

Unsure if you were informed already, but because this was a rush order the calibration is non-standard. Please use these Q factors and calculation method.

Read calibration data (factory calibrated) from PROM

Variable	Description /Equation	Recommender Variable Type	Size	Value	
			[Bit]	Min	Max
C0	Bridge Offset	Signed int 16	14	-8192	8191
C1	Gain	Signed int 16	14	-8192	8191
C2	Non-Linearity 2nd Order	Signed int 16	9	-256	255
C3	Temperature Coefficient, Bridge Offset 1st order	Signed int 16	10	-512	511
C4	Temperature Coefficient, Bridge Offset 2nd order	Signed int 16	9	-256	255
C5	Temperature Coefficient, Gain 1st order	Signed int 16	10	-512	511
C6	Temperature Coefficient, Gain 2nd order	Signed int 16	9	-256	255
Q0	Calculation Factor 0	Unsigned char 8	3	0	7
Q1	Calculation Factor 1	Unsigned char 8	3	0	7
Q2	Calculation Factor 2	Unsigned char 8	3	0	7
A0	Temperature Coefficient 0	Signed char 8	8	-128	127
A1	Temperature Coefficient 1	Signed char 8	8	-128	127
A2	Temperature Coefficient 2	Signed char 8	8	-128	127

Read digital pressure and temperature data

D1	Digital pressure value	Unsigned long	24	0	16777216
D2	Digital temperature	Unsigned long	24	0	16777216

Calculate temperature

TEMP	Actual Temperature(0-85 with 0.01C resolution) $TEMP = A0 \cdot 10 + A1 \cdot 20 \cdot D2/2^{24} + A2 \cdot 20 \cdot (D2/2^{24})^2$	Double	32			26.56 C
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Calculate temperature compensated pressure

Y	$Y = (D1 + C0 \cdot 2^{(15-Q0)} + C3 \cdot 2^{15} \cdot D2/2^{24} + C4 \cdot 2^{15} \cdot (D2/2^{24})^2) / (C1 \cdot 2^{(15-Q1)} + C5 \cdot 2^{18} \cdot D2/2^{24} + C6 \cdot 2^{18} \cdot (D2/2^{24})^2)$	Double	32		
P	$P = Y \cdot (1 - C2 \cdot 2^{(15-Q2)} / 2^{24}) + C2 \cdot 2^{(15-Q2)} / 2^{24} \cdot Y^2$	Double	32		
Pressure	$Pressure = ((P - 0.1) / 0.8) \cdot (P_{max} - P_{min}) + P_{min}$	Double	32		

$$Y = \frac{D1 + (C0 \times 2^{(15-Q0)}) + \left(\frac{D2 \times C3 \times 2^{15}}{2^{24}}\right) + \left[C4 \times 2^{15} \times \left(\frac{D2}{2^{24}}\right)^2\right]}{(C1 \times 2^{15-Q2}) + \left(\frac{C5 \times 2^{18} \times D2}{2^{24}}\right) + \left(C6 \times 2^{18} \times \left(\frac{D2}{2^{24}}\right)^2\right)}$$

$$P = Y \left(1 - \frac{C2 \times 2^{15-Q2}}{2^{24}}\right) + Y^2 \left(\frac{C2 \times 2^{(15 \times Q2)}}{2^{24}}\right)$$

$$Pressure = \left[\left(\frac{P - 0.1}{0.8}\right) \times (P_{max} - P_{min})\right] + P_{min}$$

$$Temp = (A0 \cdot 10) + \left(\frac{A1 \cdot 20 \cdot D2}{2^{24}}\right) + A2 \cdot 20 \cdot \left(\frac{D2}{2^{24}}\right)^2$$

Memory mapping

Address	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	16 bit reserved for manufacturer															
1	C0 ₁₃	C0 ₁₂	C0 ₁₁	C0 ₁₀	C0 ₀₉	C0 ₀₈	C0 ₀₇	C0 ₀₆	C0 ₀₅	C0 ₀₄	C0 ₀₃	C0 ₀₂	C0 ₀₁	C0 ₀₀	C1 ₁₃	C1 ₁₂
2	C1 ₁₁	C1 ₁₀	C1 ₀₉	C1 ₀₈	C1 ₀₇	C1 ₀₆	C1 ₀₅	C1 ₀₄	C1 ₀₃	C1 ₀₂	C1 ₀₁	C1 ₀₀	C2 ₀₈	C2 ₀₇	C2 ₀₆	C2 ₀₅
3	C2 ₀₄	C2 ₀₃	C2 ₀₂	C2 ₀₁	C2 ₀₀	C3 ₀₉	C3 ₀₈	C3 ₀₇	C3 ₀₆	C3 ₀₅	C3 ₀₄	C3 ₀₃	C3 ₀₂	C3 ₀₁	C3 ₀₀	C4 ₀₈
4	C4 ₀₇	C4 ₀₆	C4 ₀₅	C4 ₀₄	C4 ₀₃	C4 ₀₂	C4 ₀₁	C4 ₀₀	C5 ₀₉	C5 ₀₈	C5 ₀₇	C5 ₀₆	C5 ₀₅	C5 ₀₄	C5 ₀₃	C5 ₀₂
5	C5 ₀₁	C5 ₀₀	C6 ₀₈	C6 ₀₇	C6 ₀₆	C6 ₀₅	C6 ₀₄	C6 ₀₃	C6 ₀₂	C6 ₀₁	C6 ₀₀	Q0 ₀₂	Q0 ₀₁	Q0 ₀₀	Q1 ₀₂	Q1 ₀₁
6	Q1 ₀₀	Q2 ₀₂	Q2 ₀₁	Q2 ₀₀	A0 ₀₇	A0 ₀₆	A0 ₀₅	A0 ₀₄	A0 ₀₃	A0 ₀₂	A0 ₀₁	A0 ₀₀	A1 ₀₇	A1 ₀₆	A1 ₀₅	A1 ₀₄
7	A1 ₀₃	A1 ₀₂	A1 ₀₁	A1 ₀₀	A2 ₀₇	A2 ₀₆	A2 ₀₅	A2 ₀₄	A2 ₀₃	A2 ₀₂	A2 ₀₁	A2 ₀₀	CRC			

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