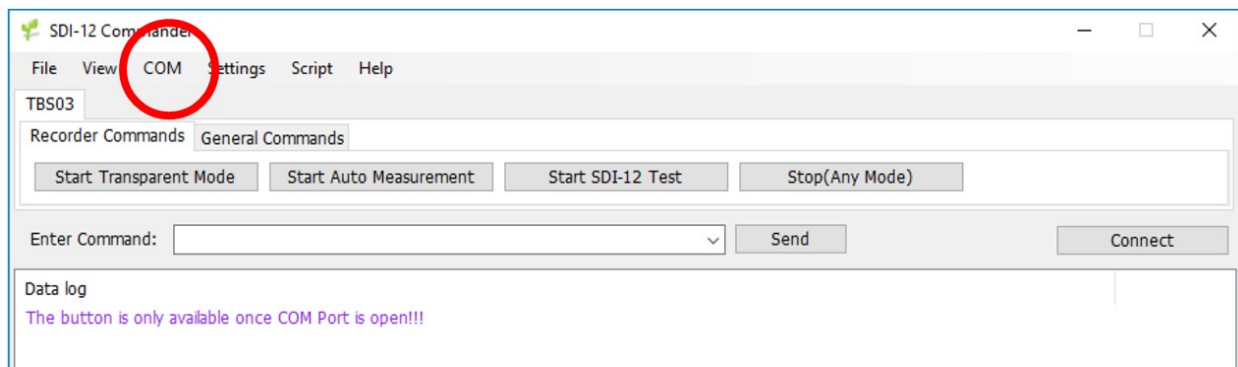


# TBS03 SDI-12 Commander

## A Quick Start Guide

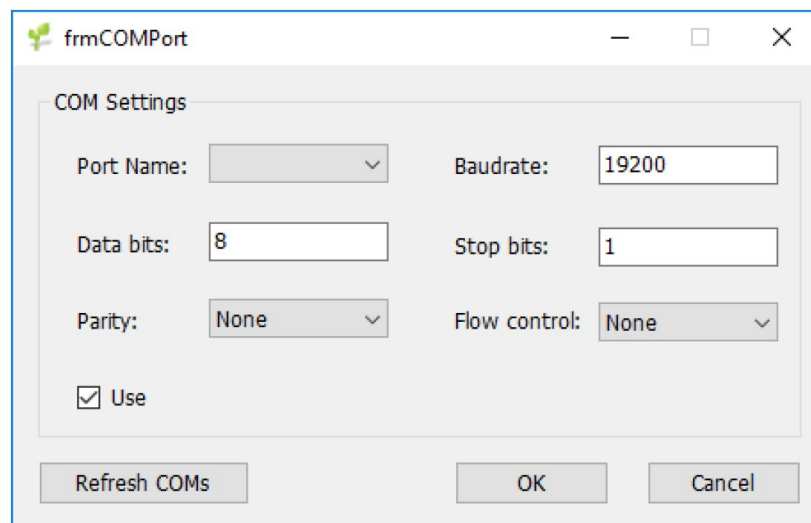
### Step 1:

- Open SDI-12 Commander software and ensure USB is connected to computer.
- Click on “COM” and “COM Port Settings” in the drop-down menu options.



### Step 2:

- COM settings: Baudrate: 19200; Data Bits: 8; Stop Bits: 1; Parity: None; Flow Control: None.
- Find the USB COM port in Port Name. You may need to “Refresh COMs”. Click OK.

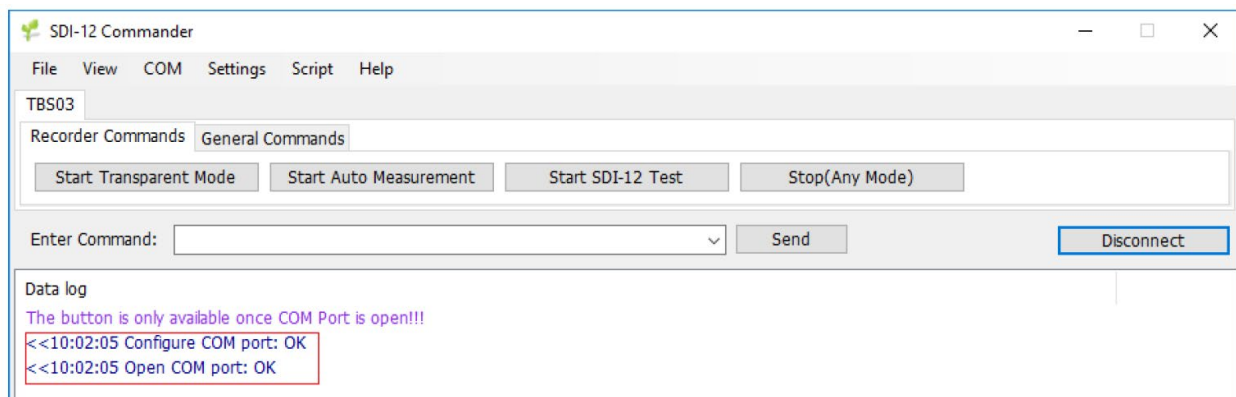


**Step 3:**

- Connect Sap Flow Sensor wires to the TBS03 by connecting GND (ground) first.
- BLACK: GND; WHITE: SDI-12 DATA; RED: SDI-12 POWER.
- Do not use SHIELD and EXTERNAL SUPPLY terminals.
- Note that power is supplied via USB cable connected to a computer.

**Step 4**

- Connect to TBS03 in the SDI-12 Commander GUI.
- Once you see the following information, the TBS03 is operational:



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**Step 5**

- In the “Enter Command” box, type ?! and click “Send” to ensure the TBS03 has detected the sap flow sensor. The default address is the sap flow sensor is 0 (zero).

**Step 6**

- These are the SDI-12 commands to set up the sap flow sensor for measurement. Refer to the sap flow sensor’s integrator’s guide for a full list of SDI-12 command options.
- 0XTDD! – returns trunk diameter value for sensor address 0. Default value is 10.0 cm.
- 0XTDD=24.3! – changes the trunk diameter to 24.3 cm. Instead of 24.3, insert the value for your trunk diameter.
- 00XBDD! – returns bark depth value for sensor address 0. Default value is 0.5 cm.
- 0XBDD=0.2! – changes the bark depth to 0.2 cm. Instead of 0.2, insert the value for your bark depth.
- 0XDDW! – returns dry density of wood for sensor address 0. Default value is 0.400 g/cm<sup>3</sup>.
- 0XDDW=0.558! – changes the dry density of wood to 0.558 g/cm<sup>3</sup>. Instead of 0.558, insert the value for your dry density of wood.
- You may have more than one SDI-12 sensor connected to your bus or data acquisition unit. SDI-12 sensors can never have the same address. Therefore, you will need to change the address of at least one SDI-12 sensor. To change an address, use the following command: 0A1!
- This command will change sensor address 0 to address 1.
- Your sap flow sensor is now configured and ready to install into the tree.



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