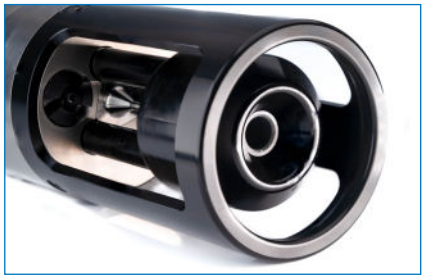

SWiFT CTDplus
Turbidity

DATA SHEET

Multi-parameter Profiler

Designed from the outset with the intention of a seamless workflow, the SWiFT CTDplus Turbidity profiler provides survey-grade sensor technology coupled with the convenience of **Bluetooth®** wireless technology and rechargeable batteries. An integral GNSS module, to geo-locate each profile, completes the package. Data can be easily and quickly downloaded and reviewed wirelessly, via Bluetooth, using Teledyne Valeport's new Ocean software for Windows and Connect Pathway Edition for iOS and Android and instantly shared, in industry standard data formats through email and cloud services. A USB Cable and Bluetooth adapter are provided.

In addition to the directly measured Conductivity, Temperature and Depth measurements, Salinity, Density and Sound Velocity are calculated using the UNESCO international standard algorithm and Chen and Millero equation. With a large internal Lithium-ion rechargeable battery and the convenience of charging via USB, the SWiFT CTDplus Turbidity is intended for offshore, coastal, harbour and inland environmental and hydrographic survey use to 500 m and offers the highest quality CTD profiles in a compact, robust and portable package.

Teledyne 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.

Optionally, there is a deployment cage available to bolt onto the instrument to help get the SWiFT CTDplus Turbidity to depth in fast-flowing currents.

Product Details

MULTI-PARAMETER CTD

SOUND SPEED

OPTICAL

OCEAN & CONNECT PATHWAY EDITION SOFTWARE

Bluetooth

USB

RECHARGEABLE BATTERY

GNSS

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TELEDYNE VALEPORT
Everywhereyoulook™

Sensor Specifications

The SWiFT CTDplus Turbidity is fitted with Teledyne Valeport's conductivity sensor, temperature compensated piezo-resistive pressure transducer and a new fast response thermistor temperature sensor.

Turbidity

Linear Range	Nephelometer: OBS: [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	0 to >1 ,000 NTU - linear response[1] 0 to >4,000 NTU - linear response [1 & 2]
Linearity	0.99 R^2	
Minimum Detection Level	0.03 NTU (Nephelometer)	

Conductivity

Range	0-80 mS/cm
Resolution	0.001 mS/cm
Accuracy	±0.01 mS/cm

Temperature

Range	-5°C – +35°C
Resolution	0.001°C
Accuracy	±0.01°C

Pressure

Range	50 Bar
Resolution	0.001% FS
Accuracy	±0.01% FS

Calculated Parameters and Accuracy

Calculations based on the UNESCO international standard algorithm and Chen and Millero equation

Sound Velocity	~0.25 m/s
Salinity	±0.01 PSU
Density	±0.01 kg/m³

Physical

Materials	Housing - Titanium Sensor Guard - Acetal Optical window: Sapphire glass Temperature Sensor - Titanium Pressure Sensor - Titanium Conductivity Sensor - Polyurethane coated titanium with ceramic core
Depth Rating	500 m
Dimensions	ø78 mm x Length 350 mm
Weight	2.7 kg (in air) / 1.65 kg (in water)

Communications (set up and data offload)

USB Serial	
Bluetooth v4	Low energy

Electrical

Battery	Internal rechargeable Li-ion battery pack
Battery life	SWiFT Battery endurance depends on the sampling scenario used – contact Valeport for more information. 95 days endurance 2 profiles per day to 100 m* 33 days - 3 profiles a day to 500 m* 1.7 days continuous running (normal power mode) (*Utilising Bluetooth Sleep mode)
Charging	USB Typically, 1 hour fast charge will give 12 hours operation

Software

iOS and Android Teledyne Valeport Connect Pathway Edition for Bluetooth compatible mobile devices – instrument set up, data offload, display and translation to common data formats. Teledyne Valeport's Ocean PC software, with both USB cable and Bluetooth connectivity, for instrument setup, data extraction, display and translation to common data formats.

Instrument and data time is synchronised to GNSS, UTC.

Ordering

0660049-50-TU	SWiFT CTDplus Turbidity Profiler Titanium housing rated to 500m
Supplied with	PC Bluetooth adapter USB interface and charging cable 1.5 A charger Teledyne Valeport Ocean software Operating manual System transit case

Datasheet Reference: SWiFT CTDplus Turbidity | December 2024

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