

SWiFTplus Turbidity

Multi-parameter profiler

Valeport's SWiFTplus Multi-Parameter Profiler with a Turbidity sensor combines survey-grade sound speed, temperature and pressure sensor technology with Turbidity observations. The package is completed with the convenience of Bluetooth connectivity, rechargeable battery and an integral GPS module to geo-locate each profile.

- Multi-Parameter Profiler
 - CTD, Sound Speed, Salinity, Density
 - Up to 32Hz sampling rate
 - Dual Optical Backscatter (OBS) and Nephelometer Turbidity Sensor
- Bluetooth and USB connectivity
- Integral GPS receiver for geo-location of profile and time synchronisation
- Rechargeable Lithium-ion Battery
- Dedicated PC software and iOS portable device App

Valeport's Turbidity technology is essentially two sensors in one. The first is a "classic" nephelometer, using a 90° beam angle for turbidity levels between 0 and 2,000 NTU. The second sensor uses Optical Backscatter (OBS) for turbidity levels up to 10,000 NTU. The sensors output data separately and simultaneously at a programmable rate. This means that there is no need to switch ranges as conditions vary. Intelligent sampling and the use of a 24 bit ADC eliminates the need to switch gain.

DATA SHEET

Product Details



**MULTI-PARAMETER
CTD**



**SOUND
SPEED**



OPTICAL



**CONNECT
SOFTWARE**



Bluetooth



USB



Rechargeable
Battery



GPS

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Sensor Specification

Turbidity

Linear Range	Nephelometer: 0 to >1,000 NTU - linear response ¹ OBS: 0 to >4,000 NTU - linear response ^{1&2} ¹ depending on suspended material ² >4,000 NTU has a non-linear monotonic response that allows derivation of higher values using look-up tables/secondary calibration
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Linearity	0.99 R ²
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Minimum Detection Level	0.03 NTU (Nephelometer)
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Conductivity#

Range	0 - 80 mS/cm
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Resolution	0.001 mS/cm
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Accuracy	±0.05 mS/cm
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Temperature (Platinum Resistance Thermometer)

Range	-5°C – +35°C
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Resolution	0.001°C
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Accuracy	±0.01°C
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Pressure (Temperature compensated piezo-resistive pressure transducer)

Range	50 Bar
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Resolution	0.001% FS
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Accuracy	±0.01% FS
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Sound Velocity (Digital time of flight sensor)

Range	1375 – 1900 m/s
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Resolution	0.001 m/s
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Accuracy	±0.02 m/s
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Salinity#

Range	0 - 42 PSU
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Resolution	0.001 PSU
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Accuracy	±0.05 PSU
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Density

Range	990 - 1035 kg/m ³
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Resolution	0.001 kg/m ³
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Accuracy	±0.05 kg/m ³
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#Calculated Accuracies. Calculations based on Valeport's proprietary DASH formula.

Physical dimensions

Materials	Housing: Titanium
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	Sinker weight: Stainless steel
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	Optical window: Sapphire glass
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Depth rating	500m
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Dimensions	Ø78mm x Length 307mm (with sinker weight)
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Weight	2.7kg (in air) / 1.7kg (in water) including optional sinker weight
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Communications (set-up and data offload)

Bluetooth v4 - low energy

USB Serial

Electrical

Battery	Internal rechargeable Li-ion battery pack
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Charging	USB - Supplied mains AC adapter
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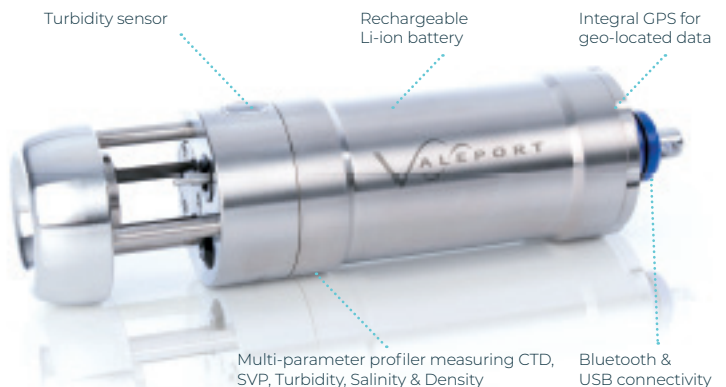
Software

- Connect iOS for Bluetooth compatible mobile devices:
 - instrument set-up, data offload and data display
- Connect PC for both USB and Bluetooth connectivity:
 - instrument set-up, data offload and data display
- Both will export data in common file formats that are compatible with industry standard Hydrographic software packages
- Android App to follow

Ordering

0660047-50-Tu	SWIFTplus profiler with Turbidity sensor - 500m rated
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- Supplied with:
- Deployment weight
 - PC Bluetooth adapter
 - USB interface and charging cable and charger
 - Valeport Connect PC software \ iOS App
 - Transit Case



Datasheet Reference: SWIFTplus Turbidity | April 2020

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