ULTRATURB plus sc Sensor

ISO 7027 APPROVED

Turbidity

Features and Benefits

Wide Measurement Range – 0 to 1000 FNU (NTU)

The Hach ULTRATURB plus sc Sensor measures turbidity from 0 to 1000 FNU (NTU) for a wide variety of low to medium range turbidity applications. Use it to effectively monitor conventional filtered water processes, effluent water, distribution systems, and elevated tanks where small-sized particulates or air entrapment may be an issue.

Self-cleaning Sample Chamber Option

The ULTRATURB sensor is available with an automatically self-cleaning sample chamber that guarantees stable measured values. The silicon wiper blades inside the sample chamber are held in place with a magnetic coupling wheel to further keep the sample chamber intact.

Seawater Version

The new ULTRATURB plus Seawater sc is resistant to salt concentrations up to 65 g/L.

Ratio Methodology Detects Sample Chamber Fouling

The ULTRATURB sensor uses ratio methodology with detection at 90° and 180° to minimize reflections in the measuring cell and on the windows. In this way, fouling of the sample chamber is detected earlier than with a single detection system.

Compatible with Hach Multi-Sensor, Multi-Parameter Digital Controller

The ULTRATURB sensor can be used with Hach's sc Digital Controllers. The sc200 controller accepts up to two sensors. The sc1000 accepts up to eight sensors. Multiple controllers can be networked to accommodate many more sensors and parameters, reducing the cost per measuring point. Just plug in any Hach "plug and play" digital sensor and it's ready to use without software configuration. "Plug and play" connectivity means there's no complicated wiring or set up. Network the ULTRATURB plus sensor with any of Hach's digital sensors for measuring dissolved oxygen, ORP, conductivity, and many other parameters.

The Hach ULTRATURB plus sc Sensor is a precisely measures turbidity of ultra-clear to medium turbid media for optimum filtration control in municipal and industrial water processing plants. Data display and processing of measured data is performed by Hach sc Digital Controllers.
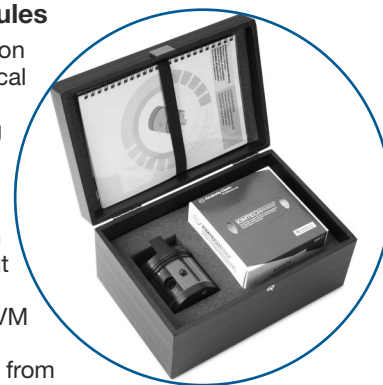
DW

WW

PW

IW

Dry Verification Modules

The Calibration/Verification Module (CVM) is an optical standard for rapid and straightforward checking of the ULTRATURB sensor. It facilitates problem-free routine checks and confirmation of measurements without the need to mix liquid calibration standards. CVM modules are available in different turbidity ranges from 0.6 to 25 FNU (NTU).

Complies with ISO 7027

The Hach ULTRATURB plus sc Sensor meets the ISO 7027 turbidity requirements for on-line process turbidity.

DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage

HACH ®

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Specifications*

Measurement Technique
90° scattered light in accordance with DIN EN ISO 7027 infrared light 860 nm

Range
0.0001 to 1000 FNU, freely programmable (0.0001 to 250 EBC = 2500 ppm SiO_2) (Note: 1 FNU is equivalent to 1 NTU)

Resolution
0.0001 to 0.9999 / 1.000 to 9.999 / 10.00 to 99.99 / 100 to 1000 FNU (NTU)

Precision
±0.008 FNU ±1% of reading (0 to 10 FNU)

Repeatability
±0.003 FNU ±0.5% of reading (0 to 2 FNU)

Variation Coefficient
1% in accordance with DIN 38402

Response Time
1 to 60 seconds (programmable)

Verification
StablCal or dry standard CVM module

Ambient Temperature
Sensor: 36 to 104°F (2 to 40°C)

Display unit: 14 to 104°F (-10 to 40°C)

Sample Temperature
122°F (50°C) maximum

Sample Flow
0.2 to 1 L/min

Sample Pressure
87 PSI at 68°F (6 bar at 20°C)

Sample Connection
13 mm I.D. hose or fixed connection with with G+F system parts

Automatic Cleaning
Wiper

Materials
Window: quartz

Measurement chamber: Noryl, GFN2

Wiper blade: silicon

Wiper shaft: stainless steel 1.4571

Housing: ASA

Enclosure Rating
IP 65

Dimensions
9.9 x 9.4 x 4.3 in. (250 x 240 x 110 mm)

Weight
Approx. 3.3 lbs. (1.5 kg)

Display Unit
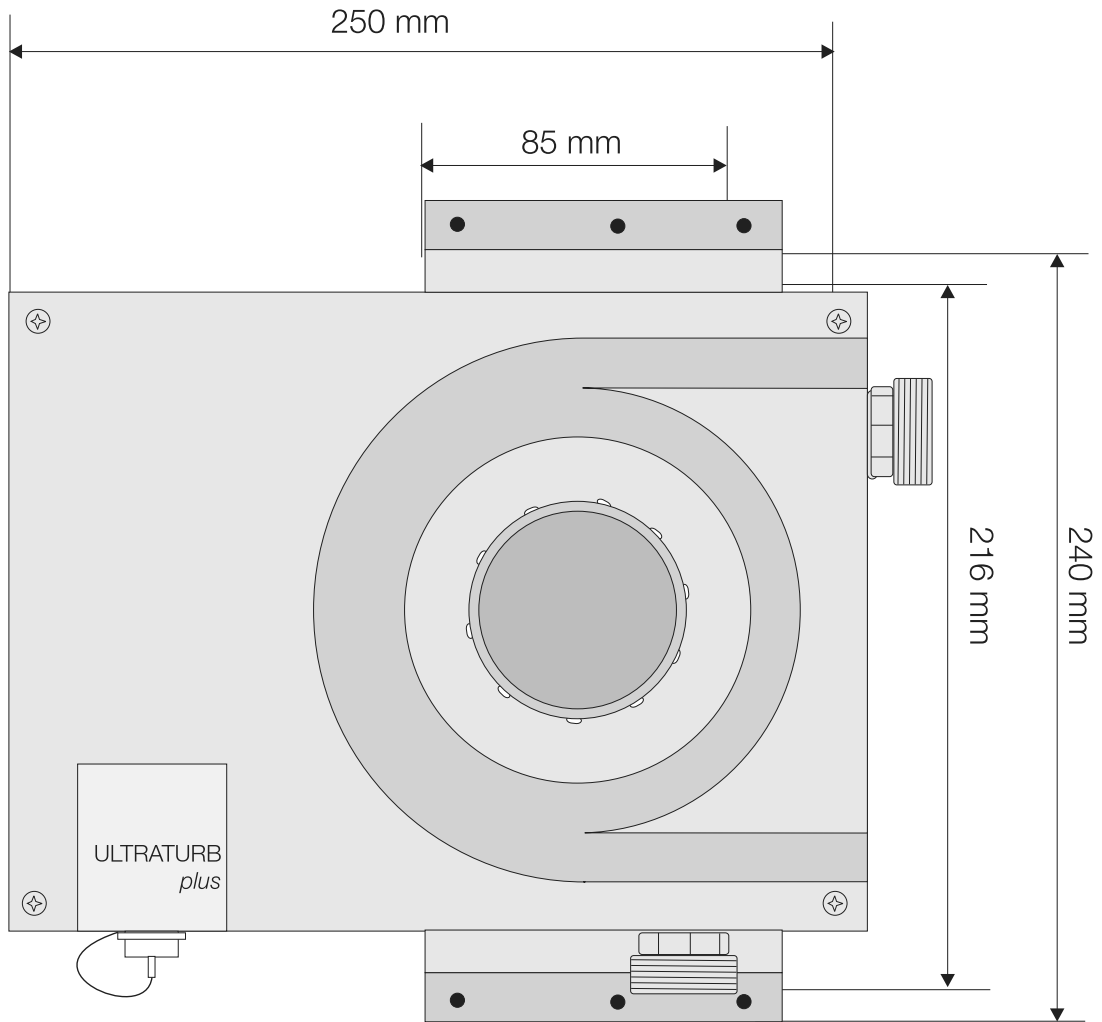Hach sc200 Digital Controller or Hach sc1000 Universal Controller

Specifications subject to change without notice.

Engineering Specifications

1. The sensor shall continuously measure turbidity in water using detectors at 90 and 180 degrees.

2. The measurement technology shall use infrared pulse scattered light process according DIN EN ISO 7027.

3. The measuring range shall be from 0.0001 to 1000 NTU.

4. The precision shall be ±0.5% or ±0.008 NTU of the measured value.

5. The response time shall be approximately 1 to 60 seconds.

6. The flow rate of sample shall be 0.2 to 1 L/minute.

7. The verification of calibration for the sensor shall be by StablCal or dry standard CVM module.

8. The transmitter enclosure shall be rated at IP 65.

9. The sensor shall be model ULTRATURB plus sc Sensor manufactured by Hach Company.

Optional:

1. The sensor shall be equipped with a self-cleaning sample chamber that uses a silicon wiper that is held in place magnetically.

2. The sensor shall include a calibration/verification module with a factory-certified calibration value for periodic verification of calibration.

Dimensions

The sensor should be installed in an accessible location. It can be mounted on a flat, vertical surface (such as a panel, stand, etc.). It should allow for access for any checking or maintenance. Sample flow should meet the specifications above.

Ordering Information

ULTRATURB plus sc Sensor

LPV415.52.11002	Sensor with 0.35 m cable
LPV415.52.21002	Sensor with 5 m cable
LPV415.52.31002	Sensor with 10 m cable
LPV415.52.41002	Sensor with 15 m cable
LPV415.52.51002	Sensor with 20 m cable
LPV415.52.61002	Sensor with 30 m cable
LPV415.52.71002	Sensor with 50 m cable

ULTRATURB plus sc Sensor with Auto-clean

LPV415.52.10002	Sensor with 0.35 m cable and Auto-clean system
LPV415.52.20002	Sensor with 5 m cable and Auto-clean system
LPV415.52.30002	Sensor with 10 m cable and Auto-clean system
LPV415.52.40002	Sensor with 15 m cable and Auto-clean system
LPV415.52.50002	Sensor with 20 m cable and Auto-clean system
LPV415.52.60002	Sensor with 30 m cable and Auto-clean system
LPV415.52.70002	Sensor with 50 m cable and Auto-clean system
LPV415.99.22002	Sensor Seawater sc with 5 m cable
LPV415.99.32002	Sensor Seawater sc with 10 m cable
LPV415.99.42002	Sensor Seawater sc with 15 m cable
LPV415.99.52002	Sensor Seawater with 20 m cable
LPV415.99.62002	Sensor Seawater sc with 30 m cable
LPV415.99.72002	Sensor Seawater sc with 50 m cable
LPV415.99.82002	Sensor Seawater sc with 1 m cable

sc200 / sc1000 Controller Options

sc200 for Hach Digital Sensors

LXV404.99.00552	sc200 controller, 2 channel, digital
LXV404.99.00502	sc200 controller, 1 channel, digital
LXV404.99.00542	sc200 controller, 2 channel, digital & mA input

sc1000 for Hach Digital Sensors

LXV400.99.1R572	sc1000 Probe Module; 4 sensors - analog
LXV400.99.1B572	sc1000 Probe Module; 4 sensors - RS485
LXV400.99.1F572	sc1000 Probe Module; 4 sensors - PROFIBUS DP
LXV400.99.1R572	sc1000 Probe Module; 6 sensors - analog

Dry/Secondary Verification Modules

LZV414.00.00000	CVM Module; 0.6 NTU
LZV414.00.10000	CVM Module; 1.5 NTU
LZV414.00.20000	CVM Module; 6 NTU
LZV414.00.30000	CVM Module; 15 NTU
LZV414.00.40000	CVM Module; 25 NTU

Spare Parts

LZV275	Wiper blades; set of 4
DOC023.52.03231	User Manual

Calibration Tools

246142	Formazin; 4000 NTU, 500 mL
LZV451	Calibration/Cleaning Kit
LZV325	Filters with Apparatus; for zero calibration (0.2 micron)

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Keep it pure.

Make it simple.

Be right.

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