Hyperion Turbidity

Optical Turbidity sensor

The new Valeport Hyperion-T is essentially 2 sensors in one.

The first is a “classic” turbidity sensor, a nephelometer that uses a 90° beam angle, for low turbidity levels (0 to 1,000 NTU). The second, for high turbidity levels (1,000 to 6,000 NTU) uses an Optical Backscatter (OBS) arrangement (~120° beam angle). Intelligent sampling and use of a 24 bit ADC eliminates the need to gain switch at higher turbidity levels. The optical head is very compact, measuring just 20mm in diameter and with a full ocean depth rating lends itself to OEM type solutions.

A compact & robust package ideal as a standalone sensor, for ROV and AUV integration or used as part of a multi-sensor array and data logger system.

Offered as standard in a 6,000m depth rated, titanium housing the Hyperion Turbidity Instrument has a wide range (9-28V DC) isolated power supply, data output up-to 16Hz on RS232 and RS485 or Modbus RTU communication protocols. Hyperion offers an industry leading dynamic range with no adjustment of gain settings required.

Hyperion Fluorometers can be supplied in a more rugged form that includes Acetal protection rings, a shaped anti-snag connector cover and a Kevlar weave protected cable.

DATA SHEET

Product Details

OPTICAL

VALEPORT CONFIGURE SOFTWARE

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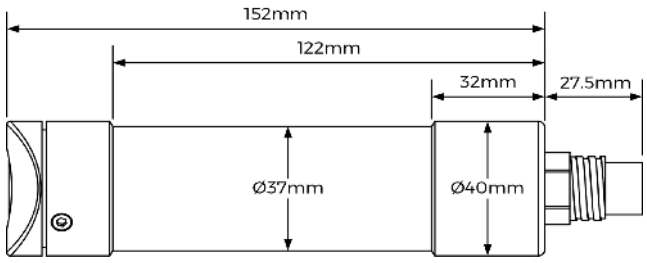
Sensor Specification

	Turbidity
Dynamic Range	Nephelometer: 0 to 1 ,000 NTU - linear response OBS: 0 to 4,000 NTU - linear response >4,000 NTU has a non-linear monotonic response that allows derivation of higher values using look-up tables
Minimum Detection Level	0.03 NTU (Nephelometer)
Linearity	0.99 R^2

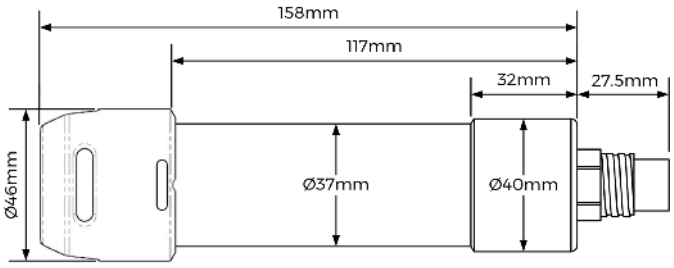
Physical

Materials	Titanium with Sapphire window
Depth Rating	6,000m
Dimensions	40mmØ x 179.5mm (including connector)
Weight	0.50 kg (in air) 0.26 kg (in water)
Operating Temperature	-5°C to 35°C (the sensor is damaged above 60°C)

Dimensions - Standard Hyperion



Dimensions - with optional Sensor Guard



Electrical

External	9 – 28V DC Isolated
Power	<600mW
Connector	SubConn MCBH6F

Communications

The instrument will operate in real time, with set up performed by direct communications with a PC before deployment.

RS232 | RS485	2400 - 230400 baud rate 8 data bits | 1 stop bit | No Parity | No Flow Control
USB	Supplied cable and converter (RS232 to USB)
RS485 Modbus RTU (standard)	19200 baud rate 8 data bits | 1 stop bit | Even Parity | No Flow Control

Software

Valeport Configure software is supplied. Windows 10 software for instrument setup.

Ordering

0901002 - T	Hyperion Fluorescein (Uranine) instrument
	Supplied with: • Y lead • Manual and transit case • Valeport Configure Software
0901EA2	Hyperion to EnviroLog System interface cable various lengths available
0901251	Sensor Guard