

## Model OD8325 - OD8525 Optical Dissolved Oxygen Probes.



- ★ **4-20mA or RS485 Output.**
- ★ **Optical Device.**
- ★ **Low Maintenance**
- ★ **PPM or % of Air.**
- ★ **Automatic Temp Comp.**
- ★ **No Electrolyte or Membrane.**
- ★ **Submersible Assembly.**
- ★ **Inline Assembly.**
- ★ **Nozel for AutoClean (OD8325)**

These unique probes have been designed to measure dissolved oxygen based on fluorescent technology. The probes are available for submersible and in-pipe installations.

The measuring system consists of:

- optical device complete of fluorescent material,
- d.oxygen and temperature measuring circuit,
- 2-wire 4/20 mA analog output,
- RS 485 digital output,
- nozzle for the autoclean by external pressure air (OD 8325 only).

The measurement is provided in ppm or % of air with automatic temperature compensation.

### Technical Specifications

**Scale:** 0/20 ppm - 0/200 % air

**Sensitivity:** ± 0.5 % of the scale

**Response time:** 95% in < 60 seconds

**Power supply:** 9/36 Vdc

**Analog output:** 4/20 mA isolated current Loop

**Load:** 600 Ω max. at 24 Vdc

**Digital output:** RS 485

**Temperature compensation:** automatic

**Secondary parameters:** pressure, salinity, RH

**Room temperature:** -5/50 °C

**Max. pressure:** 1 bar at 25 °C (OD 8325);  
6 bar at 25 °C (OD 8525)

**Autoclean:** by pressure air 3 bar max (OD 8325)

**Dimensions OD 8325:** L=165 mm total, D= 60 mm

**Dimensions OD 8525:** L=143 mm total, D= 40 mm

**Cable:** 10 m (100 m max.)

**Protection:** IP 68



Through commands from a Personal Computer hyperterminal, the serial interface allows the d.oxygen and temperature data transmission, the ppm or % of air scale selection, the configuration of pressure, salinity and R.H compensation, the zero and sensitivity calibration.

Thanks to its 4/20 mA isolated output, the probe can be directly connected to a PLC, data logger or one of the following instruments:- BC 7335, BC 7635, BC 7635.010, BC 7687 or BC 6587 each of which provide the power, the measuring readout, 2 set-points, alarm relay and the holding function for an external cleaning cycle.

The most common applications of this probe include: water quality monitoring, municipal and industrial water treatment and aquaculture.

The OD8325 and OD8525 work by operating light beams of a specific wavelength which is sent to a special fluorescent layer in contact with the sample. The absorbed light energy is partially released as a light pulse with an higher wavelength.

This phenomenon is called fluorescence.

If oxygen molecules are in contact with the sensing layer, the fluorescing is reduced (quenching).

By measuring the amount of quenching it is possible to determine the oxygen concentration.

The advantages of this measuring method are the absence of electrolyte and membrane, the possibility to measure the oxygen concentration in water or in air, and a good sensitivity in a low oxygen concentration.