SEA-BIRD SCIENTIFIC

Sea-Bird Electronics, Inc.
13431 NE 20th Street
Bellevue, WA 98005 United States

Phone +1-425-643-9866
www.seabird.com

SERVICE REPORT

Service Request 1005518287
Date 25-MAY-2023
Sales Order 320555302

CUSTOMER INFORMATION

Name: TELEDYNE WEBB RESEARCH
Account : 40280819
ELISE O'REGAN
ELISE.O'REGAN@TELEDYNE.COM
508-299-6194

PO Number:
343188

Bill To Address
TELEDYNE WEBB RESEARCH
ATTN: ACCOUNTS PAYABLE
1026 N. Williamson Blvd.
Daytona Beach,FL,32114,US

Ship To Address
TELEDYNE WEBB RESEARCH
BUSINESS UNIT OF TELEDYNE INSTRUMENT INC
49 EDGERTON DRIVE
NORTH FALMOUTH,MA,02556,US

PRODUCT INFORMATION

Item: SLOCUM.LEGACY
Item Description: (LEGACY) Slocum Glider
Serial: 9028

Special Notes
Services Requested:
CAL_SLOCUM
CNCRTSLOCUM
PCAL_SLOCUM
CUSTOMER NOTES: CRO-8357

No problems found.

Services Performed:
Performed initial diagnostic evaluation.
Replaced the lithium back-up battery(s).
Installed motor noise shield.
Performed pressure calibration.
Performed "POST" cruise calibration.
Performed complete system check and full diagnostic evaluation.
Installed NEW AF24173 Anti-foulant cylinder(s).

Item	Item Description	Qty
REPLACEAF	Extra charge to install one antifoulant device, includes one 801542.1.	1
CAL_SLOCUM	Calibrate SLOCUM conductivity and temperature sensors	1
CNCRTSLOCUM	Confirm & Re-certify Webb SLOCUM Glider CTD	1
PCAL_SLOCUM	Calibrate SLOCUM pressure sensor	1

Unbilled Items

Item	Item Description	Qty

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801542.1	AF24173 ANTI-FOULANT, SINGLE CYLINDER, V2	1
22096	LITHIUM COIN BATTERY, WITH TABS, BR1632A/HA	1

PO Box 518
620 Applegate St.
Philomath, OR 97370

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(541) 929-5650
Fax (541) 929-5277
www.wetlabs.com

SLC Testing Certification

Date 1/31/2023 S/N# FLBBSLC-7981

Low temperature test #1

Chill 2.5 hr at -20 °C

High temperature test #1

Heat 2.5 hr at 50 °C

Low temperature test #2 same protocol as #1

High temperature test #2 same protocol as #1

Pressure test

5 cycles, 0–1250 m with 10-sec. soaks
Held at 1250 m for 2 hrs. on last cycle

Electrical isolation

Resistance between copper faceplate and grounding wire is > 1 mΩ

Calibration verification

Verify calibration and dark counts in bb, chl, and CDOM channels
Verify 5% of single point check for chl and bb
Verify 10% of single point check for CDOM

Signature Ana Cristina Mora

NOTES:

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seabird-scientific.co

Scattering Meter Calibration Sheet

1/30/2023
Wavelength: 700 S/N FLBBSLC-7981

Use the following equation to obtain either digital or analog "scaled" output values:

$$\beta(\theta_c)\ m^{-1}\ sr^{-1} = \text{Scale Factor} \times (\text{Output} - \text{Dark Counts})$$

• Scale Factor for 700 nm	=	1.693E-06	$(m^{-1}sr^{-1})$/counts
• Output	=	meter output	counts
• Dark Counts	=	49	counts
Instrument Resolution	=	1.0 counts	1.69E-06 $(m^{-1}sr^{-1})$

Definitions:

- **Scale Factor**: Calibration scale factor, $\beta(\theta_c)$/counts. Refer to User's Guide for derivation.
- **Output**: Measured signal output of the scattering meter.
- **Dark Counts**: Signal obtained by covering detector with black tape and submersing sensor in water.

Instrument Resolution: Standard deviation of 1 minute of collected data.

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ECO Chlorophyll Fluorometer Characterization Sheet

Date: 1/30/2023

S/N: FLBBSLC-7981

Chlorophyll concentration expressed in µg/l can be derived using the equation:

CHL (µg/l) = Scale Factor * (Output - Dark counts)

	Digital
Dark counts	49 counts
Scale Factor (SF)	0.0072 µg/l/count
Maximum Output	4130 counts
Resolution	1.0 counts
Ambient temperature during characterization	21.0 °C

Dark Counts: Signal output of the meter in clean water with black tape over detector.

SF: Determined using the following equation: SF = x ÷ (output - dark counts), where x is the concentration of the solution used during instrument characterization. SF is used to derive instrument output concentration from the raw signal output of the fluorometer.

Maximum Output: Maximum signal output the fluorometer is capable of.

Resolution: Standard deviation of 1 minute of collected data.

The relationship between fluorescence and chlorophyll-a concentrations in-situ is highly variable. The scale factor listed on this document was determined using a mono-culture of phytoplankton (Thalassiosira weissflogii). The population was assumed to be reasonably healthy and the concentration was determined by using the absorption method. To accurately determine chlorophyll concentration using a fluorometer, you must perform secondary measurements on the populations of interest. This is typically done using extraction-based measurement techniques on discrete samples. For additional information on determining chlorophyll concentration see "Standard Methods for the Examination of Water and Wastewater" part 10200 H, published jointly by the American Public Health Association, American Water Works Association, and the Water Environment Federation.