

USB installation: Basic, Count, Count+, Smart+

In this demo we will install the USB option into a 4-Series Basic (BBA422). The mechanical installation of the USB option kit (22013144) in the 4-Series Basic is covered in separate option kit instructions (22013618). The installation is straight forward and requires a Torx T20 screw driver. The installation sequence of the mechanical parts is:

- Remove the electrical power from the 4-Series scale.
- Remove the bottom cover.
- Remove the connection plate on the rear of the 4-Series.
- Disconnect the RS232 ribbon cable from the 4-Series main board and remove the RS-232 connector from the connector plate.
- Install the new ribbon cable to USB option board.
- Install the USB option board onto the connection plate.
- Connect the ribbon to the 4-Series main board.
- Install bottom cover.
- Restore the electrical power to the 4-Series scale.

Connector Plate Diagram before:



Connector Plate Diagram after:



The USB port is Com 2 and the RS232 port is COM 1. We still have an RS232 port because the USB option board has both a USB and RS232 connection.

SOP (Set Option)

After the mechanical installation the option must be enabled inside the 4-Series scale. We do this with a PC connected to the RS232 port. Connect an RS232 modem cable (straight through pin to pin, at least pins 2,3,5) between the PC and COM 1 of the 4 Series. The four series has a female 9 pin and most PC have a male 9 pin RS232 connector.

Run a terminal emulation program like "HyperTerminal", and establish communications between the 4-Series scale and the PC. We will use SICS commands to enable the USB option. (Operation of Hyper Terminal is not covered in this demo). The SICS commands will operate if the 4-Series port mode is DIALOG or PRINT. Default settings for PRINT are 2400 baud, 7 data bits, even parity. Default settings for DIALOG are 9600 baud, 8 data bits, no parity. To set the port settings in the 4-Series Basic to DIALOG:

Setup

Communication / COM 1 / Mode / Dialog / Parameters / Baud / 9600 / Parity / 8 none / H Shake / XonXoff / at this point short cut to exit by touching On/Off key, at the "End" prompt touch the Enter key, at the "Save" prompt touch the Enter key.

Using the Hyper Terminal program, send the command SI (capitol SI terminated with CR (carriage return) LF (line feed). If your connection is working the 4-Series will respond with the current net weight.

```
SI [PC]
S S 0.007 lb [SCALE]
```

Send the USB inquiry to see current status

```
SOP UO [PC, capitol "O", not zero]
```

```
SOP A 0 [SCALE. The zero at the end means the USB is disabled, or "locked"]
```

To enable the USB port we send the command SOP UO 1

```
SOP UO 1 [PC]
```

```
SOP A [SCALE response, the "A" means the command was successful]
```

Now we can inquire again to confirm the USB option is enabled.

```
SOP UO [PC]
```

```
SOP A 1 [SCALE, the one at the end means the USB option is enabled].
```

The Option board has a USB-B female connector. The USB option does not come with an interconnecting cable. You can supply your own or use METTLER TOLEDO cable 16630200A. The 16630200A cable is USB-A (4 pin square) to USB-B (4 Pin in line rectangle) and is 6 ft / 1.7 meters long.

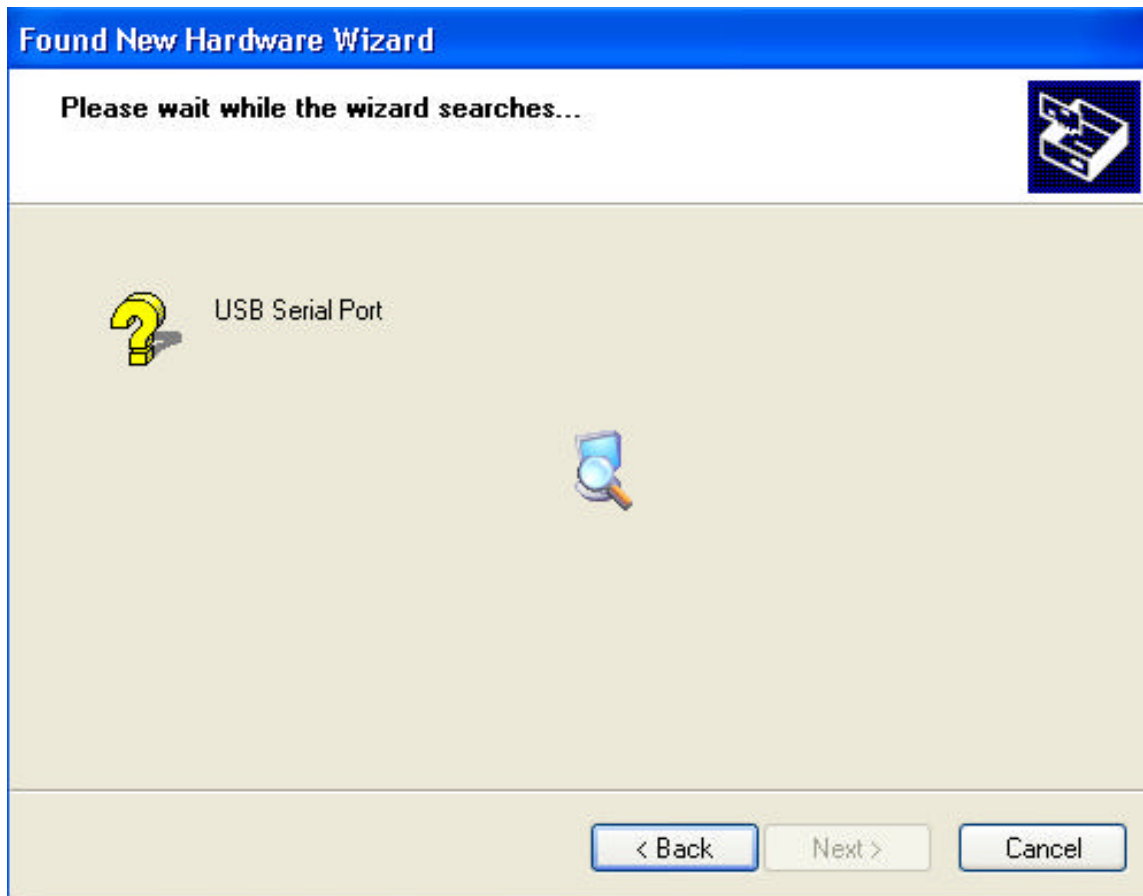
Attaching the USB cable between 4-Series Basic and a PC.

Attach the USB interconnecting cable, if this is the first time for 4-Series connection via USB you should get a “found new hardware” message on your PC screen.



Following the prompts from the PC operating system (Windows XP in this demo), we insert the CD rom which came with the USB option kit (CD number 22010158), select Automatic installation in the windows dialog box and click the “Next” button.

The PC operating system searches for the USB port to identify it.



The PC operating systems finds the METTLER TOLEDO USB device and automatically begins the software driver installation.

The PC will automatically find the USB driver and install it on the PC, afterwards we get the installation completed message from the PC.

Found New Hardware Wizard

Please wait while the wizard installs the software...



METTLER TOLEDO USB Option



Setting a system restore point and backing up old files in case your system needs to be restored in the future.

< Back

Next >

Cancel

Found New Hardware Wizard

Please wait while the wizard installs the software...



METTLER TOLEDO Serial Port



ftser2k.sys

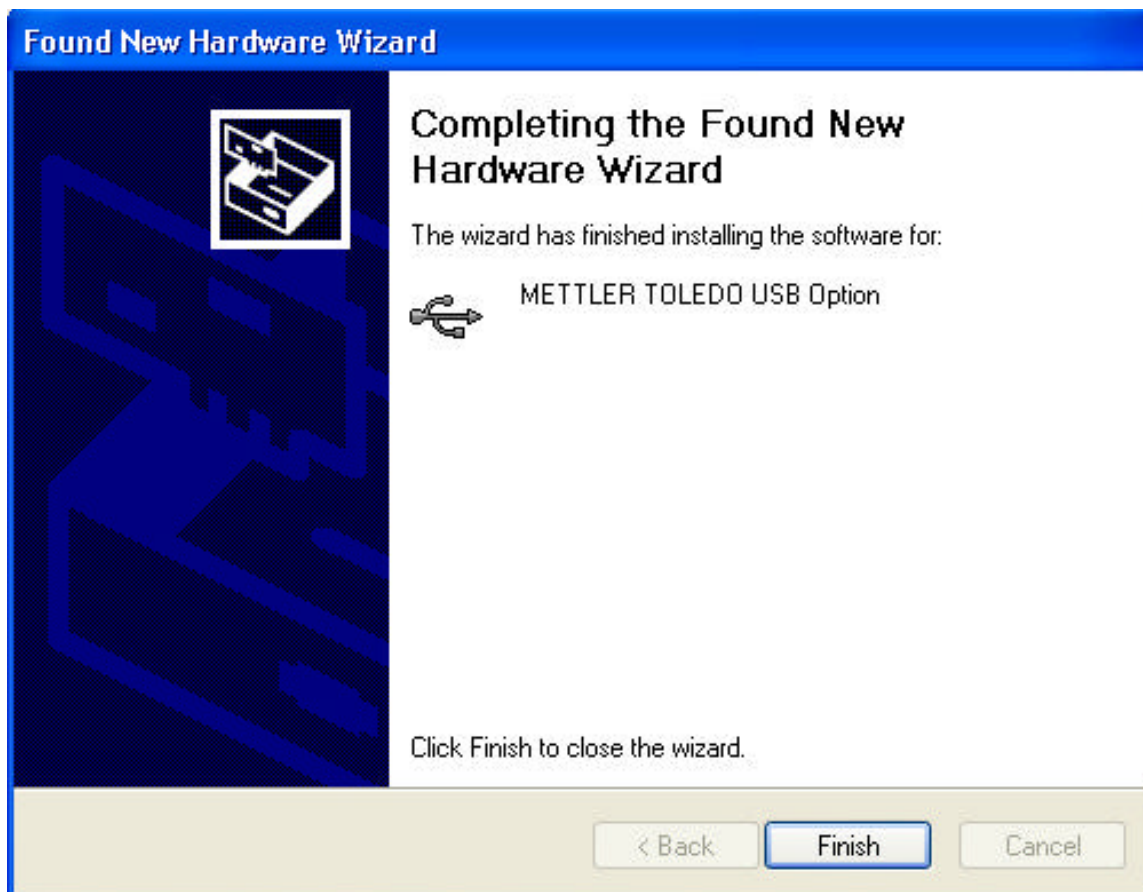
To C:\WINDOWS\system32\drivers



< Back

Next >

Cancel



Click the Finish button.

End of demo.