ABACUS OPTICAL PROBE SETUP and DRIVERS

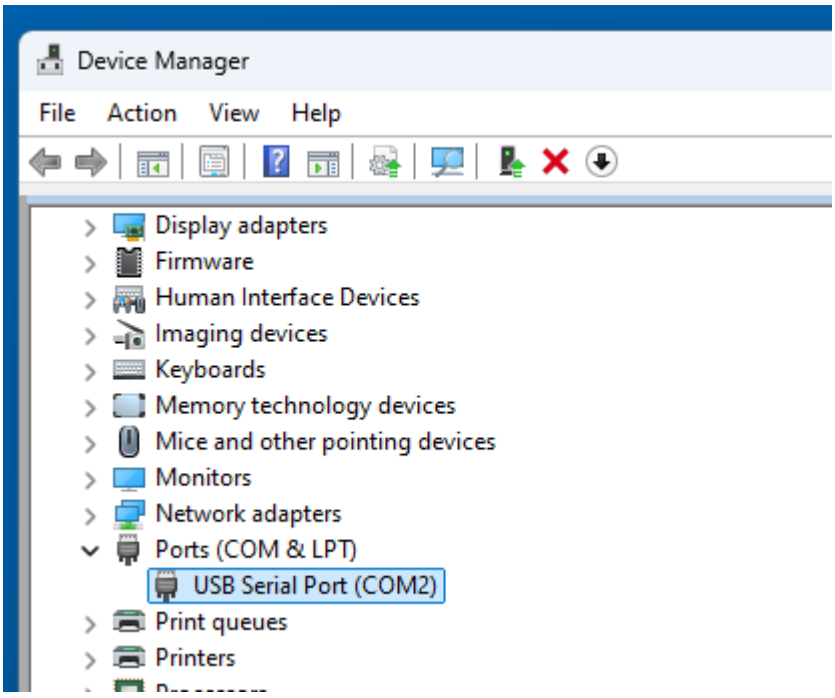
This application note has information on the setup, use, and drivers for TransData manufactured ABACUS Optical Probes with TransData on the back and/or blue cables. For additional information on the silver/clear cable ABACUS Optical Probes check the last section.

Step 1 – **Plug the ABACUS Optical Probe** into an available USB port on the computer.

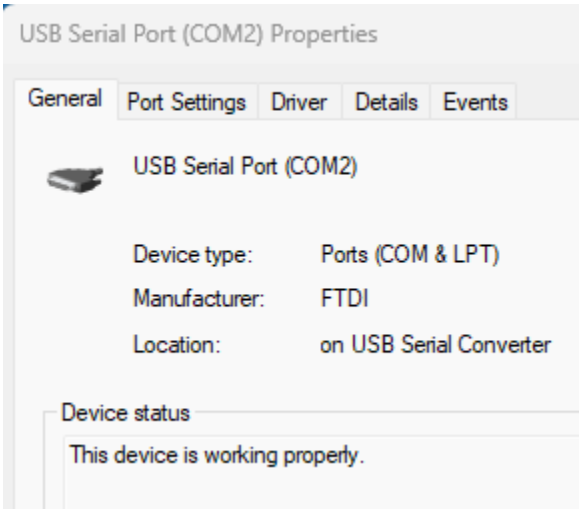
Usually, the driver automatically installs as part of Windows Update, but in some cases due to security settings, this process is not allowed to work, and you will need to install the driver. (Step 3 is Driver Installation.)

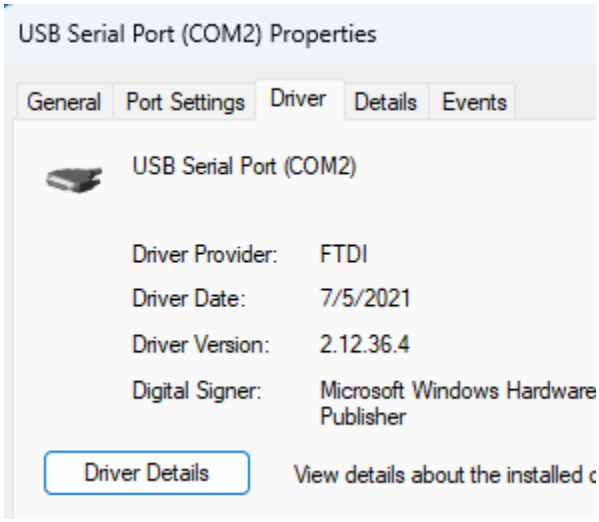
Step 2 - **Check the driver status:**

Go to Device Manager, select Ports (COM & LPT), and verify that there is a "USB Serial Port" entry and it is set to an appropriate COM port. (go to Step 4 for COM Port selection)
Then the COM port can be entered into your device's software for communications.



Right click on the USB Serial Port entry select Properties and verify that the device is working properly, the device Manufacturer is FTDI and click on the Driver tab to check the revision.

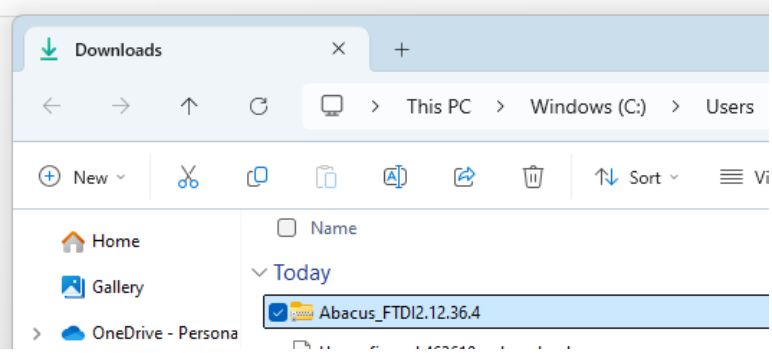




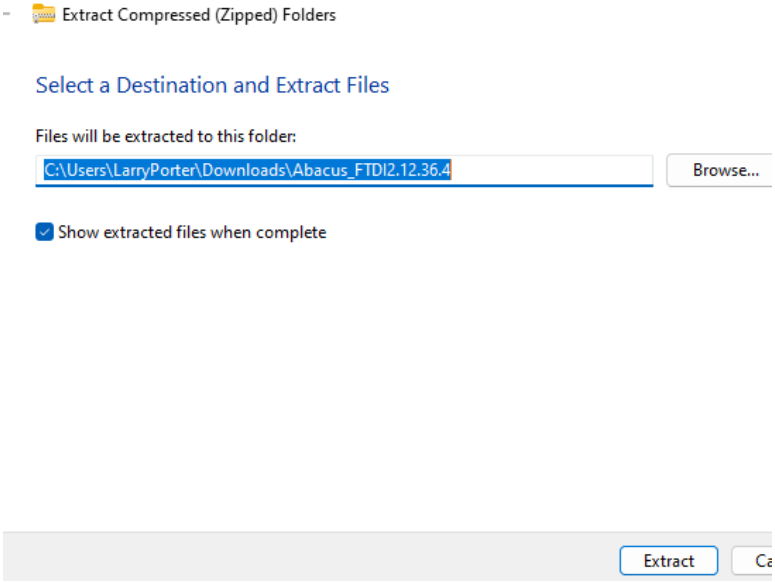
Step 3 – **Driver Installation** (If needed): Click on the link below and it will download automatically and depending on browser may upper right corner and then you can select its folder and double click it and unzip the driver (or choose Extract All) and run the setup file to install.

https://transdatainc.com/wp-content/uploads/2022/02/Abacus_FTDI2.12.36.4.zip

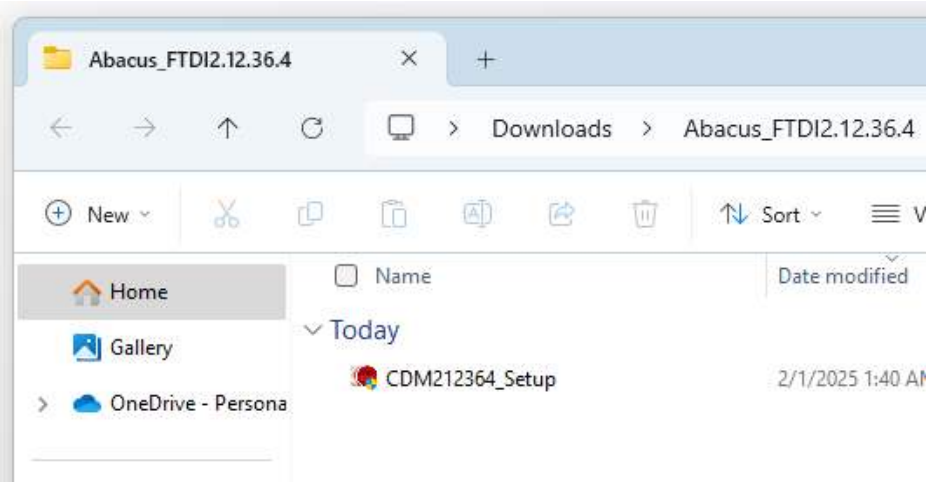
Depending on browser, select the downloaded file and click on the folder icon:



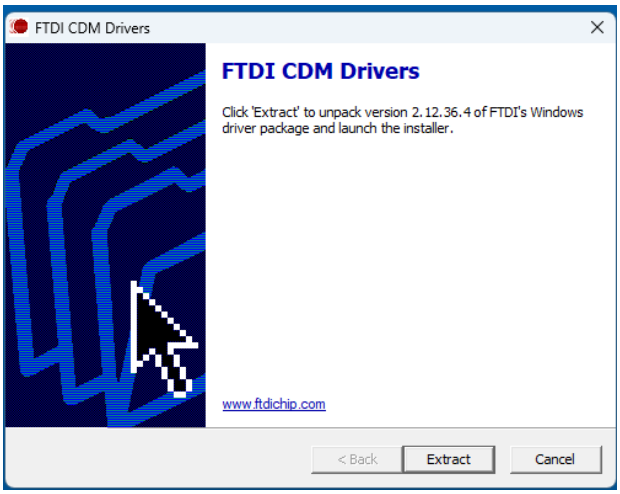
Right click the downloaded driver zip file and choose Extract All and select Extract

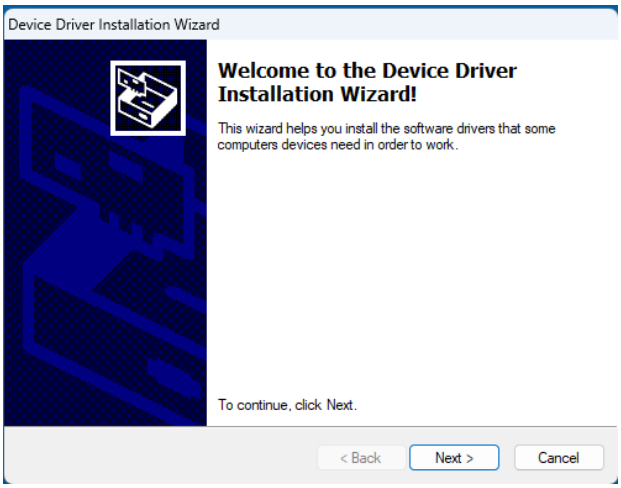


Run the Setup File:

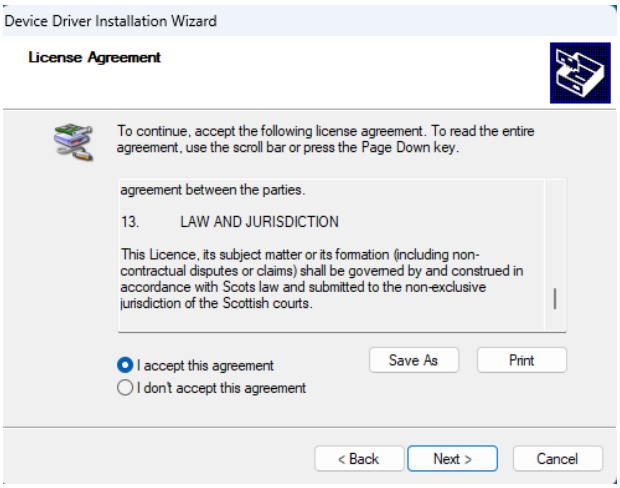


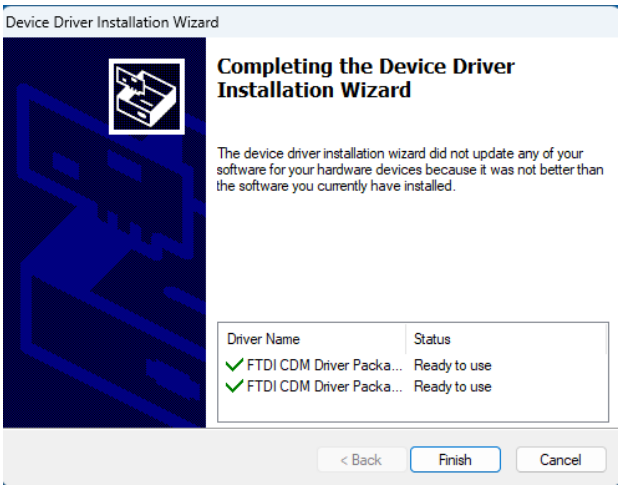
Extract the Drivers: select Extract and then select next





Accept the licence agreement, select next, and select finish.

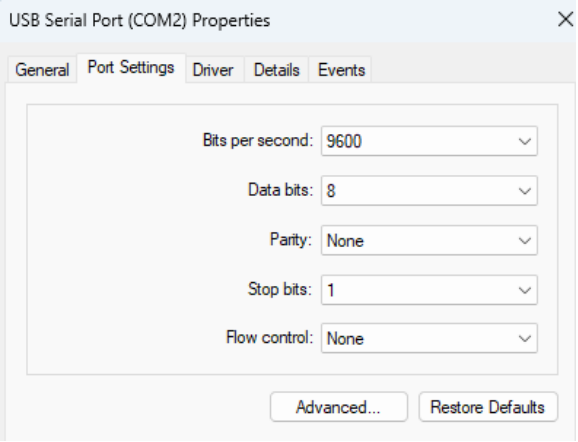


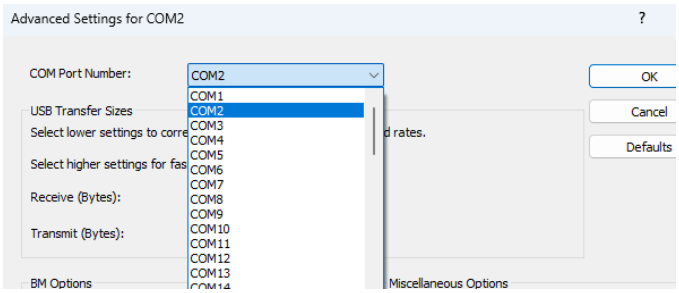


In most cases this will be the correct driver and will work for the current versions of Windows including Windows 10 and 11. However, in some special cases for other embedded or other versions of Windows, another driver may be required. The following is a link to the other FTDI drivers, if the standard driver is not the correct one for your application:

https://ftdichip.com/drivers/vcp-drivers/

Step 4 - **COM Port Assignment**: To change the COM port assigned to the ABACUS Optical Probe go to Device Manager, select go to Device Manager, select Ports (COM & LPT), Right click on the USB Serial Port entry select Properties. On the next page, Select the Port Settings Tab and Select Advanced. Then on the next page select the correct COM port from the pull-down listing and select OK.





Application Information:

The ABACUS Optical Probe has a Virtual COM Port driver, so it is able to operate like other serial devices. Make sure to update the application software with the correct COM Port from Device Manager. Consult the specific device manufacturer's recommendations and application software instructions for more information on its operation.

Inverted and Non-Inverted Operation:

Some meters require an inverted signal into their optical port. ABACUS Optical Probes like the A9U use the serial port DTR signal to switch between a normal and inverted transmission. Please consult the metering device and software manufacturer's recommendations regarding this setting.

It is possible to check the mode that the Optical Probe is being set to by the software. For ANSI (A9U, etc.) Probes normal operation (non-inverted, with DTR not asserted), the transmitting optical device on the left side of the face of the probe will be normally off and flash on briefly during communications attempts. For Inverted or Reversed Operation (with DTR asserted), the transmitting optical device on the left side of the face of the probe transmitter will be normally on and will flash off briefly during communications attempts, however, it may appear to remain on constantly. The optical transmitter is not in the visible spectrum, but many phone cameras have the ability to detect this signal and it will commonly look purple. IEC (F9U) probes have the transmitting and receiving optical components on the opposite sides.

Specific Application Notes:

For some Electro Industries applications, the Optical Receive Mode may need to be set to Inverted.

Note, for some GE type applications, GE Optical Probe or Generic Optical Probe needs to be selected.

For some SEL applications, DTR needs to be set to Off.

For some Itron meters, using Itron Software, it may be necessary to select Generic 1 for the Optical Probe with the COM direction reverse.

Some Landis + Gyr meters may require DTR switching, and they will require the appropriate settings are used in the software based on manufacturer's recommended settings.

For Landis + Gyr and other meters without the optical D-ring option and just the plastic triangle or other shape, make sure that you have the proper alignment and positioning of the Optical Probe for those meters. If this is the case, there are adapters for the meters to provide for the magnetic probe connection and the proper alignment like a regular metal D-ring optical port meter.

Silver/Clear Cable Optical Probes:

The ABACUS Optical probes with the silver/clear cable were made by ABACUS Electrics and use an ABACUS Electrics Driver. About 5 years ago or so ABACUS Electrics closed and TransData acquired their Optical Probe line. Unfortunately, the ABACUS Electrics Drivers are not being updated. Based on security settings, some of the newer operating systems (like Windows 10 and 11) require updated signing for their drivers and in those cases the ABACUS Electrics Drivers are not compatible with those operating systems with their security settings. The options are to use the existing probes with an older operating system (or older operating system in a virtual machine on a new operating system, however this requires significant expertise and effort) or what most people do is buy a new TransData manufactured probe that uses the new continually updated drivers and will work with all of the current versions of Windows including Windows 10 and 11. The TransData manufactured probes have blue cables and TransData on the back of the probe. Other than the updated drivers and other improvements including longer length versions and USB C versions, they are the same great ABACUS Optical Probes that work with all sorts of meters and devices. You can purchase the probes at the links below.

ABACUS Optical Probe Purchase Links:

Via TransData Website (note special length and options are available):

https://transdatainc.com/optical-probes/

ABACUS ANSI Meter Optical Communication Probe A9U-P-U04M-2A for Windows 10:
Probes of this type A9U-P-U04M-2A are used with electricity meters throughout North America
https://www.amazon.com/dp/B004HJ6SOM?ref=myi_title_dp

ABACUS IEC Meter Optical Communication Probe F9U-P-U04M-2 for Windows 10:
Probes of this type F9U-P-U04M-2 are used with electricity meters throughout Europe and with gas meters/volume correctors worldwide.
https://www.amazon.com/dp/B0859MGBGF?ref=myi_title_dp