Low maintenance UV nitrate sensor

- **Product type**
  Attended, Unattended

- **Features**
  Ethernet, Data Logger, RS-485 (Modbus RTU)

- **Product highlights**
   Smart optical technology, access with web browser, optional anti-fouling wiper, calibration verification, fexible application options

- **IP-Communication**
  No

- **Sensor interfaces**
  Ethernet (TCP/IP), RS-485 (Modbus RTU), SDI-12 (via converter)

Advancing UV nitrate sensors, the OTT ecoN combines field reliability with a user friendly, low operational cost, future ready platform. It uses optical UV absorption technology for the determination of nitrate concentrations in fresh environmental surface and groundwater. The calculation of nitrate from the filtered absorption spectrum includes compensations for turbidity and organic interferences. Nitrate measurements and sensor status information is available in real-time for integration into data acquisition systems. The anti-fouling wiper reduces maintenance requirements and extends deployment times for continuous monitoring locations.

Operation & System Setup

Light Source	Xenon flash lamp
Detector	4 photo diodes + filter
Measurement principle	Attenuation
Optical path	0.3 mm, 1 mm, 2 mm, 5 mm, 10 mm

Input Data	
Parameter	NO3-N, NO3, NOx-N, NOx (calibrated with NO3 standard solution)
Measuring range	0.3 mm path 1.65...200 mg/L NO3-N 1 mm path 0.5...60 mg/L NO3-N 2 mm path 0.25...30 mg/L NO3-N 5 mm path 0.1...12 mg/L NO3-N 10 mm path 0.05...6 mg/L NO3-N
Measurement accuracy	0.3 mm = ± (5 % + 3.3 mg/L NO3-N) 1 mm = ± (5 % + 1.0 mg/L NO3-N)) 2 mm = ± (5 % + 0.5 mg/L NO3-N) 5 mm = ± (5 % + 0.2 mg/L NO3-N) 10 mm = ± (5 % + 0.1 mg/L NO3-N)
Turbidity compensation	Yes
Data logger	2 GB
T100 response time	20 s
Measurement interval	≥ 10 s

Constructional Design	
Housing material	Stainless steel (1.4571/1.4404)
Dimensions (L x Ø)	470 mm x 48 mm (10 mm path) 18.5 inch x 1.9 inch (with 10 mm path)
Weight	3 kg (6.6 lbs)

Auxiliary Power	
Interface digital	Ethernet (TCP/IP) RS-485 (Modbus RTU) SDI-12
Power supply	12...24 VDC (± 10 %)

Output Data	
Power consumption	≤ 7 W

Performance Characteristics	
System compatibility	Modbus RTU
Warranty	2 years

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Installation	
Max. pressure	3 bar (43.5 psig)
Protection type	IP68 NEMA 6P

Ambient Conditions	
Sample temperature	+2...+40 °C

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