


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 6,000 linear response | 0.03 NTU |

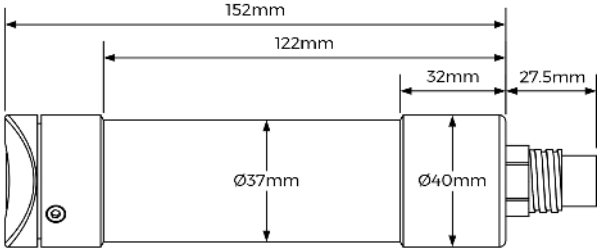
(>6,000 NTU has a non-linear monotonic response that allows derivation of higher values using look-up tables)
Linearity measured to better than 0.99 $R^2$

## Physical

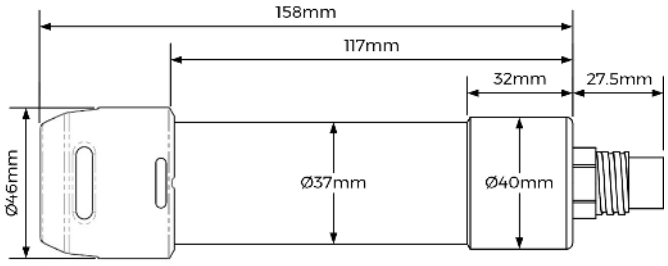
| | |
|---|---|
| **Materials** | Titanium with Saphire window |
| **Depth Rating** | 6000 m |
| **Dimensions** | Ø40 mm x 179.5 mm (including connector) |
| **Weight** | 0.50 kg (in air)<br>0.26 kg (in water) |
| **Operating Temperature** | -5°C to 35°C<br>(the sensor is damaged above 60°C) |

## 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<br>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<br>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:<br><br>F1 – Chlorophyll a<br>F2 – Fluorescein<br>F3 – Rhodamine WT<br>F4 – Crude Oil<br>F5 – fDOM<br>F7 – Phycocyanin<br>F9 – Sulforhodamine B |
| **0901002-T** | Hyperion Turbidity |
| | Supplied with:<br>• Y lead<br>• Manual and transit case<br>• Teledyne Valeport Configure Software |
| **0901353** | Spares - Safety Cap |

**Datasheet Reference: Hyperion | August 2025**



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