



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 FNU's
- ▶ 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

Technical 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	Operating Temperature Range	-2° to +40°C (28° to 104°F)
Signal Type	SDI-12 v1.4, Modbus through RS-485, or analog	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	$\pm 2\%$ 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	$\pm 0.2^{\circ}\text{C}$ ($\pm 0.4^{\circ}\text{F}$) 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

For comprehensive details, visit: www.campbellsci.eu/clarivue20 



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