

N₂O Wastewater Sensor Body

Material	Anodized aluminium alloy. Robust design in aluminium alloy casing (6063-T6) and black POMacetyl copolymer
Dimensions & weight	60mm x 390mm (D x L), 1,2 kg
Mounting	Chain Loop and stainless steel chain kit
Power Supply	24V DC from N ₂ O Wastewater Connector Unit
Communication	ModbusRTU (Slave)
N ₂ O signal	1 x temp. compensated N ₂ O value (N ₂ O-N [mg/L] or ppm)
Temperature	1 x temperature (°C or °F)
Emission Rates	1 x Emission calculations (N ₂ O-N [mg/m ³ /d]) with dynamic input parameters Emissions from anaerobic, anoxic and aerobic zones
Emission Parameters	$k_L \alpha_{N_2O}, V_{gas}$
Datalogger	Sensor and emission data (+2 years days data) Calibration and sensor logbook (+ 1 year logbook)
Sensor Health	Sensor & calibration status: needs calibration, needs replacement, warnings & errors Diagnostic data: Raw and calibration signals

N₂O Wastewater Sensor Head

Material	Alloy connector, glass sensor Black POM acetyl copolymer
Measurement method	Electrochemical, clark type
Measuring range	Standard Range: 0-1.5 N ₂ O-N mg/L Auto setup Medium Range: 0-9 N ₂ O-N mg/L Auto setup High Range: 0-110 N ₂ O-N mg/L Auto setup
Detection limit	Standard Range: 0.005 N ₂ O-N mg/L Medium Range: 0.03 N ₂ O-N mg/L High Range: 0.4 N ₂ O-N mg/L
Response time	< 65 sec
Expected lifetime	> 6 months
Calibration	2-point calibration, every second month
Temperature Working Range	Replaceable N ₂ O Sensor head for either 0-27°C or 27-40°C
Digital E ² PROM Enabled	Storage of sensor specific data, factory and calibrations, remaining lifetime

N₂O Wastewater Operator Console

Material	Stainless steel cabinet (IP67)
Dimensions & weight	300mm x 300mm x 150mm (LxWxD), 6.5 kg
Mounting	Panel mounted
Power supply	AC 100 to 240 V ±10%; 50..60Hz, 60W
Cable requirements	2×2×0.5 mm ² twisted pair cable with overall shield (OS) for distances up to 100 m 2×2×0.75 mm ² twisted pair cable with overall shield (OS) for distances up to 200 m
Communication	ModbusRTU (Master to Connector Unit and N ₂ O Sensors)
Sensor Input Digital	Full digital support & communication from up to 16 sensors PLC/SCADA. Full data access via Modbus TCP/IP Optional: ProfiBusDP or ModbusRTU (Slave)
N ₂ O sensor support	Up to 16 N ₂ O sensors and 8 Connector units per console

N₂O Wastewater Connector Unit

Material	Surface-mounted case made of plastic (ABC) IP67
Dimensions & weight	150mm x 100mm x 60mm (L x W x D), 0.5kg
Mounting	Multiple holes for surface or pipe mounting
Power Supply	24V DC, 2.5A from N ₂ O Wastewater Operator Console
Communication	ModbusRTU (Master & Slave) with Console and Sensor
Sensor Output Analog	1 (optional 3) x configurable and user scaled output signals (Analog 4–20mA)
Sensor Input Digital	Optional: 1 x MODBUS RTU Slave (DO sensors), tank and aeration dimension
Sensor Input Analog	Air flow (Nm ³ /h, m ³ /h), User scaled input signal, (Analog 4–20mA)

System Certifications

Certificates	CE, FCC, CB certificate, certificates pending for CSA & UKCA
Safety	IEC 61010-1:2010 + AMD1:2016, EN 61010-1:2010 + A1:2019, UL 61010-1:2012/R:2024, CSA C22.2 No. 61010-1/UPD4:2024
Electrically	EMC/Immunity (EU) EN 55011 and EN 61326-1 EMC/Immunity (USA/CAN) Issue 01 – FCC 47 CFR Part 15B and ICES-003
Environmental	REACH/RoHS Conformity

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