

Wireless Differential Pressure Sensor

APPLICATIONS

Module and probe used for monitoring differential pressure from -500 Pa to +500 Pa in clean rooms.

WIRELESS

Range up to 700 meters (2,300 ft) in open space, from 25 meters (82 ft) to 100 meters (330 ft) indoors, and up to 400 meters (1,312 ft) indoors with 3 repeaters.

DATA LOGGING

Storage for 3,000 pressure readings in wireless module memory (equivalent to 3 weeks of readings with a measurement every 10 minutes).

SERVICE DISCOVERY PROTOCOL (SDP)

Cobalt 2 setup is automatic. Simply press the button on the Cobalt 2 module for 3 seconds to connect it with your wireless receiver. If the wireless signal is not optimal, Cobalt 2 seeks a better path by using other Cobalt modules to relay its signal to the receiver.

(starting with Thermo-Server software Version 4.1)



A cost-effective solution for monitoring pressure in your clean rooms.

Cobalt is the industry's leading battery powered remote differential pressure monitoring solution. Cobalt is an end-to-end wireless solution for remote pressure and sensor monitoring.

The Cobalt 2 system is easy to install and easy to use. Since it is wireless, no cabling is required. It lets you measure storage temperatures for temperature-sensitive products accurately, remotely and in real-time. Cobalt 2 checks temperature automatically, stores temperature data for tracking and traceability purposes, and alerts you in case anomalies are detected.

This wireless module is designed to be installed between two areas with different local pressure.

Cobalt collects and stores temperature data at regular intervals, transmitting it wirelessly to a PC running the system management software. This software also handles alarms and data storage, giving you a fast and easy way to see all your measurements and anomalies in just a few clicks.



- **Measured pressure ranges:** from -500 Pa to +500 Pa
- **Battery operated:** up to 2 years autonomy depending on use (battery model: LS17500 Saft Mazda 3.6V Lithium, p/n COB03400000)
- **Wireless module mount:** includes double-sided Velcro® or magnetic adhesive on wall bracket back
- **ISM (Industrial Scientific Medical) band with 3 frequencies:** US/CAN 915 MHz, Europe 868 MHz, APAC 434 MHz

- FCC 15 compliant: CE EN-300-220
- Channel width: 50 kHz
- Frequency deflection: 16 KHz
- Transmission speed: 9600 Baud in NRZ mode
- Modulation type: GFSK
- Driven receiver sensitivity for BER= 1%: from -107dbm to -110 dbm
- Driven transmission: from 8 dbm to 10 dbm
- Power output: 25 mW

Plastic enclosure: ABS and Polycarbonate

Temperature range for exposure of the module (functioning of the electronics of the radio module): 0°C to 50°C (32° to 122°F). 0 to 90% RH non-condensing.

Protection index: IP65.

Depending on usage, battery change may be required between 1 and 3 years of operation. Cobalt notifies you approximately two months before the end of battery life (when 10% battery life remains). You may change your own batteries or have it done by OCEASOFT or another qualified technician.

Size: 132.74 x 64.15 x 34 mm (5.2 x 2.5 x 1.3 in)



More than monitoring

ON-DEMAND PRESSURE READING

Following a short press on the green button, Cobalt immediately takes a reading of the sensor.

ROBUST SOLUTION

Digital technology sensor is insensitive to interference thanks to the use of error-correcting code and CRC (checksum).

FIND OUT MORE

Get more information on any of our products or services by visiting our Web site: www.oceasoft.com

Large LCD Display



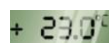
Alarm icon



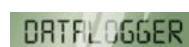
Battery level indicator



Performance indicator: wireless range (RSSI)



Most recent pressure reading



Display text: this customizable text shows the sensor name, as well as various alert messages, such as "Sensor Fail", "Low Bat", "High Value", etc.

Spontaneous alarm emission

Cobalt 2 sends an alarm to the Thermo-Server software, which forwards alerts to the appropriate user(s) in case values exceed pre-determined upper or lower limits. Cobalt 2 can also send spontaneous alarms with additional information:

- Sensor failure: For example, if a probe is disconnected, Cobalt attempts to establish communication with its sensor. If connection is not possible, a technical alarm is sent. The user is therefore notified immediately if there is a problem obtaining readings.
- Low battery: When the battery-life counter reaches 10%, a technical alarm is automatically sent to let the user know that the battery needs to be changed soon.

Sensor Performance

- **Measured pressure range:** -500 Pa to +500 Pa (- 2.0 to + 2.0 in H₂O)
- Tube diameter : 4 mm
- **Measurement uncertainty:** 0.5 Pa + 3% of reading
- Resolution: 0.25 Pa
- Offset shift due to temperature variation: none (less than resolution)
- Span shift due to temperature variation: < 0.5% of reading per 10°C
- Offset stability: < 0.1 Pa/year
- Response time: 4.6 ms typical
- Calibration certificate: laboratory certified in compliance with NF EN ISO/CEI 17025 with an 11-point reference standard: **0, 10, 20, 30, 40, 50, 60, 70, 80, 90** and **100 Pa**. Other point upon request.
- Protection index: **IP65**
- Media compatibility: Air, N₂
- Limited media compatibility: O₂
- Wet materials: PBT (polybutylene terephthalate), glass (silicon nitride, silicon oxide), silicon, gold, FR4, silicon as static sealing, epoxy, copper alloy, lead-free solder, fully RoHS compliant.
- Allowable overpressure: 1 bar (100 kPa, 400 inches H₂O)
- Rated burst pressure: > 5 bar
- Air flow through the sensor creates a dependence on tube length. Error is less than 1% with a tube length up to 1 m (with 3/16 inch inside diameter).

OCEASOFT

Bat 4, Parc club du Millénaire – 1025 rue Henri Becquerel
34000 Montpellier, France
www.oceasoft.com info@oceasoft.com



More than monitoring