

# On Deck Data System – DOT Logger

Dissolved Oxygen – Temperature

## On Deck Data System Components

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

Feature	Benefit
RDO® Pro-X Optical Dissolved Oxygen Sensor	- Low drift, fast response, full range 0-20 mg/L
Temperature Sensor	- Durable and low maintenance
Long Battery Life	- ± 0.1 °C (typical) from 0 to 50 °C
Large Memory	- 15-minute sampling for over 6 months
User Replaceable Battery	- Never memory limited
Rugged Housing	- Uses commonly available AA batteries
Wireless Communications	- Can be used in and on fishing gear
	- Hands free, automated IoT data collection

## Description

The Dissolved Oxygen and Temperature (DOT) logger is a wireless enabled data logger that is coupled with In-Situ’s RDO Pro-X Optical Dissolved Oxygen sensor. The RDO Pro-X is a proven sensor design that has been demonstrated years of reliable service in demanding environments such as wastewater treatment and commercial aquaculture.

The DOT logger is ideal for season long dissolved oxygen and temperature monitoring studies by citizen scientists, commercial fishermen and other vessels of opportunity. A typical use case is to attach the DOT logger to fishing gear such as a lobster or crab trap.

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

### ***Dissolved Oxygen Sensor***

<i>Sensor Type</i>	Optical RDO Pro-X from In-Situ Inc.
<i>Range</i>	0-60 mg/L
<i>Accuracy</i>	± 0.1 mg/L, 0-20 mg/L
<i>Resolution</i>	0.01 mg/L
<i>Response Time</i>	T90: <45 sec. T95: <60 sec. @ 25°C

### ***Temperature Sensor***

<i>Sensor Type</i>	Thermistor
<i>Range</i>	0° to 50°C
<i>Accuracy</i>	± 0.1°C Typical
<i>Resolution</i>	0.01 °C

### ***Environmental***

<i>Depth</i>	100 meters max depth (54 fathoms)
<i>Operating Temperature</i>	0° to 50°C

### ***Data Logger Electronics***

<i>Memory</i>	128 MB non-removable, non-volatile memory (Never memory limited)
<i>Communications</i>	BLE 5.0
<i>Battery Type</i>	Recommended: 4 x Lithium AA Optional: 4 x Alkaline AA
<i>Battery Life</i>	6 months at 15-minute recording rate
<i>Internal Clock Accuracy</i>	1 minute per month

### ***Operating Modes***

<i>Recording Rates</i>	1 sample per minute to 1 sample per hour
<i>Data Offload</i>	Automatic hands free download to the DDH

### ***Mechanical***

<i>Dimensions</i>	27 mm (1.05") diameter x 285 mm (11.25") length
<i>Weight</i>	190 g (6.7 oz)
<i>Construction</i>	Logger Housing: Grey PVC Probe Housing: Black Acetal Anti-fouling Guard: Copper Housing Cap: Vinyl with 316 SS Hose Clamp

### **RDO Technology**

The RDO Pro-X probe is a low maintenance design that uses proven “dynamic luminescence quenching” to measure to determine DO levels.

Developed by In-Situ Inc., the probe is an EPA approved method for measuring dissolved oxygen. For more information on the RDO Pro-X probe see:

[in-situ.com/us/rdo-pro-x-dissolved-oxygen-probe](https://in-situ.com/us/rdo-pro-x-dissolved-oxygen-probe)

Lowell Instruments, LLC  
 82 Technology Park Drive  
 East Falmouth MA 02536  
 Ph: 508-444-2616  
[info@lowellinstruments.com](mailto:info@lowellinstruments.com)  
[www.lowellinstruments.com](http://www.lowellinstruments.com)

RDO® is a registered trademark of  
 In-Situ Inc., Fort Collins, CO, USA

