SBE 19P55083-6353

29-Dec-11

SEASOFT COEFFICIENTS
FOR THE BIOSPHERICAL PAR LIGHT SENSOR
QCP-2300 S/N 70250

Your Sea-Bird Instrument has been configured to record light data from a BIOSPHERICAL Quantum sensor. The 0 – 5 volt output of this sensor corresponds on a logarithmic scale to light measurement over the measurement range.

Make the following entries in SEASOFT

M	**=**	**1**
B	**=**	**0**

From the Biospherical calibration sheet obtain:

C_w = Calibration Factor (μEinsteins/cm^2 * sec per volt)

= **5.27E-06**

V = Average Dark Voltage (Volts)

= **0.0121**

Calculate the following coefficients:

Calibration Constant = Seasoft Calibration Coefficient

= 10^5 / Cw

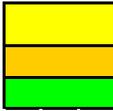= **1.8975E+10**

Offset = $-(10^4 * C_w * 10^V)$ (V is the dark voltage)

= **-0.054188935**

Multiplier = **1**

Set multiplier to 1 for output in μEinsteins/m^{2}sec. See Application Note 11 General for information on output in units other than μEinsteins/m^{2}sec. See Application Note 11QSP-L for information regarding this calibration sheet.

Biosherical PAR Light Sensor **with** **Built-In Log Amplifier**

Applicaion Note No. **11 QSPL**   Revised: **March 2008**

This worksheet applies to the following sensors:

QSP-2300L   **QSP-200L** (No longer in production)
QCP-2300L   **QCP-200L** (No longer in production)
MCP-2300

These PAR sensors are compatible with the following Sea-Bird CTDs:

SBE 9plus	- See Appnote for 9's built before 1993.
SBE 16 or 19	- These PAR sensors may not be compatible with 6-cell housing version of these CTDs
SBE 16plus, 16plus-IM, or 19plus	- CTD's optional PAR connector **not** required when using one of these PAR sensors. The PAR sensor interfaces with an A/D voltage channel on the CTD.
SBE 16plus V2, 16plus-IM V2, or 19plus V2	- The PAR sensor interfaces with an A/D voltage channel on the CTD.
SBE 25	- CTD's PAR connector (standard on current production SBE 25s, optional on older versions) **not** used with these PAR sensors. The PAR sensor interfaces with an A/D voltage channel on the CTD.

EQUATION:

$$PAR = [\text{multiplier} * (10^g * 10^{(V-B)/M}) / \text{calibration constant}] + \text{offset}$$

Enter the following coefficients from the sensor calibration sheet:

Cw	=	5.27E-06	i.e. 4.00E-06	(**Wet Calibration Factor** in uEinsteins/cm^2 * sec per volt)
V	=	0.0121	i.e. 0.0015	(**Average Dark** in Volts)

Enter the following coefficients into the CTD configuration (.CON) file:

M	=	1.0	(Default)
B	=	0.0	(Default)
Calibration constant	=	1.8975E+10	(aka **C$_s$**)
Multiplier	=	1.0	(Default for output units of µEinsteins/m^2.sec)
Offset	=	-0.054188935	

The following PAR sensors should be used with this Worksheet!

PN: 24253
       24254
       24315
       24321

This worksheet was verified by Michael Atkinson on 12/07/09. [STB 12/7/09]