

## Optical dissolve oxygen probes. 4/20 mA and RS 485 output.

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).

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

Through commands from the 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 or data logger.

The probe can be connected to B&C Electronics controller BC 7335, BC 7635, BC 7635.010, BC 7687 or BC 6587, 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.

### Principle of operation

A light beam of a specific wavelength 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.



OD 8325

OD 8525

### Technical specifications

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

**Sensitivity:** ± 0,5 % of the scale

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

**Power supply:** 9/36Vdc

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

**Load:** 600 Ω max. at 24Vdc

**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

**Body:** PVC

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

**Protection:** IP 68

The technical specifications may be changed without notice

### Accessories

**BC 8701** RS485/USB converter for power supply though PC connection

**OD 8391** Optical sensing element replacement kit

### Accessories for OD 8325

**0012.450043** Extension pipe adapter

**0012.000624** Swivel mounting + 0012.450043

**0012.440040** 33 m PVC tubing for pressured air

### Accessories for OD 8525

**TU 910** Overflow cell

**YAT75M0021** Flow Tee assembly for in-pipe installation