

# Fiber-Optic Oxygen Meter Piccolo<sub>2</sub>

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*QUICK START  
WARNINGS AND SAFETY GUIDELINES*



## QUICK START

The ultra-compact *Piccolo<sub>2</sub>* is a fiber-optic oxygen meter integrated in a small USB stick housing for usage in the laboratory. The *Piccolo<sub>2</sub>* is compatible to a variety of optical oxygen sensors from *PyroScience*, like robust probes, dipping probes, or contactless sensors (sensor spots, respiration vials, flow-through cells, nanoprobes). The optimized optics of the *Piccolo<sub>2</sub>* enable contactless oxygen measurements up to a window thickness of 20mm (sensor spots) and microfluidic applications (nanoprobes).



Simply plug the *Piccolo<sub>2</sub>* into an USB port of your Windows PC, laptop or tablet, connect the sensor of your choice and start measuring with the comfortable logging software "*Pyro Oxygen Logger*", which is available as a free download.

Multichannel systems are realizable by operating several *Piccolo<sub>2</sub>* in parallel e.g. with an USB hub.

**IMPORTANT:** Do **not** connect the *Piccolo<sub>2</sub>* to your PC before the *Pyro Oxygen Logger* software has been installed! The software will install automatically the appropriate USB-drivers.

**SYSTEM REQUIREMENTS:** PC, laptop or tablet with Windows 7 / 8 / 10 (but not Windows RT), min. 700MB free drive space, free USB port.

**IMPORTANT:** The *Piccolo<sub>2</sub>* is intended for oxygen measurements at **constant temperature!** Uncompensated temperature variation affects the oxygen sensor reading!

**Step 1:** Download the *Piccolo2* manual (PDF) and the installer package for the *Pyro Oxygen Logger* software from the internet address <http://www.pyro-science.com/downloads.html>

**Step 2:** Unzip the installer package and start "setup.exe". Follow the instructions of the installer software. After successful installation there will be a new program group "Pyro Oxygen Logger" in the start menu and a shortcut "Oxygen Logger" on the desktop.

**Step 3:** Connect the *Piccolo2* either directly or with the included USB extension cable to a free USB port of the PC. Wait for "pop-ups" in the lower right corner of the desktop indicating that the computer has initialized the correct USB driver.

**Step 4:** Slightly loosen the nut at the sensor port of the *Piccolo2*. Remove the protective cap from the instrument end of the robust/dipping probe or optical fiber/rod and insert it carefully into the sensor port of the *Piccolo2*. Now fasten the nut with your fingers at the sensor port of the *Piccolo2*.

**Step 5:** Start the *Pyro Oxygen Logger* software, adjust the **Settings** and enter there the **Sensor Code** written on the label attached to the sensor. Adjust the required logging parameters, perform a manual **Calibration (1- or 2-point calibration)** of the sensor at conditions close to the environmental conditions during the measurements and activate **Log to File** for data saving.

**IMPORTANT:** This quick start does not replace the manual. The user is strongly advised to download and to study the manual of the *Piccolo2* in order to avoid inappropriate use!

## WARNINGS AND SAFETY GUIDELINES

Before using the *Piccolo2* and its sensors, read carefully the instructions and user manuals for the oxygen meter *Piccolo2*.

In case of problems or damage, disconnect the instrument and mark it to prevent any further use! Consult *PyroScience* for advice! There are no serviceable parts inside the device. Please note that opening the housing will void the warranty!

The *Piccolo2* is not watertight, is sensitive to corrosive conditions and to changes in temperature causing condensation. Avoid any condition (e.g. direct sun light) causing a heating of the device above 50°C (122°F).

Handle the sensors with care especially after removal of the protective cap! Prevent mechanical stress to the fragile sensing tip! Avoid strong bending of the fiber cable!

The sensors and the oxygen meter *Piccolo2* are not intended for medical or military purposes or any other safety-critical applications. They must not be used for applications in humans; not for in vivo examination on humans, not for human-diagnostic or any therapeutic purposes. The sensors must not be brought in direct contact with foods intended for consumption by humans.

The device and the sensors must be used in the laboratory by qualified personnel only, following the user instructions and the safety guidelines of the manual, as well as the appropriate laws and guidelines for safety in the laboratory!

Sensor calibration and application are on the user's authority, as well as data acquisition, treatment and publication!

Keep the sensors and the *Piccolo2* out of reach of children!