QUICK GUIDE | WitroxCTRL

1.1 LOLIGO® SYSTEMS

FIRST TIME USE

1 Insert the memory stick (1) into a USB port on your PC and run the **WitroxCTRL** installation program. Follow the instructions on the screen and then restart the PC.
Alternatively, download WitroxCTRL from the website: www.loligosystems.com/downloads

2 Connect the (green) **WiBu copy protection dongle** (2) to a USB port on the same PC.

3 Connect the recommended **long-range Bluetooth adapter** (3) to a USB port on the same PC and let Windows initialize it. Dissable any built-in/other Bluetooth radios on your PC.

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a. Connect the power adapter for the Witrox instrument to a wall outlet and then the USB cable to the backside socket.
b. Connect the PT1000 temperature sensor to the socket labelled "Temp" on the front of the Witrox instrument.
c. Connect the fiber optic oxygen sensor(s) to the SMA ports labelled **CH1-CH4** on the front of the Witrox instrument.
d. Turn on the Witrox instrument by pushing the power button (lower left corner). Notice that the instrument will time out after 300 seconds of inactivity.

5 Power the LoligoBT device by connecting the cord to a wall outlet and turn it ON by pushing the button (0 → 1). Boot up takes approximately 30 seconds.

6 Make sure that all instruments/devices are turned ON, and then open the WitroxCTRL program. Choose **Scan for new devices** and let WitroxCTRL find the instruments and devices. This might take several minutes. *Please do not use any other Loligo® software simultaneously with the WitroxCTRL software.*

7 When the scan is finished, all Witrox instruments and LoligoBT devices are shown. WitroxCTRL will assign available power relays on LoligoBT devices to input channels on the Witrox instruments (7 and 7.1) and will save this configuration for future use.

FOR EACH TRIAL

8 Make sure that all the instruments and devices are switched on. Start WitroxCTRL and choose **Use current configuration** to work with the saved configuration.

9 Click **Calibration** to calibrate the oxygen sensor(s) or to verify current calibration values (*go to step 13*).

10 Click **Experiment** to see real-time data and start controlling water quality. Click on each channel to change setpoint, hysteresis, regulation type etc. Choose between these four types of regulation (Off, Manual, Automated or File).

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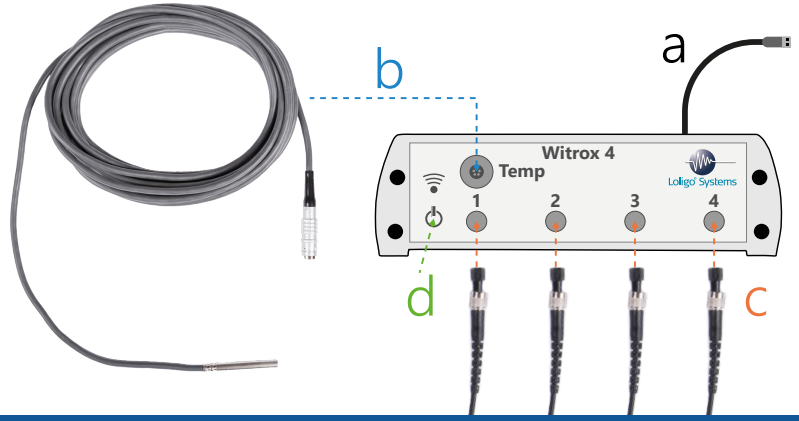

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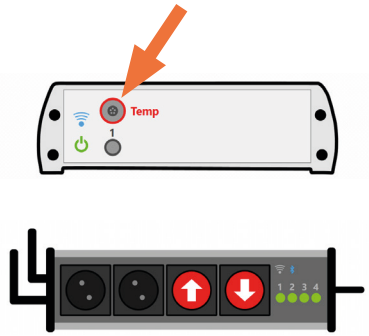
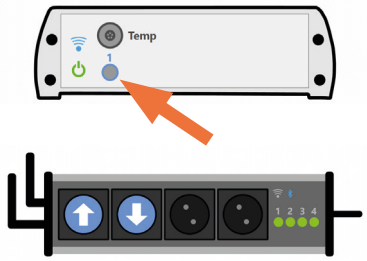


7.1



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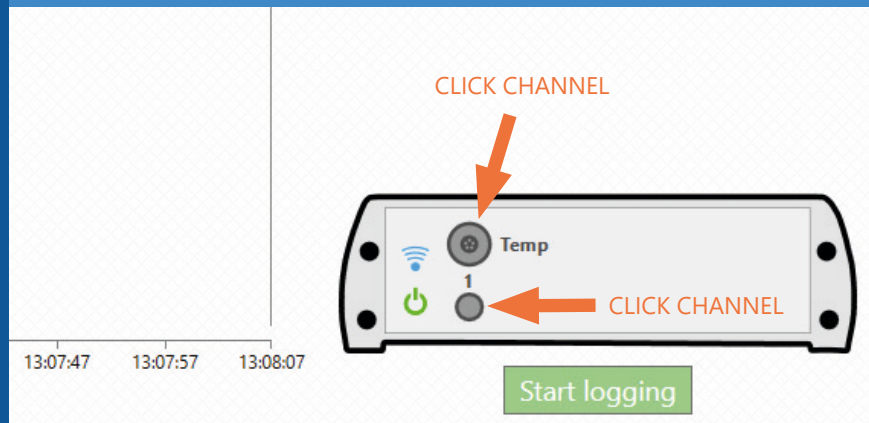

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FOR EACH TRIAL

11 Click **Start log** to create a data file and save temperature and oxygen data from the Witrox instrument. *Notice that data from each Witrox instrument is logged to a separate file.*

12 Click **Stop logging** when the experiment is over.

CALIBRATION, SERVICE & MAINTENANCE

13 Choose **Calibration** to calibrate oxygen sensor(s). Click on the relevant channel (CH1-CH4) to open the channel calibration menu (13). Select the type of temperature input (Witrox controlled or User controlled) and then perform a **Manual** (user-defined) 2-point calibration (13.1 and 13.2):

a. Place the sensor tip in a mixed air-equilibrated water sample. This can be achieved by purging atmospheric air into sample water, e.g. with an air pump.

b. Wait for the phase readings (sensor signal) to stabilize and then click **Read current values** to save the current value as the HIGH calibration value (100 % air saturation).

c. Transfer the sensor to an oxygen free water sample, e.g. by purging nitrogen gas into sample water or by dissolving ~10 grams of Na_2SO_3 in 500 ml of distilled water.

d. Wait for the phase reading to stabilize and then click **Read current values** to save the current sensor signals as the LOW calibration value (0 % air saturation).

14 To clean the oxygen sensor(s), use a mild soap solution or bleach, and rinse with demi water. Then dry.

15 Store oxygen sensors in a dark place between trials to avoid exposing the fluorescent dye to UV light. UV light will bleach the sensor dye and decrease the signal strength (amplitude).

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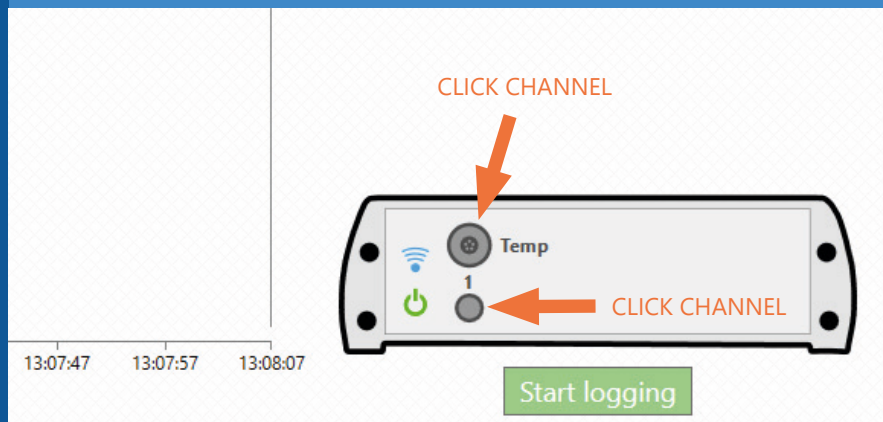
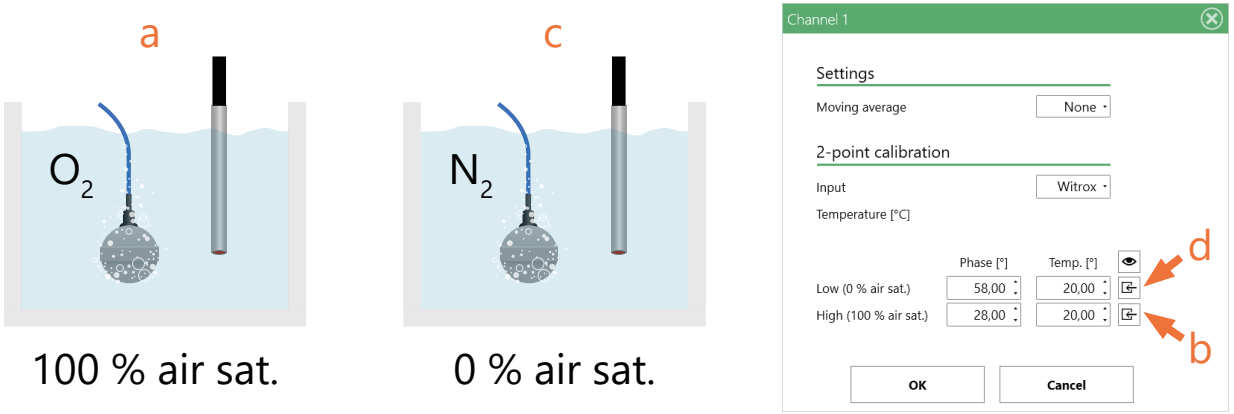
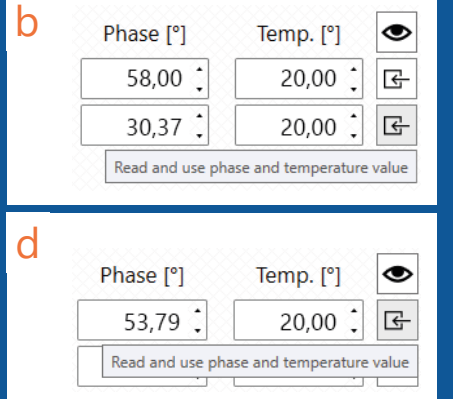


13.1



13.2



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