

ClariVue™20

ISO 7027-Compliant, Side-Scatter Turbidity Sensor

Titanium Housing for Harsh Environments

Offering analog, Modbus, and SDI-12 communications



Overview

The ClariVue™20 is an ISO 7027-compliant, submersible, 90-degree, side-scatter turbidity sensor in a rugged titanium housing, making it the ideal choice for highly corrosive environments. The side-scatter turbidity measurement can

be used as a surrogate for suspended sediment concentration (SSC) in aquatic ecosystems. The sensor returns data via SDI-12, analog, or Modbus to a data logger or controller for easy integration into your new or existing system.

Benefits and Features

- Accurate measurement of suspended solids and turbidity to the industry standard 4000 FNUs
- Field-proven performance and reliability in a compact, low-power probe
- Compatible with modern Campbell Scientific data loggers and third-party systems
- Titanium housing for long-term deployment in the harshest of environments
- Wet-mateable connector allows for flexible installation without the worry of water ingress

Detailed Description

The ClariVue 20 is designed to operate in fresh and saline environments. The sensor face is made from titanium to slow biological growth over the optical windows; however, the sensor requires regular maintenance to keep the optical window clean in high bio-fouling environments.

Caution: The ClariVue 20 may become damaged if it is encased in frozen liquid.

Specifications

Standards	Meets ISO 7027-1:2016 (side scatter) standard for turbidity measurements
Signal Type	SDI-12 v1.4, Modbus through RS-485, or analog
Operating Temperature Range	-2° to +40°C (28° to 104°F)
Analog Signal Output	0 to 1 Vdc
Power Requirements	9.6 to 18 Vdc
Measurement Range	0 to 4000 FNU
SDI-12 Measurement Response Time	12 to 28 s depending on the SDI-12 command (Refer to the manual for more information.)
Resolution	0.2 FNU
Particle Size	0.1 to 0.5 µm
Accuracy	±2% or 0.5 FNU, whichever is greater
Housing Material	Titanium
Head Material	Titanium

Optics	Sapphire lens
Connector Description	MCBH-5-FS, titanium, six gold-plated pins, wet-mateable
Cable Type	Six-conductor, polyurethane jacket with water block
Optical Assembly	Sealed with double O-rings
Internal Temperature Measurement	±0.2°C (±0.4°F) accuracy
Maximum Depth	500 m (1,640 ft)
Sensor Diameter	3.0 cm (1.2 in.)
Sensor Length	16.6 cm (6.5 in.)
Sensor Weight	200 g (0.44 lb)

Power Consumption

Initial Measurement	32 mA (30 s)
Idle	0.75 mA
Measurement	32 mA

