Process Insights
Premium Insights Into Process

LAR THE TOC LEADER

INNOVATIVE WATER SOLUTIONS

PRODUCT DATASHEET

Ultra-Series

Analyzer Series for TOC, TC, TIC, TN_b, TOD, COD

QuickTOC
QuickOIL / QuickOIW
QuickTOCairport
QuickCOD / QuickTOD
QuickTON

Superior Reliability

Fast And Reliable

Maximize Profits

Applications

- Industrial Wastewater
- Process Water
- High Salt Concentrations
- De-icing Water

Quick and precise – **QuickTOCultra Series,** products you can rely on!

LAR's QuickTOCultra continually checks the TOC content of waste water. Optionally, other sum parameters can be detected aswell. At 1,200 °C, samples are completely oxidised and within 3 minutes the TRUE TOC result is determined.

LAR's TOC analyzer is the most reliable measurement system for the roughest waste water applications. Due to an unrivaled injection and oxidation technique, the QuickTOCultra easily handles sticky, fatty, salty, and high-particle samples unlike other TOC analyzers.

Applications

LAR's total organic carbon analyzer is suitable for a variety of applications and types of water, even with frequently changing sample matrixes.

- Water Influent
- Water Effluent
- Discharge Control
- Industrial Waste Water
- De-Icing Water
- Process Water
- High Salt Concentrations
- Oil-in-Water

Features

The raw water sample is oxidized at 1,200 °C and the CO2 produced is deteced and quantitatively determined.

- High Temperature Method at 1,200 °C
- Catalyst-free technique
- Batch principle
- Robotic Injection System

Benefits

Reliable determination of all ingredients of the sample and complete analysis of organic carbon compounds.

- Reliable sample analysis with high reproducibility
- Exceptionally low maintenance and operational costs
- Fast process control possible
- Response Time TOC: 1-2 minutes

Technical data according to NE61

A.1 General details

1.1	Device designation	TOCUltra
1.2	Device type/ Serial number	Water sum parameter online analyzer / SN type QUXXXXXX, X denotes a number
1.3	Manufacturer / Supplier	LAR Process Analysers AG
1.4	Measuring principle Measurement Compliance	High Temperature Oxidation (Non catalytic at 1200 °C) TOC according to DIN EN 1484 / ISO 8245:1999-03 / US-EPA 415.1 / ASTM D-5173 / Standard Methods 5310B / USEPA 9060 / DIN 38409-H3 / TN_b according to DIN EN 12260:2003-12 (H34) and DIN 38409 H27 / COD according to ASTM D6238-98
1.5	Measuring range examples, (approximately): TC mg/l (ppm) TOC mg/l (ppm) TOC mg/l (ppm) TOC mg/l (ppm) COD_o mg/l (ppm) TN_b mg/l (ppm) COD_i mg/l (ppm) (from TC) Measuring range: mg/l (ppm)	 High organic concentrations and loads: (100 - 15000) Waste water treatment plant influent (in): (5 - 2000) Waste water treament plant effluent (out): (0,1 - 100) Discharge control/ effluent monitoring, cooling water: (2 - 400) Paper Industry outflow paper-machine 1,000 - 12,000 COD 10 - 100 TN_b Milk Industry 1,000 - 40,000 COD 0,1 - 50,000 TOC depending on detector, with optional dilution up to 500,000 possible 150 - 30,000 or 20,000 - 250,000 COD with optional dilution up to 1,000,000 possible 0,1 - 1,000 TN_b with optional dilution up to 10,000 possible other ranges on request
1.7	Electrical output signals / Electrical input signals	Analog output signals: 0/4-20mA, number depending on analyzer configuration Binary input / output signals: Number depending on analyzer configuration Digital Interface: Profibus DP, Profinet IO, Modbus RTU, Modbus TCP / IP (Digital output of a total of 8 measured values +status)
1.8	Electrical power consumption	Depending on analyzer configuration: Ultra Std. 500W - 950W Nema4x configuration with Cooler 1000W - 1650W ATEX configuration with Heatpipe 600W - 950W
1.9	Auxiliary power / Auxiliary materials	
1.10	Ambient temperatures (°C, min / max)	For measuring transducers 5 - 35°C or sensors 5 - 35°C
1.11	Storage temperature (°C)	5 - 35°C
1.12	Medium temperature limits (°C)	5 - 60°C TC only 5 - 50°C other

Technical data according to NE61

A.1 General details

1.13	Thermostat control or Temperature compensation	O_2-detector CO_2-detector
1.14	Medium pressure limits on input (absolute; bar)	Max. 0,2 bar
1.15	Medium pressure limits on output (absolute; bar)	Pressureless
1.16	Constant pressure maintenance or Pressure compensation	None
1.17	Medium flow limits (ml)	Approx. 100 - 150 per measurement
1.18	Constant flow maintenance or Flow compensation	Constant flow when using a flow sampler or Providing the necessary sample quantity without pressure load
1.19	Housing material	Standard: 1,5mm 1.0330 housing, powder coated (RAL7035); Ex-proof: 1,5mm 1.4301 housing (V2A), polished, lacquer coated (transparent)
1.20	Material of parts in contact with medium	Influent-tubing: Peripren; glassware: Duran-Glas, effluent: PVC; metalic parts: stainless steel, warm parts: PTFE, ceramics
1.21	Design / Dimensions	W 848 x H 1100 x D 635 mm (Standard housing) W 33.4" x H 43.3" x D 25" (Standard housing)
1.22	Weight	From 115 kg / 253.6Lbs (Standard housing)
1.23	Installation conditions	Wall-mounted or rack
1.24	Process connection	4,8mm, 8mm, 12mm ID tube
1.25	Electrical connection	CEE 7/7 plug, (combines earthing methods of Type E & Type F)
1.26	Ingress protection (DIN EN 60529)	Protection class according to DIN EN 60529: Housing corresponds to IP65*
1.27	Explosion protection	Compressed air encapsulation Ex db pxb [ib] IIC T4 Gb/ II 2G Ex pxb [ib] IIC T4 Gb If using ATEX Zone 1 or 2 housing
1.31	Official approvals, special certificates	IECEx: ETL 22.0047X ATEX: ETL22ATEX0246X UKEX: ITS22UKEX0642X
1.32	User interface specifications	TFT Touchscreen-Graphic-Display, 10,4" , high resolution, back-lit

A.2 Characteristic statistical variables and stability

2.3	Repeatability limit	Max. 2% of FSR

A.4 Influence effects

4.7	Electr. power supply	16A Typ K

* The housing has been tested to comply with IP65. For this, during testing ventilation ducts and ports where closed.

Further information

Measurement Technique and Sample Preparation

Sensitivity	Depending on the detector/measuring range used for 0.1-100ppm --> 0.1ppm at 600µl injection volume
Accuracy	Max. 2% of FSR
Repeatability	Max. 2% of FSR
Cycle Time	TConly / TN_b / COD_o: 1-2 min. TOCdiff: 4-5 min. TOCdirect (NPOC): 4-6 min.
Response Time	1-2 min.
Sample Preparation	• Flow Sampler - Maintenance-free particle seperator • Optional homogeniser for continuous homogenisation of samples
Particle Size	If solid particles < 800µm If soft particles up to 2mm

Temperature and Humidity

Ambient Air Humidity Max. 80% (non condensing)	Yes

Electric and Hydraulic Specifications

Serial Interface	RS 232
Safety	16A Typ K
Industrial internet of things	LAN, Option for WLAN
Option	Remote control via TCP / IP

Equipment Devices and Data Output

Standard data interface to office PC (USB 2.0)

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INNOVATIVE WATER SOLUTIONS

PREMIUM INSIGHTS – GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights' products and solutions deliver innovative and differentiated analysis and measurement solutions and technologies that add high value to our customers and protect the environment.

Our commitment is to deliver smart and affordable innovation that transforms our world that optimizes process, improves safety, and transforms our world.

CENTERS OF EXCELLENCE

PROVIDING PROVEN SOLUTIONS FROM A GLOBAL TECHNOLOGY LEADER

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