Fluorometer sensor

Turbidity sensor

Hyperion

Teledyne Valeport's Hyperion sensor delivers high performance optical measurements in 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.

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

Hyperion Fluorometers can be supplied with a sensor guard to protect the optical window from physical damage and a Kevlar weave protected cable.

DATA SHEET

Product Details

OPTICAL

CONFIGURE SOFTWARE

ENVIRONMENTAL

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Available Hyperion Optical Instruments

Parameter	Excitation	Detection	Dynamic Range	Minimum Detection Limit
Chlorophyll a note 1	470 nm	696 nm	0-800 ug/l	0.025 ug/l
Fluorescein note 1 (Uranine)	470 nm	545 nm	0 – 500 ppb	0.01 ppb
Rhodamine WT note 2	520 nm	650 nm	0 – 1000 ppb	0.01 ppb
Crude Oil note 3	365 nm	410 – 600 nm	0 – 1500 ppb	0.2 ppb
fDOM note 3	365 nm	475 nm	0- 4000 ppb PTSA	0.5 ppb
Phycocyanin note 2 (Fresh Water Blue Green Algae)	590 nm	650 nm	0-9000 ppb	2 ppb
Sulforhodamine B note 4	520 nm	650 nm	0 - 1000 ppb	0.2 ppb

note 1 Calibrated against Fluorescein solution | note 2 Calibrated against Rhodamine WT solution | note 3 Calbrated against PTSA solution | note 4 Calibrated against Sulforhodamine B solution

Turbidity	Excitation/Detection	Linear Range	Minimum Detection Limit
Nephelometer	850 nm	0 to 1,000 linear response	0.03 NTU
Optical Backscatter	850 nm	0 to 4,000 linear response	0.03 NTU

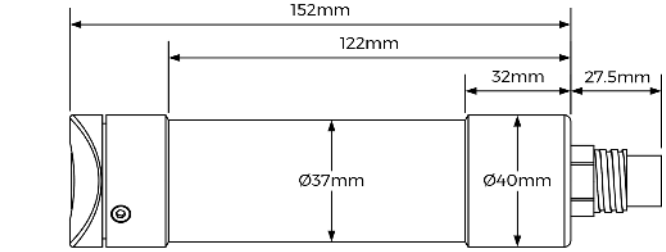
(>4,000 NTU has a non-linear monotonic response that allows derivation of higher values using look-up tables)
Linearity measured to better than 0.99 R^2

Physical

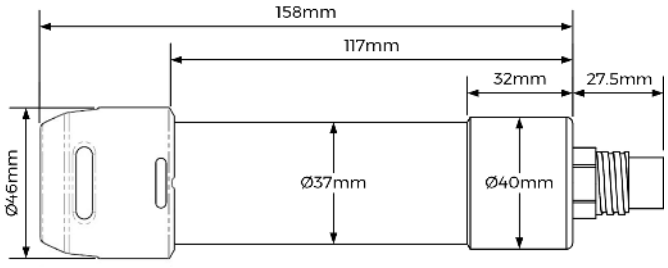
Materials	Titanium with Saphire window
Depth Rating	6000 m
Dimensions	Ø40 mm x 179.5 mm (including connector)
Weight	0.50 kg (in air) 0.26 kg (in water)
Operating Temperature	-5°C to 35°C (the sensor is damaged above 60°C)

Dimensions

Dimensions - Standard Hyperion



Dimensions - with optional Sensor Guard



Electrical

External	9 – 28 V DC Isolated
Power	<600 mW
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)
Modbus RTU (standard)	19200 baud rate 8 data bits | 1 stop bit | Even Parity | No Flow Control

Software

System is supplied with Configure Windows based PC software for instrument set up.

Ordering

0901009-XX	Hyperion where XX is: F1 – Chlorophyll a F2 – Fluorescein F3 – Rhodamine WT F4 – Crude Oil F5 – fDOM F7 – Phycocyanin F9 – Sulforhodamine B
0901002-TU	Hyperion Turbidity
	Supplied with: • Y lead • Manual and transit case • Teledyne Valeport Configure Software
0901353	Spares - Safety Cap

Datasheet Reference: Hyperion | June 2026

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