



**SEA-BIRD ELECTRONICS, INC.**

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**Digiquartz Pressure Calibration dP/dT Corrected Coefficients**

*(Changed coefficients are posted in italics)*

Pressure Transducer Serial Number: 135375

Original Calibration Date: 06-Sep-17

Date of Correction: 2017-09-14

Installed in: SBE 9Plus S/N 1335

**PRESSURE COEFFICIENTS**

*C1*    *-41634.34*            *psia*  
*C2*    *-0.6090208*            *psia/deg C*  
*C3*    1.362600e-002            *psia/deg C<sup>2</sup>*

*D1*    3.417500e-002  
*D2*    0.000000e+000

*T1*    *30.36781*                *μsec*  
*T2*    *-5.54287e-04*            *μsec/deg C*  
*T3*    4.596360e-006            *μsec/deg C<sup>2</sup>*  
*T4*    1.812390e-009            *μsec/deg C<sup>3</sup>*  
*T5*    0.000000e+000

Slope = 1.0

Offset = 0.0

Corrected at Sea-Bird Electronics as per Paroscientific Calibration and Sea-Bird Electronics dP/dT tests. The original calibration from Paroscientific assumes an operating temperature range of 0 to 125 degrees C. dP/dT correction adjusts this operating range to a nominal range of 0 to 22 degrees C. This increases the accuracy of the transducer in this temperature range.

NOTE: Original coefficients from Paroscientific are attached to this form for informational purposes and should not be used.

**CALIBRATION COEFFICIENTS**SERIAL NO : **135375**

PRESSURE TRANSDUCER

DATE : 12-16-2015

MODEL : 410K-134	PRESSURE RANGE : 0 to 10000 psia	TEMP. RANGE : 0 to 125 deg C	PORT :
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**PRESSURE COEFFICIENTS**

U = temperature  
(deg C)

$$C = C_1 + C_2U + C_3U^2$$

$$D = D_1 + D_2U$$

$$T_0 = T_1 + T_2U + T_3U^2 + T_4U^3 + T_5U^4$$

T = pressure period  
(μsec)

Pressure : (psia)

$$P = C \left(1 - \frac{T_0^2}{T^2}\right) \left(1 - D \left(1 - \frac{T_0^2}{T^2}\right)\right)$$

C <sub>1</sub>	-41632.07	psia
C <sub>2</sub>	-6.09893E-01	psia/deg C
C <sub>3</sub>	1.36264E-02	psia/deg C <sup>2</sup>

D <sub>1</sub>	0.034175
D <sub>2</sub>	0

T <sub>1</sub>	30.36858	μsec
T <sub>2</sub>	-5.54583E-04	μsec/deg C
T <sub>3</sub>	4.59636E-06	μsec/deg C <sup>2</sup>
T <sub>4</sub>	1.81239E-09	μsec/deg C <sup>3</sup>
T <sub>5</sub>	0	

(12-16-2015)

**PAROSCIENTIFIC, INC.**4500 148th AVENUE N.E.  
REDMOND, WA. 98052

CUSTOMER : SEABIRD ELECTRONICS, INC.

SALES ORDER : 33634

PREPARED BY : RM



**CALIBRATION COEFFICIENTS**SERIAL NO : **135375**

PRESSURE TRANSDUCER

DATE : **12-16-2015**

MODEL : 410K-134	PRESSURE RANGE : 0 to 10000 psia	TEMP. RANGE : 0 to 125 deg C	PORT :
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**PRESSURE COEFFICIENTS AT FIXED TEMPERATURE**

(only valid at specified temperature)

T = pressure period ( $\mu\text{sec}$ )

Pressure equation : (psia)

$$P = C \left( 1 - \frac{T_0^2}{T^2} \right) \left( 1 - D \left( 1 - \frac{T_0^2}{T^2} \right) \right)$$

Temperature: 21.0 C

C (psia)	-41638.87				
D	0.034175				
T <sub>0</sub> ( $\mu\text{sec}$ )	30.35898				

(12-16-2015)

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