

## LUM02C ON-LINE DO CONTROLLER

Luminescence cell mounted on rugged waterproof dissolved oxygen monitoring in biological wastewater treatment plants. Direct measurement without interference, no recalibration, membranes replacement and electrolyte electrochemical and wear. Fitting directly into the oxidation tank. Not sensitive to pH changes and pollutants. Only once a year maintenance required. Sensitive cap replaced on field by unqualified person without tools.



### Applications:

- Continuous monitoring of the level of dissolved oxygen
- Baths of oxidation, nitrification, denitrification,
- Aerobic Digestion - Anaerobic
- Adjustment of devices designed to oxygen dosage

## DESCRIPTION

A chemiluminescent semipermeable polymer, that covers the sensor head, reflects the radiation beam from a photodiode to a detector. The time elapsed between the emission of energy and the excitement of the polymer's molecules is inversely proportional to the concentration of oxygen. The probe is connected to a control unit for the management, visualization and recording of data that can be downloaded and viewed on a PC using dedicated software. The system is equipped with 2 analog outputs 0/4 ... 20 mA, RS232 output and can be connected to the fieldbus.

## TECHNICAL SPECIFICATIONS

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Material probe:          | Noryl and AISI316                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Sensor material:         | Polybutylene methacrylate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Thread diameter:         | coupling pipe for installation 1 7/8 " ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Working temperature:     | 0 ... +50 ° C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Compensation:            | NTC 30K Ohm , automatic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Sample flow:             | not required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Measuring range:         | 0 ... 20 mg / l , 200 % sat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Resolution:              | 0.01 mg / l to 0.01 % saturation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Repeatability:           | 0.05 ppm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Accuracy:                | < 1 ppm + / -0.1 ppm; > 1 + / -0.2 ppm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Sensitivity:             | + / - 0.05%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Response time at 20 ° C: | for 90 % of reading <30 s , for 95% < 90 s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Sensor cable:            | 10 m plug with integrated seal. For longer distances, use branching unit and additional cable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maximum distance:        | electronic unit 300 mt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Interfering              | no interfering between the following: H <sub>2</sub> S, pH, K <sup>+</sup> , Na <sup>+</sup> , Mg <sup>2+</sup> , Ca <sup>2+</sup> , NH <sub>4</sub> <sup>+</sup> , Al <sup>3+</sup> , Pb <sup>2+</sup> , Cd <sup>2+</sup> , Zn <sup>2+</sup> , Cr (tot), Fe <sup>2+</sup> , Fe <sup>3+</sup> , Mn <sup>2+</sup> , Cu <sup>2+</sup> , Mi <sup>2+</sup> , Co <sup>2+</sup> , CN <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , S <sup>2-</sup> , PO <sub>4</sub> <sup>3-</sup> , Cl <sup>-</sup> , Surfactants anionic, crude oil, Cl <sub>2</sub> <sup>-</sup> |
| Size:                    | 290x60; 1.4 kg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Warranty probe:          | 3 years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Sensor Warranty:         | 1 year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Electronic unit</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Display:                 | LCD matrix, 128x64 pixels, backlit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Inputs:                  | 2 sensor inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Analog outputs:          | 2 x 0/ 4 ... 20mA, selectable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Relay:                   | 3 x switch 115/230VAC , 5A ; selectable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Structure:               | Aluminum IP66, wall mounting pipe or control panel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Communication:           | RS-232, Modbus RS485 , RS485, Profibus DP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



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