

ABB MEASUREMENT & ANALYTICS | DATA SHEET | DS/AUV102-EN REV. B

UviTec™ Field Meter

TOC/DOC



Measurement made easy

Water quality monitoring solutions

About ABB Continuous Water Analysis

ABB's Continuous Water Analysis product line is a world leader with a broad portfolio that measures...

Aluminum, Ammonia, Benzene, BOD, COD, Chlorine, Chromium VI, Color, Conductivity, Dissolved Oxygen, DOC, Fluoride, Hydrazine, Hydrocarbons, Iron, Manganese, Monochloramine, Nitrate, Nitrite, Permanganate, pH, ORP, Phosphate, Silica, Sodium, Surfactants, TOC, TSS, Turbidity, UV254, UVT and more!

About UviTec products

UviTec products use spectrophotometric and fluorescence measuring techniques to deliver lab-quality water analysis results in the process environment. Through the power of UV/VIS technology, UviTec solutions enable rapid detection of a wide range of water quality parameters and compounds in real time.

Features & benefits of this product

- Simple and affordable TOC/DOC testing
- Easy to use with fast 90 second warm-up time
- Accurate and precise results within seconds
- Patented technology provides superior measurement performance
- No zeroing to DI water before each test
- Rugged for field testing with optional battery pack
- No reagents

UviTec TOC/DOC field meter

The portable UviTec TOC/DOC field meter from ABB provides simple and affordable testing of organic matter in water or wastewater. Operation is straightforward with accurate and repeatable results obtained in seconds. An optional battery pack allows for sampling anywhere, anytime giving the user true portability.

Measurement principle

ABB's innovative UviTec TOC/DOC meter provides superior measurement performance across multiple wavelengths of light using UV and visible LEDs. Many compounds absorb light in the UV-VIS spectrum including organic compounds. Absorbance data at specific wavelengths of interest can then be related and approximated to TOC and DOC, therefore providing a monitoring solution for these critically important water quality parameters without the use of hazardous reagents or waiting for lengthy lab turnaround times. Process control improvements can then be implemented when it matters the most, providing cost savings, optimization and event detection, thus improving operators' ability to meet water quality goals.

Since correlations between absorbance and traditional TOC and DOC vary depending on the type of organic compounds that are making up these aggregate parameters, it is important that the UviTec TOC/DOC field meter utilizes a correlation, also known as a calibration model, that matches the site-specific water characteristics to ensure most accurate results.

Liquid Ai custom calibration enabled

ABB's UviTec TOC/DOC field meter comes ready with several starter calibrations preprogrammed onto the meter. Access to additional starter calibration models can be obtained by connecting via USB to a PC with ABB's Liquid Ai™ data management PC software. In addition to starter calibration models, site-specific calibration models can be created and loaded the TOC/DOC meter using the software's easy custom calibration builder tool, empowering users with confidence in the accuracy of their results. In the field, measurements can be taken using any of the calibration models previously loaded onto the TOC/DOC field meter. Users can also build upon their site-specific calibrations over time to further increase the accuracy and robustness of measurements for any given monitoring site.

Areas of application

- Municipal drinking water.
- Municipal wastewater.
- Industrial process water.
- Industrial wastewater.

Specifications

Path length

2, 10 mm

Parameter*

TOC, DOC

Range

Depends on model selected.

Refer to range tables on page 5.

Units

mg/L

Calibration

Calibration memory prevents the need to re-zero to DI water before each use

Self-diagnostics

Notification of system failure

Display

4 line × 20 character backlit LCD

Wavelengths

Multiple wavelengths

Light source

UV/VIS LEDs

Dimensions (L × W × H)

221 × 190 × 99 mm

(8.7 × 7.5 × 3.9 in)

Enclosure

Rugged, compact, watertight and dustproof

Electrical

12 V DC, 1 A wall adapter (accepts 90 to 250 V AC 50/60 Hz)

12 V DC car adapter

Operating temperature

0 to 45 °C

(32 to 113 °F)

Storage temperature

-20 to 60 °C

(-4 to 140 °F)

Wetted materials

Quartz

Weight

1.81 kg

(4 lb)

Technology

Split-Sense

* Results can not typically be used for compliance, only as an indicator value of organic loading for process control support. Liquid Ai Data Management Software is required for data and sample management, and to build site-specific calibration models to improve accuracy and reliability at any given monitoring location.

Meter models and range

UviTec TOC models include TOC/DOC field meter, sampling cuvette, wall adapter, car adapter and USB connection cable.

Measurement ranges are estimations based on previous field data, and may vary based on plant specific details.

Full measurement range may be greater than the ranges stated in the tables shown, although accuracy may be significantly reduced outside these stated ranges.

Measurement ranges can be extended by sample dilution.

Contact ABB for your application-specific demands.

Stated ranges are approximate, dependent on site and application. Contact ABB to confirm model selection.

Municipal

Part number	Path length	TOC/DOC (mg/L)
OP100-M	2 mm	0 to 875
OP200-M	10 mm	0 to 175

Dairy

Part number	Path length	TOC/DOC (mg/L)
OP100-D	2 mm	0 to 3,125
OP200-D	10 mm	0 to 625

Brewery

Part number	Path length	TOC/DOC (mg/L)
OP100-B	2 mm	0 to 3,000
OP200-B	10 mm	0 to 600

Pulp & paper

Part number	Path length	TOC/DOC (mg/L)
OP100-PP	2 mm	0 to 250
OP200-PP	10 mm	0 to 50

Food & beverage*

Part number	Path length	TOC/DOC (mg/L)
OP100-FB	2 mm	0 to 3,000
OP200-FB	10 mm	0 to 600

* Food & beverage meter requires use with Liquid Ai data Management PC software to build site-specific calibrations for each desired monitoring location due to the wide variation of products and compounds within the wastewater.

Accessories**

Table 1 UviTec accessories

Part number	Description
3KXA300000U0059	UviTec field meter battery
3KXA300000U0052	UviTec replacement cuvette, quartz, 2 mm
3KXA300000U0053	UviTec replacement cuvette, quartz, 10 mm

Software

Table 2 Liquid Ai software

Part number	Name	Description
3KXA300000U0083	Liquid Ai Data Management PC Software – Annual	12 month software subscription

** Additional range capability can be achieved with purchase of additional sample cuvettes, however Liquid Ai Data Management PC Software is required for use with multiple path lengths with one meter.

Ordering information

UviTec TOC/DOC field meter (ABB part number: 3KXA300102 V)				AUV102/	XX	XXX	X(X)	Options
Series				OP				
OP Series TOC/DOC								
Path length								
2 mm						100		
10 mm						200		
Calibration								
Municipal							M	
Dairy							D	
Brewery							B	
Pulp & Paper							PP	
Food & Beverage							FB	

Optional ordering codes
Add 1 or more of the following codes after the standard ordering information to select any additional options if required:

Battery pack	
Battery pack upgrade	BU1
PC software	
Liquid Ai Data Management Software – Annual	LMA
Documentation language	
English	M5
German	M1
Italian	M2
Spanish	M3
French	M4

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 - Liquid Ai is a trademark of ABB Limited.
 - UviTec is a trademark of ABB Limited.

ABB Measurement & Analytics

For your local ABB contact, visit:
abb.com/contacts

For more product information, visit:
abb.com/measurement

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