

# FuelDirect 2

## Installation Guide





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## CONTENTS

Introduction to FuelDirect 2.....	1
FuelDirect 2 Installation.....	2
Windows.....	2
Linux.....	2
FuelDirect 2 Licensing.....	3
Acquiring a Software License.....	3
FD2 GUI.....	4
Start and Stop FD2.....	4
Connection on the same PC.....	4
Connection from another PC on the same network.....	4
Connecting.....	4
FuelDirect 2 Configuration.....	5
Position Information.....	5
FD2 Test Utility.....	6
Connection on the same PC.....	6
Connection from another PC on the same network.....	7
Connecting.....	7
FD2 Test Utility Help.....	7
FuelDirect 2 as Omega JR Replacement.....	8
Black Box (Debian Linux).....	8
FD2 installed on POS terminal.....	9

# History of Documentation

## **Version 1.0 — May 2024**

Initial Release

## **Version 1.1 — September 2024**

Add Price sign Brands: Novyc and PWM

## **Version 1.2 — December 2025**

Add FuelDirectSocket POS interface

Add File/Directory location tables

## **Version 1.3 — December 2025**

Update to FD2 Test Utility and FD2 GUI

## Notice

Progressive International Electronics reserves the right to revise and improve this document as required. This publication details our FuelDirect 2 at this time, and may not accurately describe this product at all times in the future. Specifications are subject to change without notice.

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5,790,410	5,663,887	5,361,216
5,831,861	5,557,529	5,270,943
5,694,326	5,394,336	5,108,742

## Introduction to FuelDirect 2

FuelDirect 2 is a cross-platform Forecourt controller that can be used on Windows, Linux, Mac, Android, and IOS, and has the ability to connect to POS devices/applications and to dispensers and card readers. FuelDirect 2 can also connect to price signs, car washes, and a tank gauge system, such as Veeder-Root, to do reconciliation.

For the POS connectivity, FuelDirect 2 is designed to be flexible and accept connections using a variety of protocols. Available protocols are:

- PCC (Pump Control Center protocol. Developed by PIE)
- FuelDirectSocket (Compatible with legacy FuelDirect OLE2 commands. Developed by PIE)
- PAM 5000
- Hyper PIB

FuelDirect 2 is capable of controlling all major-brand dispensers and card readers and can be used to control up to 1600 same-brand or mixed-brand dispensers and up to 1600 same-brand or mixed-brand card readers at a time. It can also handle up to 10 price signs and 10 car washes at a time. FuelDirect utilizes ethernet to provide total connectivity and control in its communications with PI DBoxes. In addition to the FuelDirect software and PI DBoxes, only standard off-the-shelf ethernet components are required.

### Dispenser Brands

Bennett (Current Loop)	Kraus
Bennett (RS485)	Mechanical
DART	PMC (Pump Measure Control)
Deer	Tatsuno
Donghwa	Tokheim
Gilbarco	Wayne
Hongyang	

### Reader Brands

Bennett	Tokheim
Conexus	Wayne Legacy
Gilbarco	

### Price Sign Brands

Bever	Numeritex
Daktronics	PWM
Everbrite	Skyline
Novyc	

### Car Wash Brands

Ryko	Unitec
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## FuelDirect 2 Installation

### Windows

Download the Windows installer SetupFD\_2.msi from <http://www.pie-corp2.com/.builds/fd2/current/installers/>

Run SetupFD\_2.msi and follow the prompts to install the program.

Configuring FuelDirect 2:

- Navigate to the FuelDirect 2 directory: C:\Program Files (x86)\Progressive International Electronics\FuelDirect2\
- Run FD2.exe (Program will run in the background)
- Run FD2GUI.exe
  - See FD2 GUI section below for connection and configuration

File/Directory	Location
Program files	C:\Program Files (x86)\Progressive International Electronics\FuelDirect2\
Configuration file	C:\ProgramData\FuelDirect2\config.xml
Log files	C:\ProgramData\FuelDirect2\PIE_Data\LOGS
License files	C:\ProgramData\FuelDirect2\PIE_Data\LICENSE

### Linux

Download the Linux installer from <http://www.pie-corp2.com/.builds/fd2/current/installers/>

*To be completed at a later date*

Configuring FuelDirect 2:

- Navigate to the FuelDirect2 directory:
- Run FD2.exe (Program will run in the background)
- Run FD2GUI.exe
  - See FD2 GUI section below for connection and configuration

File/Directory	Location
Program files	
Configuration file	/var/lib/FuelDirect2/config.xml
Log files	/var/lib/FuelDirect2/PIE_Data/LOGS
License files	/var/lib/FuelDirect2/PIE_Data/LICENSE

## FuelDirect 2 Licensing

### Acquiring a Software License

FuelDirect 2 requires a valid license to work properly. The first run of FD2.exe will generate a ProductID file in the LICENSE directory.

To license the product, follow these steps.

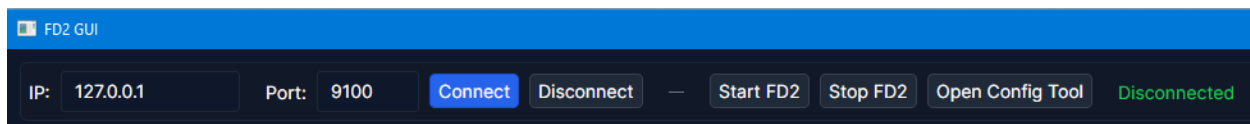
- Send an email to corp1@pie-corp.com and include the following:
  - Company Name (company that purchased the license from PIE)
  - ProductID file
  - Site Name (or other unique identifier for this installation)
- PIE will generate a License Key (FDLicense) for the system and email it back.
- Copy FDLicense into the LICENSE directory and restart FD2.exe.

## FD2 GUI

FD2GUI.exe is a visual representation of FuelDirect 2 that can connect to FuelDirect 2 over a socket. This connection can be made from the same PC on which FuelDirect 2 is installed, or from another PC that is on the same network. There can be multiple GUI connections made to the same instance of FuelDirect 2.

### Start and Stop FD2

FD2 can be started and stopped using the GUI. Press the Start FD2 button to launch FD2, and press the Stop FD2 button to close the program. *(Note: to stop FD2 using the GUI, FD2 must have been started using the GUI.)*



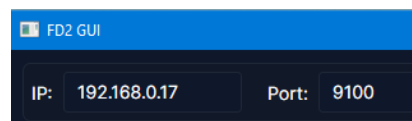
### Connection on the same PC

Set the IP Address to the local host (127.0.0.1) or to the IP Address of the PC. The default Port number is 9100 and is defined in the GUI Section of the Show Configuration page.



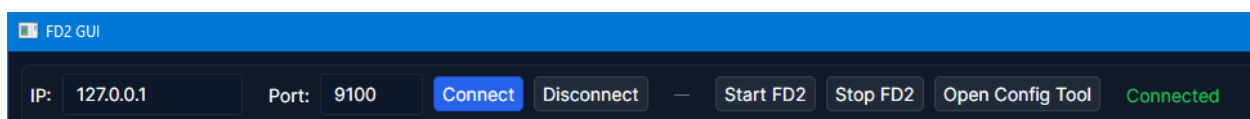
### Connection from another PC on the same network

Set the IP Address to the IP Address of the PC on which FuelDirect 2 is installed. The default Port number is 9100 and is defined in the GUI Section of the Show Configuration page.



### Connecting

Once the IP Address and Port numbers are entered, press Connect. If FD2 is running and the information is correct, the GUI will indicate that it is connected. To disconnect, press Disconnect or close the GUI program.

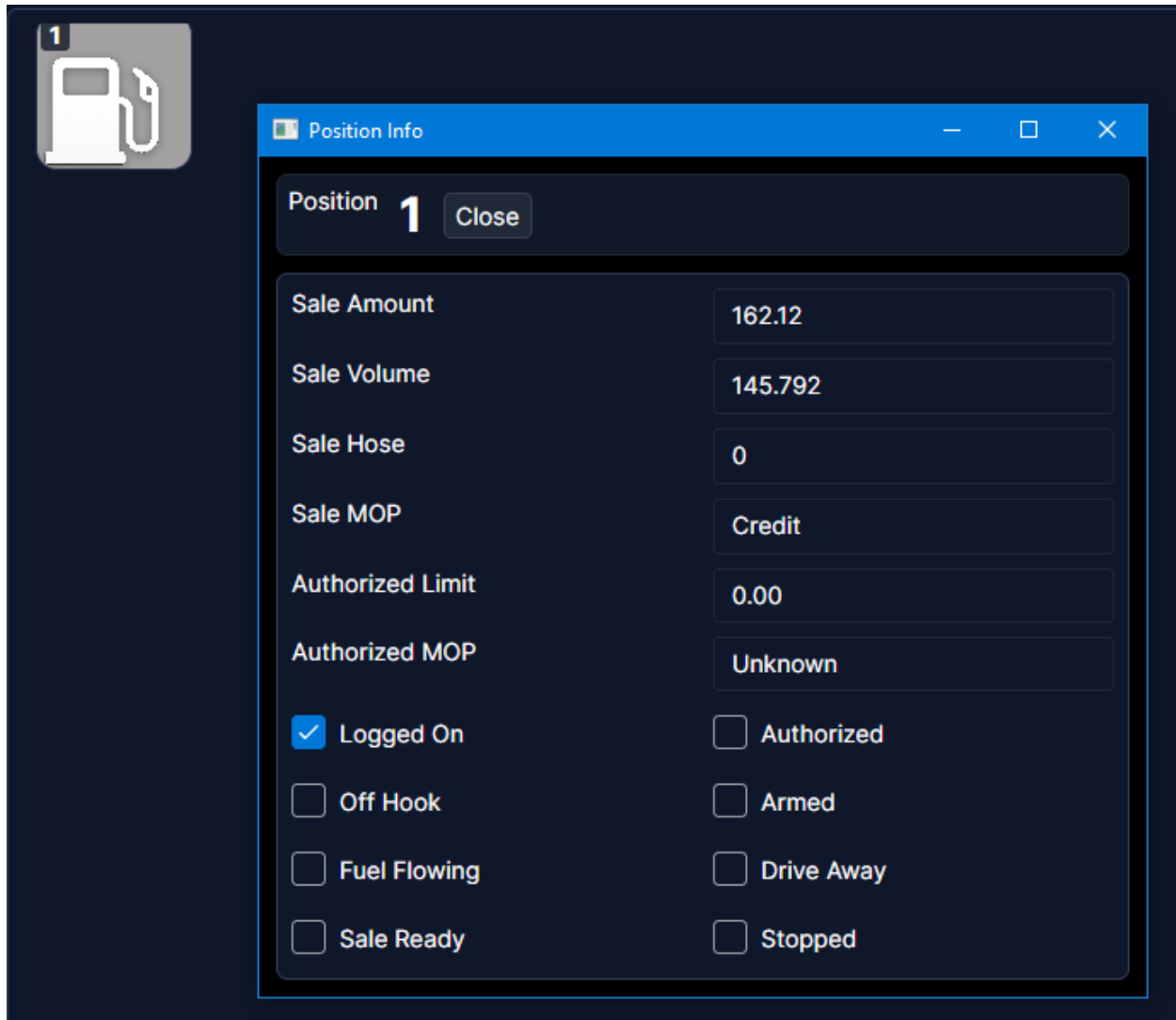


## FuelDirect 2 Configuration

FuelDirect 2 needs to have a configuration file in order to run properly. This file is created by the FD2 Configuration tool. To access, press the Open Config Tool button from the top of the GUI window. Refer to the Help of the tool for detailed information.

## Position Information

The face of the GUI will show all dispensers that exist to FuelDirect 2 (all dispensers that have had a price sent to Hose #1.) The dispenser number icons will change color depending on their state. Click on the icon for each dispenser to see additional information and status.

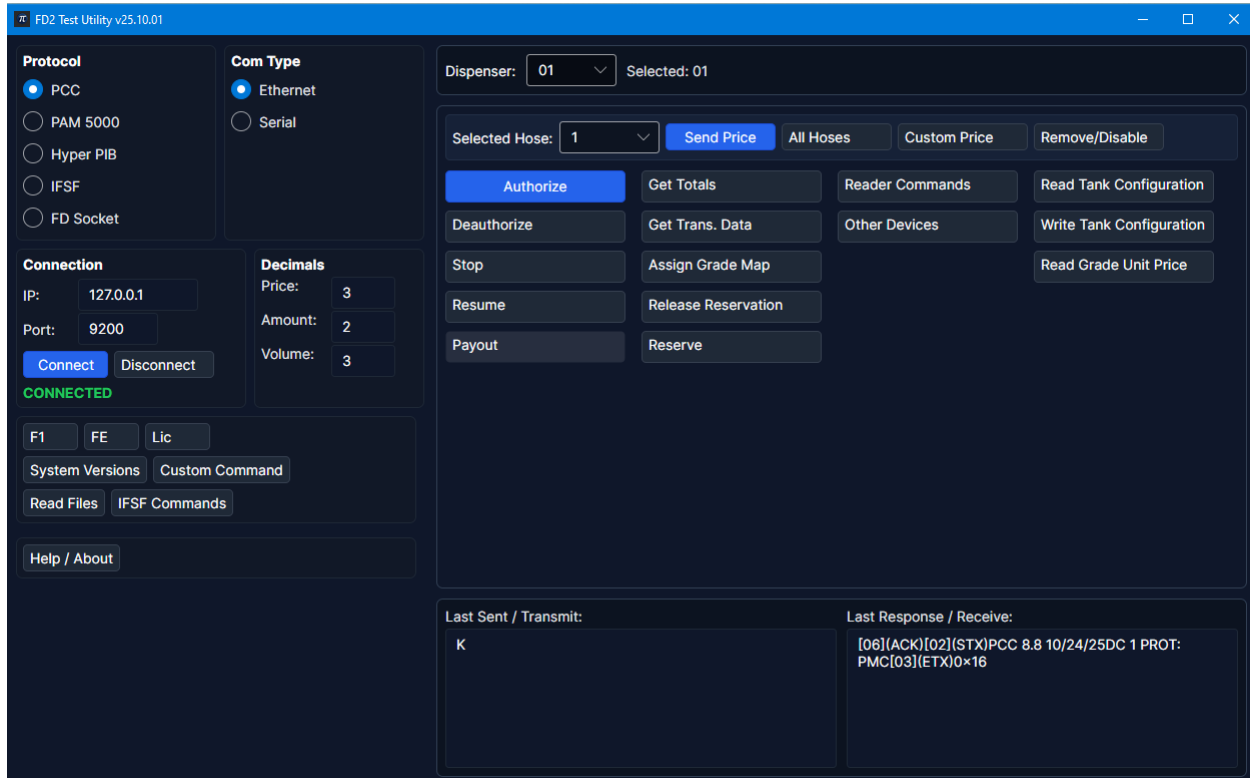


The screenshot displays the FuelDirect 2 GUI. On the left, there is a dark blue sidebar with a fuel pump icon and a small white box containing the number '1'. The main area shows a window titled 'Position Info' with a blue header bar. Below the header, the window displays the following information:

Field	Value
Position	1
Sale Amount	162.12
Sale Volume	145.792
Sale Hose	0
Sale MOP	Credit
Authorized Limit	0.00
Authorized MOP	Unknown
<input checked="" type="checkbox"/> Logged On	<input type="checkbox"/> Authorized
<input type="checkbox"/> Off Hook	<input type="checkbox"/> Armed
<input type="checkbox"/> Fuel Flowing	<input type="checkbox"/> Drive Away
<input type="checkbox"/> Sale Ready	<input type="checkbox"/> Stopped

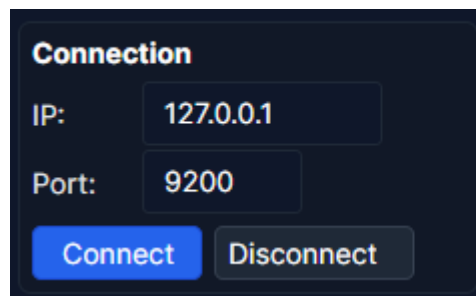
## FD2 Test Utility

FD2TestUtility.exe is a test utility to send commands to FD2 that can connect to FD2 over a socket. This connection can be made from the same PC on which FD2 is installed, or from another PC that is on the same network. There can be multiple FD2TestUtility connections made to the same instance of FD2, with each using a unique port number.



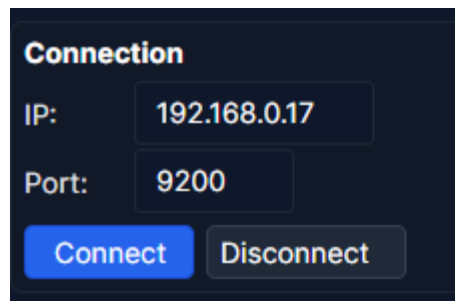
### Connection on the same PC

Set the IP Address to the local host (127.0.0.1) or to the IP Address of the PC. The default Port number is 9200 and is defined in the POS Section of the FD2 Configuration tool.



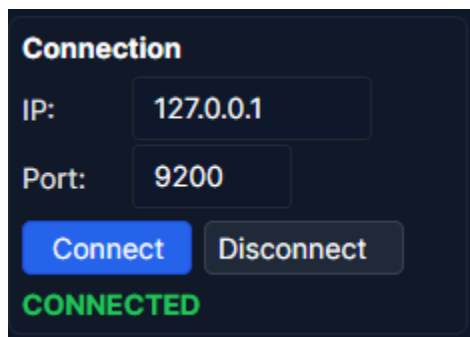
### Connection from another PC on the same network

Set the IP Address to the IP Address of the PC on which FuelDirect 2 is installed. The default Port number is 9200 and is defined in the POS Section of the FD2 Configuration tool.



### Connecting

Once the IP Address and Port numbers are entered, select the Connection Type and adjust the Decimal Point settings if necessary. Press Connect. If the information is correct, the GUI will indicate that it is connected. To disconnect, press Disconnect or close the program by pressing Exit.



### FD2 Test Utility Help

Refer to the Help / About of the FD2 Test Utility for detailed information about the utility. The button to access it is located at the bottom of the left panel.

## FuelDirect 2 as Omega JR Replacement

One of the POS protocols that FD2 uses is PCC. This is the same protocol used in our Omega JR external controller so FD2 could replace an Omega JR. This can be done in 2 ways. The first is to use the Black Box, and the second would be to install FD2 on the POS terminal.

FD2 has advantages over the Omega JR

- Significantly more logging options
- Does not require a physical connection with a laptop and USB cable to access troubleshooting tools.
- Logs could be pulled remotely from FD2 at the same time that the POS manufacturer logs in and pulls logs from their terminal.

### Black Box (Debian Linux)

FD2 can be installed on our Black Box and can be a drop-in replacement for the Omega JR. This option replaces one piece of hardware for another, but gives expanded functionality and access. If there is an internet connection, (which should be available because the POS terminals need it for processing credit card transactions) then PIE can have remote access to it.

Setup:

- Set the POS to use one of the com ports the same as when making a physical connection to the Omega JR
- Connect a Null Modem cable from the POS to COM1 of the Black Box
- In the POS section of the FD2 Configuration, set the POS port to use ttyS0
- Connect a straight-through serial cable from COM2 of the Black Box to the RS232 port of the DBox.
- In the Dispenser section of the FD2 Configuration, set the COM Type to Serial, and select ttyS1 for the Port.

### FD2 installed on POS terminal

This option eliminates a piece of hardware that could potentially be a point of failure. FD2 can connect to the DBox using RS232, so the serial port that previously was going to the POS port of the Omega JR can now be used to connect to the RS232 port of the DBox.

#### Setup:

- The POS port of FD2 can be configured for a serial port, so a null-modem emulator can be used to connect the POS to FD2 without needing to occupy 2 physical com ports.
- Download and install Com0Com.
- When run, it should give a Paired set of Com ports (COM3 and COM6, for example.)
- Set the POS to use one of these com ports (COM3) as normal when making a physical connection to the Omega JR POS Port
- In the POS section of the FD2 Configuration, set the POS port to use COM6.
- Connect a straight-through serial cable from a serial port of the POS Terminal to the RS232 port of the DBox.
- In the Dispenser section of the FD2 Configuration, set the COM Type to Serial, and select the appropriate COM port for the Port.