



SEA-BIRD ELECTRONICS, INC.

13431 NE 20th St, Bellevue Washington 98005 USA

Phone: (425) 643-9866 Fax: (425) 643-9954 Email: seabird@seabird.com

Digiquartz Pressure Calibration dP/dT Corrected Coefficients

(Changed coefficients are posted in italics)

Pressure Transducer Serial Number: 131013

Original Calibration Date: 2014-06-19

Date of Correction: 2014-11-14

Installed in: SBE 9Plus S/N 1207

PRESSURE COEFFICIENTS

<i>C1</i>	<i>-39996.74</i>	<i>psia</i>
<i>C2</i>	<i>4.1230309e-01</i>	<i>psia/deg C</i>
<i>C3</i>	<i>1.2433e-02</i>	<i>psia/deg C²</i>

<i>D1</i>	<i>0.034673</i>
<i>D2</i>	<i>0.0</i>

<i>T1</i>	<i>30.453</i>	<i>μsec</i>
<i>T2</i>	<i>-1.373447e-04</i>	<i>μsec/deg C</i>
<i>T3</i>	<i>4.2129e-06</i>	<i>μsec/deg C²</i>
<i>T4</i>	<i>2.27721e-09</i>	<i>μsec/deg C³</i>
<i>T5</i>	<i>0e+00</i>	

AD590M =
AD590B =
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 COEFFICIENTSSERIAL NO : **131013**

PRESSURE TRANSDUCER

DATE : **06-19-2014**

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

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 ₁	-39995.93 psia
C ₂	4.52516E-01 psia/deg C
C ₃	1.24325E-02 psia/deg C ²

D ₁	0.034673
D ₂	0

T ₁	30.45324 μsec
T ₂	-1.23114E-04 μsec/deg C
T ₃	4.21288E-06 μsec/deg C ²
T ₄	2.27721E-09 μsec/deg C ³
T ₅	0

(06-19-2014)

PAROSCIENTIFIC, INC.4500 148th AVENUE N.E.
REDMOND, WA. 98052CUSTOMER : **SEABIRD ELECTRONICS, INC.**

SALES ORDER : 31634

PREPARED BY : RM

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

CUSTOMER : SEABIRD ELECTRONICS, INC.
 SALES ORDER : 31634
 PREPARED BY : RM



(06-19-2014)

T ₀ (μsec)	30.45254		
D	0.034673		
C (psia)	-39980.94		

Temperature: 21.0 C

$$P = C \left(1 - \frac{T_0}{T_2} \right) \left(1 - D \left(1 - \frac{T_0}{T_2} \right) \right)$$

Pressure equation : (psia)

T = pressure period (μsec)

(only valid at specified temperature)

PRESSURE COEFFICIENTS AT FIXED TEMPERATURE

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

CALIBRATION COEFFICIENTS
 PRESSURE TRANSDUCER
 SERIAL NO : 131013
 DATE : 06-19-2014