CMM-Manager Installation Guide for IMUSB100 Controller on Windows 7

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To install CMM-Manager to work with your manual CMM, the following procedures are required:

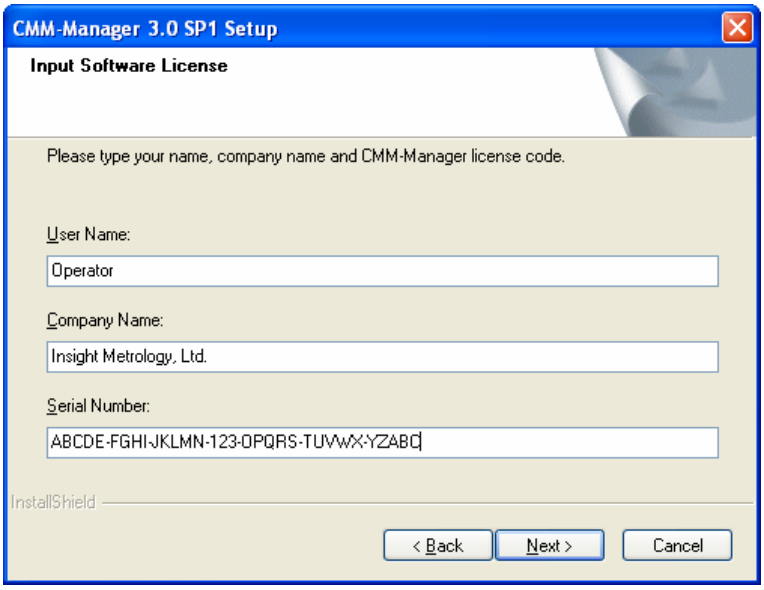
1. Install CMM-Manager
2. Connect IMUSB100 Controller to PC and Install Device Driver
3. Connect your CMM to IMUSB100 controller
4. Setup Machine
5. Setup Probe Assembly

The following sections describe the step-by-step procedure to guide you through the installation.

1. Install CMM-Manager in host PC

(1) Insert the installation CD into the CD-ROM drive of your computer.

(2) The setup program will automatically start to run. Just follow the instructions to install CMM-Manager onto your computer. When you are prompted to input license information, type the company name exactly as shown in the license pak and the license code should be typed in the "Serial Number" box. The user name box can be any name.



(3) After CMM-Manager is installed, use Windows explorer to copy IQSC100.DLL from the installation CD to C:\CMM-Manager\Driver folder. This new DLL will automatically detect the correct communication port when run CMM-Manager.

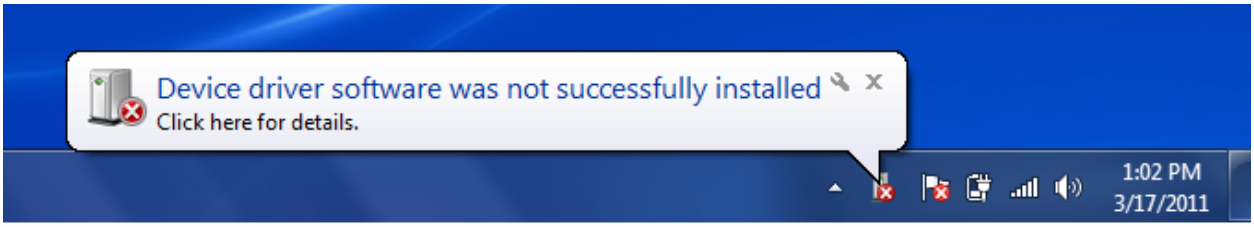
2. Connect IMUSB100 Controller and Install Device Driver

IMUSB100 is a manual controller that provides position counting for three axes and a touch probe interface for position latching. IMUSB100 communicates with host PC through a USB cable. In order for host PC to recognize IMUSB100, device driver must be installed. Follow the steps below to connect the IMUSB100 controller to the host PC and install device driver:

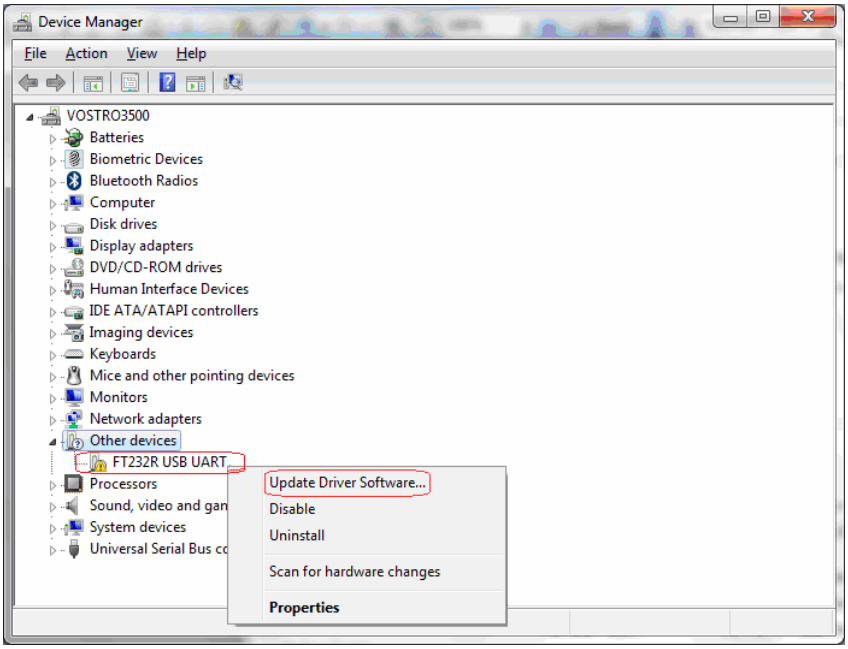
(1) Connect the power supply unit (PSU) to the "Power" connector on the back of the IMUSB100 controller; **IMPORTANT: DO NOT CONNECT THE PSU TO THE "T/P" or "Probe" CONNECTOR WHICH IS FOR TOUCH PROBE.**

(2) Connect one end of the USB cable to the USB connector on the back of the IMUSB100 controller and connect the other end of the USB cable to one of the USB ports of the host PC;

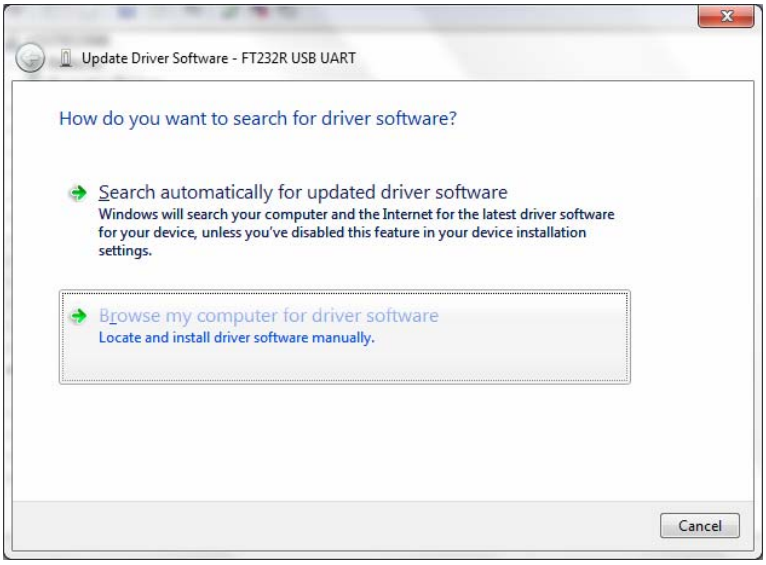
(3) Windows 7 will display a warning message on the status bar at lower right corner of the screen:



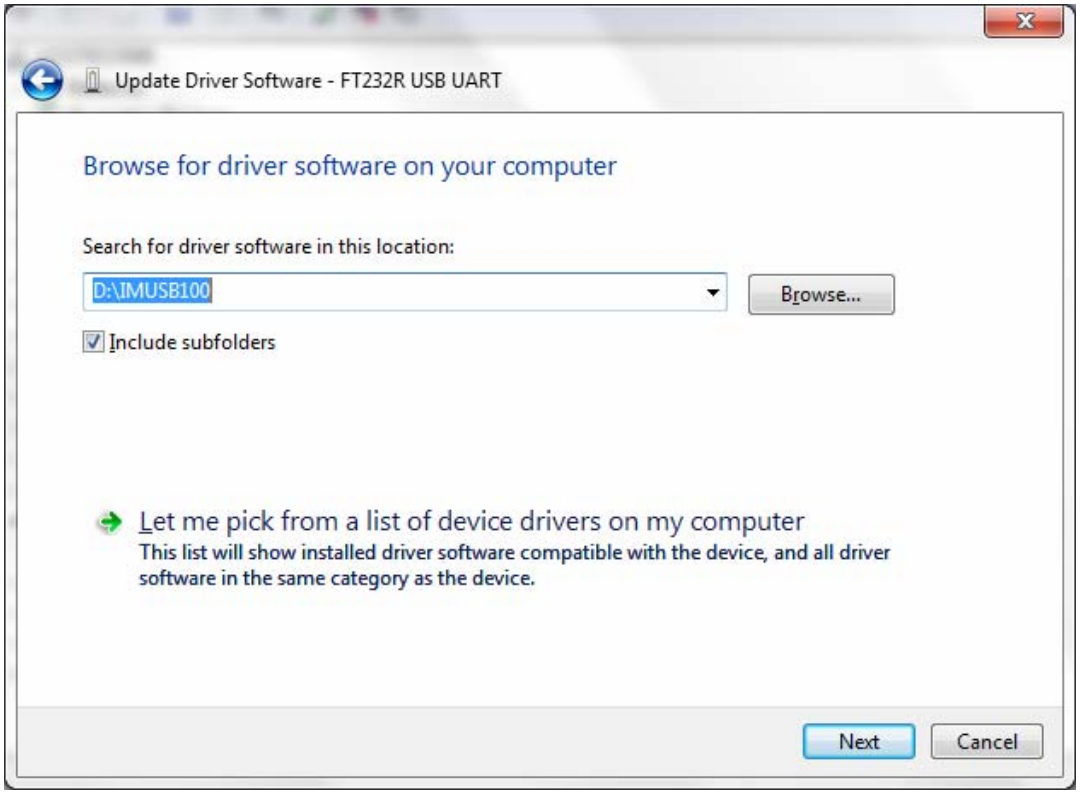
Select the Windows Start menu at the lower left corner of the screen. Then right click on "Computer" and select "Properties". Click on "Device Manager" at the upper left corner will invoke the device manager window as shown below.



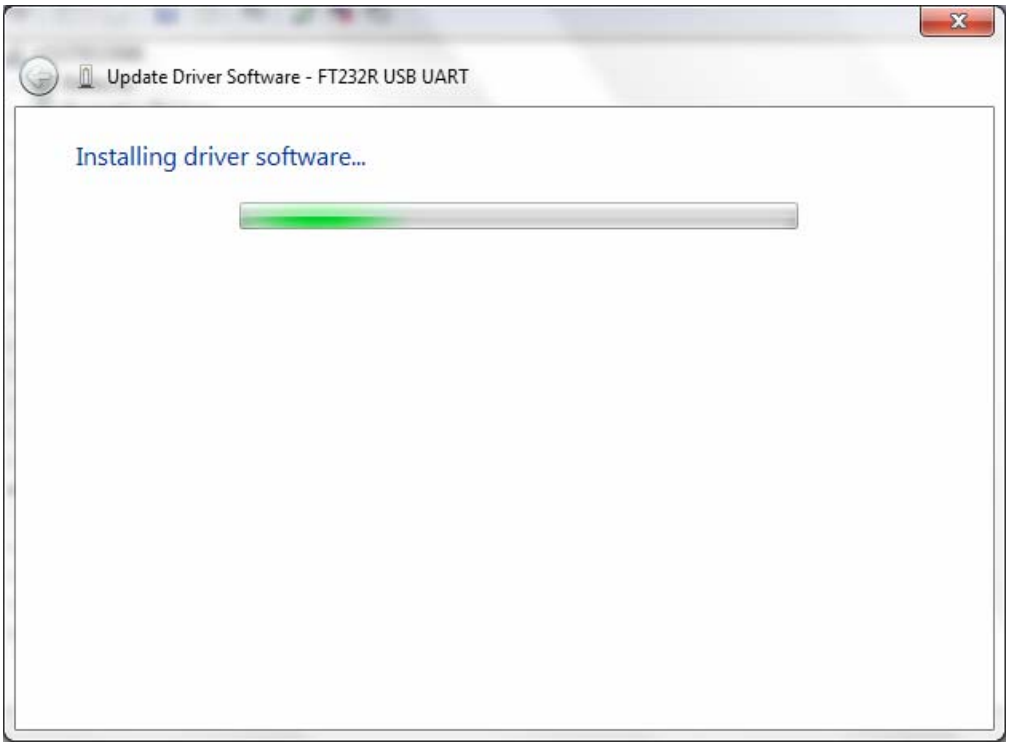
Now click on “Other Devices” and you will see “FT232R USB UART” or “IMUSB100”. Right click on this device and select “Update Driver Software…”:



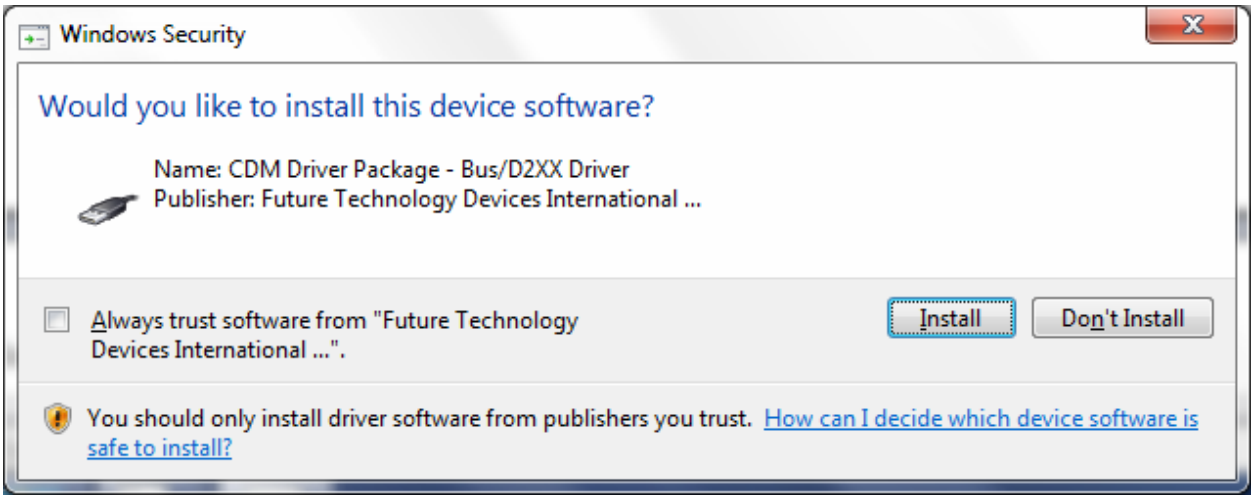
Select second option “Browse my computer for driver software” and click the [Browse] button to select the “IMUSB100” folder on the CMM-Manager installation CD. Then click the [Next] button at the bottom of the window.



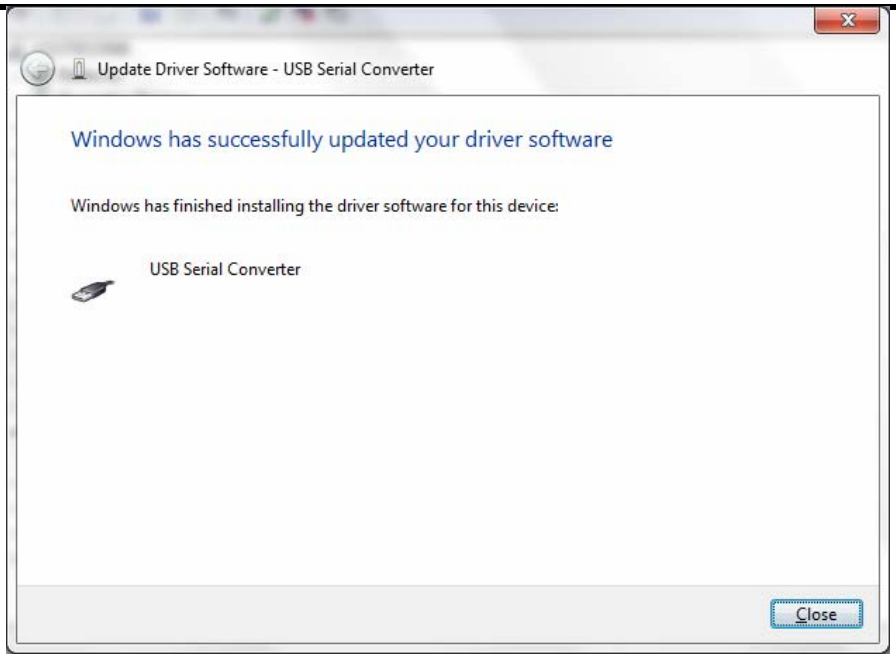
Windows 7 will start to search for device driver and displays the following window:



When Windows finds the device driver, it will display the following confirmation window. Just click [Install] to let Windows to install the device driver:



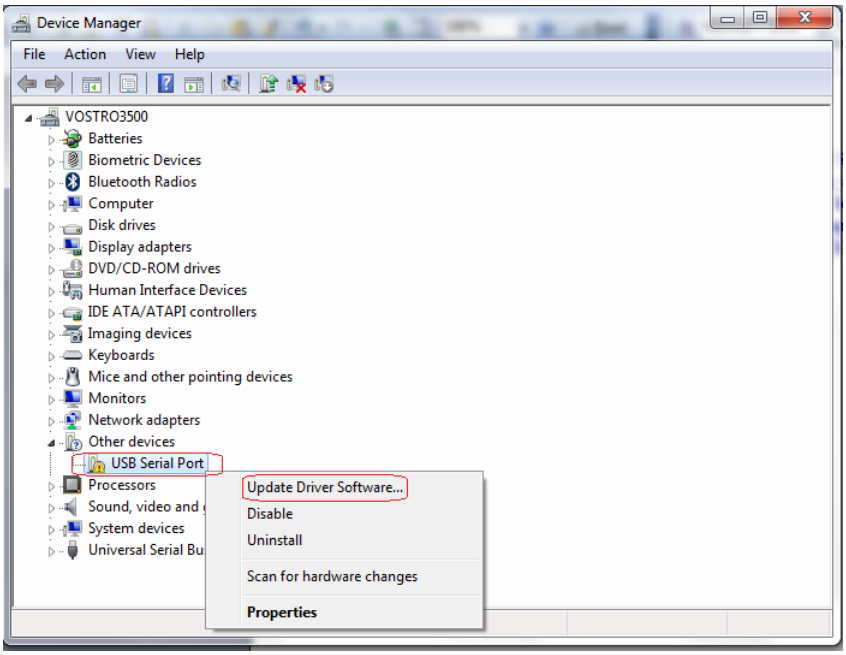
When the device driver is installed, you should see the following notification window. Just click [Close] button.



This finishes the device driver installation for the FT232R UART interface for the USB chip used by IMUSB100 controller.

IMPORTANT:

The USB chip used by IMUSB100 also has a USB Serial Port interface which requires a different device driver. To install the device driver for the virtual serial port, go back to Device Manager window as shown below. Right click on "USB Serial Port" and select "Update Driver Software" and repeat the steps and selections above to finish device driver installation for the USB Serial Port interface.

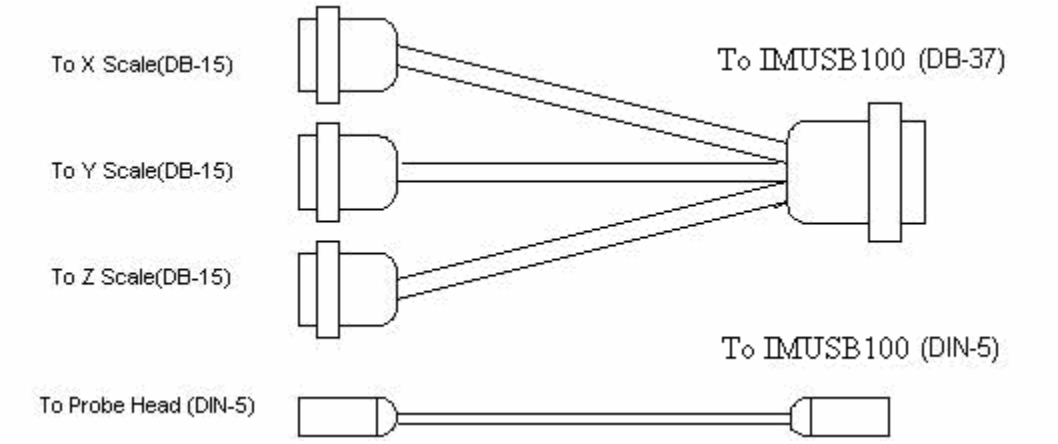


3. Connect Your Machine to IMUSB100 Controller

On the back of the IMUSB100 controller, the DSub 37 pin socket connector is for scale input from the machine and the other DIN5 connector marked "T/P" or "Probe" is for touch probe.

When you receive the package, adapter cables are normally provided to match the machine scale output to the input of IMUSB100 controller. Connect one end of the adapter cable to IMUSB100 and the other end to cable from the machine. **IMPORTANT: ALWAYS USE ADAPTER CABLES TO CONNECT YOUR MACHINE TO IMUSB100 AND NEVER CONNECT CABLES FROM CMM DIRECTLY TO IMUSB100 AS THIS MIGHT DAMAGE YOUR MACHINE.**

Following is one example of the adapter cables:



4. Setup Machine & Serial Box

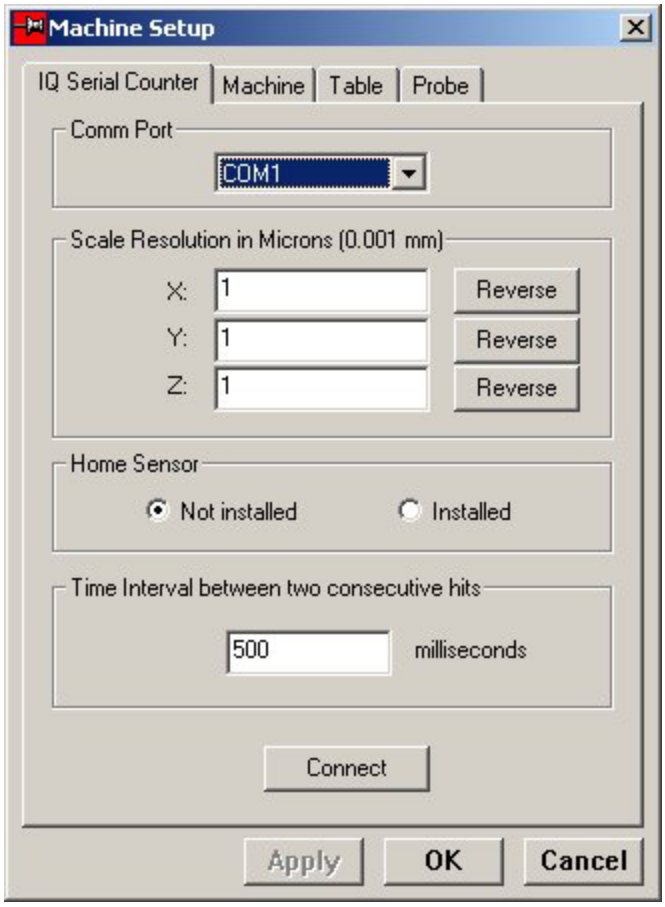
(1) Attach the Security Key to USB port of your PC.

(2) Start CMM-Manager. If the Security Key is not attached to the host PC, the following error message will be displayed:

(3) Select menu **System** ▸ **Machine Setup…**. The machine setup password dialog box will be displayed. Type password "goiq" and the Machine Setup dialog pops up.

(4) Setup IMUSB100 Controller

NOTE: IMUSB100 uses the same communication protocol as the IQ Serial Counter.



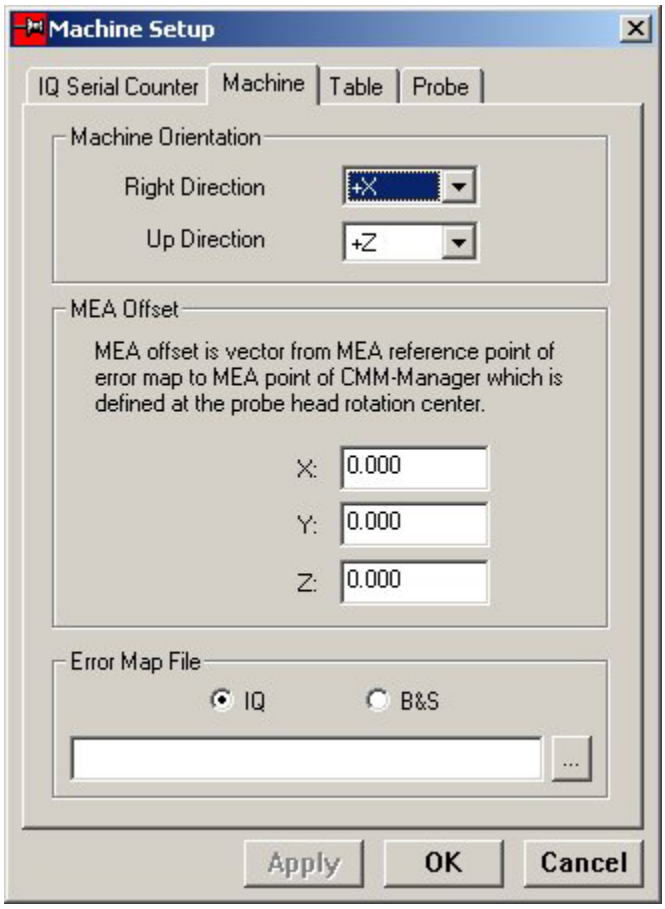
- **Comm Port** - select the COM port. You can find the com port from device manager.

  NOTE: ***If you copied IQSC100.DLL from installation CD to C:\CMM-Manager\Driver folder after installing CMM-Manager, you can just leave the Comm Port to default as the DLL will automatically detect the correct Comm Port when CMM-Manager connects to IMUSB100 controller.***

- **Scale Resolution** - resolution of the scales used for the three axes of your CMM, in unit of micron/count. Negative number is allowed to enable you to reverse the scale counting direction of an axis. You can confirm the scale counting direction by reading the display of DRO (Digital Read Out) window of CMM-Manager.

- **Home Sensor** - indicates whether home sensors are installed on the three axes of your CMM.

(5) Setup machine orientation, MEA offset & error map file



Setup machine orientation

- **Right Direction** – the direction to your right, in machine reference frame, when you stand facing the CMM.

- **Up Direction** – the direction pointing up, in machine reference frame, when you stand facing the CMM.

Setup MEA position

Microprocessor **E**nhanced **A**ccuracy (**MEA**), also know as Volumetric Error Compensation, is an advanced computing technique used by CMM machine manufacturers to enhance the accuracy of their machines through a pre-calibrated machine error map.

If your machine does not support MEA, type in (0,0,0). Otherwise, consult your CMM or service supplier to obtain the data.

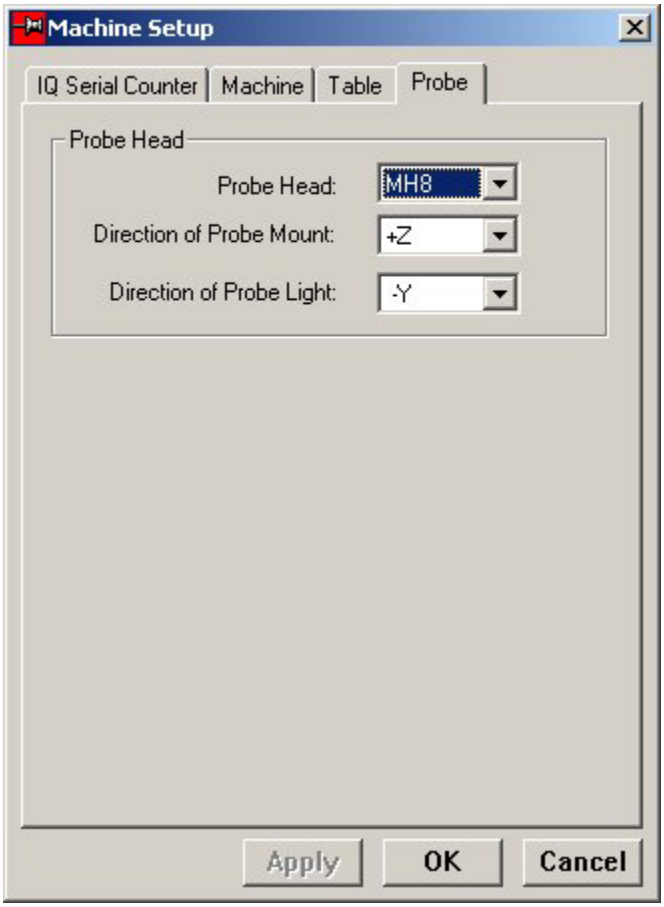
Setup error map file

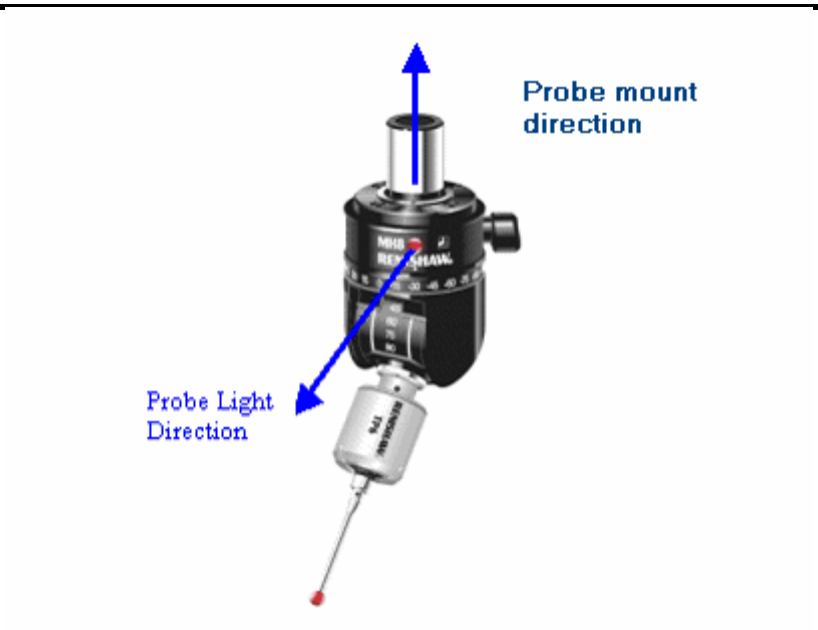
Error Map File stores the machine calibration information and will be used to compensate errors.

If your machine does not support MEA, ignore this entry. Otherwise, type in the full path file name of the error map file; or click the ... button to browse the file from standard Windows File dialog.

(6) Setup probe head

- **Probe Head** – the standard Renishaw probe head model installed on your CMM.
- **Direction of Probe Head** – the direction of probe head in machine reference frame. See the illustration below.
- **Direction of Probe Light** – the direction of probe light in machine reference frame. See the illustration below.





(9) Click the **Apply** button to see the effect of the new setup parameters.

CMM-Manager will try to connect/re-connect the machine using the newly set machine parameters. The graphic display will change accordingly to the changes made.

(10) Click the **Ok** button to accept the setup and exit the setup window.

5. Setup Probe Assembly

Select menu **Probe ▸ Probe Assembly…** to setup the probe assembly according to your physical probe assembly.