UviTec™ Field Meter
BOD/COD

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 BOD/COD 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

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UviTec BOD/COD field meter

The portable UviTec BOD/COD 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.

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Measurement principle

ABB's innovative UviTec BOD/COD 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 BOD and COD, 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 the operator's ability to meet water quality goals.

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

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Liquid Ai custom calibration enabled

ABB's UviTec BOD/COD 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 BOD/COD 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 BOD/COD 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.

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Areas of application

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

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Specifications

Path length
2, 10 mm

Parameter*
BOD, COD

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 LED

Dimensions (L × W × D)
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

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* 　　　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.

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Meter models and range

The UviTec BOD/COD field meter models include BOD/COD 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 table below, 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.

Municipal

Part number	Path length	BOD (mg/L)	COD (mg/L)
BP100-M	2 mm	0 to 1,500	0 to 3,500
BP200-M	10 mm	0 to 300	0 to 700

Dairy

Part number	Path length	BOD (mg/L)	COD (mg/L)
BP100-D	2 mm	0 to 5,000	0 to 12,500
BP200-D	10 mm	0 to 1,000	0 to 2,500

Brewery

Part number	Path length	BOD (mg/L)	COD (mg/L)
BP100-B	2 mm	0 to 4,000	0 to 12,000
BP200-B	10 mm	0 to 800	0 to 2,400

Pulp & paper

Part number	Path length	BOD (mg/L)	COD (mg/L)
BP100-PP	2 mm	0 to 350	0 to 1,000
BP200-PP	10 mm	0 to 70	0 to 200

Food & beverage[*]

Part number	Path length	BOD (mg/L)	COD (mg/L)
BP100-FB	2 mm	0 to 4,000	0 to 12,000
BP200-FB	10 mm	0 to 800	0 to 2,400

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[*]   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.

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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

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Software

Table 2   Liquid Ai software

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

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[**]   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.

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Ordering information

UviTec BOD/COD Field Meter (ABB part number: 3KXA300101V)	AUV101/	XX	XXX	X(X)	Options
Series					
BP Series BOD/COD		BP			
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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Trademarks

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

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ABB Measurement & Analytics

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

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