each restriction code in the appropriate field.
- Click on Apply to save the settings.
- Click OK to close the window.

2.13 Quantity Restrictions

Quantity restriction codes are used during card file configuration to specify how much product a particular customer can access. You can define up to 15 quantity restriction codes. Restrictions can be monetary or by volume (gallons, liters, or quarts).



The dialog box titled "Quantity Restrictions" contains two columns of input fields for quantity limits. The left column is labeled "Quantity Limit:" and contains codes 00 through 07. The right column is also labeled "Quantity Limit:" and contains codes 08 through 15. At the bottom, there is a checkbox for "Quantity Restriction In Money" and three buttons: "OK", "Reset", and "Apply".

Code	Quantity Limit
Code 00	Unlimited
Code 01	5
Code 02	20
Code 03	25
Code 04	30
Code 05	35
Code 06	40
Code 07	50
Code 08	60
Code 09	70
Code 10	90
Code 11	100
Code 12	120
Code 13	175
Code 14	250
Code 15	10

☐ Quantity Restriction In Money

OK Reset Apply

- Click on Global Settings on the task bar.
- Go to Restrictions>Quantity.
- The Quantity Restrictions window is displayed.

- The table in the Quantity Restrictions window defines the quantity limit in dollar amounts as the default.
- To change a quantity restriction to another monetary value, uncheck the quantity restrictions in dollar box. If you chose another monetary value, this is applied to all quantity limit codes.
- To change a quantity limit assigned for a specific code, go to that code and type in a new quantity limit.
- Click on Apply, to apply the new quantity limit.
- Click on OK to exit the window.

2.14 Define Card Record

Defining the card record allows you to enable or disable each of the following preferences for a card/account file:

Account Number: This option allows you to assign a four digit account number to a card number. An account number can be used to group a set of cards to a specific department or company.

Expiration Date: This option allows you to define a date when the account or card can no longer be used in the system. If you select this option all cards and accounts must have an expiration date set.

Monthly Allocation: This option allows you to define a specific monetary amount a card and card account may pump for the month. This option is not recommended for system users with multiple sites. If you select this option all cards and accounts must have a Monthly Allocation set.

Daily Allocation: This option allows you to define a specific monetary amount a card and card account can pump per day on a specific site. If you select this option, all cards and accounts must have a Daily Allocation set.

Pin Number: This option allows you to assign PIN # (Personal Identification Number) to the single or driver cards. By enabling this option you are not required to have a PIN number assigned to a specific card.

Card Invalid after 3 bad pin entries: This option allows you to configure the FSC to invalidate user's card when they enter their pin number incorrectly three times.

Save odometer entries: This option allocates space in the card file for storing the last transaction odometer entry on a single or vehicle card. This option also needs to be selected when using odometer reasonability. This option should not be checked if the system user has multiple sites.

Odometer Reasonability: This option checks the difference between two user-entered odometer readings, and determines if the difference is within a range you specified for that card. 15 ranges are available.

Odometer Reasonability is only for single-site applications. For reasonability to work, you must program the FIT display to instruct customers to enter their current odometer value. Customer entered odometer readings are stored in the card/account file, and then compared to the next mileage entered by that user. The second entry is "reasonable" if the difference between the entries is within your specified range.

Product Restriction: This option lets you control fuel distribution by checking miles traveled between fuelings, by limiting pumps that can be used by certain card, or through quantity limits.

Quantity Restriction: This option allows a product limit per transaction (dollar or volume).

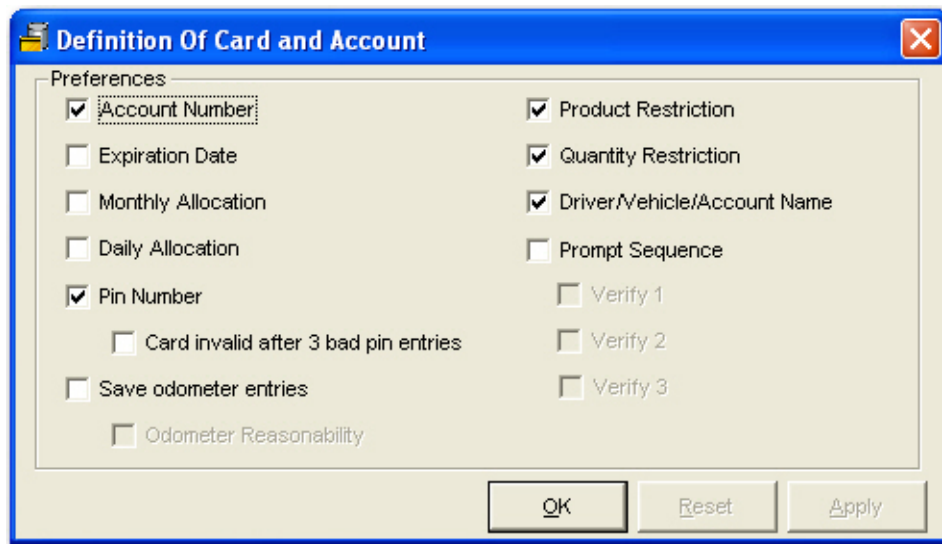
Driver/Vehicle/Account Name: This option allows you to enter the name of the driver, vehicle or account using up to nine characters.

Verify 1: Three of the card account prompts can be verified. If this option is enabled, you will be able to verify a prompt.

Verify 2: Three of the card account prompts can be verified. If this option is enabled, you will be able to verify a prompt.

Verify 3: Three of the card account prompts can be verified. If this option is enabled, you will be able to verify a prompt.

Prompt in Sequence: This option allows you to capture and verify prompt information for cards stored in the card record file.



- Click on Global Settings on the task bar.
- Go to Define Card Record.
- The Definition of Card and Account window is displayed.
- The table in the Definition of Card and Account window allows you to enable or disable the preferences shown above.
- Click on each box next to the preference to enable or disable the preference.
- Click Apply to save your preferences.
- Click OK to exit this window.

2.15 Define Transaction Record

The Transaction Record can be printed or shown. It shows/prints all completed transactions stored in the FSC3000. Though all transactions are recorded, what you actually see is determined by the preferences you set in the Transaction Configuration window.

The first three options in the Transaction Configuration window include:

Wrap Around- If wrap around is enabled, and the transaction buffer is full, the FSC3000 overwrites (erases) the older transactions when new transactions are received. Do not enable wrap around unless you are certain that transaction data will not be accidentally destroyed.

Write Over-The write over option allows you to enable or disable write-over of non-captured or failed transactions. This function is only available if you have wrap around enabled and are using one of the networks for card authorization. This does not apply to local card file transactions.

Unauthorize Users: The unauthorize users option allows you to enable or disable whether the system processes an unauthorized attempt to use the system as a transaction and logs the event in the transaction buffer. Disabling the unauthorize users options causes the system to ignore any unauthorized user and events, and only cases where a pump was activated by the FSC3000 are recorded. For this reason, if you do not save unauthorized users you might see a gap in the transaction numbers.

Display Fields include:

Account, Driver, and Vehicle- check here if you want the transaction record to contain the account, driver, and vehicle name field data.

Date and Time- check here if you want the transaction record to contain the date and time

Host Capture Date/Time-check here if you want the transaction record to contain the host capture date and time

Transaction Number- check here if you want the transaction record to contain the transaction number

Card #1- check here if you want the transaction record to contain the first card number assigned to this account

Card #2- check here if you want the transaction record to contain the second card number assigned to this account

Product Type- check here if you want the transaction record to contain the product type

Pump Number- check here if you want the transaction record to contain the pump number

Hose Number- check here if you want the transaction record to contain the hose number

Quantity- check here if you want the transaction record to contain the quantity dispensed

8 Digit Quantity- check here if you want the transaction record to contain an 8 digit quantity

Price- check here if you want the transaction record to contain the price

Total- check here if you want the transaction record to contain the total

Odometer- check here if you want the transaction record to contain the odometer reading

Distance Per Unit- check here if you want the transaction record to contain the distance per unit

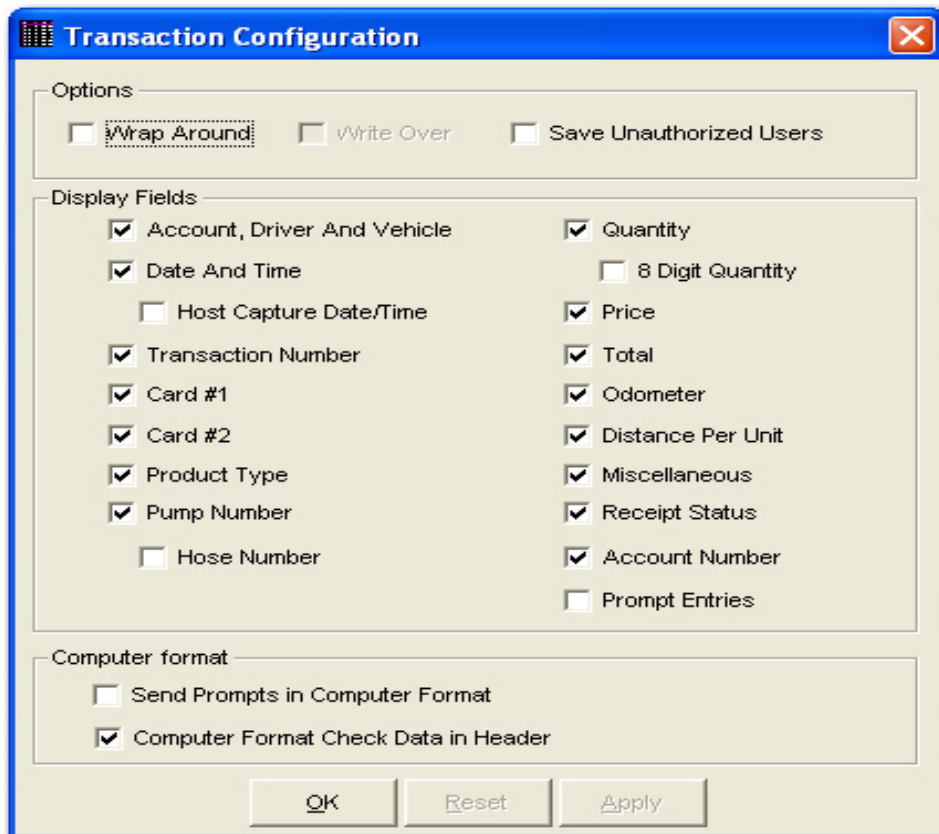
Miscellaneous- check here if you want the transaction record to contain previously defined miscellaneous information

Receipt Status- check here if you want the transaction record to contain the receipt status

Account Number- check here if you want the transaction record to contain the account number

Prompt Entries-check here if you want the transaction record to contain the prompt entries

There must be at least one transaction recorded in your system in order to show all the selected data fields.

The image shows a 'Transaction Configuration' dialog box with a blue title bar and a close button. It contains three main sections: 'Options', 'Display Fields', and 'Computer format'. The 'Options' section has three checkboxes: 'Wrap Around' (unchecked), 'Write Over' (unchecked), and 'Save Unauthorized Users' (unchecked). The 'Display Fields' section has two columns of checkboxes. The left column includes 'Account, Driver And Vehicle' (checked), 'Date And Time' (checked), 'Host Capture Date/Time' (unchecked), 'Transaction Number' (checked), 'Card #1' (checked), 'Card #2' (checked), 'Product Type' (checked), 'Pump Number' (checked), and 'Hose Number' (unchecked). The right column includes 'Quantity' (checked), '8 Digit Quantity' (unchecked), 'Price' (checked), 'Total' (checked), 'Odometer' (checked), 'Distance Per Unit' (checked), 'Miscellaneous' (checked), 'Receipt Status' (checked), 'Account Number' (checked), and 'Prompt Entries' (unchecked). The 'Computer format' section has two checkboxes: 'Send Prompts in Computer Format' (unchecked) and 'Computer Format Check Data in Header' (checked). At the bottom are 'OK', 'Reset', and 'Apply' buttons.

- Click on Global Settings > Define Transaction Record.
- The Transaction Configuration screen is displayed.
- Click on the boxes next to the options and display fields and computer format to enable or disable transaction record preferences.
- Click Apply to save your preferences.
- Click Ok to exit the Transaction Configuration screen

3 Pump Control Terminals

Pump Control Terminal (PCT) for Mechanical Pumps—Current Sense

PCM Pump Control Module Voltage Sense

3.1 Pump Controller Setup

Each FSC3000 can have a pump controller board that controls pump operations. This board, in the FIT or in a remote cabinet, must be uniquely numbered. If the FSC3000 is equipped with UPC (Universal Pump Controller) software, it can authorize fueling transactions via a pump control console (such as used in a self service station).

Pumps controlled by a UPC option do not require a pump controller board, but they do require the logical pump controller to be configured within the FSC.

You must define your Pump Controller before you configure your pumps, because this is where you define the number of hoses for each fueling position being controlled by the UPC interface.

The process for setting up Pump Controllers 5-8 is the same as it is for Pump Controllers 1-4, except that Pump Controllers 5-8 cannot be used for a UPC/DPC interface.

Example tables for a Pump Controller with 8 hoses and for a Pump Controller with 1 hose from the Setup worksheet are shown below.

The following parameters are defined for each pump controller:

Unit Type: The choices for unit type are: PCT, K800 PCT, and PCM or UPC.

Installed?: Place a check next to this box if the pump is currently installed.

Allow Hose Restrictions?: Select YES here if you wish to enable hose restrictions.

Pump Number: This is the pump number displayed for this PCT position. This number is only a label and does not have to match the PCT position number. A pump number can be assigned to more than one position on the same PCT. When the pump number is selected by a customer, all the associated positions are activated.

For example, if pump number “2” is assigned to positions #1 and #2 a customer with a large saddle-tank equipped truck could speed his fueling by putting position 1’s pump into one of the tanks and the Position 2 pump into the other tank. Two separate transactions are recorded.

Poll ID: The poll ID field is populated by default. Check to ensure that the Poll ID is correct. Only if you enable the DPC control.

Max Quantity: This is the maximum fuel amount to be dispensed for any transaction using this pump. (The default is 10 units)

Pulses Per Unit: This is the maximum pulses of fuel allowed per unit during a transaction.

Use Sentry?: This option deactivates the pump if three “Zero Quantity” transaction appear in a row, indicating possible pump or pulser trouble. The default leaves this option disabled.

Handle Timeout: This is the maximum time allowed (in seconds) between pump activation and pump handle retrieval. The default is 60 seconds. Enter “0” to deactivate.

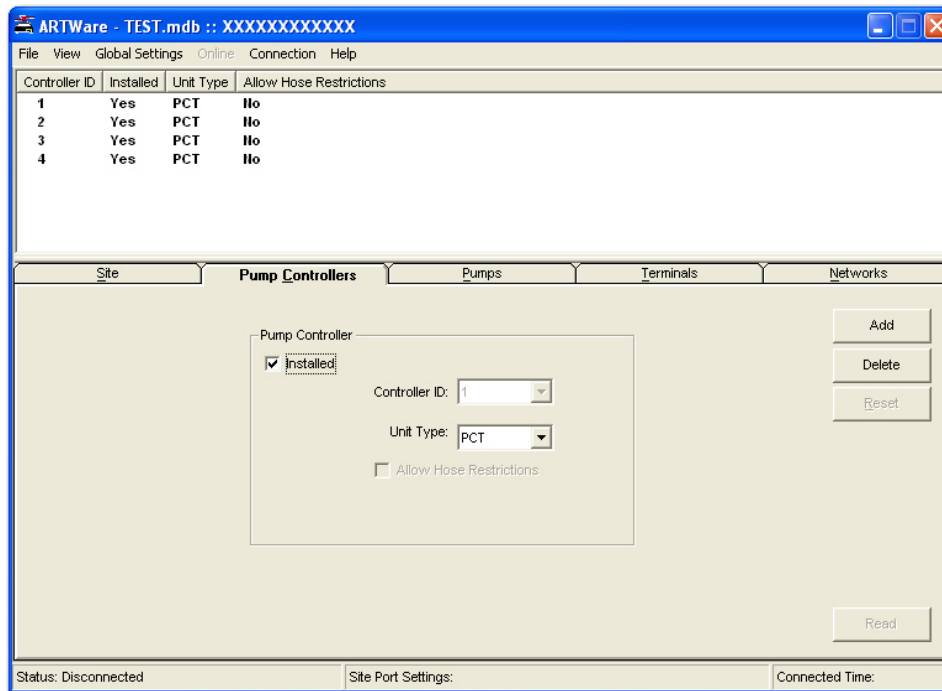
First Pulse Timeout: This is the maximum time allowed (in seconds) to detect the first fueling pulse from when the pump handle is first retrieved. Pump power is removed when the specified time is reached. Default is 60 seconds. Enter “0” to deactivate.

Fueling Timeout: This is the limit (in minutes) given to the user to fuel. The default is 5 minutes. Time is measured from when the pump is first activated. Power is removed from the pump when Max Time is exceeded to deactivate this feature, enter ‘0’.

Hose “x” product: This represents the type of fuel this position will dispense.

Hose “x” Tank Number: This is the tank number from which the product will be pumped./ A PCT position with the same fuel type at eh tank form which product is drawn must be defined.

Hose “x” totalizer: Set a number to match the totalizer counter on the pump face. This tracks the amounts of fuel actually dispensed by the pump. The default is “0”. For UPC-equipped systems, the last four prompts are repeated for up to 8 hoses.



- Click on the Pump Controller tab.
- Click on Add to add the controller.
- Place a check in the Installed check box to indicate that the Pump Controller is installed.
- Click on the drop-down menu next to Controller ID and select the controller (usually you will start with Pump Controller #1).
- Click on the drop-down menu next to Unit Type to select the type of unit.
- Click in the check box next to Allow Hose Restrictions if you wish to enable hose restrictions. This option is only available if the Unit Type is UPC. UPC and DPC are mutually exclusive, you cannot have both types. DPC is only available if you have checked DPC on the Site Tab.
- Click on the Save button to save the information for this Pump Controller.

3.2 Pump positions set-up

Position	Installed	Number	Poll ID	PPU	MaxQty	Handle TO	Missing Pulse TO	First TO	Fueling TO	Pump Sentry
1	Yes	1	1	100	10	60	30	60	5	No

- Click on the Pumps tab. You will notice at the top of the box on the left side it will say Pumps for Controller # X. Make sure you are configuring the pumps for the correct controller number.
- Click on Add.
- Select the pump position by clicking on the drop-arrow next to Position.
- Place a check in the checkbox next to installed to signify that this pump is installed.
- Type the pump number in the pump # field. This is a required field.
- Check to ensure that the Poll ID is correct.
- Click the drop-down arrow in the type field to select the pump type.
- Type the maximum quantity in the Max. Quantity field.
- Click in the check box next to Use Sentry, if you wish to enable the pump sentry feature.
- Click in the check box next to Active, if you wish to make the pump sentry active.
- Type in the time out for handle, in the Handle field.
- Type in the time out for missing pulse, in the missing pulse field.
- Type in the time out for first pulse, in the first pulse field.
- Type in the time out for fueling, in the fueling field.
- In the Hoses box, click on the drop-down menu under product type, to select the product type for hose #1.
- In the Hoses box, click on the drop-down menu under tank #, to select the tank # for hose #1.
- In the Hoses box, type in the totalizer in the totalizer field.
- Click in the installed box to signify that this pump and hose has been installed.
- Repeat this process for all hoses.

- Click on Save to save this information, or click on Send to save the information and send it to the Pump Controller if you are connected.

3.3 Direct Pump control (DPC)

The FSC3000 DPC can directly connect to Gilbarco, Wayne and Tokheim Electronic Pumps. The first step is to define the brand of electronic pumps that will be used and the communication parameters for them. The FSC3000 is designed to support up to 8 PCT devices, but DPC is limited to the first 4 PCTs. For configuration see the FSC3000 Command-Line Configuration guide.

3.4 Universal Pump Controller (UPC)

The UPC is used when controlling electronic pumps in conjunction with a pump manufacturer's console or controller. The UPC is limited to the first 4 PCT's. For configuration see the FSC3000 Command-Line Configuration guide.

4 Fuel Island Terminals

4.1 Terminal Types

There are 4 terminal choices for the FSC 3000:

Fuel Island Terminal (FIT) 500

Commercial/Outdoor Payment Terminal (OPT)

K800-Hybrid

System2 FIT

The FIT 500, the OPT, System2 FIT and the K800-Hybrid are the customer interfaces containing card readers, a keypad, and a display screen. Terminals can be equipped to handle magnetic stripe cards, and OPW Fuel Management Systems Chip Keys. The terminals have the following features:

Up to 8 terminals can be address by one FSC

Built-in receipt printers (Except for the K800-Hybrid)

Text or graphic display (K800-Hybrid only allows text display)

Multiple card reader options: Optical, ISO standard mag-card, OPW Fuel Management System2 mag-cards, some non-standard commercial fueling cards and Chip key reader

Terminal Type: Enter the terminal type; FIT500, OPT, System2 FIT and K800-Hybrid

Decline Timeout: This determines how long, in seconds, the Decline Authorization message remains on the FIT. Enter a value form 1-99, 15 is the default.

Prompt Timeout: This represents the time that a prompt remains on the FIT display. The default is 25 seconds.

Display Type: This represents the type of display. This is set in the site window for all Terminals.

Keyboard Access : This determines if the user is allowed keyboard entries and determines the length of those entries. The length of the string you can enter is based on supported networks. Count the number of digits in the number on the card. If your system supports more than one network, enter a value equal to the length of the longest card number.

Issue Receipts? : Enter YES to have the receipt printer issue a receipt. NO is the default. If you enter YES, you will be asked the number of days after a transaction that the customer can retrieve a receipt for that transaction.

Limit Access to Pumps? : Enter YES to change which pumps can be activated by the specified FIT. If you select YES, enter the valid pumps. (This is a comma separated value; 1, 2, 3, etc.)

Term ID	Installed	Term Type	Decline TO	Prompt TO	Key Access	Key Length	Receipt	Days to Retrieve Receipts	Allow Access Pump
1	Yes	Sys2 FIT	0	15 secs	llo	1	Yes	0	llo
2	Yes	FIT500	0	15 secs	llo	1	Yes	0	llo

- Click on the Terminals tab.
- Click on Add. The default terminal information populates the fields.
- Click on the drop-down menu next to the Terminal ID field, to select a Terminal ID.
- Click on the drop-down menu next to the Terminal Type field, to select a Terminal Type.
- Click in the Decline Timeout field and enter a number of seconds you wish the Decline Authorization message to appear.
- Click on the drop-down menu next to the Prompt Timeout field to select a prompt timeout.
- If the error counter is greater than zero, the Reader Error field will be enabled, click the clear button to clear the counter or skip this field to keep the counter the same.
- The Display Type field is currently just information for the user.
- The Receipt Counter keeps track of all receipts issued to date, click on the Clear button if you wish to clear the receipt counter. This only works if you are connected to the FSC.
- Click in the check box next to Installed, if the terminal is currently installed.
- Click in the check box next to Key Board Access, to enable keyboard access.
- If you have enabled key board access, enter a keyboard length. The length of the string you can enter is based on supported networks. Count the number of digits in the number on the card. If your system supports more than one network, enter a value equal to the length of the longest card number.

- Click in the check box next to issue receipts to enable the printer to issue a receipt.
- If you have enabled the issue receipts option, enter the number of days to retrieve receipts in the Days to Retrieve Receipts field.
- Click in the check box next to Limit Access to Pumps in order to enable this preference.
- If you have enabled the Limit Access to Pumps command enter the Valid Pumps for which you want limited access. This is a comma separated list of the pumps. (For example: 3,5,16, 15, 52.)
- If you make an error before you save your preferences click Reset to clear the screen and start over.
- Click Save to save all your Terminal Preferences.

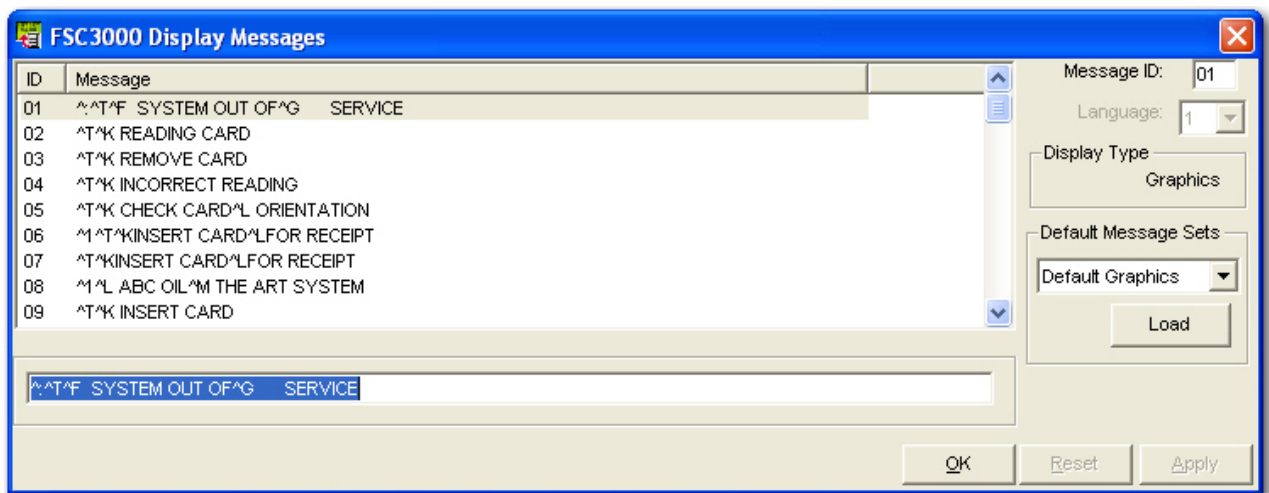
4.2 System Messages

The FIT display guides customers through the fueling process with a series of prompts.

The FSC3000 is pre-programmed with default prompts for certain events. There are 60 display messages. If Dual Language is ON, prompts will automatically appear in the user defined 2nd language prompts.

ARTWare does not know what messages are on your FSC3000 when a new site is created. For this reason, when you first add a site, a set of default messages will be created which may or may not match your hardware or needs. ARTWare will create a set of 2X16 non-graphics messages. You can load a complete default set of messages by selecting one of the sets from the drop-down box Default Message Sets and clicking the Load button. This will overwrite all the messages. Connect to the FSC3000 and click Read on this dialog box to get the messages.

You can change any of the default messages, but only the text will change. You cannot change any function. For example, "Insert Card" can be changed to "Put in Card", but not to "Enter Current Time".



- Click on the Terminals tab.
- Click on the Messages button.
- Click on the Message you wish to change in the ID/ Message window. You may need to use the scroll bar to scroll down to the message you are seeking.
- The message ID field automatically changes to the ID number for the message you have selected.
- Click the arrow next to the drop-down Language field.
- Select either Language one or two.
- The lines of the message are displayed in the field below the ID/Message window.
- Click on the text that you wish to change. The text will be highlighted in blue.
This means that anything you type will over ride the current message.
- Type your new message.
- Select Read...
- The message will change in the ID/Message window.
- Click OK to exit from the Message Set window.

Many of the messages are explained in troubleshooting. For more information on the FSC3000 Display Messages, go to Troubleshooting> Default Display Messages.

4.3 Receipt Header Messages

The receipt header is a message that prints at the top of each receipt.

Receipt Header

Language: 1

Line 1:

Line 2:

Line 3:

Line 4:

OK Reset Apply

- Click on the Terminals tab.
- Click on the Header button.
- The Receipt Header window displays.
- Click on the drop-down menu next to Language to select the language for which you want a receipt header.
- Enter up to four lines for the receipt header. Each line holds up to 11 characters.
- Skip any of the four lines you do not wish to use.
- If you make an error and want to clear your unsaved changes click on Reset and your changes will be cleared.
- Click Apply to save your changes.
- Click OK to close out of the Receipt Header window.

4.4 Receipt Trailer Messages

The receipt trailer is a message that prints at the bottom of each receipt.



- Click on the Terminals tab.
- Click on the Trailer button.
- The Receipt Trailer window displays.
- Click on the drop-down menu next to Language to select the language for which you want a receipt trailer.
- Enter up to four lines for the receipt trailer. Each line holds up to 11 characters.
- Skip any of the four lines you do not wish to use.
- If you make an error and want to clear your unsaved changes click on Reset and your changes will be cleared.
- Click Apply to save your changes.
- Click OK to close out of the Receipt Trailer window.

4.5 Default System Messages

	2x16 Display	Graphics Display
1	SYSTEM OUT OF SERVICE	^: ^T^F SYSTEM OUT OF ^G SERVICE

2	READING CARD	^T^K READING CARD
3	REMOVE CARD	^T^K REMOVE CARD
4	INCORRECT READING	^T^K INCORRECT READING
5	CHECK CARD ORIENTATION	^T^K CHECK CARD^L ORIENTATION
6	INSERT CARD FOR RECEIPT	^1^T^KINSERT CARD^LFOR RECEIPT
7	INSERT CARD FOR RECEIPT	^T^KINSERT CARD^LFOR RECEIPT
8	PETRO VEND SYSTEM 2	^1^T^KPETRO VEND^L SYSTEM 2
9	INSERT CARD	^T^K INSERT CARD
10	SYSTEM CLOSED	^: ^T^F SYSTEM CLOSED
11	PLEASE WAIT	^T^J PLEASE^K WAIT
12	PRINTING RECEIPT	^: ^T^F PRINTING^G RECEIPT
13	TAKE RECEIPT	^8^T^F TAKE^G RECEIPT
14	PRINTER ERROR	^0^T^F PRINTER ERROR
15	ISSUE RECEIPT? :	^5^T^K ISSUE^L RECEIPT? :
16	ENTER PUMP #:	^7^T^K ENTER^L PUMP #:
17	IN USE, RE-ENTER:	^T^K IN USE,^L RE-ENTER:
18	INVALID, RE-ENTER:	^T^K INVALID,^L RE-ENTER:
19	PUMP HANDLE? RE-ENTER:	^T^K PUMP HANDLE?^L RE-ENTER:
20	FAULTY PUMP, RE-ENTER:	^T^K FAULTY PUMP,^L RE-ENTER:
21	UNAUTH'ZED, RE-ENTER:	^T^K UNAUTH'ZED,^L RE-ENTER:
22	RESTRICTED, RE-ENTER:	^T^K RESTRICTED,^L RE-ENTER:
23	USE PUMP # %	^T^K USE PUMP #^L %
24	INSERT 2nd CARD	^1^T^K INSERT^L 2ND CARD
25	INCORRECT CARD	^0^T^F INCORRECT CARD
26	ENTER CARD #:	^5^T^J ENTER^K CARD #:
27	ENTER PIN:	^5^T^K ENTER^L PIN:
28	ENTER ODOM:	^6^T^K ENTER^L ODOM:
29	ENTER MISC:	^5^T^K ENTER^L MISC:
30	ENTER 2nd CARD #:	^5^T^J ENTER 2ND^K CARD #:
31	RE-ENTER PIN:	^5^T^K RE-ENTER^L PIN:
32	RE-ENTER ODOM:	^6^T^K RE-ENTER^L ODOM:
33	SORRY! NETWORK SYSTEM OFF	^0^T^F SORRY! ^G POS SYSTEM OFF
34	PROCESSING... PLEASE WAIT	^9^T^IPROCESSING^KPLEASE WAIT
35	NOT A NETWORK CARD	^0^T^F NOT A NETWORK CARD
36	CARD EXPIRED	^0^T^F CARD EXPIRED
37	CARD RECORD EXPIRED	^0^T^F CARD RECORD^G EXPIRED
38	CARD INVALIDATED	^0^T^F CARD INVALIDATED
39	3 BAD ENTRIES	^0^T^F 3 BAD ENTRIES
40	ALLOCATION EXCEEDED	^0^T^F ALLOCATION^G EXCEEDED
41	UNABLE TO PROCESS: +	^0^T^F UNABLE^H TO PROCESS: +
42	variable pos messages	variable pos messages
43	ACCOUNT EXPIRED	^0^T^F ACCOUNT EXPIRED
44	ACCOUNT INVALIDATED	^0^T^F ACCOUNT^G INVALIDATED
45	ACCOUNT #s DO NOT MATCH	^0^T^F ACCOUNT #s^G DO NOT MATCH
46	ACCOUNT RECORD NOT FOUND	^0^T^F ACCOUNT RECORD^G NOT FOUND
47	KEYBOARD ENTRY NOT ALLOWED	^0^T^F KEYBOARD ENTRY^G NOT ALLOWED
48	JOURNAL ERROR -GET MANAGER	^0^T^F JOURNAL ERROR^G -GET MANAGER
49	SYSTEM BUSY -BUFFER FULL	^0^T^F SYSTEM BUSY^G -BUFFER FULL
50	ENTER DESIRED QTY. (2-#):	^5^T^K ENTER DESIRED^L QTY. (2-#):
51	RE-ENTER QTY. (2-#):	^5^T^K RE-ENTER^L QTY. (2-#):
52	3 BAD PRESET QTY. ENTRIES	^0^T^F 3 BAD PRESET ^H QTY. ENTRIES
53	ENTER HOSE #:	^KENTER HOSE #:
54	INVALID HOSE RE-ENTER:	^KINVALI RE-ENTER:
55	DO YOU HAVE AN ASSIGNED PIN?	^5^T^KDO YOU HAVE^L AN ASSIGNED PIN?
56	RESERVED	RESERVED
57	RESERVED	RESERVED
58	RESERVED	RESERVED
59	RESERVED	RESERVED
60	RESERVED	RESERVED

5 Host Authorization

The screenshot shows the ARTWare application window with the title bar 'ARTWare - TEST.mdb :: XXXXXXXXXXXX'. The menu bar includes File, View, Global Settings, Online, Connection, and Help. A table at the top lists network configurations:

Net ID	Network	Local Auth	Allow Key Card	Net ON Time	Net OFF Time
08	CFN	Yes	No	12:00:00 AM	12:00:00 AM
13	Paymentech	No	No	12:00:00 AM	12:00:00 AM

Below the table are tabs for Site, Pump Controllers, Pumps, Terminals, and Networks. The Networks tab is active, showing the following configuration options:

Network Information:

- Network: CFN (dropdown)
- Connect Time: 30
- Reprompt Time: 10
- Connect Retries: 1
- Auth. Message: HAVE A SAFE TRIP
- On Time: 12:00 AM
- Off Time: 12:00 AM
- Comm button

Local Authorization:

- ☒ Allow Local Authorization

Merchant Information:

- Site Number: 123
- Originator ID: 12345678901
- Header String: CFN
- Card Acceptor Name: (empty)
- Add, Delete, Reset buttons

CFN Network Options:

- ☒ Process CFN/Fuelman Dual Network cards
- ☒ Process TCHEK cards
- ☐ Process ISO Enabled Mastercard and Visa cards
- ☐ Process ISO Enabled Amex, CB, Diners and Disc. cards
- ☐ Process ISO Enabled Fuelman and Gascard cards
- ☐ Enable Host Processing
- Batches button

Host Configuration Buttons:

- Host Config
- Fleet/Account
- ISO
- Read

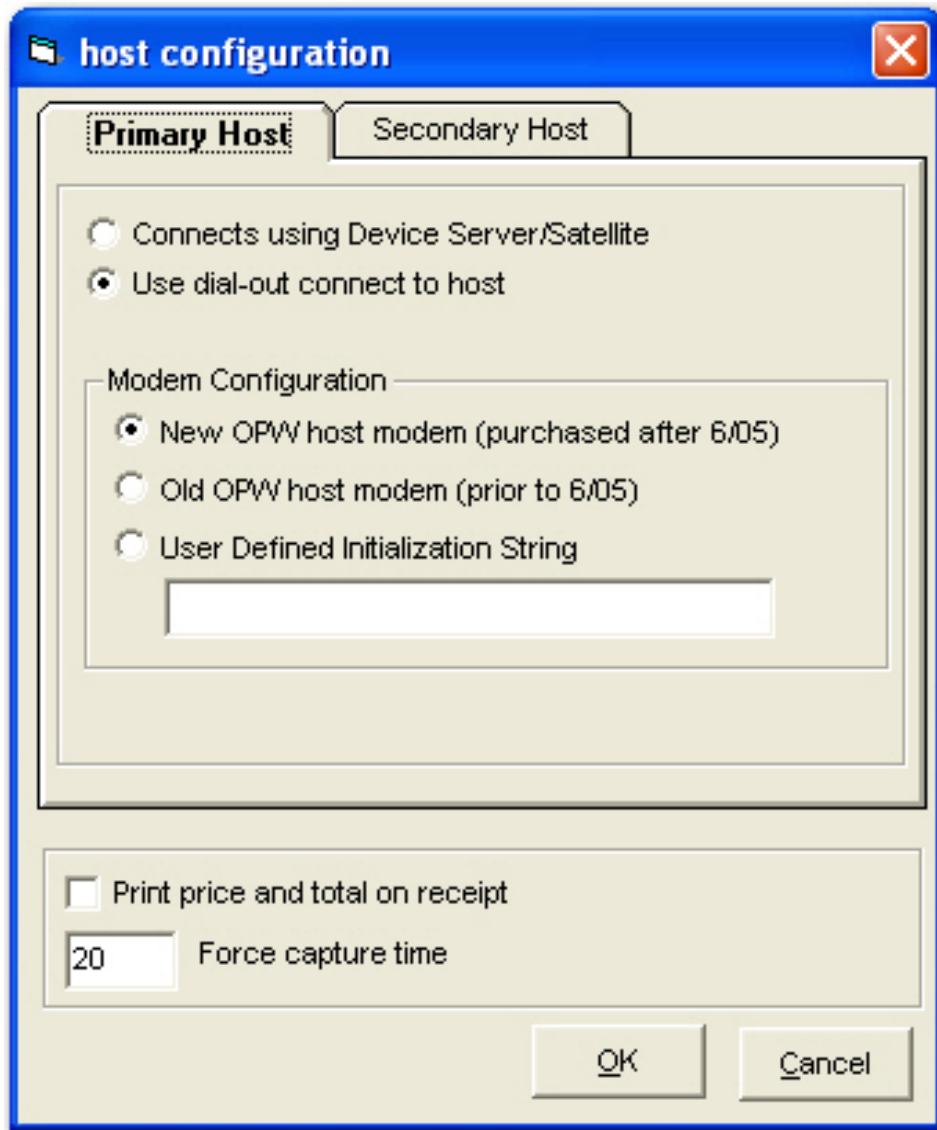
Status Bar:

- Status: Disconnected
- Site Port Settings:
- Connected Time:

5.1 Host Configuration

The Host Configuration dialog box allows you to configure how your FSC3000 connects to the network host(s). The FSC3000 can connect to two network hosts at the same time.

The two tabs "Primary Host" and "Secondary Host" are identical, except that the Secondary Host tab has an additional checkbox to enable the secondary host processing. Each host can be connected to by either the device server/Satellite or through a dial-up modem. If modem you must select what kind of modem (if provided by OPW Fuel Management Systems) or you may provide an initialization string.



The image shows a 'host configuration' dialog box with a blue title bar and a red close button. It has two tabs: 'Primary Host' (selected) and 'Secondary Host'. Under 'Primary Host', there are two radio buttons: 'Connects using Device Server/Satellite' and 'Use dial-out connect to host' (which is selected). Below these is a 'Modem Configuration' section with three radio buttons: 'New OPW host modem (purchased after 6/05)' (selected), 'Old OPW host modem (prior to 6/05)', and 'User Defined Initialization String'. A text input field is located below the 'User Defined Initialization String' option. At the bottom of the dialog, there is a checkbox for 'Print price and total on receipt' and a text input field containing '20' next to the label 'Force capture time'. The 'OK' and 'Cancel' buttons are at the bottom right.

- Click on the Site tab.
- Click on the Host Config button located on the right side of the screen.
- The Host Configuration screen is displayed.
- Click on the check box next to Connects using Device Server/Satellite, or Use Dial-out connect to host, depending on how you plan to connect to the primary host.
- If you connect using a device server/satellite, click on CFN Host Only, Irving 24 Host Only, or Paymentech Host Only to specify the type of host.
- If you connect using a dial-out connection, click on New OPW host modem, Old OPW host modem, or User Defined Initialization string to designate the modem configuration.
- If you select User Defined Initialization String, enter the string in the field provided.

- Click in the check box next to Print price and total on receipt if you wish to enable this option.
- Enter an amount for Force capture time.
- Configure your secondary host options in the same manner.
- Click in the checkbox next to Enable Secondary host for processing.
- If you are satisfied with your host configuration selections, click OK to save your preferences.