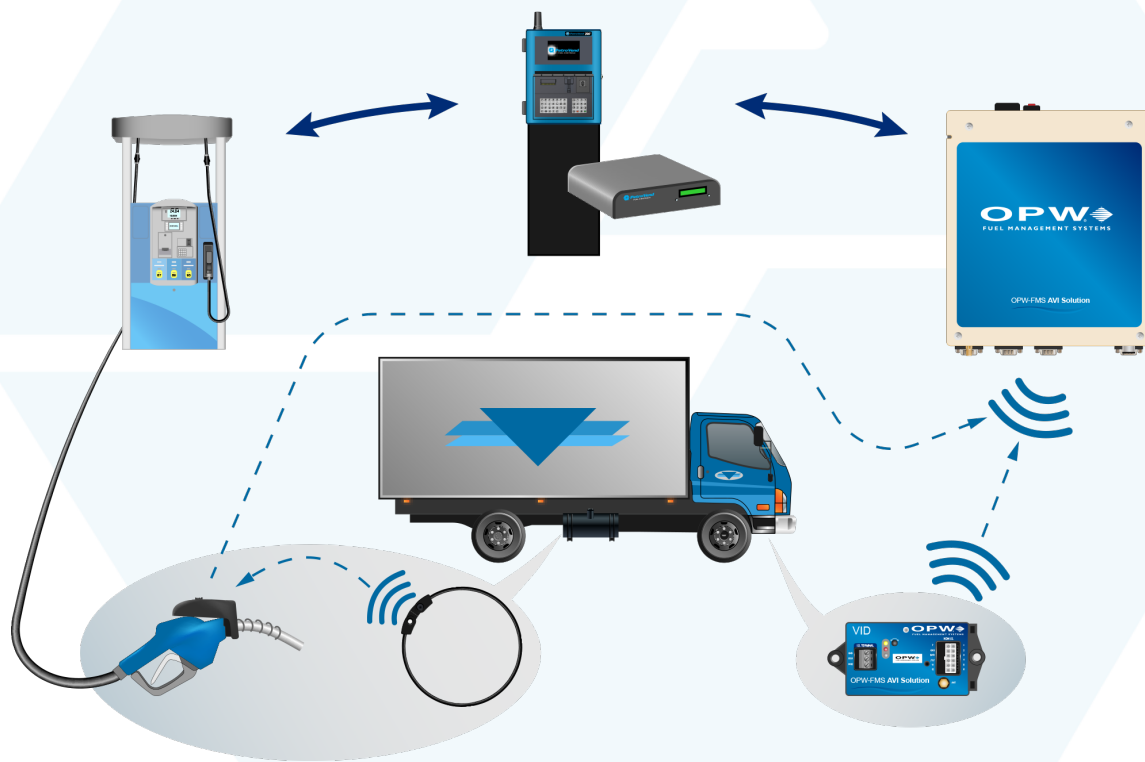


# OPW-FMS AVI Solution



**M1044-TAG -**

**Automatic Vehicle Identification**

Tag Writer Guide



**NOTE:** Before you use this guide, make sure you have the latest revision. Check the revision level of this document against the most current revision found at <http://www.opwglobal.com/opw-fms/tech-support/manuals-how-to-videos>. Download the latest revision if necessary.



OPW Fuel Management Systems is a part of Dover Fueling Solutions.

## Copyright Information

Copyright © 2019 Delaware Capital Formation, Inc. All Rights Reserved. DOVER, the DOVER logo are registered trademarks of Delaware Capital Formation, Inc., a wholly-owned subsidiary of Dover Corporation.

## Contact OPW Fuel Management Systems

Visit us at (missing or bad snippet), or contact us at:

Call 1-877-OPW-TECH (877-679-8324)

For calls outside US and Canada, call +1-708-485-4200

Monday through Friday, 7 a.m. to 6 p.m., US CST

For technician registration, see  
(missing or bad snippet)

For in-depth training via OPW University, see  
(missing or bad snippet)



## Table of Contents

Section 1 Tag Writer Installation .....	5
1.1 Uninstall Previous Versions .....	6
1.1.1 Uninstall for Windows XP .....	6
1.1.2 Uninstall for Windows® 7 .....	7
1.1.3 Uninstall for Windows® 8 .....	9
1.2 Install Tag Writer .....	12
1.3 Configure Tag Writer .....	15
1.3.1 Registration Center Dialog .....	15
1.3.2 Register Tag Writer .....	15
1.3.3 Renew Registration .....	16
1.4 Install Drivers .....	17
1.4.1 Windows XP .....	17
1.4.2 Windows 7 .....	20
1.4.3 Windows 8 .....	23
1.4.3.1 Installation of Drivers .....	24
1.4.4 Unsigned Driver Installations .....	26
1.4.5 Windows 10 .....	31
Section 2 RFN Configuration .....	32
2.1 ARTWare™ AVI Configuration .....	34
2.2 LED Configuration .....	37
2.3 Advanced RFN Configuration .....	39
2.3.1 RFN LED Control .....	39
2.3.2 Time to Shutdown .....	39
2.4 Diagnosis Utility .....	40

2.4.1 General Configurations .....	40
2.4.2 VID Comms Test .....	40
2.4.3 Passive Tag as Inlet Antenna .....	41
2.4.4 Passive Tag Only .....	42
Section 3 Tag Writer Operation .....	43
3.1 Vehicle Identification Device (VID) .....	43
3.1.1 Smart Tag Issuing Unit .....	43
3.1.2 Detect a VID .....	44
3.1.3 Read the VID Information .....	44
3.1.4 Write the VID information .....	44
3.1.5 New Tag Button .....	44
3.2 Passive Tags .....	45
3.2.1 Right Click Menu .....	46
3.2.1.1 GOS Calibration .....	47
3.2.1.2 Site Controller Version Window .....	49
3.2.1.3 VID Version .....	50
3.2.1.4 Nozzle Test .....	50
3.3 VID Calibration .....	50
Appendix A - Re-Register Tag Writer .....	52



## Section 1 Tag Writer Installation

This section shows the procedures necessary to correctly install Tag Writer. If you have Tag Writer installed on your PC you must uninstall the version you have before you can install a new version. If you have not installed Tag Writer on your PC before, you can skip to ["Install Tag Writer" on page 12](#).

Topics in this section include:

- ["Uninstall Previous Versions" on the next page](#)
- ["Install Tag Writer" on page 12](#)
- ["Configure Tag Writer" on page 15](#)
- ["Install Drivers" on page 17](#)
- ["Unsigned Driver Installations" on page 26](#)

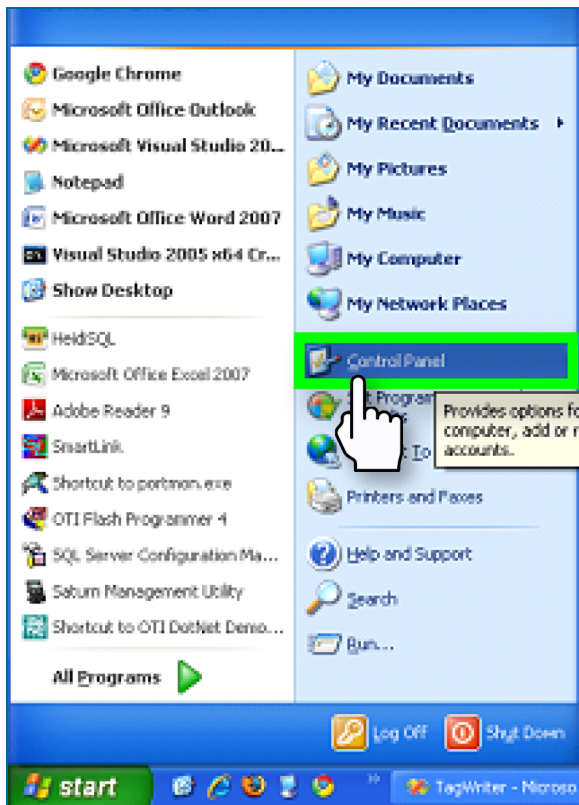
## 1.1 Uninstall Previous Versions

If you have Tag Writer installed on your PC you must uninstall the version you have before you can install a new version. Use the procedure below that is applicable to the Windows® version on your PC.

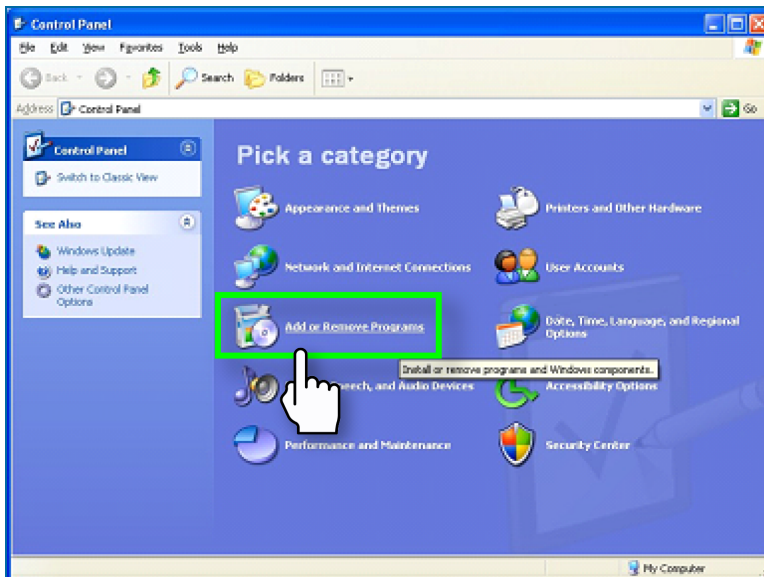
### 1.1.1 Uninstall for Windows XP



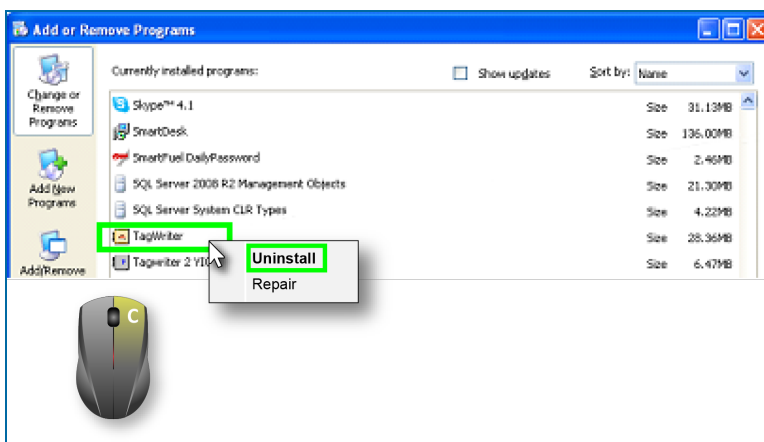
Click the Windows **Start** button in the lower left corner of the screen to open the **Start menu**.



Select **Control Panel**.



Select the **Add or Remove Programs** option.

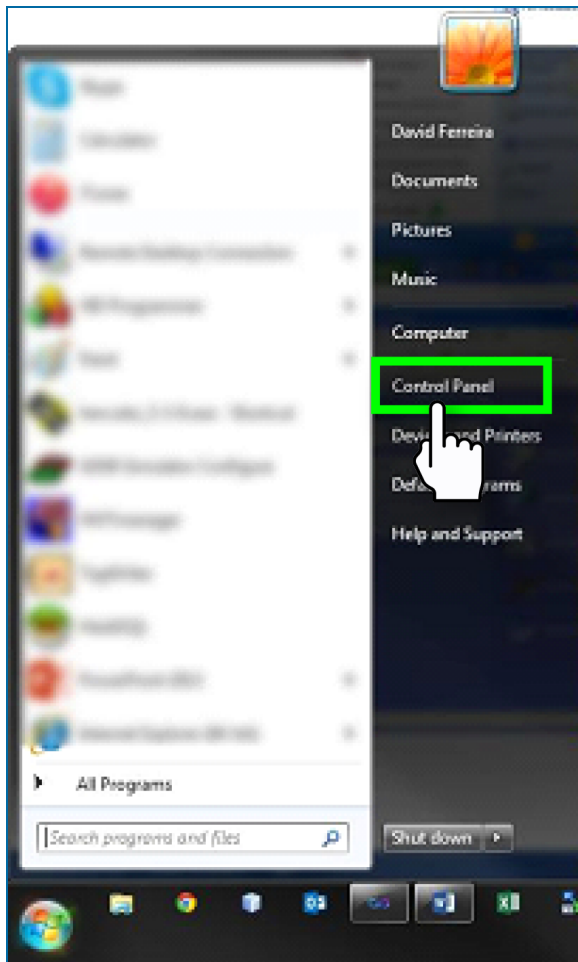


Find **Tag Writer** on the window that comes into view. **Right Click** the file to open an option menu. Select the **Uninstall** option to remove the file.

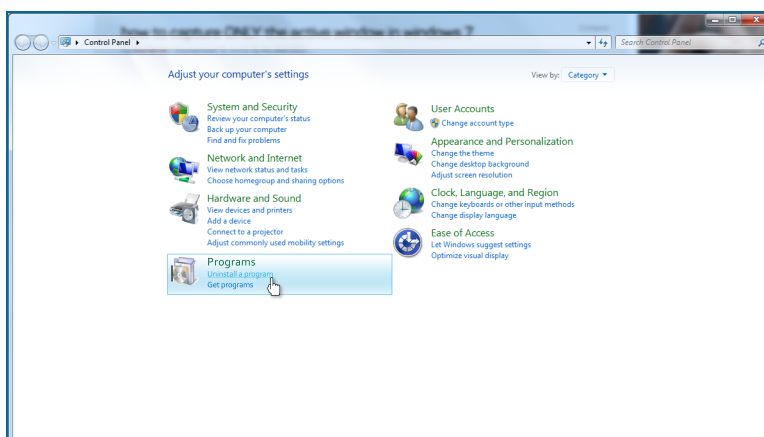
### 1.1.2 Uninstall for Windows® 7



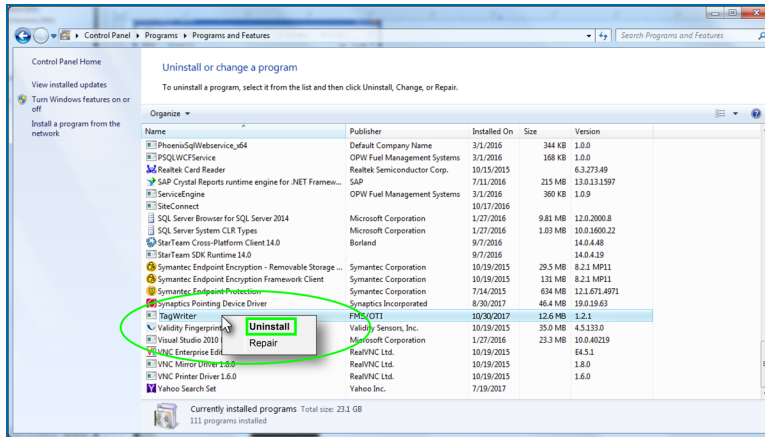
Click the Windows **Start** button in the lower left corner of the screen to open the **Start menu**.



Select **Control Panel**.



Select **Uninstall a program** from the Control Panel window.



Find **Tag Writer** on the window that comes into view. **Right Click** the file to open the option menu. Select the **Uninstall** option to remove the file.

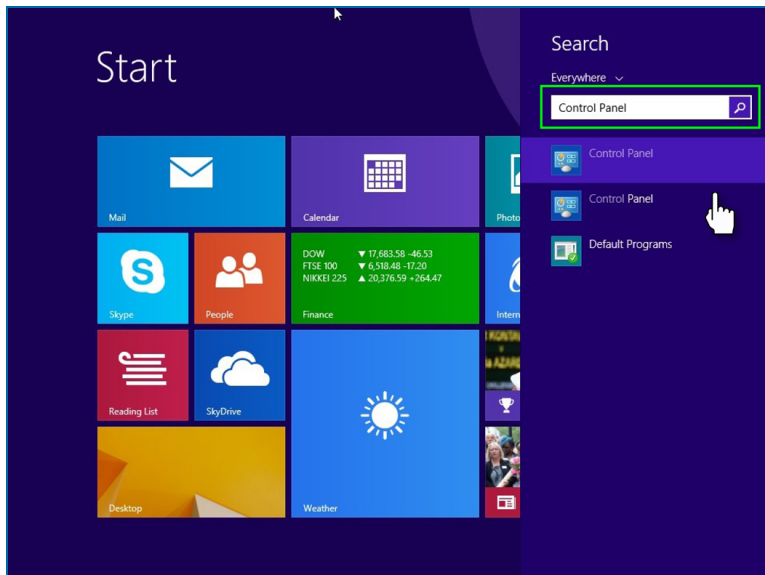
### 1.1.3 Uninstall for Windows® 8



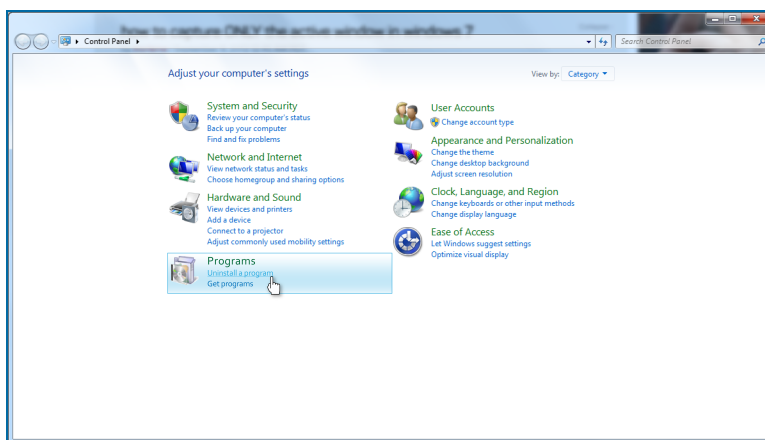
Push the **Windows** key plus the **C** key at the same time. The **Charm Bar** opens.



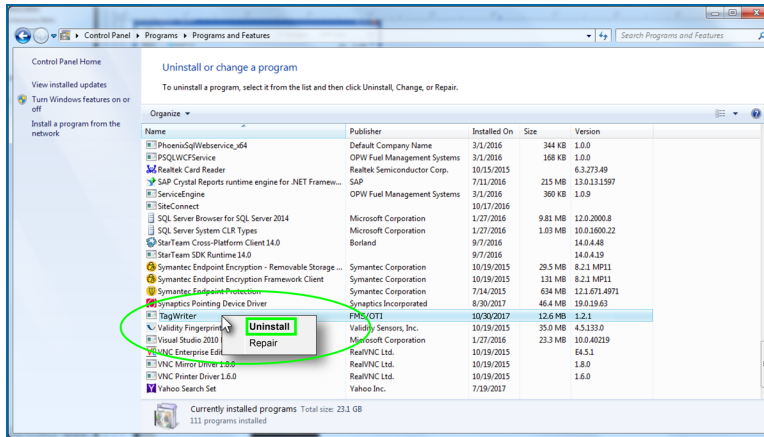
Select the **Search** icon



Type "Control Panel" into the search bar and select the **Control Panel** button when it comes into view.



Select **Uninstall a program** from the Control Panel window.

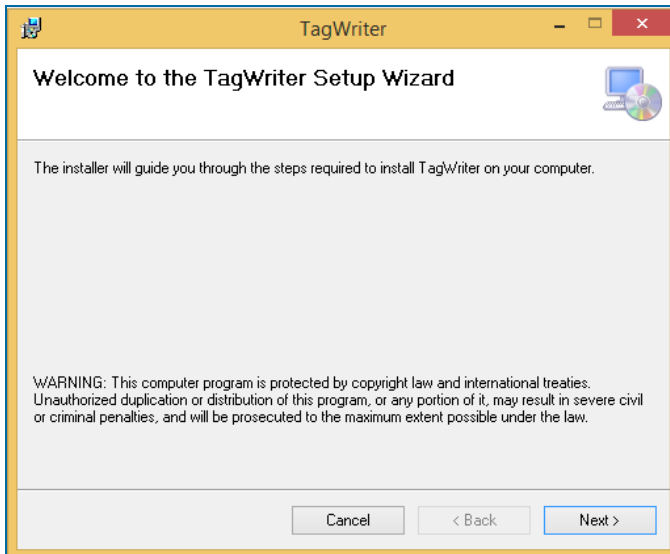


Find **Tag Writer** on the window that comes into view. **Right Click** the file to open an option menu. Select the **Uninstall** option to remove the file.

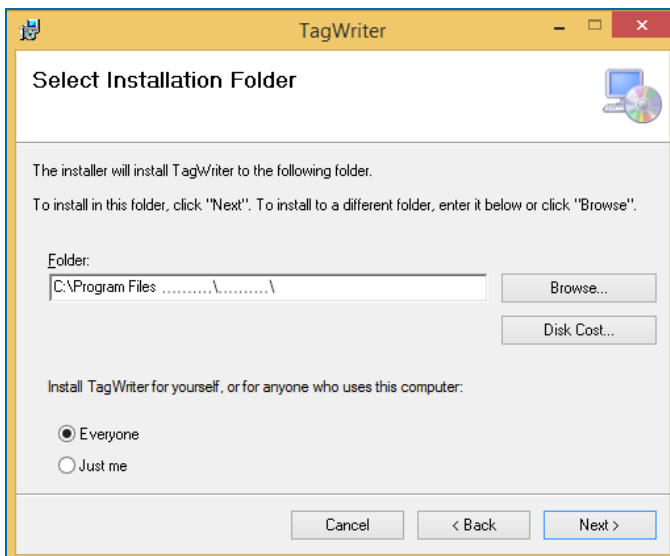
## 1.2 Install Tag Writer

Open the **Tag Writer Installer**.

Select the **setup.exe** file. The **Tag Writer Setup Wizard** comes into view.

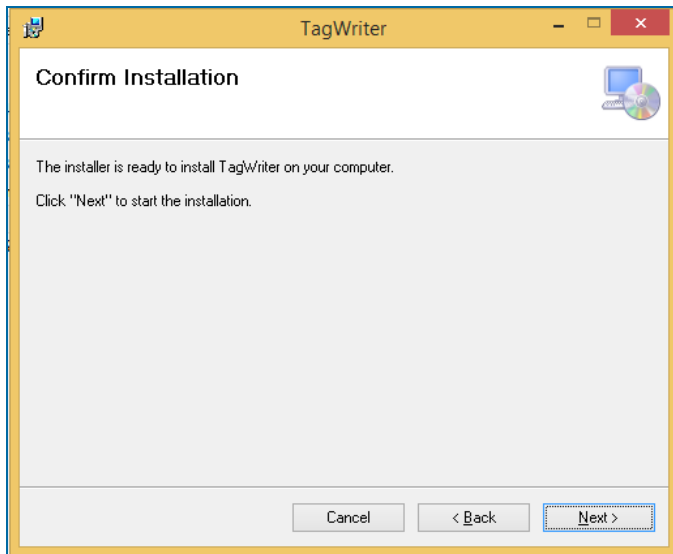


Click **Next**. The **Select Installation Folder** screen comes into view.

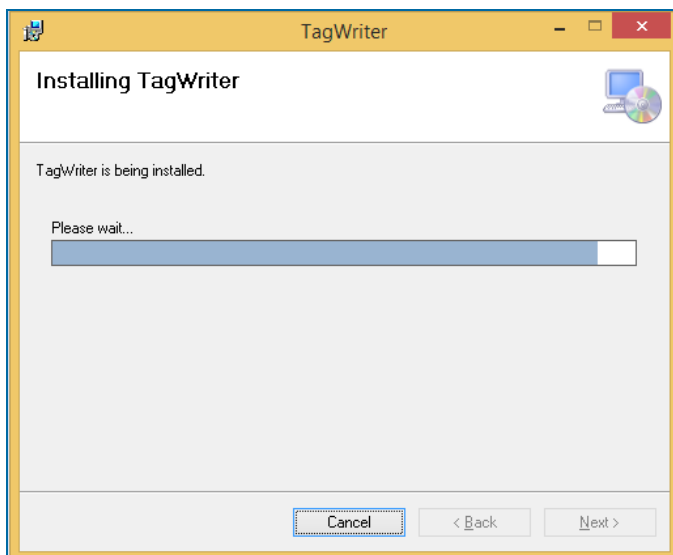


Click **Next**. The **Confirm Installation** screen comes into view.

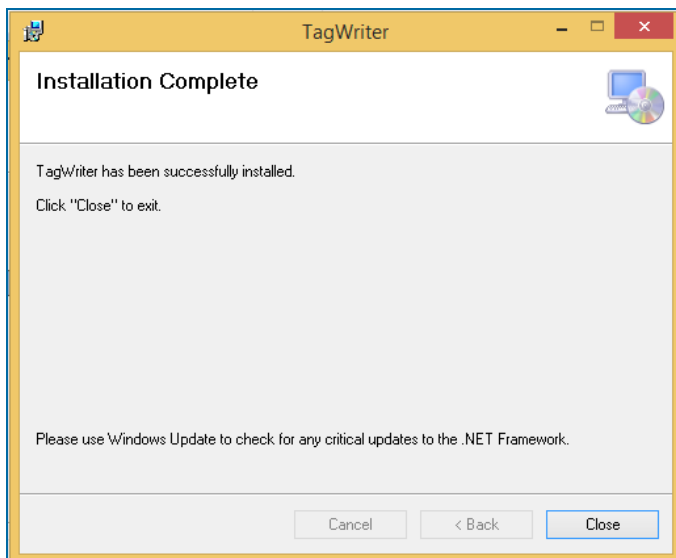




Click **Next**. The **Installing Tag Writer** screen comes into view.



Wait for the installation to complete. When the installation ends, the **Installation Complete** screen comes into view.

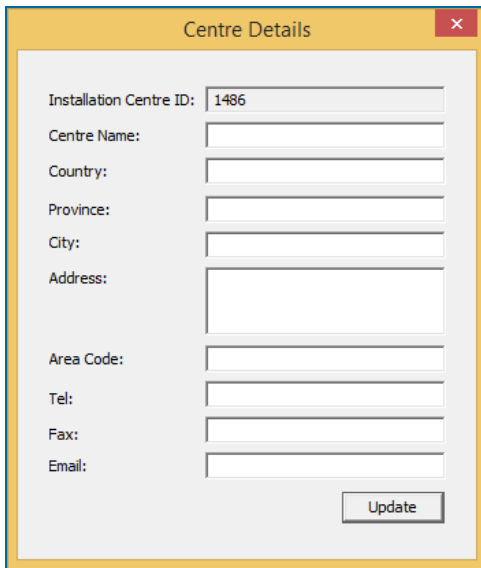


Click **Close**.

## 1.3 Configure Tag Writer

### 1.3.1 Registration Center Dialog

To complete the registration procedure you must be connected to the internet. When you first run the Tag Writer you will be prompted to register yourself as an installation center. You will first see the **Centre Details** screen.



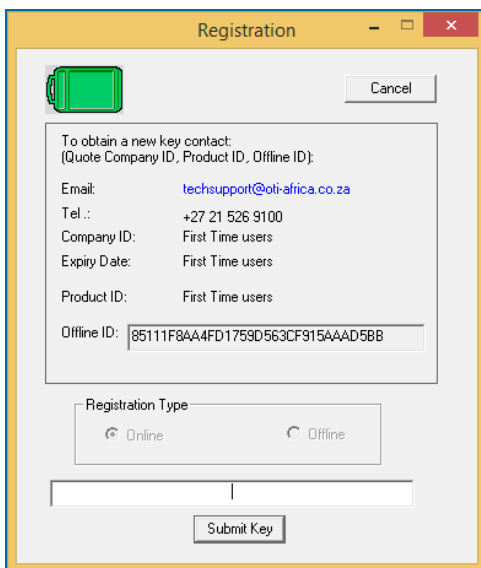
The 'Centre Details' dialog box contains the following fields:

- Installation Centre ID: 1486
- Centre Name:
- Country:
- Province:
- City:
- Address:
- Area Code:
- Tel:
- Fax:
- Email:

An 'Update' button is located at the bottom right of the dialog.

Type the applicable information into the fields. Click **Update**. The Registration screen will come into view.

### 1.3.2 Register Tag Writer



The 'Registration' dialog box contains the following information:

- To obtain a new key contact:**  
(Quote Company ID, Product ID, Offline ID):
- Email: [techsupport@oti-africa.co.za](mailto:techsupport@oti-africa.co.za)
- Tel.: +27 21 526 9100
- Company ID: First Time users
- Expiry Date: First Time users
- Product ID: First Time users
- Offline ID: 85111F8A4FD1759D563CF915AAAD5BB


Below this information, there is a 'Registration Type' section with two radio buttons: 'Online' (selected) and 'Offline'.

At the bottom, there is a blank text field and a 'Submit Key' button.

Note the **Offline ID**. Type this into the blank field at the bottom of the window. Click **Submit Key**.

This will assign a Company ID and a Product ID to be used the next time a registration is required. This original key can be used to assign the Company ID and Product ID even once it has expired. You will then get a message telling you the key has expired. You can then follow the steps below.

### 1.3.3 Renew Registration



The image shows a 'Registration' dialog box with a yellow border. At the top left is a green battery icon. A 'Cancel' button is at the top right. The main text area contains the following information: 'To obtain a new key contact: (Quote Company ID, Product ID, Offline ID):', 'Email: techsupport@oti-africa.co.za', 'Tel.: +27 21 526 9100', 'Company ID: 2', 'Expiry Date: 07-07-2016', 'Product ID: 1', and 'Offline ID: 85111F8AA4FD1759D563CF915AAAD5BB'. Below this is a 'Registration Type' section with two radio buttons: 'Online' (which is selected) and 'Offline'. At the bottom is a 'Submit Key' button.

The next time a registration is necessary, the registration dialog will come up as in the screen above. You will have two options available: an online or offline registration.

#### Online

To use the online method to register you must select the **Online** radio button and then click the **Submit Key** button. A valid key in the AVI database is necessary. If one is not available to you, call, 1-877-OPW-TECH (877-679-8324) and request another. It is recommended that you use this method of registration when you first use the Tag Writer as it will give you a longer period of use before it becomes necessary to re-register.

#### Offline

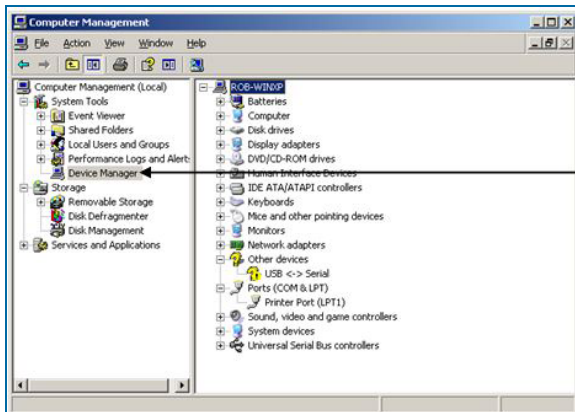
If you cannot use the online registration method you must email your company ID, Product ID and Offline ID to [OPW Fuel Management Systems Technical Support](#). An offline key will be sent to you. Paste this key into the text box that becomes available when you click the **Offline** radio button. Click the **Submit Key** button and you will again be able to use the Tag Writer as usual.

## 1.4 Install Drivers

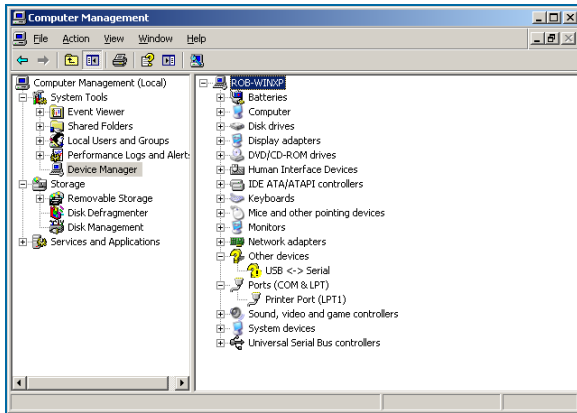
### 1.4.1 Windows XP



Right click **My Computer**. Select **Manage** from the dropdown to open the Computer Management screen.



Select **Device Manager** from the list on the left side of the window.



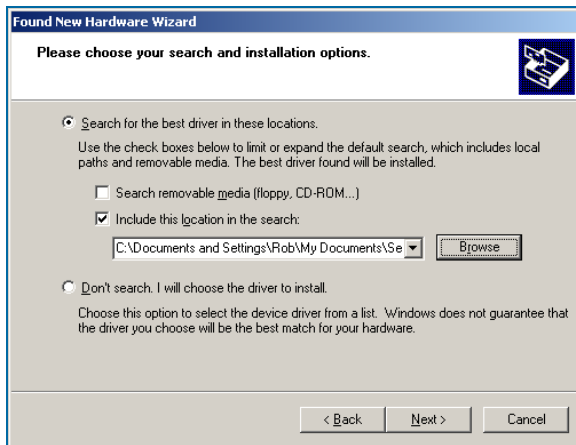
There are 2 sets of drivers that must be installed. Typically, Windows XP installs the site controller (USB Serial Port or Silicon Labs CP210x USB to UART Bridge) for you however it won't install the Saturn 6000 (OTi Reader USB Com Port). If either doesn't get installed correctly they will appear in the device manager under 'Other Device'. If this is the case you need to do the following:



Select 'No, not this time' and click 'Next'.



Select 'Install from a list or specific location (Advanced).'



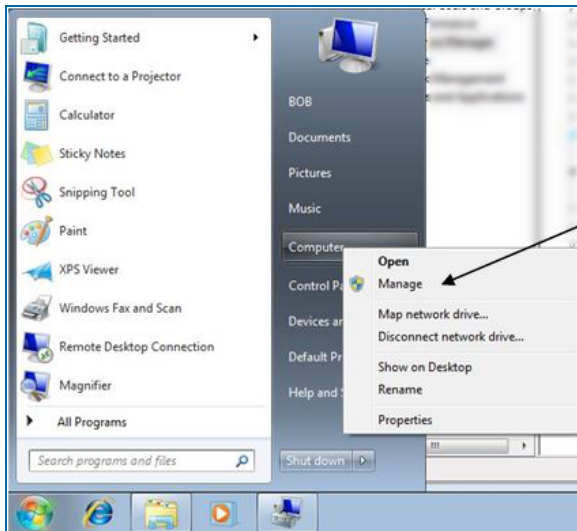
Now select 'Include this location in the search' and deselect 'Search removable media'.

If you know the location of the drivers provided type it in to the text area provided. Alternatively, select 'Browse' and locate the driver folder.

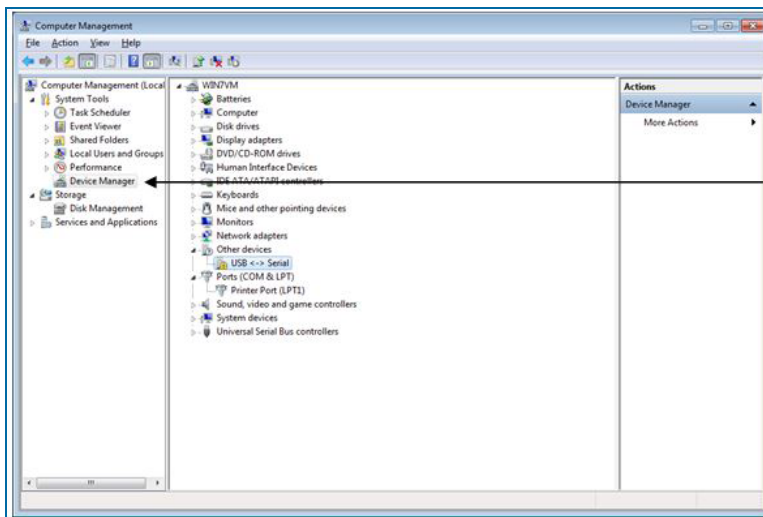


If at any point you get presented with the following dialog, click 'Continue Anyway.'

## 1.4.2 Windows 7

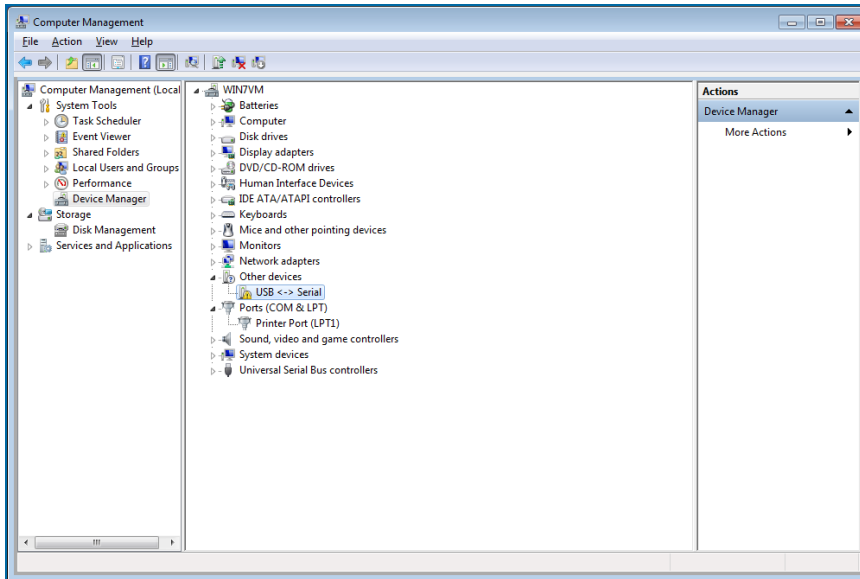


Open device manager by right clicking on 'Computer' and selecting 'Manage.'

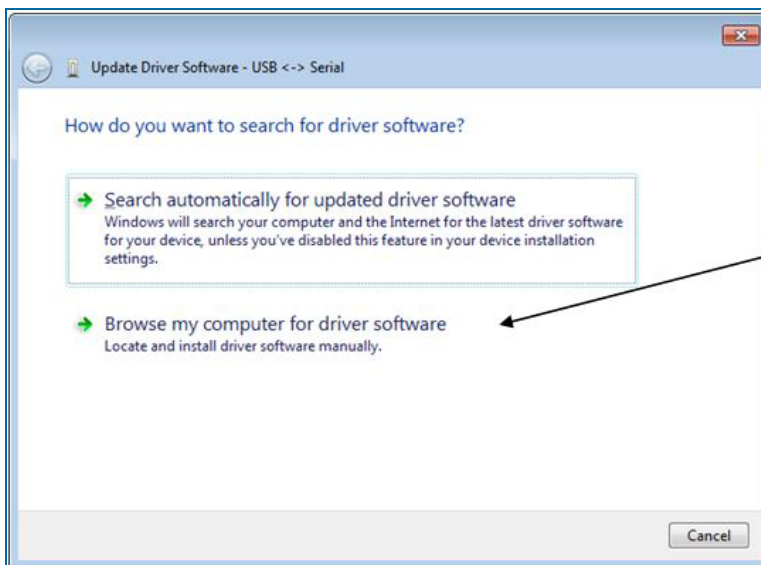


Select Device Manager on the left side of the window.

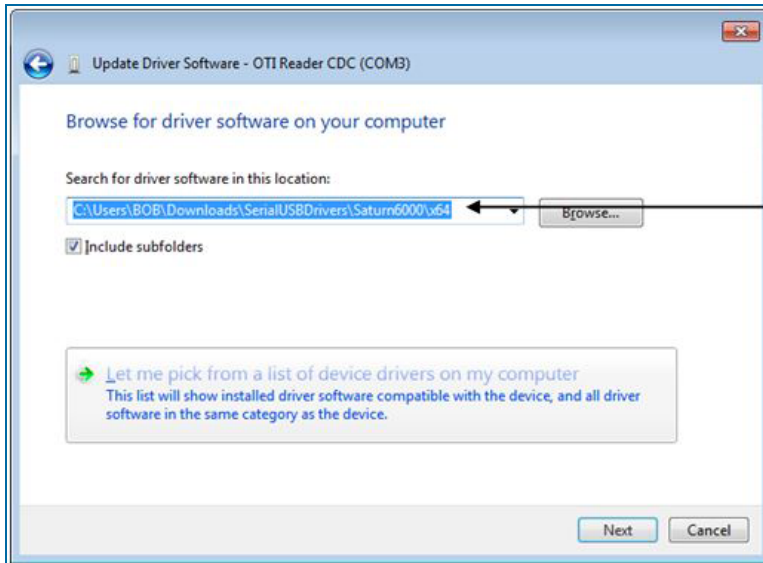




There are 2 sets of drivers we need to install normally Windows 7 installs the site controller (USB Serial Port or Silicon Labs CP210x USB to UART Bridge) for you however it won't install the Saturn 6000 (OTi Reader USB Com Port). If either doesn't get installed correctly they will appear in the device manager under 'Other Device'. If this is the case you need to do the following:



Select 'Browse my computer for driver software.'



If you know the location of the drivers provided type it into the text area provided. Alternatively, select 'Browse' and locate the driver folder.



If the dialog above comes into view, select **Install this driver software anyway**.

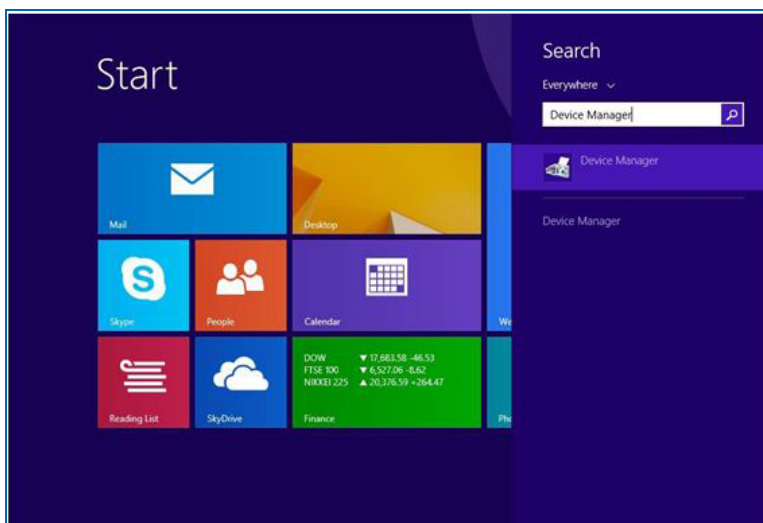
### 1.4.3 Windows 8



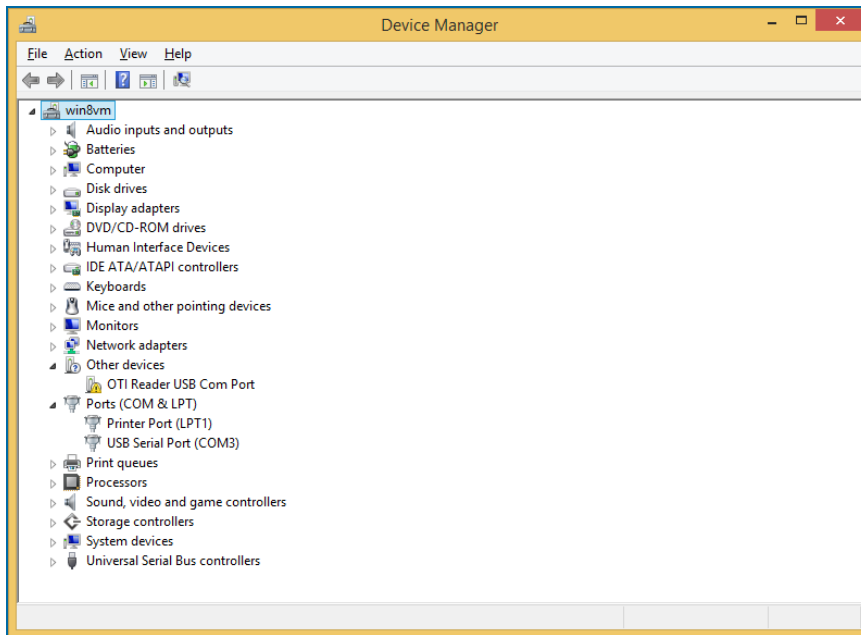
Push the **Windows** key plus the **C** key at the same time. The **Charm Bar** will open.



Select the **Search** icon



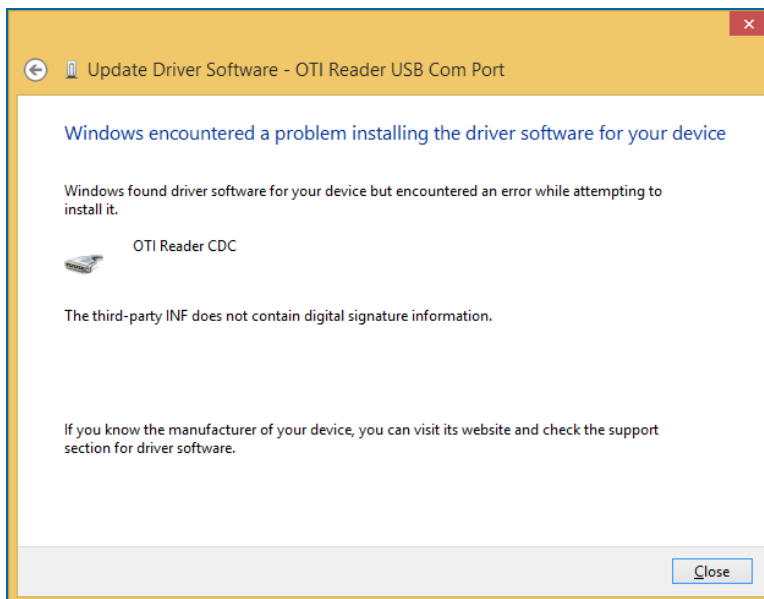
Now type 'Device Manager' into the search bar and select the Control Panel option which appears.



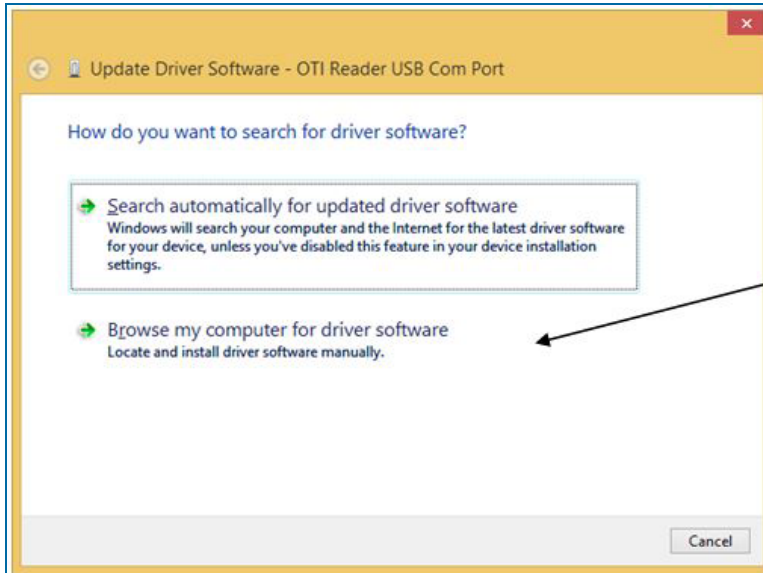
There are 2 sets of drivers we need to install, the normal Windows 8 installs the site controller (USB Serial Port or Silicon Labs CP210x USB to UART Bridge) for you however it won't install the Saturn 6000 (OTI Reader USB Com Port). If either doesn't get installed correctly they will appear in the device manager under 'Other Device'. If this is the case you need to do the following:

### 1.4.3.1 Installation of Drivers

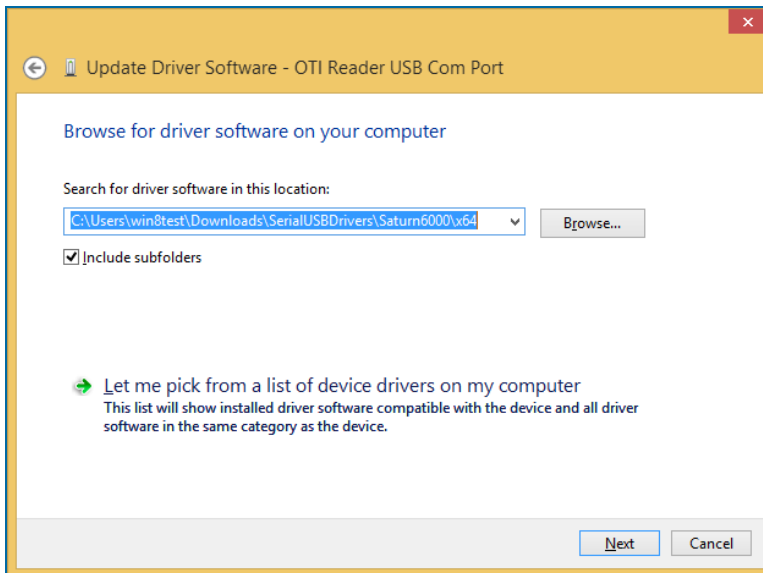
Right click the driver you need to install and select the update driver option.



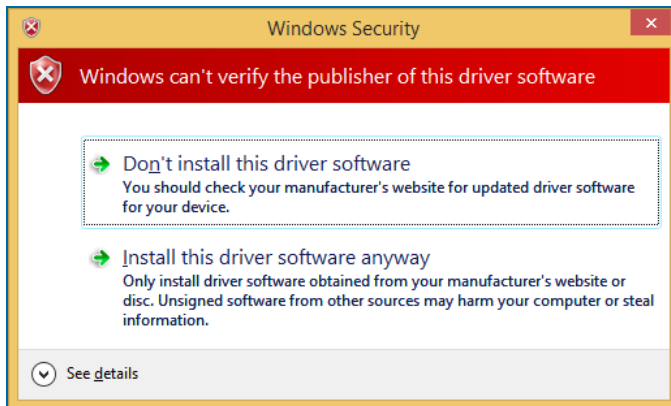
If you encounter the above error message please move onto 'Enabling unsigned driver installations' before returning to the next step.



Select 'Browse my computer for driver software.'



If you know the location of the drivers provided type it in to the text area provided. Alternatively, select 'Browse' and locate the driver folder.



If the dialog above comes into view, select **Install this driver software anyway**.

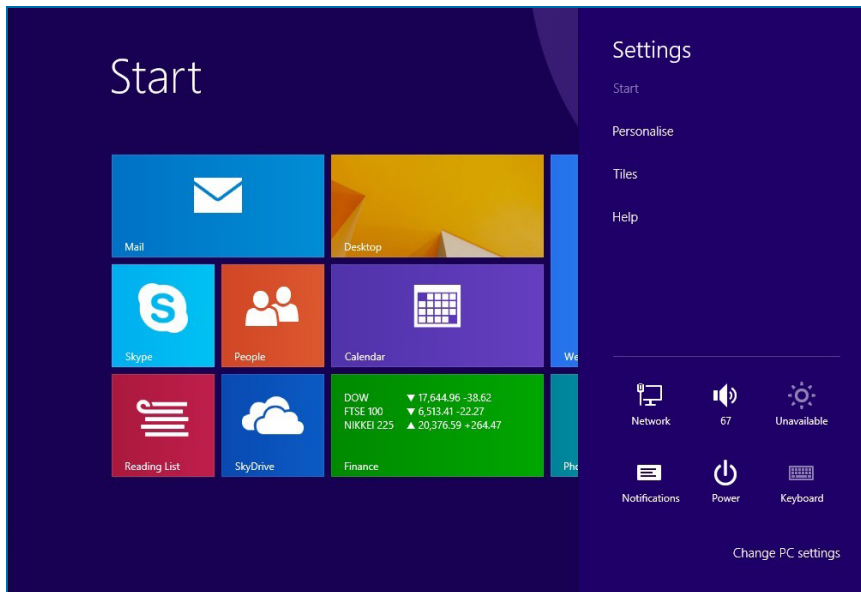
#### 1.4.4 Unsigned Driver Installations



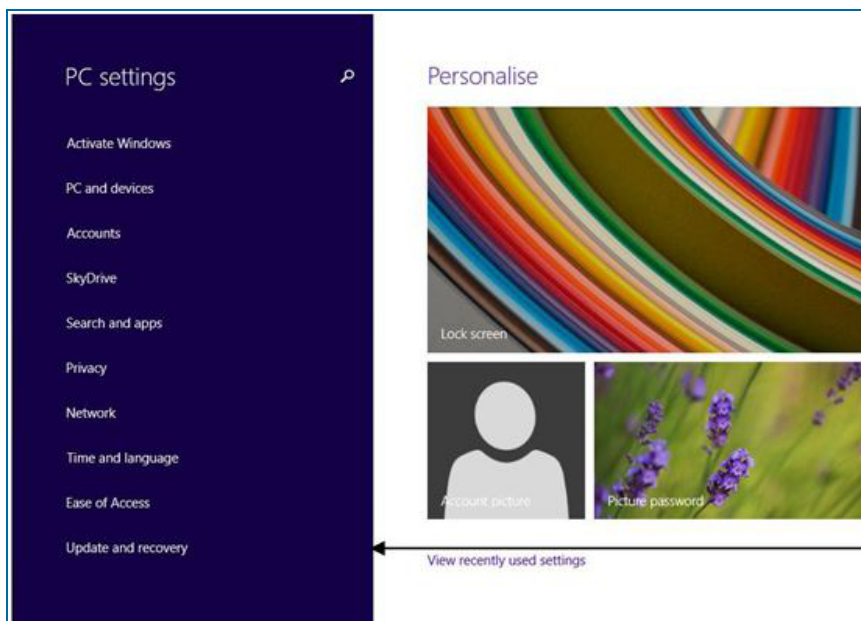
Push the **Windows** key plus the **C** key at the same time. The **Charm Bar** will open.



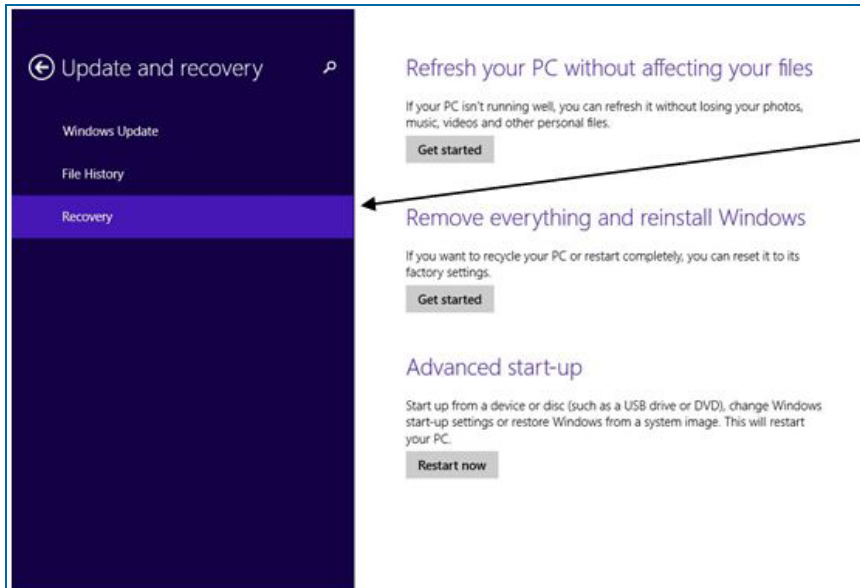
Select Settings from the Charm Bar



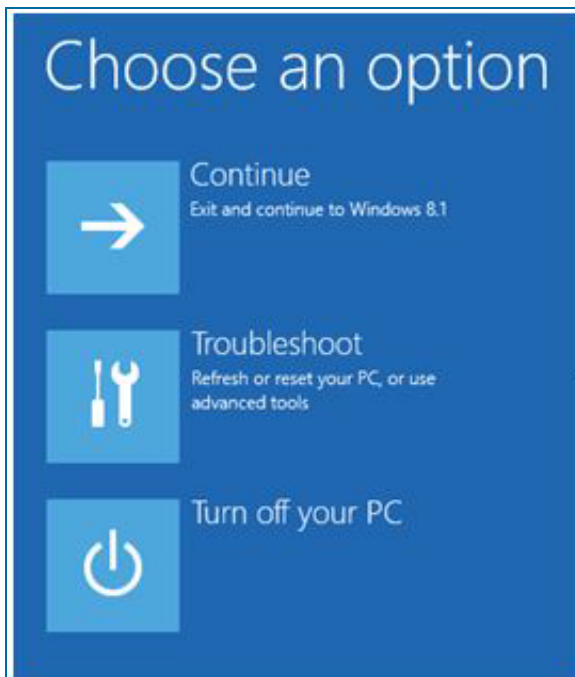
Select 'Change PC Settings' at the bottom right of the screen.



Select 'Update and Recovery' at the bottom of the menu on the left.



Select 'Recovery' from the menu.

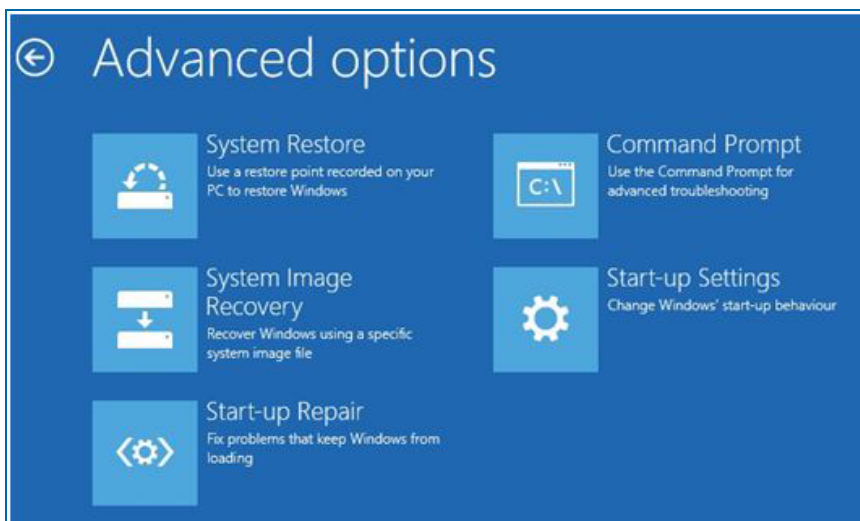


Select 'Troubleshoot.'





Select 'Advanced Options.'



Select 'Start-up Settings.'

## Startup Settings

Press a number to choose from the options below:

Use number keys or functions keys F1-F9.

- 1) Enable debugging
- 2) Enable boot logging
- 3) Enable low-resolution video
- 4) Enable Safe Mode
- 5) Enable Safe Mode with Networking
- 6) Enable Safe Mode with Command Prompt
- 7) Disable driver signature enforcement
- 8) Disable early launch anti-malware protection
- 9) Disable automatic restart after failure

Press F10 for more options

Press Enter to return to your operating system

Push '7' on the keyboard.

You can now return to "Installation of Drivers" on page 24 above.

## 1.4.5 Windows 10

- Click the link below (or copy and paste into a browser) to get the necessary Issuing Unit drivers.

[https://urldefense.proofpoint.com/v2/url?u=https-3A\\_www.dropbox.com\\_sh\\_9w5ed6bv0vpy6m\\_AABZqToW-5Fntg7WkJDH4vs1NRa-3Fdl-3D0-26preview-3DCP210x-5FVCP-5FWindows-5Fnew-5FSC.zip&d=DwMFAg&c=IBOdtJkw7mis4tB3vCHqFQ&r=lwPB971DNGgZC\\_X8FFFYm\\_CpCReG3HNeD5v-2-Z8iCw&m=8VCMnDP9XKP0oQEXymVx9J\\_nfkpUIbGdSni3FsTztjQ&s=el3fZtxN-Cm89VG9halHsKE1dFo\\_jMOIWC2ek9ZKaCg&e=](https://urldefense.proofpoint.com/v2/url?u=https-3A_www.dropbox.com_sh_9w5ed6bv0vpy6m_AABZqToW-5Fntg7WkJDH4vs1NRa-3Fdl-3D0-26preview-3DCP210x-5FVCP-5FWindows-5Fnew-5FSC.zip&d=DwMFAg&c=IBOdtJkw7mis4tB3vCHqFQ&r=lwPB971DNGgZC_X8FFFYm_CpCReG3HNeD5v-2-Z8iCw&m=8VCMnDP9XKP0oQEXymVx9J_nfkpUIbGdSni3FsTztjQ&s=el3fZtxN-Cm89VG9halHsKE1dFo_jMOIWC2ek9ZKaCg&e=)

- You will find the zip folder, **CP210x\_VCP\_Windows\_new\_SC.zip**.
- Click the Download button to save this folder to your PC.
- When the download is complete, extract all files to a new folder on your PC.
- Find the version of Windows 10 (32-bit or 64--bit) that is installed on your PC:



- Right click the Start button.

System

- Click System.

System type      64-bit operating system, x64-based processor

- The System type will come into view
  - If the System type shows the 64-bit operating system, you must install the 64-bit version of the driver: **CP210xVCPInstaller\_x64.exe**.
  - If the System type shows the 32-bit operating system, you must install the 32-bit version of the driver: **CP210xVCPInstaller\_x86.exe**.
- Make sure that the setup files are run as Administrator so that these files are installed correctly.



**NOTE:** If you have a problem with the driver installation, call Tech Support at (877)-679-8324.

## Section 2 RFN Configuration

An instructional video, "AVI - Programming the RFN," is available on the [OPW Global channel](https://www.youtube.com/watch?v=U6cvhWNegpE) on YouTube. Scan the QR code below or use the link to open the video in a browser.

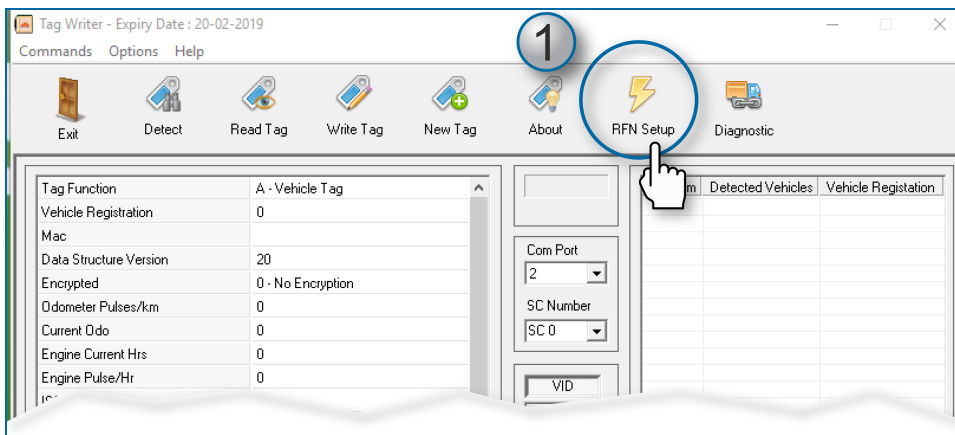


<https://www.youtube.com/watch?v=U6cvhWNegpE>

To do this procedure you must have:

- Tag Writer software
- Issuing Unit
- RFN to be configured

Open the Tag Writer software and make sure that your Issuing Unit is connected to the correct Com Port that shows on the Main Screen.



1. Select **RFN Setup** from the Tag Writer Main Screen. The **RFN Unit Configuration** screen will come into view.

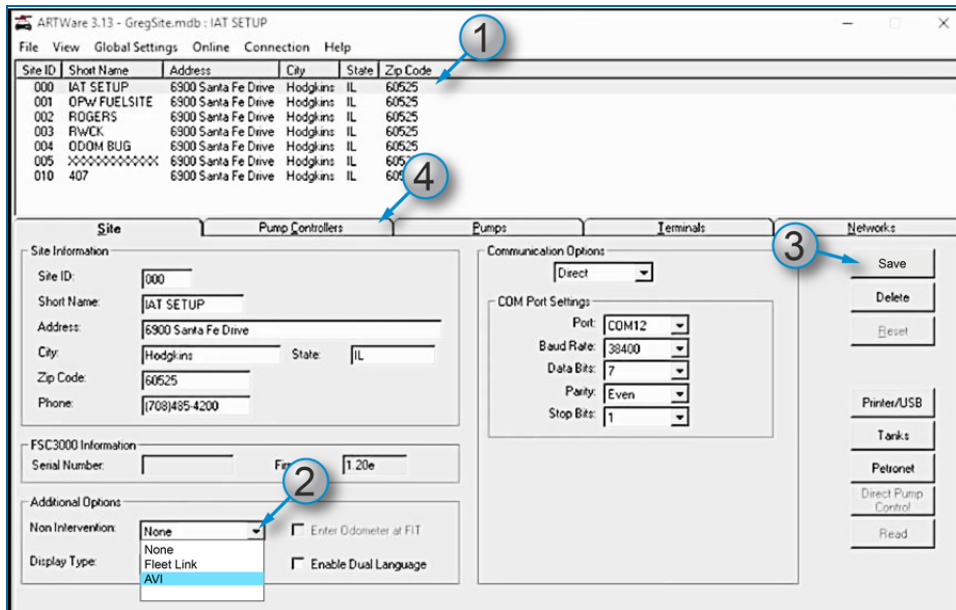
The screenshot shows the 'RF Unit Configuration' window. It contains a table with 'Unit #' and 'Serial #' columns. Below the table is a 'Modify RF Unit Number' section with 'Current' and 'Change to' fields, and a 'Change' button. To the right is a list of parameters (Main, HAL, Service, Utilities, Boot Protocol, Boot, Base) with 'Get' buttons. At the bottom left is a 'Parameters' section with various input fields and 'Get', 'Set', and 'Reset' buttons. At the bottom right are 'Exit' and 'Save & Exit' buttons. A text box at the bottom right says: 'Click the "Save \_Exit" button to write the selected RFN to the RFN text box on the main form'.

2. Select the **Scan** button. Wait for the serial numbers to show in the list (in the top left of the screen).
3. Select the applicable **Serial Number** from the list.
4. In the *Modify RF Unit Number* panel type the correct **Unit Number** into the *Change to* field.
5. Click the **Change** button. The Unit Number adjacent to the applicable Serial Number in the list will change.
6. Click **Exit** to complete the procedure. You can now program the RFN numbers in the Fuel Site Controller.

## 2.1 ARTWare™ AVI Configuration

For more information on ARTWare, refer to the [M3034 ARTWare Fuel Control Software Reference Guide](#).

Open the ARTWare FSC Configuration Utility.



Site ID	Short Name	Address	City	State	Zip Code
000	IAT SETUP	6900 Santa Fe Drive	Hodgkins	IL	60525
001	OPW FUELSITE	6900 Santa Fe Drive	Hodgkins	IL	60525
002	ROGERS	6900 Santa Fe Drive	Hodgkins	IL	60525
003	RWICK	6900 Santa Fe Drive	Hodgkins	IL	60525
004	ODOM BUG	6900 Santa Fe Drive	Hodgkins	IL	60525
005	XXXXXXXXXX	6900 Santa Fe Drive	Hodgkins	IL	60525
010	407	6900 Santa Fe Drive	Hodgkins	IL	60525

Site Information

Site ID: 000  
Short Name: IAT SETUP  
Address: 6900 Santa Fe Drive  
City: Hodgkins State: IL  
Zip Code: 60525  
Phone: (708)485-4200

FSC3000 Information

Serial Number: FSC 1.20e

Additional Options

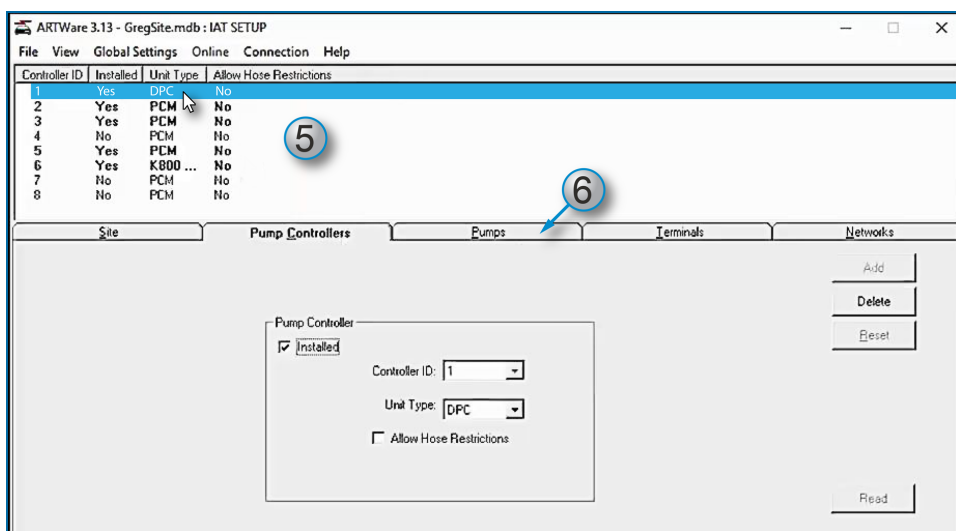
Non Intervention: **AVI** (None, None, Fleet Link, AVI)  
Display Type: None  
Enter Odometer at FIT  
Enable Dual Language

Communication Options

Direct  
COM Port Settings:  
Port: COM12  
Baud Rate: 38400  
Data Bits: 7  
Parity: Even  
Stop Bits: 1

Save  
Delete  
Reset  
Printer/USB  
Tanks  
Petrolnet  
Direct Pump Control  
Read

1. On the "ARTWare" Home Screen, select the **site** to be configured from the list in the top panel.
2. In the *Additional Options* panel, select **AVI** from the *Non Intervention* dropdown.
3. Click **Save**.
4. Select the **Pump Control** tab.



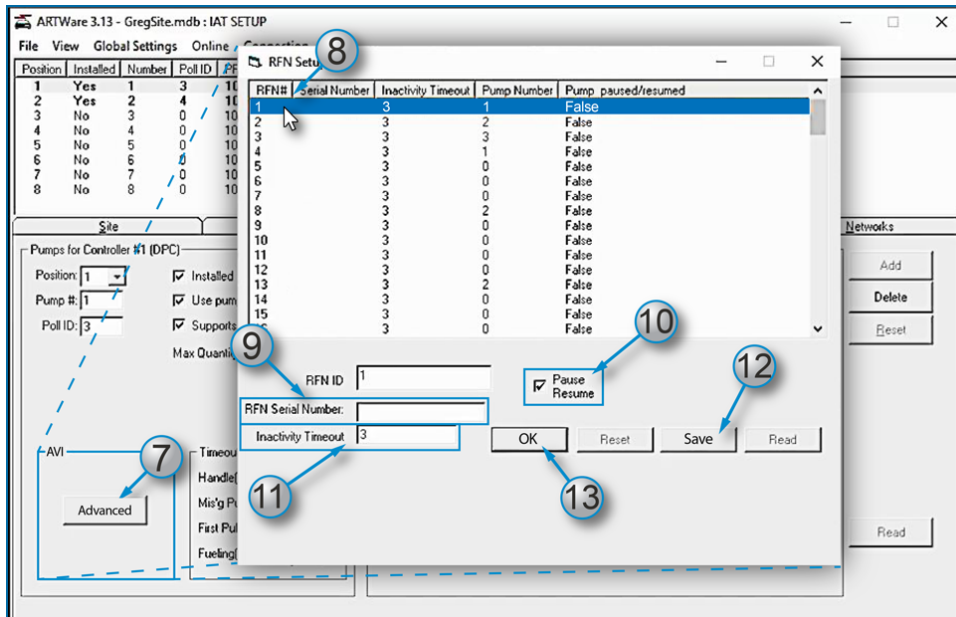
Controller ID	Installed	Unit Type	Allow Hose Restrictions
1	Yes	DPC	No
2	Yes	PCM	No
3	Yes	PCM	No
4	No	PCM	No
5	Yes	PCM	No
6	Yes	KB00 ...	No
7	No	PCM	No
8	No	PCM	No

Pump Controller

☒ Installed  
Controller ID: 1  
Unit Type: DPC  
☐ Allow Hose Restrictions

Add  
Delete  
Reset  
Read

5. In the *Pump Controllers* tab select the applicable **Pump Controller** to be used from the list in the top panel
6. Select the **Pumps** tab.



7. On the Pumps tab, click the **Advanced** button in the AVI panel (in the bottom left of the screen). The "RFN Setup" screen will come into view.
8. Select the applicable **RFN#** to be configured from the list panel.
9. Enter the **Serial Number** of the applicable RFN in the *RFN Serial Number* field.
10. Check the Pause/Resume box if the Pause/Resume option will be used. This option lets the user stop fuel dispensing for a specified time and not close the sale.
11. Enter the applicable (user preference) **interval** (in seconds) for the Pause/Resume option in the *Inactivity Timeout* field. The default value is three (3) seconds to a maximum of 999 seconds.



**NOTE:** Do steps 8 thru 11 again to configure additional RFNs.

12. When all applicable RFNs have been configured, click **Save**.
13. Click **OK** to close the *RFN Setup* screen.



File View Global Settings Online Connection Help

Position	Installed	Number	Poll ID	PPU	MaxQty	Handle TO	Missing Pulse TO	First TO	Fueling TO	Pump Sentry
1	Yes	1	3	100	10	30	60	5	Yes	
2	Yes	2	4	100	10	60	60	10	No	
3	No	3	0	100	10	60	60	10	No	
4	No	4	0	100	10	60	60	10	No	
5	No	5	0	100	10	60	60	10	No	
6	No	6	0	100	10	60	60	10	No	
7	No	7	0	100	10	60	60	10	No	
8	No	8	0	100	10	60	60	10	No	

Site Pump Controllers Pumps Items **Hoses** Networks

Pumps for Controller #1 (DPC)

Position: 1 ☒ Installed  
 Pump #: 1 ☒ Use pump sentry  
 Poll ID: 3 ☒ Supports dollar auth  
 Max Quantity: 100

Timeouts:  
 Handle(sec): 10  
 Miss'g Pulse(sec): 30  
 First Pulse(sec): 60  
 Fueling(min): 5

Advanced

Hoses

	Product Type:	Tank #:	Totalizer:	Totals:	Installed	RFN#
1:	UNLEADED	Tank 1	7.7	7.7	<input checked="" type="checkbox"/>	1
2:	MID-GRADE	Tank 1	0	0	<input checked="" type="checkbox"/>	1
3:	PREMIUM	Tank 1	0	0	<input checked="" type="checkbox"/>	None
4:	UNLEADED	Tank 1	0	0	<input type="checkbox"/>	None
5:	UNLEADED	Tank 1	0	0	<input type="checkbox"/>	None
6:	UNLEADED	Tank 1	0	0	<input type="checkbox"/>	None
7:	UNLEADED	Tank 1	0	0	<input type="checkbox"/>	None
8:	UNLEADED	Tank 1	0	0	<input type="checkbox"/>	None

Send Clear

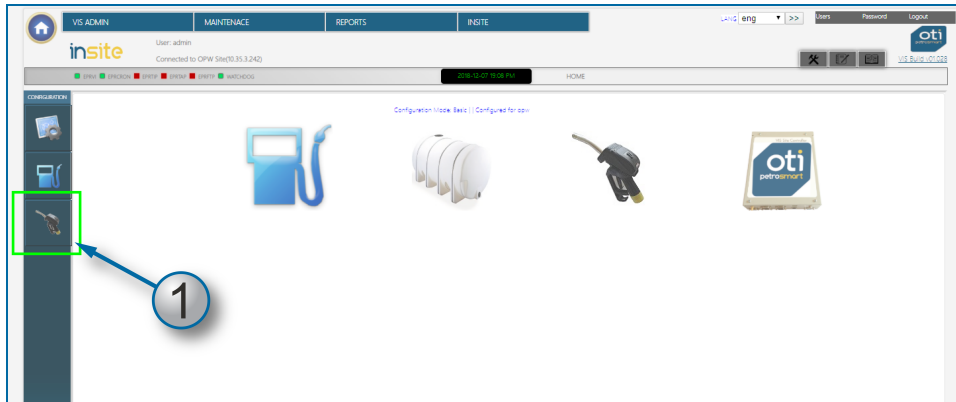
Save Delete Reset Read

14. Back on the *Pumps* tab, Select the applicable **Position number** (Pump) to set up an RFN.
15. In the *Hoses* panel, select the applicable **RFN number** from the *RFN#* drop-down(s) to be used for each of the product types that have been defined. All configured RFN numbers will be shown in the drop-down list.
16. Click the **Save** button to complete the RFN configuration in ARTWare.

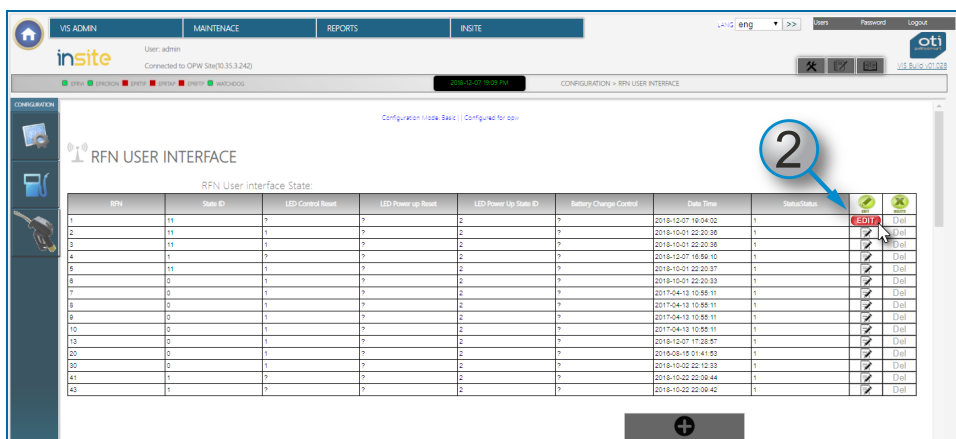


## 2.2 LED Configuration

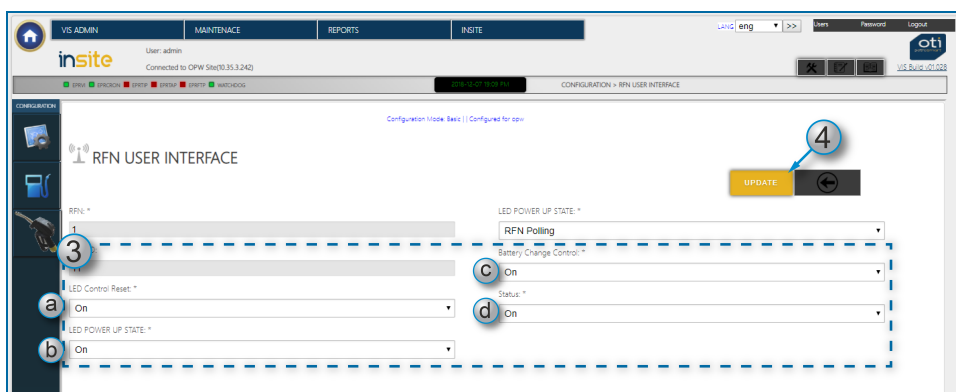
Log in to InSite and do the steps in the procedure that follows.



1. Select the **RFN** button on the ribbon on the left side of the screen.



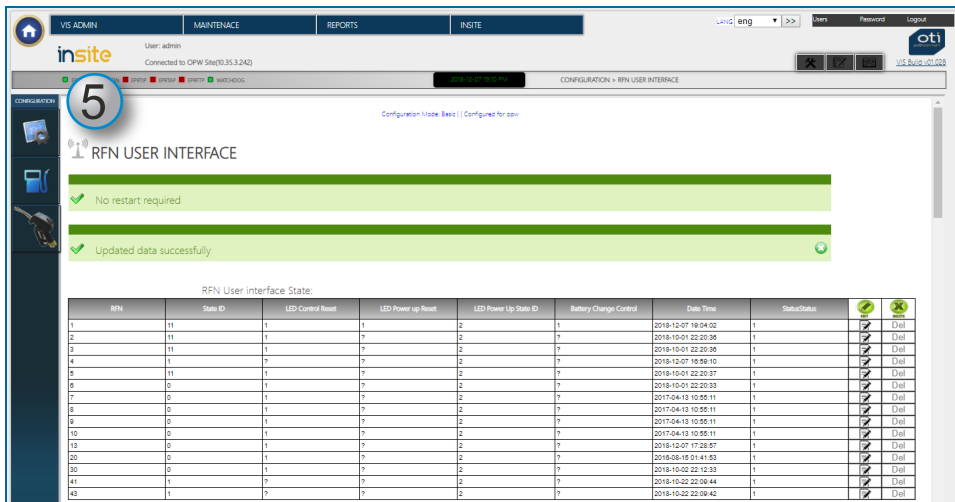
2. Select the **Edit** button for the applicable *RFN number* (the icon will change to a red Edit button when clicked and the screen that follows will come into view).



3. Make sure that **ON** is selected in the dropdown for each of these fields:

- a. LED Control Reset
- b. LED POWER UP STATE
- c. Battery Change Control
- d. Status

4. Click the **UPDATE** button.



The screenshot shows the 'insite' web interface for 'RPN USER INTERFACE'. It displays two green status messages: 'No restart required' and 'Updated data successfully'. Below these is a table titled 'RFN User Interface State'.

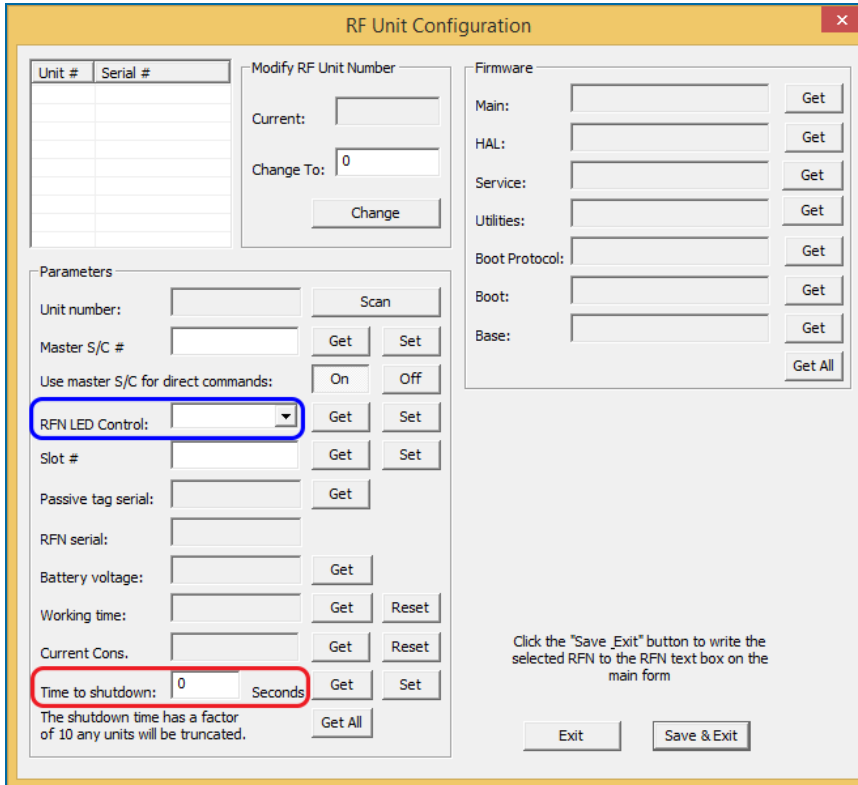
RPN	State ID	LED Control Reset	LED Power up Reset	LED Power Up State ID	Battery Change Control	Date Time	Status	Actions
1	11	1	1	2	1	2018-12-07 18:04:02	1	✓
2	11	1	?	?	?	2018-10-01 22:20:36	1	✗
3	11	1	?	?	?	2018-10-01 22:20:36	1	✗
4	11	?	?	?	?	2018-10-07 16:55:10	1	✗
5	11	1	?	?	?	2018-10-01 22:20:37	1	✗
6	0	1	?	?	?	2018-10-01 22:20:33	1	✗
7	0	1	?	?	?	2017-04-13 10:55:11	1	✗
8	0	1	?	?	?	2017-04-13 10:55:11	1	✗
9	0	1	?	?	?	2017-04-13 10:55:11	1	✗
10	0	1	?	?	?	2017-04-13 10:55:11	1	✗
13	0	1	?	?	?	2018-12-07 17:28:57	1	✗
20	0	1	?	?	?	2018-08-16 01:41:53	1	✗
30	0	1	?	?	?	2018-10-02 22:12:33	1	✗
41	1	?	?	?	?	2018-10-02 22:09:44	1	✗
49	1	?	?	?	?	2018-10-02 22:09:42	1	✗

5. The two messages above will show (No Restart Required, Updated data successfully).



**NOTE:** A question mark (?) in a field shows that the software has not completed a query of that parameter. This is normal.

## 2.3 Advanced RFN Configuration



The screenshot shows the 'RF Unit Configuration' window. It contains several sections: a table for 'Unit #' and 'Serial #', a 'Modify RF Unit Number' section with 'Current' and 'Change To' fields, a 'Parameters' section with various input fields and buttons, and a 'Firmware' section with multiple 'Get' buttons. The 'RFN LED Control' dropdown is highlighted with a blue box, and the 'Time to shutdown' field is highlighted with a red box.

**Unit #** | **Serial #**

Modify RF Unit Number

Current:

Change To:

Change

Parameters

Unit number:  Scan

Master S/C #:  Get Set

Use master S/C for direct commands: On Off

RFN LED Control:  Get Set

Slot #:  Get Set

Passive tag serial:  Get

RFN serial:

Battery voltage:  Get

Working time:  Get Reset

Current Cons.  Get Reset

Time to shutdown:  Seconds Get Set

The shutdown time has a factor of 10 any units will be truncated.

Get All

Firmware

Main:  Get

HAL:  Get

Service:  Get

Utilities:  Get

Boot Protocol:  Get

Boot:  Get

Base:  Get

Get All

Click the "Save \_Exit" button to write the selected RFN to the RFN text box on the main form

Exit Save & Exit

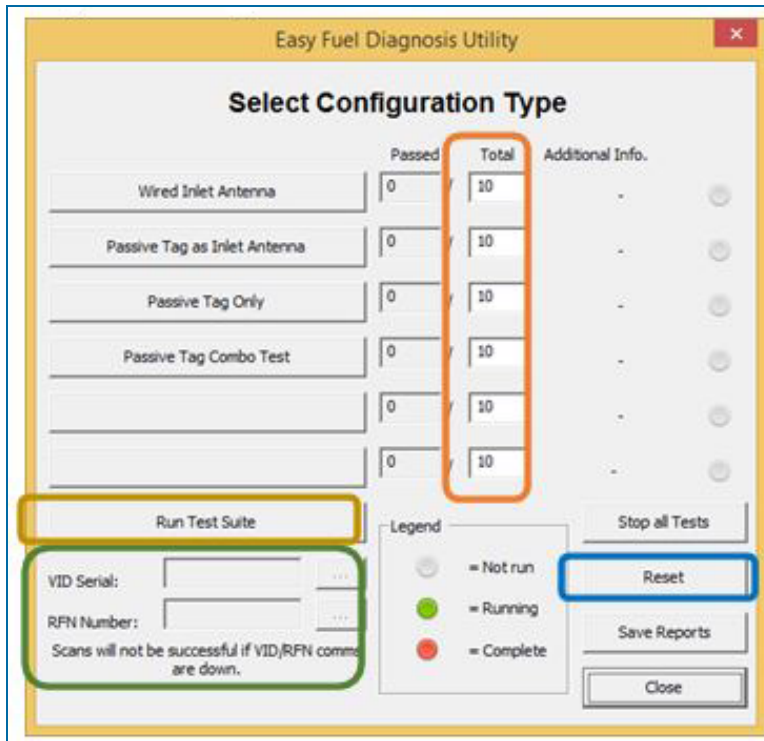
### 2.3.1 RFN LED Control

Select option 2, **External LED Control**.

### 2.3.2 Time to Shutdown

The RFN takes this many seconds to shut down. The timer is reset since the last time something changed the state of the RFN (movement or a command). If you find the RFN is shutting down during transactions, this option should be increased.

## 2.4 Diagnosis Utility



	Passed	Total	Additional Info.
Wired Inlet Antenna	0	10	-
Passive Tag as Inlet Antenna	0	10	-
Passive Tag Only	0	10	-
Passive Tag Combo Test	0	10	-
	0	10	-
	0	10	-

Run Test Suite

VID Serial:

RFN Number:

Scans will not be successful if VID/RFN comms are down.

Legend

- ☐ = Not run
- ☐ = Running
- ☐ = Complete

Stop all Tests

Reset

Save Reports

Close

The dialog above is used by an installer to diagnose a communications issue on site.

### 2.4.1 General Configurations

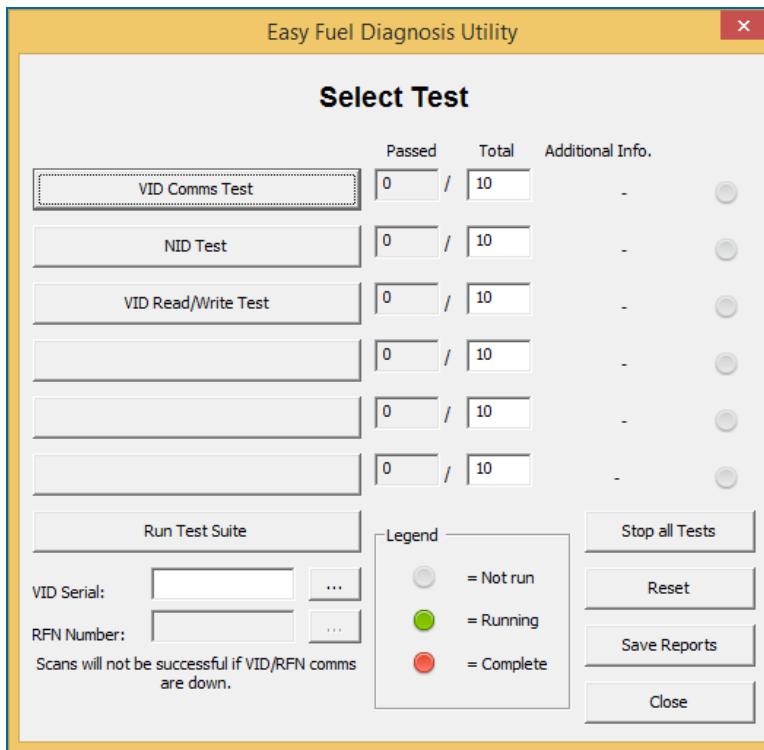
- The number of times a test occurs is calculated by the total number of text boxes.
- You must specify the VID and/or the RFN to be used before you can start the test. The applicable text box(es) become available when you select the Test Suite.
- Make sure all proximity devices are in range of their applicable antennas before doing a full suite of tests.
- You can only do one test at a time. Other actions cannot be done while a test is in progress.
- If a Test or Test Suite must be stopped, click the **Stop all Tests** button.
- Click the **Save Report** button to save test information.
- Click the **Reset** button to reset the form and all saved tests. Make sure all necessary tests are saved before you reset so important data is not removed.

### 2.4.2 VID Comms Test

1. The **VID Comms Test** does a check on the communication between the site controller and the VID.

2. The **NID Test** tests the function of the NID. This test communicates the NID's serial number through the VID and if the VID give a result to the Site Controller the test fails.
3. **VID Read/Write** tests if the VID can keep and return data to the host PC. This procedure reads the data off of the VID and then writes the read data back to the VID.

## 2.4.3 Passive Tag as Inlet Antenna



	Passed	Total	Additional Info.
VID Comms Test	0	10	-
NID Test	0	10	-
VID Read/Write Test	0	10	-
	0	10	-
	0	10	-
	0	10	-

Run Test Suite

VID Serial:  ...

RFN Number:  ...

Scans will not be successful if VID/RFN comms are down.

Legend

- ☐ = Not run
- ☒ = Running
- ☐ = Complete

Stop all Tests

Reset

Save Reports

Close

1. The **VID Comms Test** tests the communication between the site controller and the VID.
2. The **RFN Comms Test** tests the communication between the site controller and the RFN.
3. The **Passive Tag Comms Test** tests the communication between the site controller and passive tag through the RFN.
4. **VID Read/Write** tests if the VID can keep and return data to the host PC. This procedure reads the data off of the VID and then writes the read data back to the VID.
5. The **RFN Signal Test** gets the signal strength of the RFN and shows the average signal during the test.
6. The **VID Serial via Passive Tag** continuously does a check to make sure that the serial number of the passive tag is in the memory of the VID.

## 2.4.4 Passive Tag Only

Test Name	Passed	Total	Additional Info.
RFN Signal Test	0	10	-
RFN Comms Test	0	10	-
Passive Tag Comms Test	0	10	-
Passive Tag Read/Write Test	0	10	-
	0	10	-
	0	10	-

Run Test Suite

VID Serial:  ...

RFN Number:  ...

Scans will not be successful if VID/RFN comms are down.

Legend:

- ☐ = Not run
- ☒ = Running
- ☐ = Complete

Stop all Tests

Reset

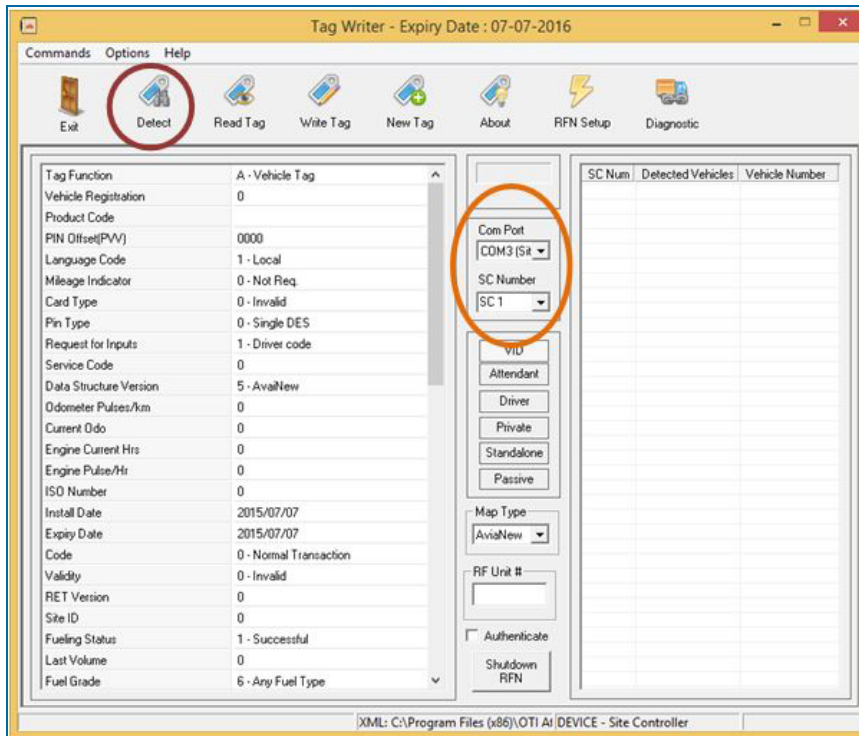
Save Reports

Close

1. The **RFN Signal Test** gets the signal strength of the RFN and shows the average signal during the test.
2. The **RFN Comms Test** tests the communication between the site controller and the RFN.
3. The **Passive Tag Comms Test** tests the communication between the site controller and passive tag through the RFN.
4. The **Passive Tag Read/Write Test** is used to do a check of the passive tag to make sure it can read and write data.

## Section 3 Tag Writer Operation

### 3.1 Vehicle Identification Device (VID)

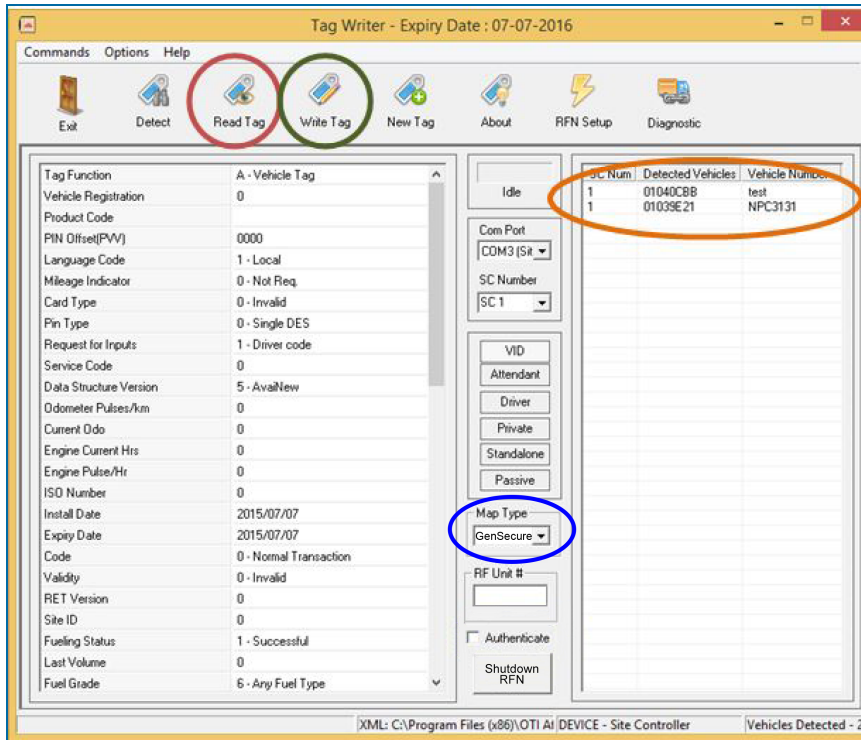


#### 3.1.1 Smart Tag Issuing Unit

To edit a VID from the Tag Writer you must have a site controller connected. Select the site controller from the Com Ports combo box that is populated during the initialization.

### 3.1.2 Detect a VID

Click the **Detect** button. The Tag Writer detects all powered VID's in range and shows them in the list on the right side of the main window.



### 3.1.3 Read the VID Information

Select the applicable VID from the list on the right panel, right click and select **Read** from the dropdown or click the **Read Tag** button on the toolbar. This populates the memory map on the left panel with the information currently stored on the tag.

The correct memory map automatically loads when you read a tag/VID. However, the Tag Writer loads information from the tag so if the tag is new and/or doesn't have correct information an incorrect memory map can be loaded. You must manually select the Map Type from the options in the middle of the main window.

### 3.1.4 Write the VID information

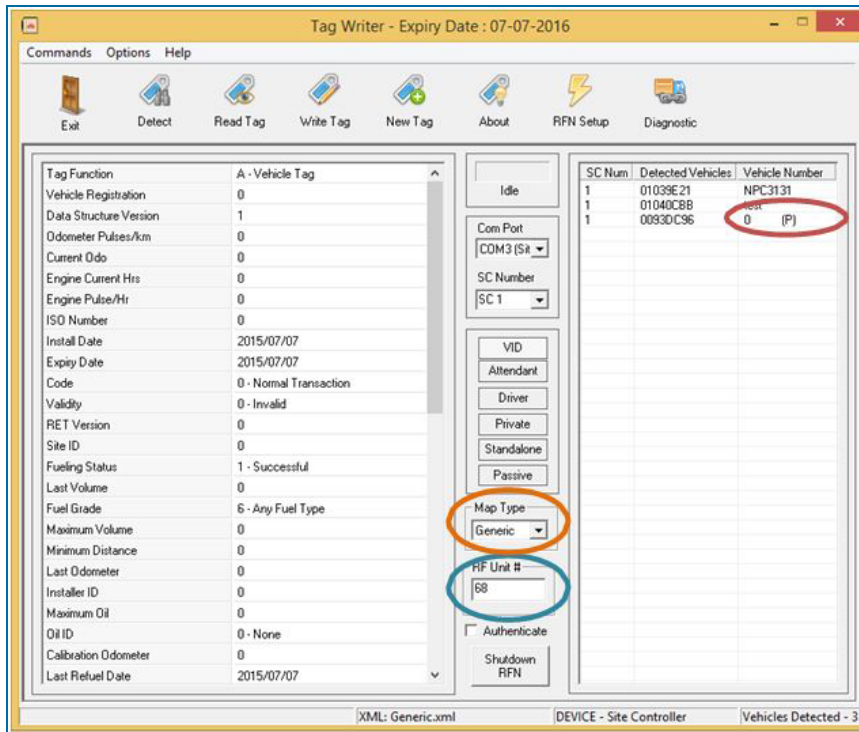
When the tag has been read you can change the information that is necessary for the VID. When complete, right click the same tag and select the **Write** option or click the **Write** button on the toolbar.

### 3.1.5 New Tag Button

This button is not used at this time.



## 3.2 Passive Tags



SC Num	Detected Vehicles	Vehicle Number
1	01039E21	NPC3131
1	01040C8B	0 (P)
1	0093DC96	

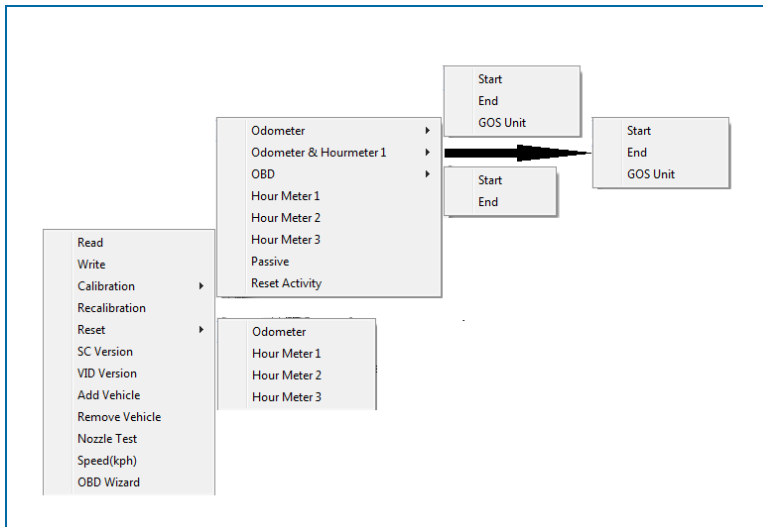
The passive tags operate in much the same way as the VID however when the tag is detected you need to enter the **RFN number** into the *RFN Unit #* text box. When a passive tag is detected the registration number has a **(P)** added to the end.

Push the **Shutdown RFN** button to shut down all RFNs not in use.



**NOTE:** When Tag Writer is closed it automatically shuts down the last RFN used. It should be standard procedure to manually shut down RFNs not in use to make sure that they are off.

### 3.2.1 Right Click Menu



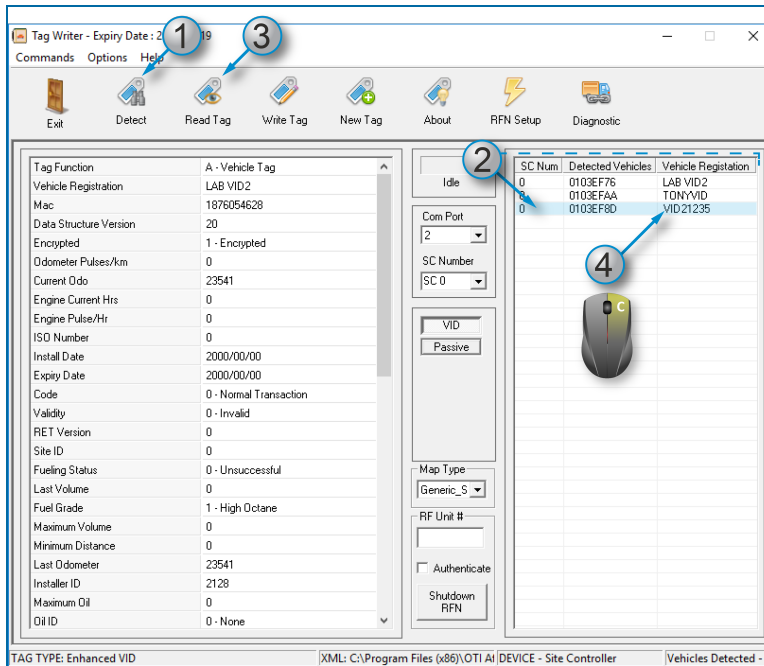
**NOTE:** Not all the options are available to the Passive tags.

#### Options

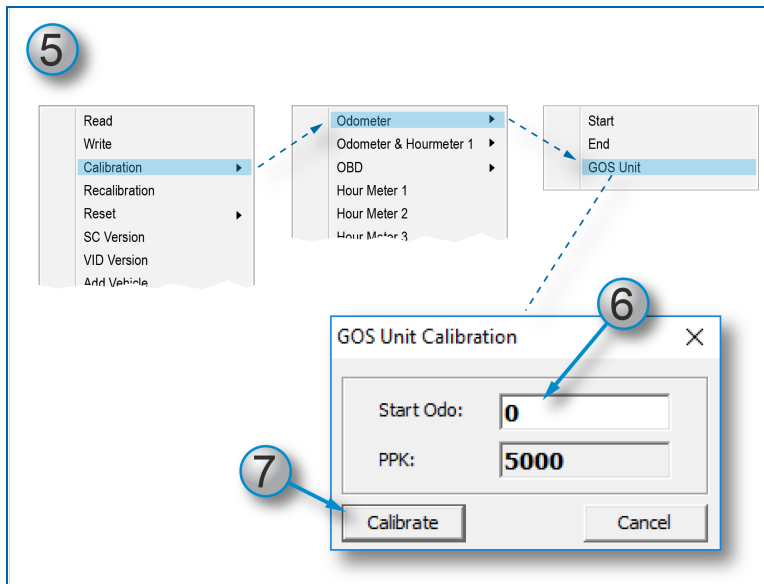
- Read: Reads the VID/passive tag.
- Write: Writes the VID/passive tag.
- Calibration: Opens the calibration submenu.
  - Odometer: Start or Stop VID calibration or calibrate the VID for a GOS unit. Odometer & Hour Meter 1: Same as above but for odometer and hour Meter 1. Hour Meter 1-3: Sets the Hour meter to 14400.
  - Passive: Calibrates the VID as a passive VID (this is not the same as a passive tag).
  - Reset Activity: When you start a calibration the Tag Writer hides the other calibration options. This gives access to them.
- Recalibration: Recalibrates a tag.
- Reset: Resets the Odometer value or one of the three (3) hour meter values.
- SC Version: Gets the Site Controller version number.
- VID Version: Gets the VID version number.
- Add Vehicle: Adds a vehicle to the list.
- Remove Vehicle: Removes a vehicle from the list.
- Nozzle Test: Opens the nozzle Test Dialog (not used at this time).
- Speed(kph): Opens the speedometer dialog.

### 3.2.1.1 GOS Calibration

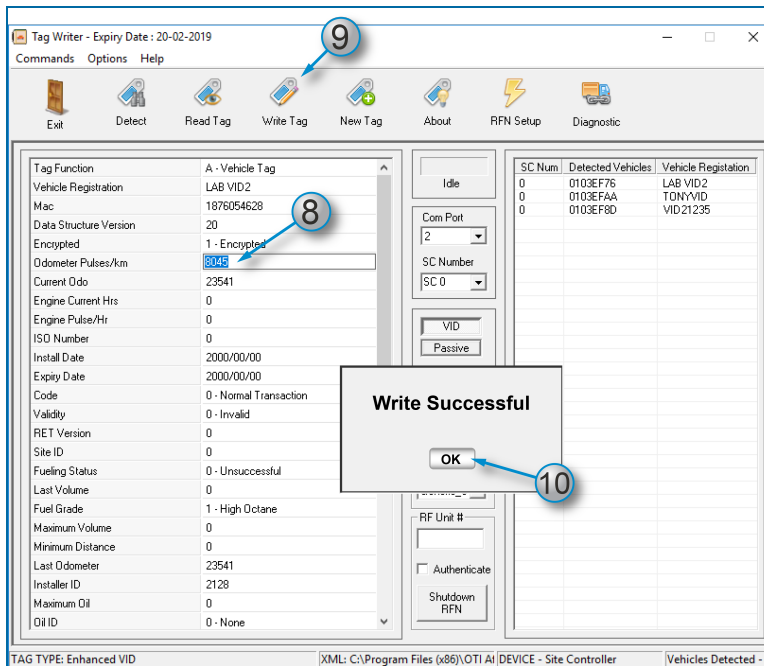
The procedure for GOS Calibration is shown below.



1. Select **Detect** from the top ribbon. The detected VID's will populate in the list on the right side of the screen.
2. Select the applicable **Detected Vehicle**.
3. Select **Read Tag** from the top ribbon. The available information for the selected vehicle tag will populate in the list on the left side of the screen.
4. Right-Click the applicable **VID** to be calibrated in the *Vehicle Registration* column of the list of VID's on the right side of the screen. A selection menu will come into view.

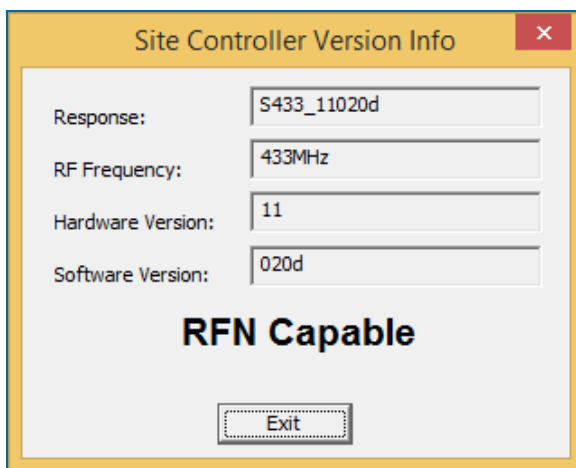


5. Make the selections that follow in the menu path:  
Calibration > Odometer > GOS Unit - the GOS Unit Calibration screen will come into view.
6. Enter the current **Odometer** reading (in applicable miles or kilometers) in the *Start Odo* field.
7. Click the **Calibrate** button.



8. Enter the number **8045** in the *Odometer Pulses/km* field as shown above.
9. Click **Write Tag** from the top ribbon.
10. Click **OK** on the popup confirmation screen to complete the procedure.

### 3.2.1.2 Site Controller Version Window

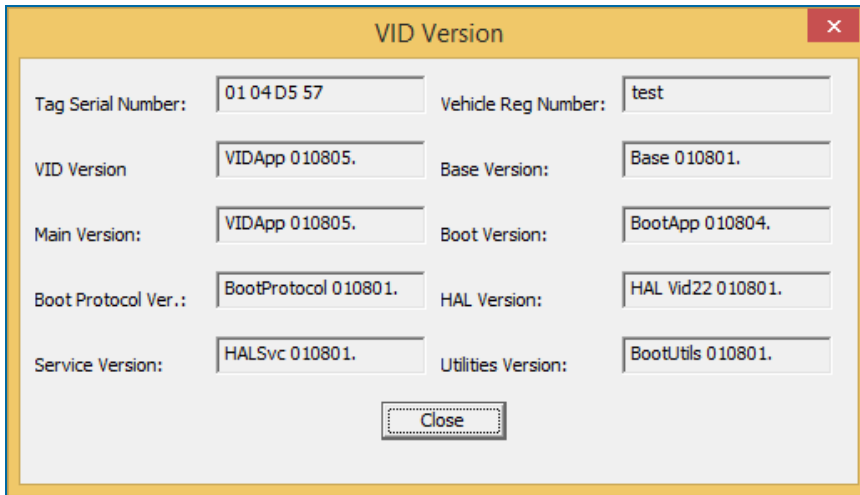


Enter this dialog window from the right click menu on the VID/Passive tag list.

- Response: This is the actual version number.
- RF Frequency: the Frequency of the Site Controller.
- Hardware Version: Version of the site controller's hardware.

- Software Version: Version of the site controller's software.

### 3.2.1.3 VID Version



The VID Version dialog box displays the following information:

Tag Serial Number:	01 04 D5 57	Vehicle Reg Number:	test
VID Version	VIDApp 010805.	Base Version:	Base 010801.
Main Version:	VIDApp 010805.	Boot Version:	BootApp 010804.
Boot Protocol Ver.:	BootProtocol 010801.	HAL Version:	HAL Vid22 010801.
Service Version:	HALSvc 010801.	Utilities Version:	BootUtils 010801.

A Close button is located at the bottom center of the dialog.

This dialog gets the different versions of the VID.

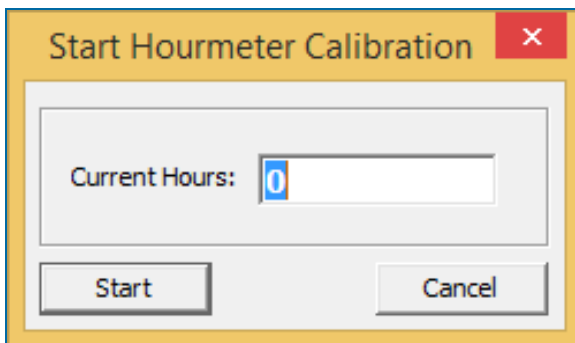
The VID is queried when the dialog opens. The version types are for each label.

### 3.2.1.4 Nozzle Test

## 3.3 VID Calibration

To calibrate a VID, right click and select the applicable VID. Select **Start** for the applicable Calibration option. This section shows the odometer and hour meter options.

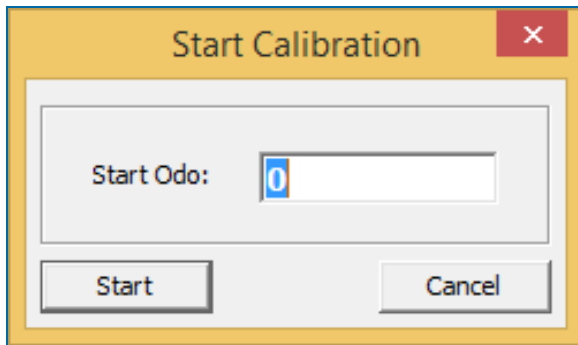
The sequence of windows that shows below comes into view. Enter the applicable information:



The Start Hourmeter Calibration dialog box contains the following elements:

- A text label "Current Hours:" followed by a text input field containing the value "0".
- Two buttons at the bottom: "Start" and "Cancel".

Enter the current hours on the vehicle to be calibrated.



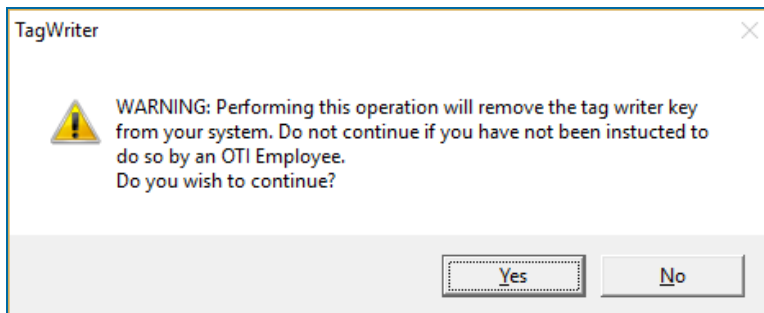
A screenshot of a software dialog box titled "Start Calibration". The dialog has a yellow header bar with a red close button (X) in the top right corner. Inside the dialog, there is a light gray rectangular area containing the text "Start Odo:" followed by a text input field. The input field contains the number "0". Below this input area, there are two buttons: "Start" on the left and "Cancel" on the right.

Enter the current odometer on the vehicle which to be calibrated.

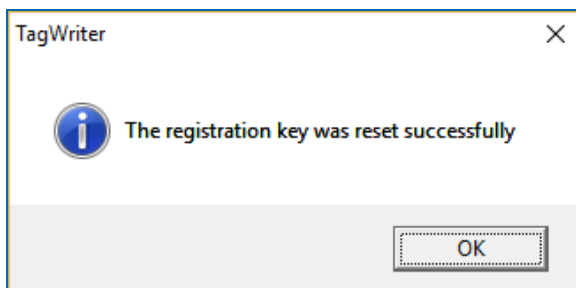
## Appendix A - Re-Register Tag Writer

If you experience issues with a registration that shows expired before its expiration date you can reset your registration as follows:

1. Contact OPW-FMS Tech Support at, 1-877-OPW-TECH (877-679-8324). You will be given a new registration key.
2. Go to the **Registration** screen and select the **Ctrl + Shift & R** keys. The screen below will come into view.



3. Select **Yes**. The screen below will come into view.



4. Select **OK**.
5. Tag Writer will close. Re-open Tag Writer.
6. You will be prompted to register again. Enter your new registration key that was provided by Tech Support.

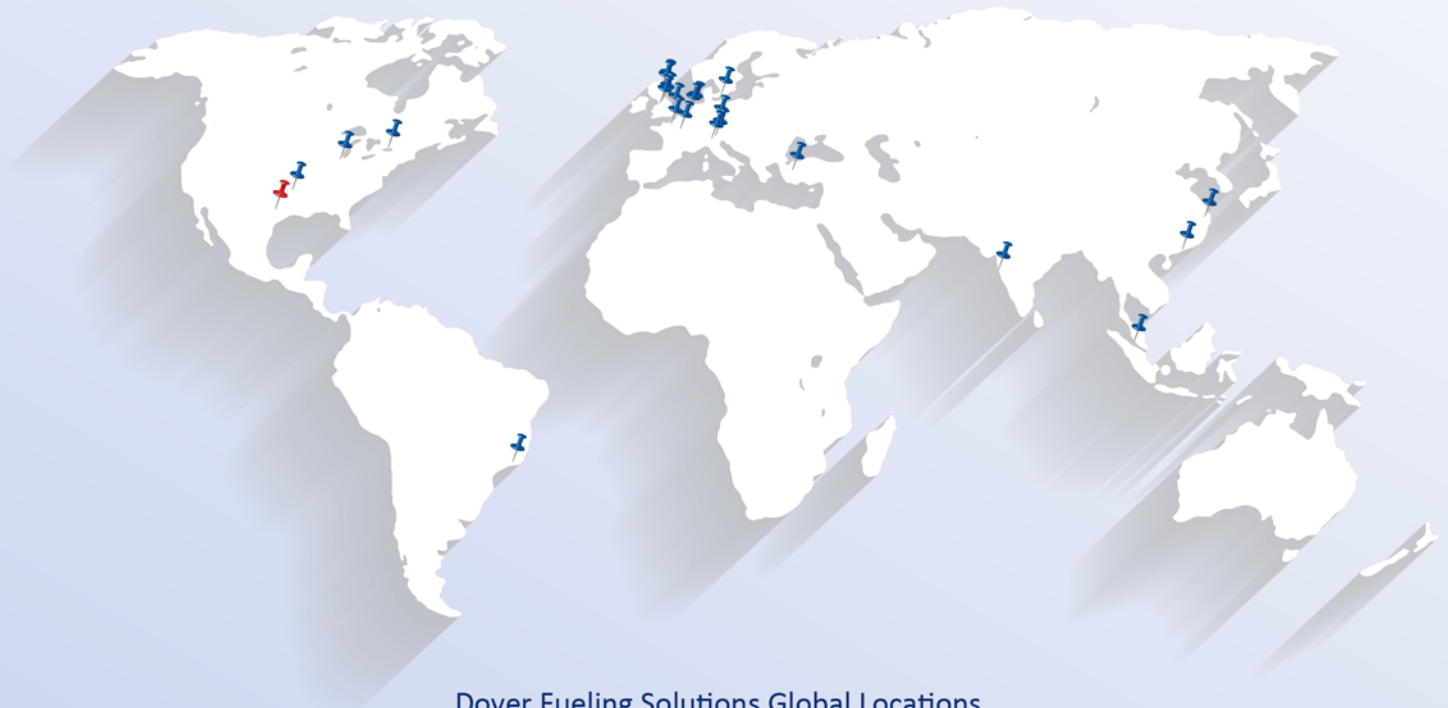
If you still have issues, call OPW-FMS Tech Support at, 1-877-OPW-TECH (877-679-8324) for assistance.



[illegible]



INNOVATIVE SOLUTIONS FUELING BUSINESS SUCCESS WORLDWIDE



### Dover Fueling Solutions Global Locations

Corporate Headquarters  
3814 Jarrett Way  
Austin, Texas 78728  
United States  
Phone: +1 512 388 8311

#### North America

Richardson, TX, USA  
Hodgkins, IL, USA  
Brighton, Ontario, CAN

#### Latin America

Rio de Janeiro, Brazil

Midlothian, UK

Elland, UK

Dundee, UK

London, UK

Skelmersdale, UK

Greenville, FR

Paris, FR

#### Europe

Munich, DE

Bladel, NL

Turnhout, NL

Malmö, SE

Bovisio Masciago, IT

Castione Azevengo, IT

Turkey

#### Asia Pacific

Mumbai, IN

Petalung, MY

Guangzhou, CN

Shanghai, CN

OPW Fuel Management Systems • 6900 Santa Fe Dr. • Hodgkins, Illinois, USA 60525 • Tel: (708) 485-4200