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AFTI/AFG Emperor Lite Communication Setup

Technical Bulletin

Mecmesin
FORCE & TORQUE TEST SOLUTIONS
www.mecmesin.com

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Introduction

This document describes the setup of an AFTI and AFG gauges in conjunction with logging the raw data in Emperor Lite.

Manuals for related devices are available from **www.mecmesin.com**

Contents

Setup

Components

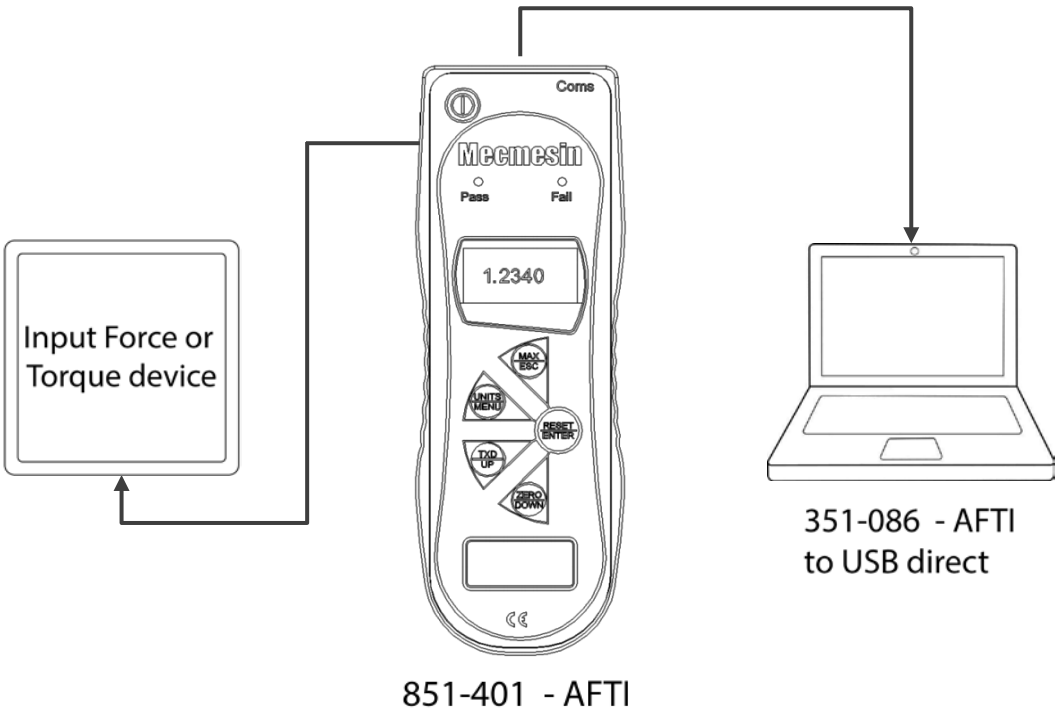
▲ **Example components for PLC setup**

The example AFTI or AFG Setup Comprises of:

1 × AFTI or AFG gauge

1 × 351-086 - AFTI/AFG to USB direct

Connecting the devices AFTI



When connecting the devices please ensure that all devices are powered down. For AFTI devices an input force or torque device plugs in to the left hand input port, the top port is used for output communications to the relay unit (AFG units retain the same functionality but external input isn't required due to the presence of an inbuilt load cell).

Once the units are connected as per the above image you can then configure the devices to successfully achieve working communication.

AFTI D-Sub to USB FTDI driver setup

The AFTI to USB cable uses an FTDI virtual comport chip to enable RS232 communication over USB. In most instances, driver installation is handled within Windows automatically but to ensure successful commination it is recommended that you manually update the drivers to the latest version that is available on the FTDI website.

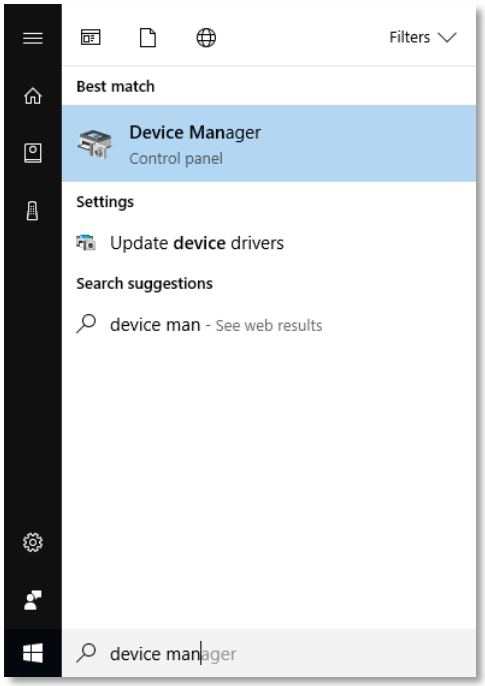
http://www.ftdichip.com/Drivers/VCP.htm

Below is a step by step guide to installing the latest version of the drivers:

Step 1 - Opening Device Manager

Open the device manager window, in newer versions of Windows (7 onward), this can be achieved by typing 'Device Manager' into the start menu search bar.

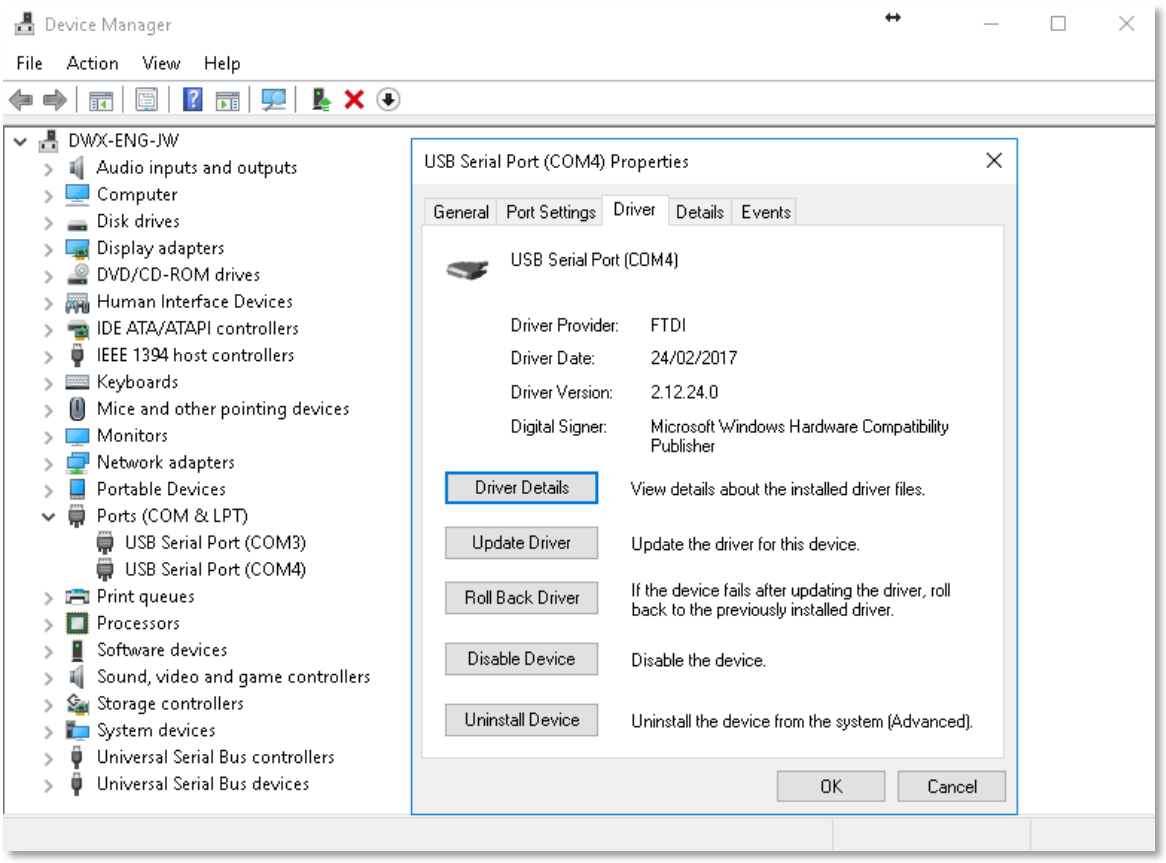
For older versions of windows please find device manager within the control panel.



Step 2 - Updating Driver

Within the device manager navigate down to 'Ports (COM & LPT)' and then right click on the USB serial port for the AFG to USB cable and navigate to 'Properties'. In most cases, this is COM4 or the highest COM number.

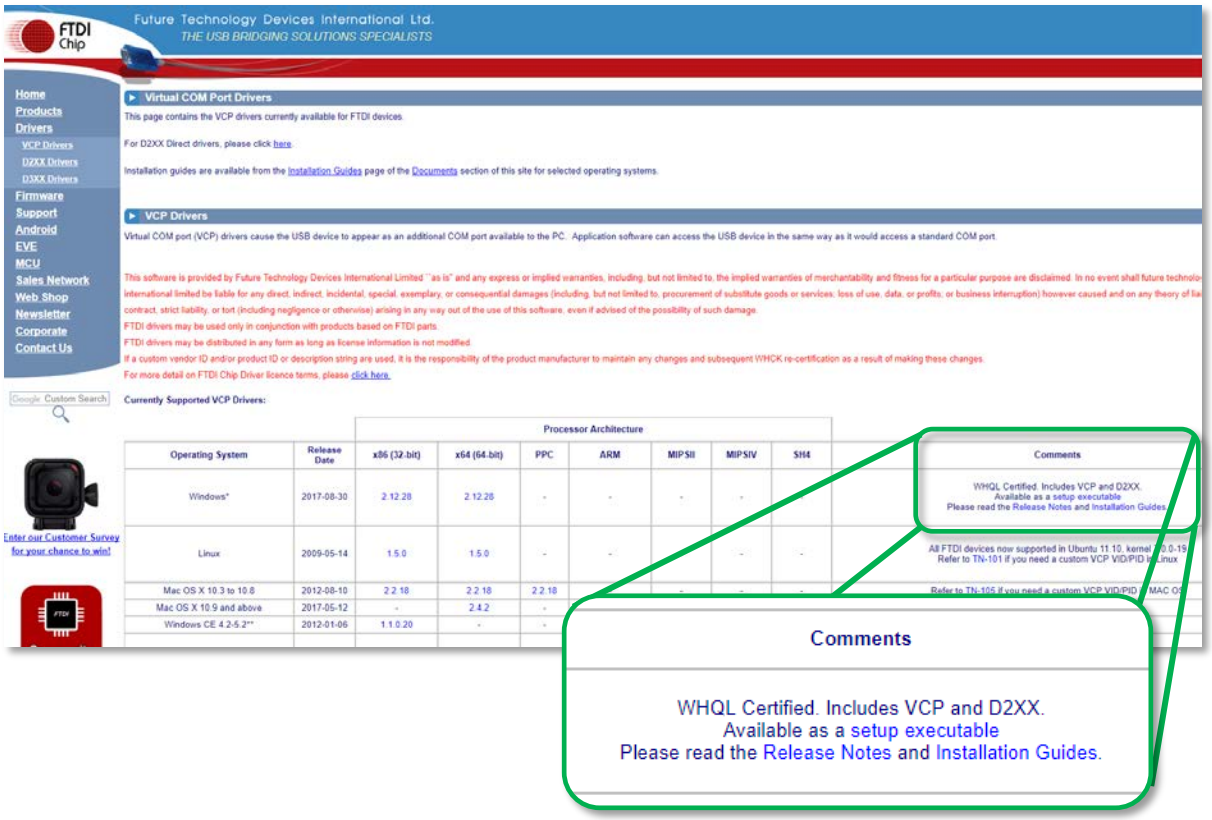
Within the 'Properties' screen navigate to 'Driver' and then check the driver number, in our case, this is 2.12.24.0. In some instances Windows may not load the correct driver, instead the device maybe listed as an unknown device.



Step 3 - Downloading the Latest Driver

Visit http://www.ftdichip.com/Drivers/VCP.htm and from here download the latest driver. See the image on the next page.

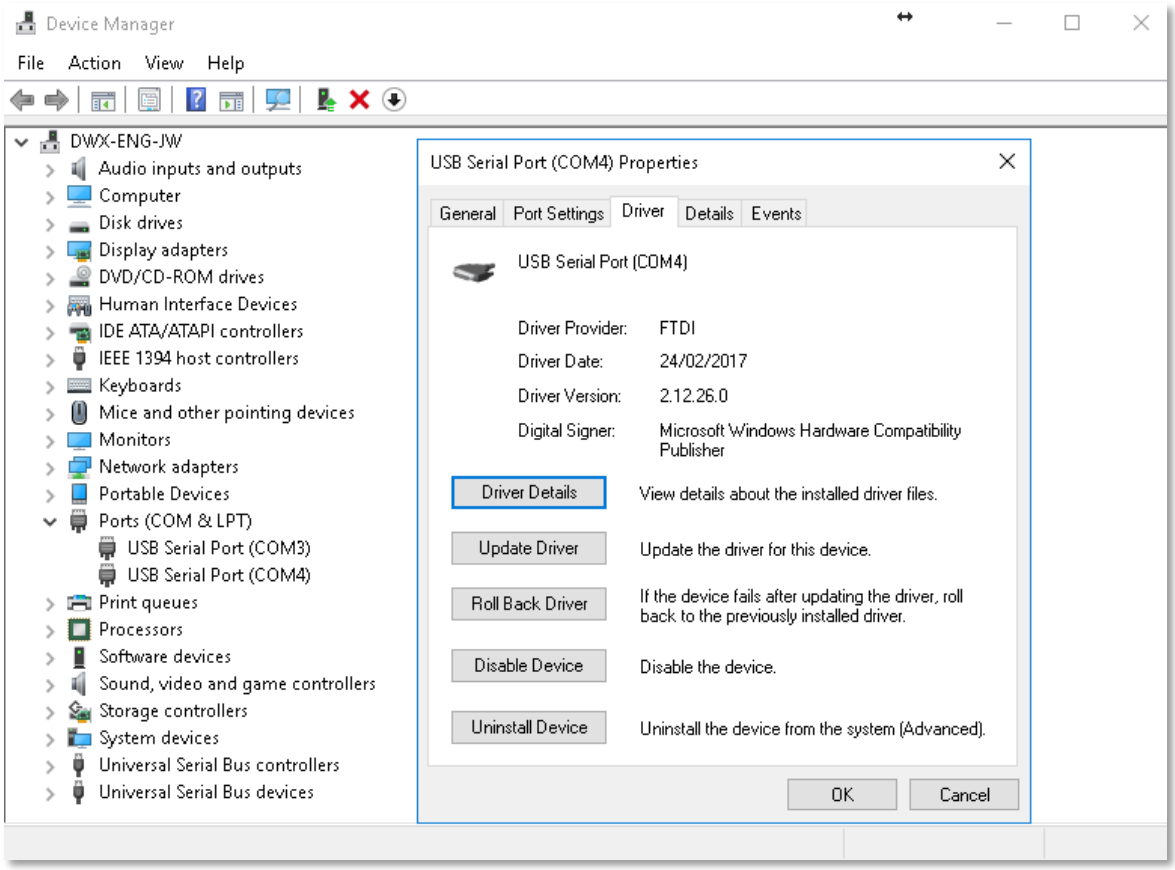
You can choose either to download specific driver files on an executable driver package, the driver package is easier to install but may require raised privileges on the local machine. Download and install the latest drivers.



Click on the "Setup executable" link to download the drivers, then unzip and run the file called "CDM21228_Setup.exe". Please ensure you run this an administrator by right clicking on the file and selecting "Run as Administrator".

Step 4 - Checking the Update Installation

Now the latest drivers are installed, return to device manager and check that the update has worked.



As you can see from the image the driver is now at the latest version – 2.12.26.0 which matches what was listed on the FTDI website.

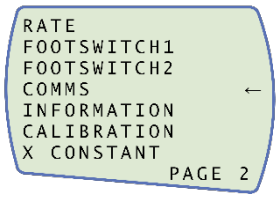
Communication Settings

Step 1 - AFG/AFTI settings

To achieve communication between your AFG/AFTI gauge and Emperor Lite you need to apply the correct settings within the AFG's communication menu (BAUD rate must be 115200). Use the following steps to configure the AFG:

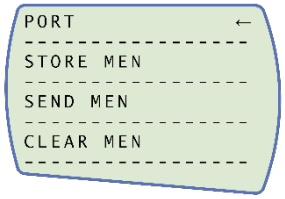
1. Hold on the AFG until the main menu is displayed →

2. Press UNITS MENU once until you are on page 2 →

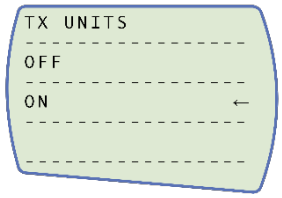


3. Scroll down using the ZERO DOWN button, then press RESET ENTER to select the "COMMS" menu →

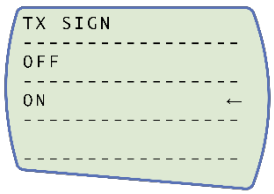
4. Now press RESET ENTER on port →



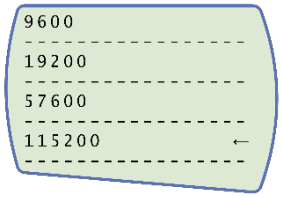
5. Set TX Units Off press RESET ENTER →



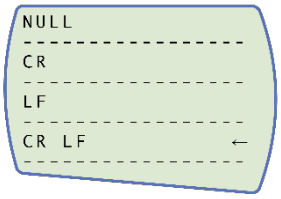
6. Set TX Sign On press RESET ENTER →



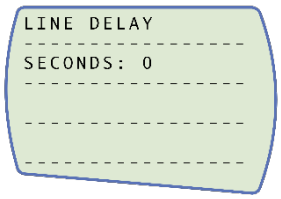
7. Set 115200, press RESET ENTER →



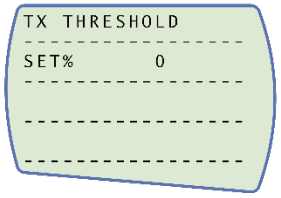
8. Set CR LF press RESET/ENTER →



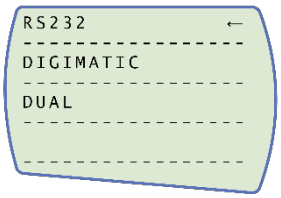
9. Ensure line delay is set to 0 press RESET/ENTER →



10. Ensure TX threshold is set to 0 press RESET/ENTER →



11. Set RS232 press RESET/ENTER →

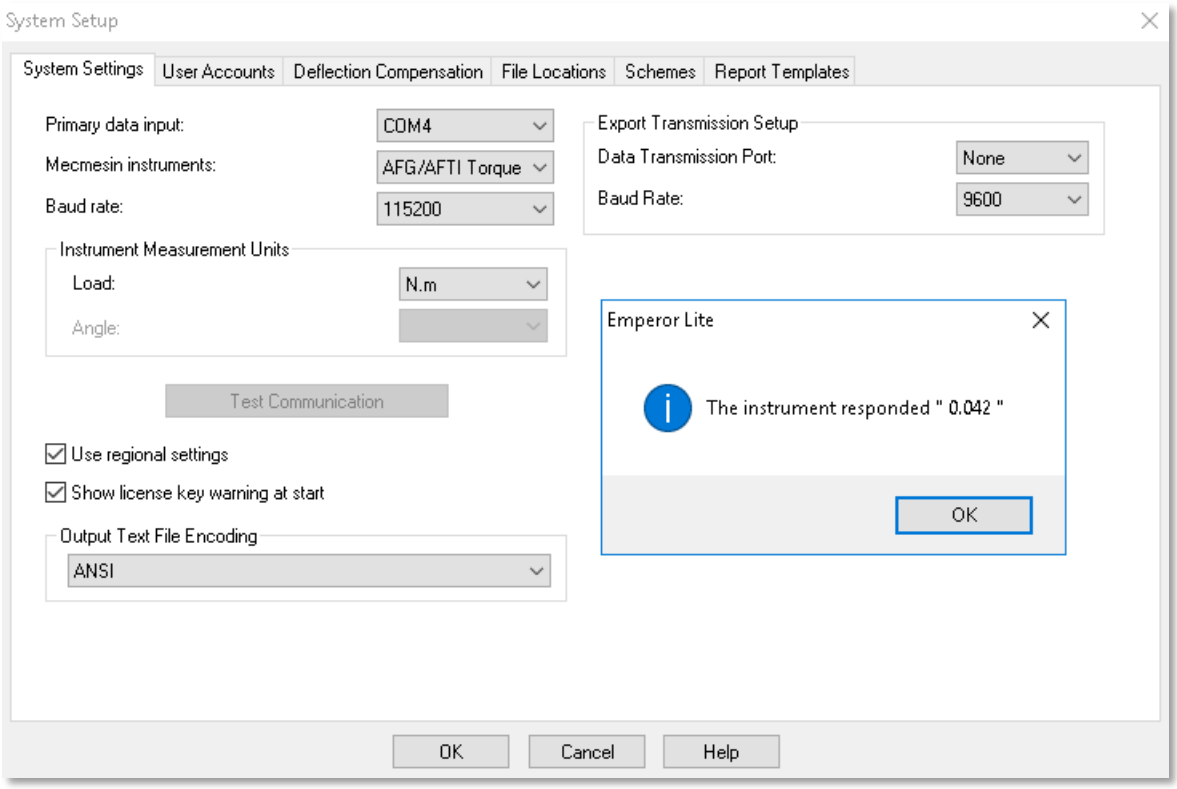


12. Then press MAX/ESC twice to return to the main measurement screen.

Ensure the device units are set to your desired selection by pressing the 'Unit' key. Make sure the numbers on the main screen are reading live, if the device is only displaying the maximum value, cycle the 'Max' key until the real-time measurement is displayed.

Step 2 – Emperor Lite Communication Settings

The next steps are within Emperor Lite, first, navigate to the Setup Menu and then open the 'System Setup' screen.



On the system settings screen you need to match the device settings as above:

- Ensure the Primary Data Input is set to your configure COM port,
- Select AFG/AFTI Torque under Mecmesin instruments,
- Set baud rate to 115200,
- Ensure the load unit matches the unit on the AFTI,

Once this is done you can test the setup by pressing 'Test Communication', this should display the number from the AFTI on screen.

The device setup is now complete and data is ready to be acquired in Emperor Lite.

For guidance on how to operate Emperor please reference the relevant operating manual.

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