

On Deck Data System – TDO Profiling Logger

Temperature – Depth – Orientation

On Deck Data System Components

- One Deck Data Hub per vessel
- Wireless TDO loggers
- Wireless DOT loggers
- Cellular & AWS Data Plan

Feature	Benefit
Precision Temperature	- Accurate to $\pm 0.1^{\circ}\text{C}$ from -2 to 35°C
Pressure Sensor	- Depth measurement to 300 meters
3-axis Accelerometer	- Resolve static orientation to 1°
Fast Response Time	- Under 10 seconds
Profiling Mode	- 1 sample per second to 1 sample per hour
Large Memory	- Never memory limited
User Replaceable Battery	- Uses commonly available AA batteries
Wireless Communications	- Hands free, automated IoT data collection

Description

The Temperature, Depth & Orientation (TDO) Logger is a wireless data logger that contains an integrated temperature sensor, pressure sensor and 3-axis accelerometer. The small, rugged design allow the logger to be easily deployed on a variety of fishing gear.

The TDO features a fast response time and the ability to dynamically change the recording interval as gear is fished. The logger will record faster while equipment is being hauled to capture the profile of the water column and slower while the gear soaks. The on-board 3-axis accelerometer will capture the gear’s orientation to help determine if the gear was properly deployed.

When the gear is hauled, the latest data will be automatically downloaded wirelessly to Lowell Instruments’ Deck Data Hub. The Deck Data Hub will automatically display the data on the touch screen display and transmit the data to the cloud where it can be further processed and/or viewed by research scientists, fishermen and other third parties via Lowell Instruments’ API.



Specifications

Temperature Sensor

<i>Sensor Type</i>	Thermistor
<i>Range</i>	-2° to 35°C
<i>Accuracy</i>	± 0.1°C Typical (± 0.05°C optional)
<i>Resolution</i>	0.01°C
<i>Response Time</i>	T90: <10 sec in water

Depth Sensor

<i>Sensor Type</i>	Ceramic Pressure Sensor
<i>Range</i>	300 Meters (164 fathoms)
<i>Accuracy</i>	1% full scale (0.5% optional)
<i>Resolution</i>	0.1 m
<i>Response Time</i>	<1 second

Orientation Sensor

<i>Sensor Type</i>	3-axis Accelerometer
<i>Range</i>	0 to 360 degrees
<i>Accuracy</i>	± 5 degrees from vertical

Environmental

<i>Depth</i>	300 meters (164 fathoms) max depth
<i>Operating Temperature</i>	-2° to 35°C in water (-20° to 50°C in air)

Data Logger Electronics

<i>Memory</i>	128 MB non-removable, non-volatile memory
<i>Communications</i>	BLE 5.0
<i>Battery Type</i>	2 x AA user-replaceable batteries
<i>Battery Life</i>	12 months
<i>Internal Clock Accuracy</i>	1 minute per month

Operating Modes

<i>Recording Rates</i>	1 sample per second to 1 sample per hour Profiling Mode up to 1 Hz
<i>Data Offload</i>	Automatic hands free download to the DDH

Mechanical

<i>Dimensions</i>	51 mm (2") diameter x 178 mm (7") length
<i>Weight</i>	272 grams (9.6 ounces)
<i>Construction</i>	Rugged PVC Housing Double O-ring Seal

Lowell Instruments, LLC
 82 Technology Park Drive
 East Falmouth MA 02536
 Ph: 508-444-2616
info@lowellinstruments.com
www.lowellinstruments.com

