

Mecmesin

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AFTI/AFG Emperor Lite Communication Setup

Technical Bulletin



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

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Setup

Components



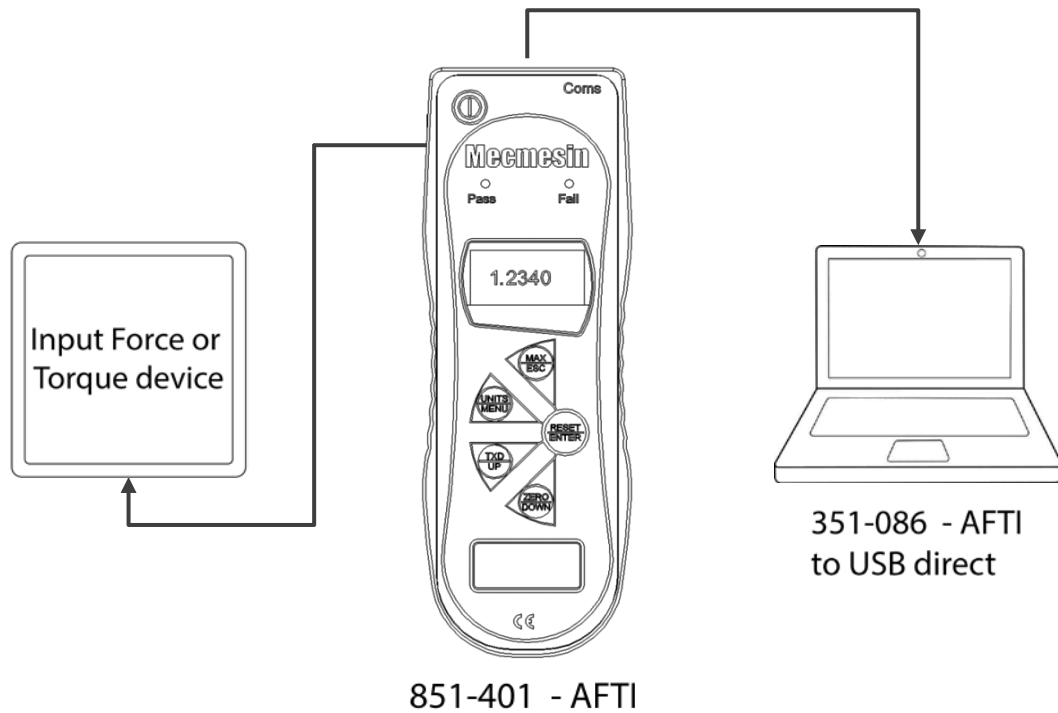
▲ Example components for PLC setup

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 communication it is recommended that you manually update the drivers to the latest version that is available on the FTDI website.

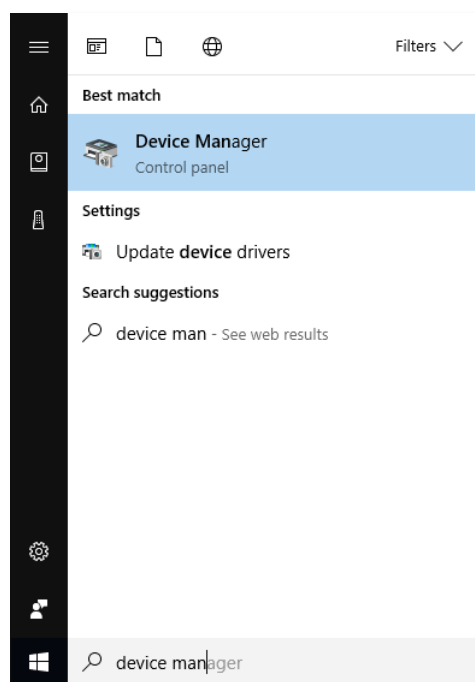
<http://www.ftdichip.com/Drivers/VCP.htm>

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.

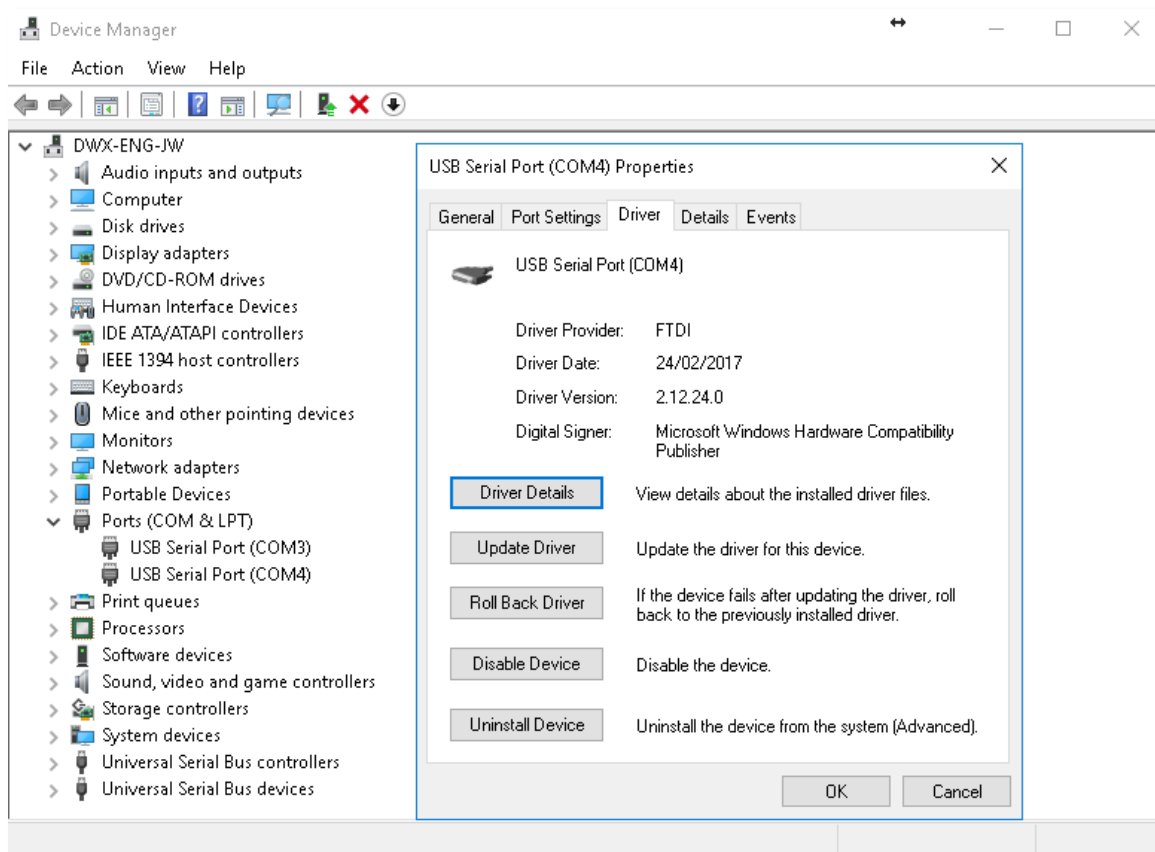
For older versions of windows please find device manager within the control panel.



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 or 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.

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Virtual COM Port Drivers
This page contains the VCP drivers currently available for FTDI devices.
For D2XX Direct drivers, please click [here](#).
Installation guides are available from the [Installation Guides](#) page of the [Documents](#) section of this site for selected operating systems.

VCP Drivers
Virtual COM port (VCP) drivers cause the USB device to appear as an additional COM port available to the PC. Application software can access the USB device in the same way as it would access a standard COM port.
This software is provided by Future Technology Devices International Limited "as is" and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall Future Technology International Limited be liable for any direct, indirect, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits, or business interruption) however caused and on any theory of liability, contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.
FTDI drivers may be used only in conjunction with products based on FTDI parts.
FTDI drivers may be distributed in any form as long as license information is not modified.
If a custom vendor ID and/or product ID or description string are used, it is the responsibility of the product manufacturer to maintain any changes and subsequent WHQL re-certification as a result of making these changes.
For more detail on FTDI Chip Driver license terms, please [click here](#).

Currently Supported VCP Drivers:

Operating System	Release Date	Processor Architecture								
		x86 (32-bit)	x64 (64-bit)	PPC	ARM	MIPSII	MIPSIV	SH4		
Windows*	2017-08-30	2.12.28	2.12.28	-	-	-	-	-	-	WHQL Certified. Includes VCP and D2XX. Available as a setup executable. Please read the Release Notes and Installation Guides.
Linux	2009-05-14	1.5.0	1.5.0	-	-	-	-	-	-	All FTDI devices now supported in Ubuntu 11.10 kernel 2.6.38-10.19. Refer to TN-101 if you need a custom VCP VID/PID in Linux.
Mac OS X 10.3 to 10.8	2012-08-10	2.2.18	2.2.18	2.2.18	-	-	-	-	-	Refer to TN-105 if you need a custom VCP VID/PID.
Mac OS X 10.9 and above	2017-05-12	-	2.4.2	-	-	-	-	-	-	MAC OS X 10.9 and above
Windows CE 4.2-5.2**	2012-01-06	1.1.0.20	-	-	-	-	-	-	-	

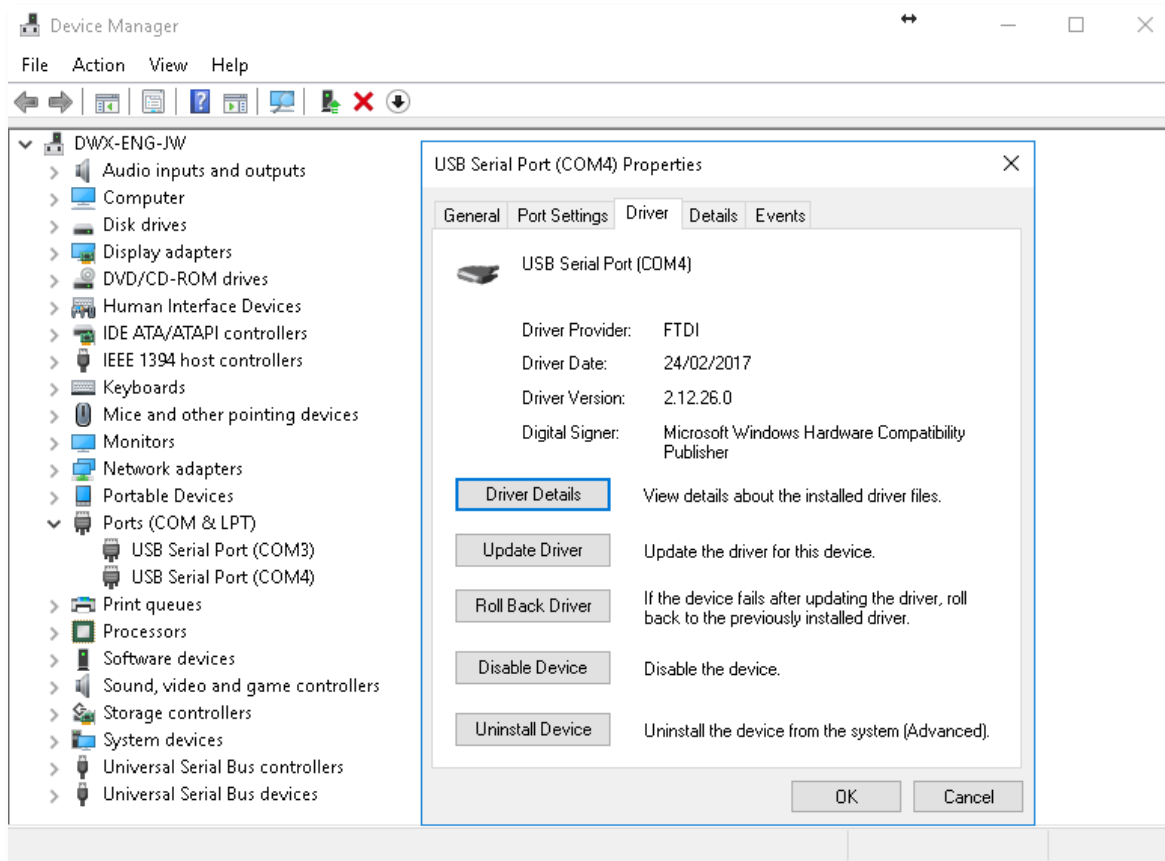
Comments

WHQL Certified. Includes VCP and D2XX. Available as a setup executable. Please read the Release Notes and Installation Guides.

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 as 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.

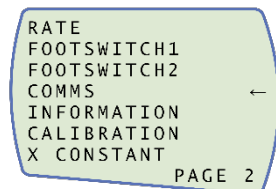
Communication Settings



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:

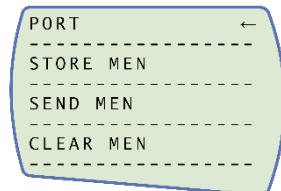
1. Hold on the AFG until the main menu is displayed →

2. Press  once until you are on page 2 →

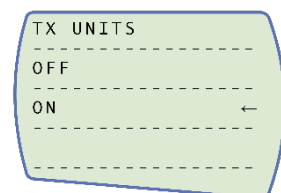


3. Scroll down using the  button, then press  to select the "COMMS" menu →

4. Now press  on port →




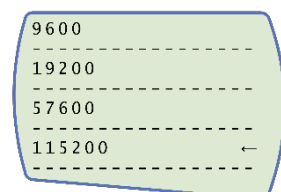
5. Set TX Units Off press  →




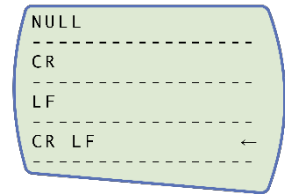
6. Set TX Sign On press  →




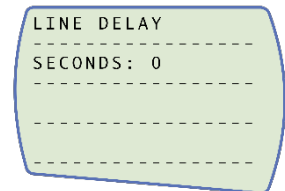
7. Set 115200, press  →




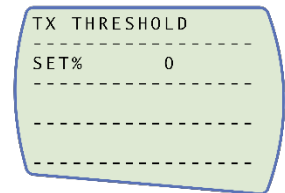
8. Set CR LF press  →




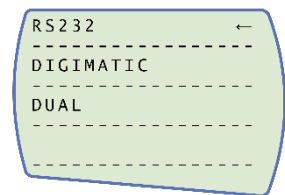
9. Ensure line delay is set to 0 press  →




10. Ensure TX threshold is set to 0 press  →



11. Set RS232 press  →

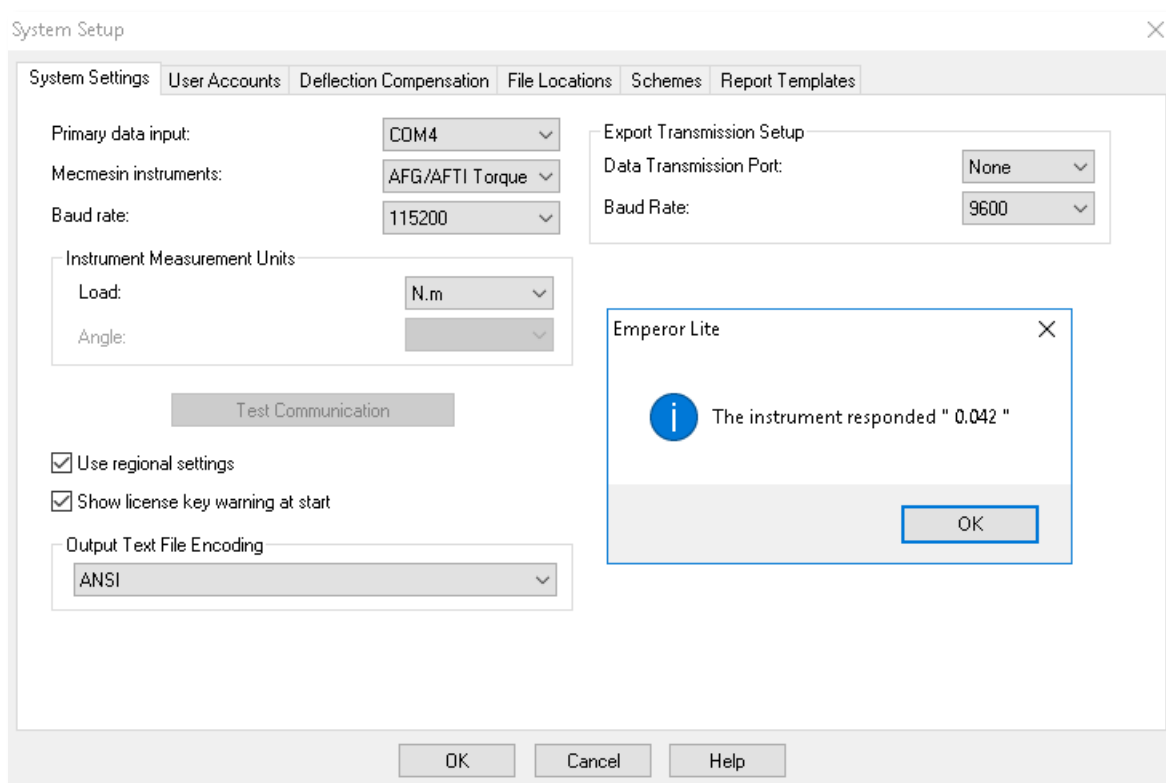


12. Then press  twice to return to the main measurement screen.

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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