Air Pressure
for the LogIT Microsense® system

Overview
This Microsense Air Pressure sensor measures absolute air pressure as this is the most flexible, allowing direct measurements of atmosphere (for meteorological work) or pressure in vessels etc, as well as relative pressures (by subtracting from the atmospheric pressure value).

The default units and scale displayed on a LogIT display and software is the standard SI unit for pressure, kPa (kilo Pascal) and many software titles, such as LogIT Lab, also allow you to select other scale options as required (eg psi or millibar), or you can convert kPA to suitable units using the conversion table below.

Conversion:1 kPascal(default scale) =10 millibar = 0.14504 psi

The sensor covers approximately two atmospheres and because it can be used over such a wide dynamic range, the measurement of atmospheric pressure (or similar small pressure changes) will require the results to be magnified in the software being used.

Please note that for better measurement of small pressure changes e.g. weather, the Microsense Barometric Pressure sensor is available to measure changes across the range 780 to 1120 hPa with a much higher resolution.

Specifications
Sensor type: Solid state silicon device for air or dry gas
Range: 0 to 200 kPa (29psi)
Accuracy: +/- 5%
Max Pressure: 400 KPa Exposure beyond this will cause permanent damage

General Information
This sensor is an Absolute pressure sensor which measures the actual air pressure at the port with respect to zero and so in normal use will display atmospheric pressure as well as any additional pressure/vacuum applied.

Instructions & Resources

Air Pressure
for the LogIT Microsense® system

Care
Do not insert this sensor into anything other than a LogIT Microsense® compatible input. Take care not to drop the sensor or expose to wet, damp or extremes of temperature.

In common with all Microsense sensor's, the pressure sensor is designed to be as robust as possible without compromising flexibility and performance, but please note the following:
Only use this sensor to measure non-corrosive/non-ionic media such as air or dry gases - NEVER LIQUIDS.

If measuring atmospheric pressure outside protect the sensor and data logger/interface from the weather - a small hole or port in the building or enclosure is all that is required. Take care not to apply excessive force to the brass pressure port.
If applying external pressures we recommend the use of flexible silicone tubing or similar to connect to port to prevent excessive force (inside diameter of 2mm to 4mm depending on the tube material).

General Information
This sensor is an Absolute pressure sensor which measures the actual air pressure at the port with respect to zero and so in normal use will display atmospheric pressure as well as any additional pressure/vacuum applied.

Troubleshooting
If you find your sensor is not recognised by the logger (display of ???) or by the logging software, you will need to upgrade to version 'p' of the sensor system.
Visit www.logitworld.com for LogIT Lab software and logger updates.
If you are using Insight software or are unsure how to update your system, please contact support@dcpmicro.com

Instructions & Resources

Air Pressure

for the LogIT Microsense® system

Instructions for use

The brass connection port on the Pressure sensor is designed to accept various sizes of flexible tubing (eg silicone) with an inside diameter of 2mm to 4mm - the actual usable size of tubing depends upon the thickness and type of tube material as some tubing is more flexible than others.

The sensor can be used with a suitable Microsense sensor extension cable with a maximum length of 3 metres. This extension allows the sensor to be easily held in a clamp while enabling the use of a shorter length of tubing to connect the experiment to the sensor. One useful, method of attaching tubing to a vessel is to push the barrel of a syringe through a hole in a bung then join the tubing to where the needle would normally be fixed.
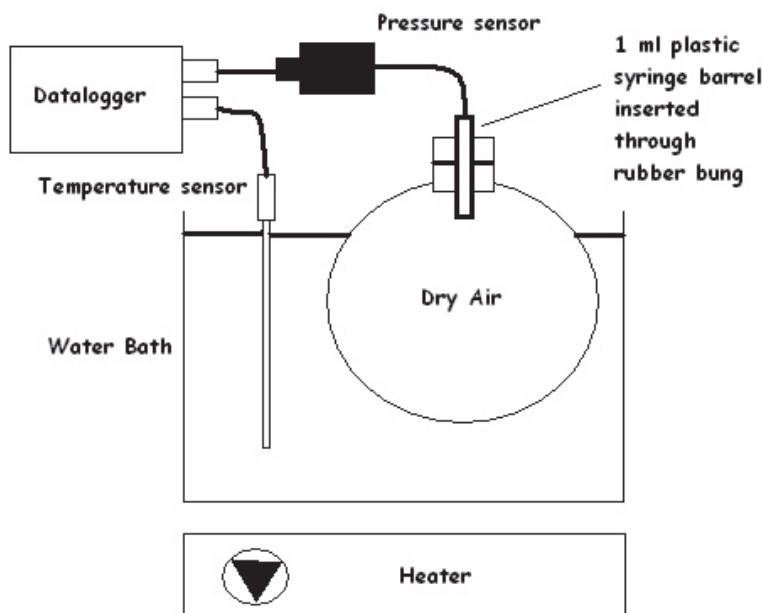
Because the sensor is designed to record across such a large pressure range the software and logger display may not always be able to show small changes unless the resolution is changed i.e. more decimal places are displayed - in most software packages this is achieved by zooming in on the results. If you are investigating very small pressure changes across the range 780 to 1120 hPa (1hPa = 1mbar) then you should consider using the Microsense Barometric Pressure sensor which is specifically designed to look at such small changes as associated with biology or weather investigations.

Experiment ideas

Fermentation
Rates of reaction involving gas
Gas laws - pressure/volume/temperature

**Instructions &
Resources**