



Low maintenance UV nitrate sensor

- **Features**
Ethernet, Data Logger, RS-485 (Modbus RTU)
- **Product highlights**
Smart optical technology, access with web browser, optional anti-fouling wiper, calibration verification, flexible application options
- **IP-Communication**
No
- **Sensor interfaces**
RS485

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 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	NO ₃ -N, NO ₃ , NO _x -N, NO _x (calibrated with NO ₃ standard solution)
Measuring range	0.3 mm path 1.65...200 mg/L NO ₃ -N 1 mm path 0.5...60 mg/L NO ₃ -N 2 mm path 0.25...30 mg/L NO ₃ -N 5 mm path 0.1...12 mg/L NO ₃ -N 10 mm path 0.05...6 mg/L NO ₃ -N
Measurement accuracy	0.3 mm = ± (5 % + 3.3 mg/L NO ₃ -N) 1 mm = ± (5 % + 1.0 mg/L NO ₃ -N) 2 mm = ± (5 % + 0.5 mg/L NO ₃ -N) 5 mm = ± (5 % + 0.2 mg/L NO ₃ -N) 10 mm = ± (5 % + 0.1 mg/L NO ₃ -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 ** coming soon
Power supply	12...24 VDC (± 10 %)

Output Data	
Power consumption	≤ 7 W

Performance Characteristics	
System compatibility	Modbus RTU
Warranty	2 years

Installation	
Max. pressure	3 bar (43.5 psig)

2-3

We reserve the right to make technical changes and improvements without notice. V-23/01/2019
OTT Hydromet GmbH, Germany

Technical Data

OTT ecoN

Protection type	IP68 NEMA 6P
-----------------	--------------

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

3-3

We reserve the right to make technical changes and improvements without notice. V-23/01/2019
OTT Hydromet GmbH, Germany