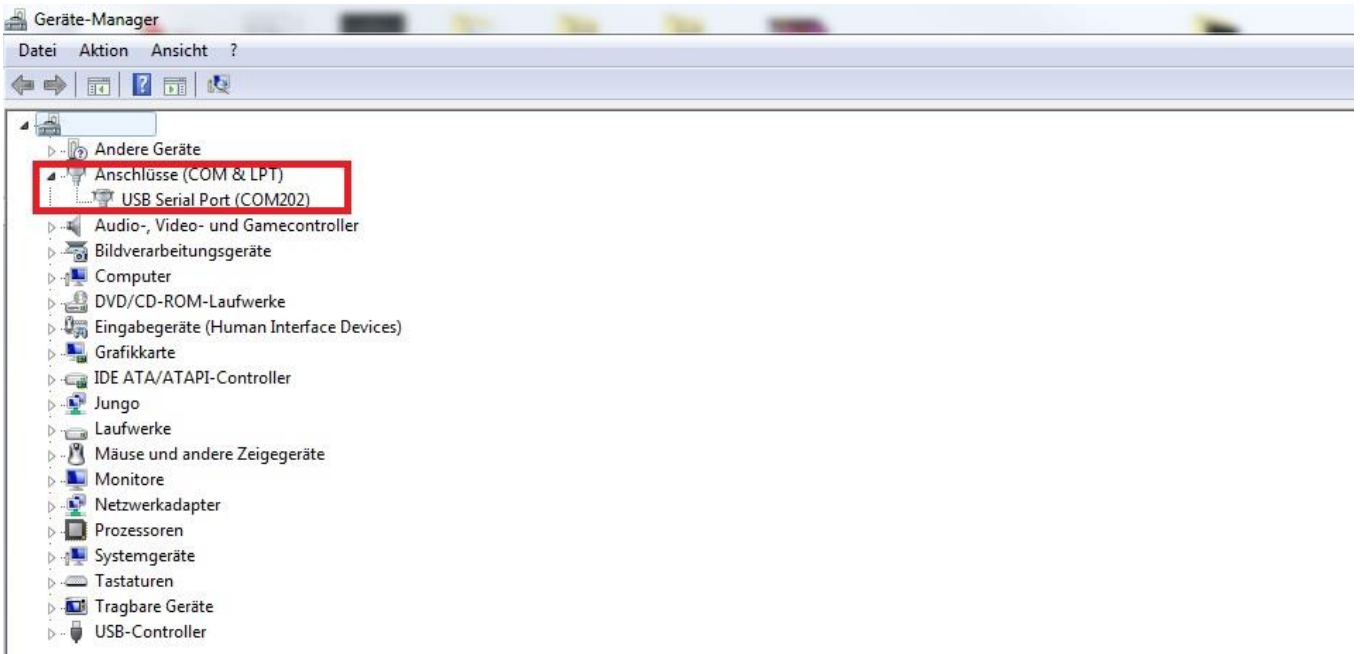
Brugi3X GUI and Parameter Setup

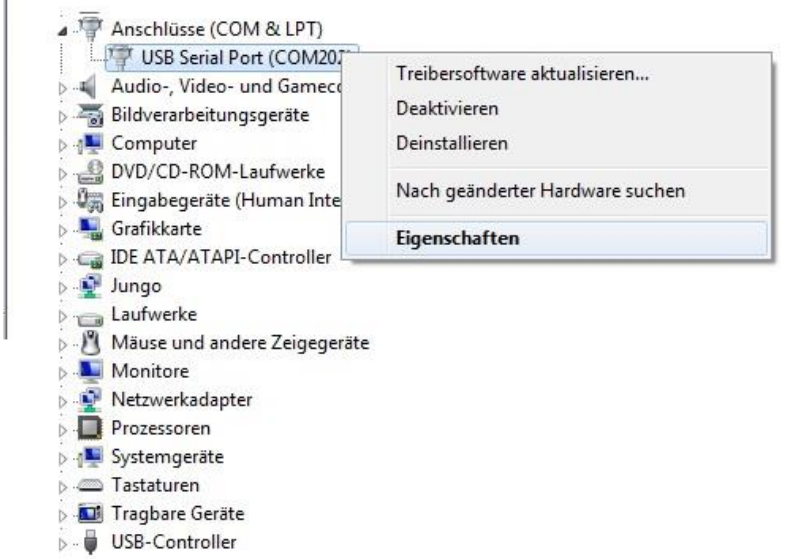
Install the Driver :

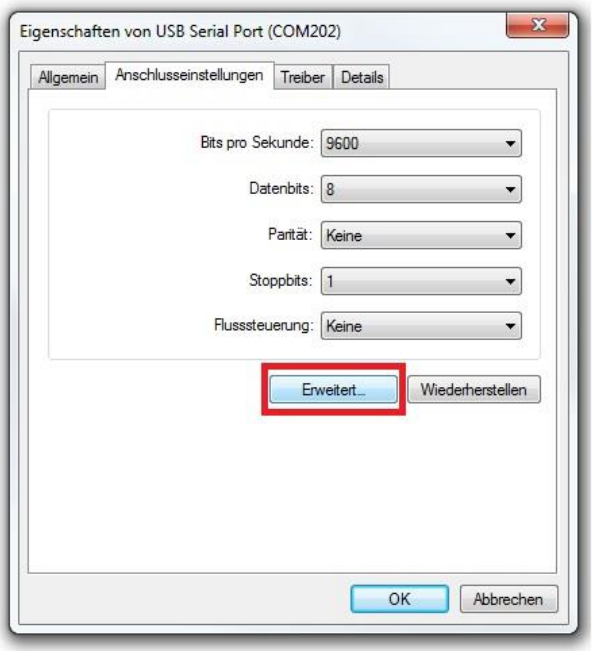
1. Connect the Brugi3X via the USB cable to the PC
2. Windows starts to install the Driver

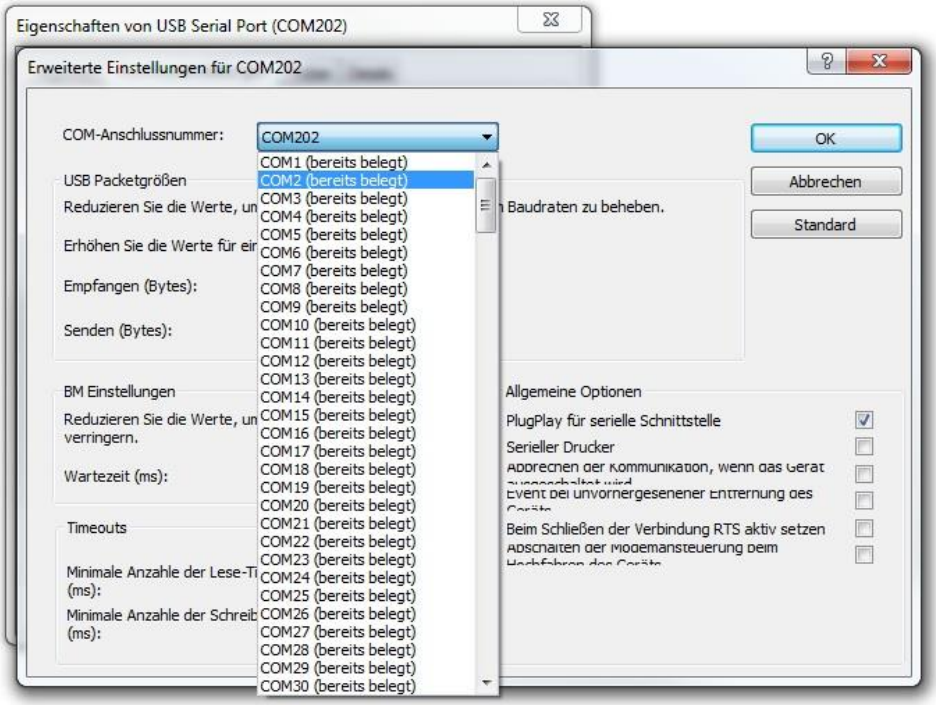
3. Wait for finish the Driver installation
4. Go to the Hardware Manager and check the Comport



5. If the Comport is higher than COM4 , pleas change it to a smaller number with the following steps :



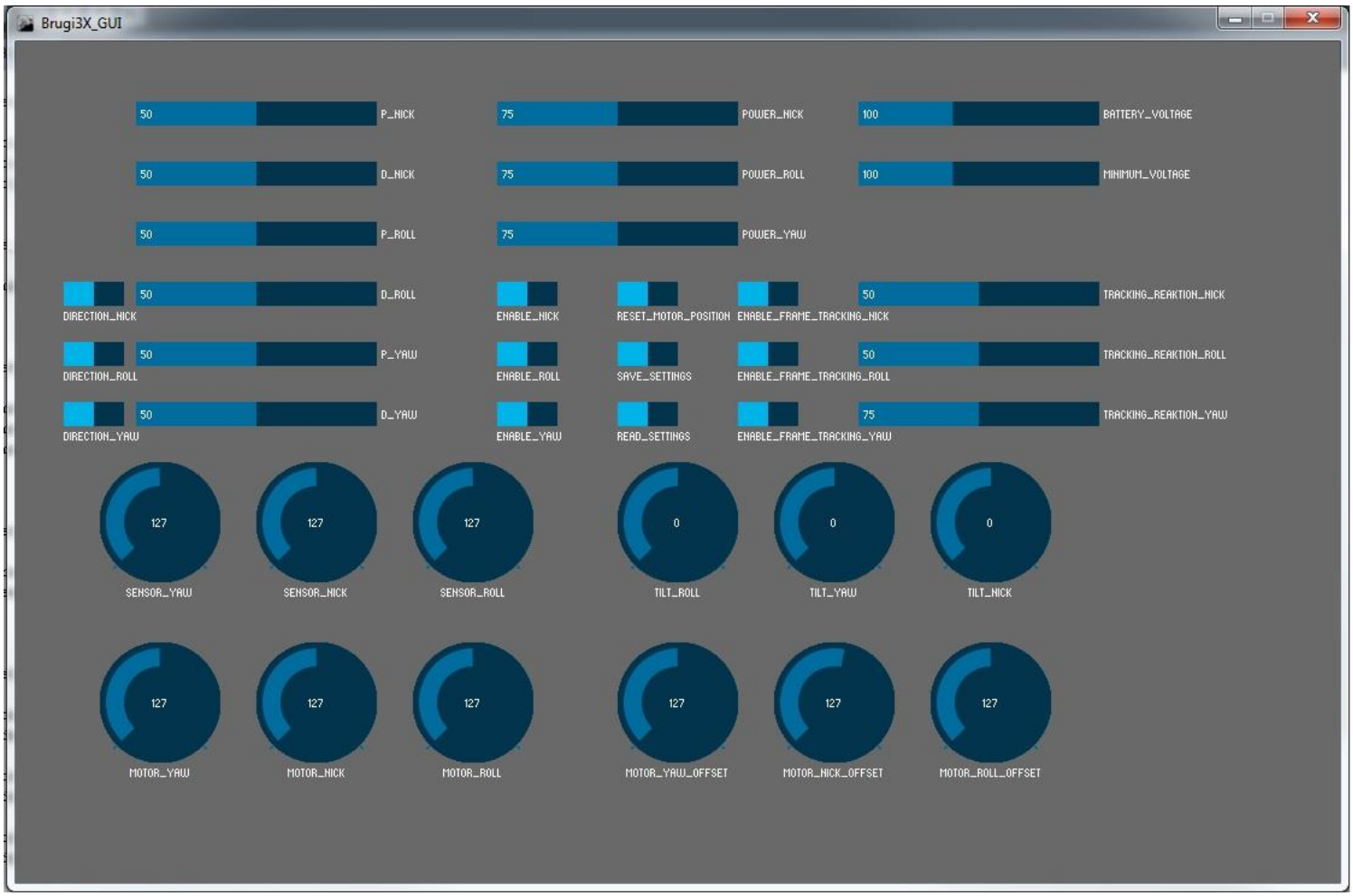

Eigenschaften von USB Serial Port (COM202)
Allgemein
Anschlusseinstellungen
Treiber
Details
Bits pro Sekunde: 9600
Datenbits: 8
Parität: Keine
Stoppbits: 1
Flusssteuerung: Keine
Erweitert...
Wiederherstellen
OK
Abbrechen


Eigenschaften von USB Serial Port (COM202)
Erweiterte Einstellungen für COM202
COM-Anschlussnummer:
COM202
OK
Abbrechen
Standard
USB Packetgrößen
Reduzieren Sie die Werte, un
Baudraten zu beheben.
Erhöhen Sie die Werte für ein
Empfangen (Bytes):
Senden (Bytes):
BM Einstellungen
Reduzieren Sie die Werte, un
verringern.
Wartezeit (ms):
Timeouts
Minimale Anzahle der Lese-Ti
(ms):
Minimale Anzahle der Schreib
(ms):
Allgemeine Optionen
PlugPlay für serielle Schnittstelle
Serieller Drucker
Beim Schließen der Verbindung RTS aktiv setzen
COM1 (bereits belegt)
COM2 (bereits belegt)
COM3 (bereits belegt)
COM4 (bereits belegt)
COM5 (bereits belegt)
COM6 (bereits belegt)
COM7 (bereits belegt)
COM8 (bereits belegt)
COM9 (bereits belegt)
COM10 (bereits belegt)
COM11 (bereits belegt)
COM12 (bereits belegt)
COM13 (bereits belegt)
COM14 (bereits belegt)
COM15 (bereits belegt)
COM16 (bereits belegt)
COM17 (bereits belegt)
COM18 (bereits belegt)
COM19 (bereits belegt)
COM20 (bereits belegt)
COM21 (bereits belegt)
COM22 (bereits belegt)
COM23 (bereits belegt)
COM24 (bereits belegt)
COM25 (bereits belegt)
COM26 (bereits belegt)
COM27 (bereits belegt)
COM28 (bereits belegt)
COM29 (bereits belegt)
COM30 (bereits belegt)

Use The Gui :

- Connect the Brugi3X
- Make Shure you have connect only one comport to the PC
- Power up the Brugi3X
- Start the Gui

After a few seconds you should see the following window :



Description of the Parameter :

- P_Nick , P_Roll and P_Yaw are the P Term of the PD Controller
- D_Nick , D_Roll and D_Yaw are the D Term of the PD Controller
- Direction_Nick , Direction_Roll and Direction_Yaw are the Direction of the Motors
- Power_Nick , Power_Roll and Power_Yaw are the force of the Motors
- Enable_Nick , Enable_Roll and Enable_Yaw are for Activate/Deactivate the Compensation of each Axis
- Reset_Motor_Position is set the Motorpositon to Zero at this Point
- Save_Settings for save the Settings after circle the Power
- Read_Settings to read the current Parameter from the Brugi3x to the GUI
- Enable_Frame_Tracking_Nick , Roll and Yaw to activate the Frame Tracking/Follow mode
- Battery_Voltage shows the Current input Voltage of the Power Source
- Minimum_Voltage , when the Power Source Voltage is smaller than this Value , the Brugi3X will go to Standby
- Tracking_Reaktion_Nick , Roll and Yaw is for how fast and much the Frame Tracking should follow the Frame
- Sensor_Yaw , Sensor_Nick and Sensor_Roll are the Current Position of the External IMU
- Motor_Yaw , Motor_Nick and Motor_Roll are the Current Position of the Motors
- Motor_Yaw_Offset , Motor_Nick_Offset and Motor_Roll_Offset are for Trim the Zero Position of each motor

Tune the Parameter :

- Set all P Terms to 10
- Set all D Terms to 20
- Increase the Power_Nick , Roll and Yaw until the Motors have enough Trust
- Move all Axis to see if the Motors are overreact or not , if yes -> Change the Direction of this Axi
- Start to Increase the P Term of Nick
- When Nick begin to vibrate , Adjust the D Term : High Frequenz -> Lower the D Term , Low Frequenz -> Increase the Term
- Repeat the previous step until the D Term cant stop the vibrations
- Repeat the previous 2 Steps for Roll and Yaw

- When the Gimbal works well you can activate the Frame Tracking If you want, and setup the Following reaction .