

Calibration Report: Pressure Transmitter S/N: U1120013

2 September 2008

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Science Systems and Applications, Inc.
Hampton, Virginia

Summary

Calibration date: 2 Sept 2008

Next Calibration date: 2 Sept 2009

A collection, analysis and calibration of data from a Pressure Transmitter, S/N: U1120013, has been completed. The calibration was performed by Simco Electronics. These data were collected by Simco on 2 September 2008.

Model: PTB101B (Vaisala)
Serial Number: U1120013

The test data presented in chart and graphical format showed the sensor to be out of specification in its full range (600-1060mb) on arrival. It was in specification in a limited range (860-1060mb). Therefore, the calibration was performed in the limited range and found to be within +/- 0.1mb.

The following pages provide more detail into the calibration process and results.

Application: Standard Campbell data logger program for Vaisala pressure transmitter.



Certificate No. 3989365

806 MIDDLE GROUND BLVD.
NEWPORT NEWS, VA 23606

**CERTIFICATE OF CALIBRATION
FOR
JACOBS SVERDRUP
LARC, 1 Enterprise Parkway Room 140
HAMPTON, VA 23666**

Description: **VAISALA, PTB101B, PRESSURE TRANSMITTER**

Serial No: **U1120013**

Asset No: **A058122**

Simco ID: **40211-49982**

Dept: **1250-124B**

PO No: **AI00033**

Calibration Date: 09/02/08	Calibration Interval: 12 Months	Recall Date: 09/02/09
Arrival Condition: OUT OF SPECIFICATION		Service: CALIBRATED TO LTD SPEC, CLEAN

Procedure: **VSW**
Temperature: **70°F**

Relative Humidity: **45%**

Standards Used:

Type	Simco ID	Due Date	Intvl Mos	Acc/Unc	Trace No.
DEAD WEIGHT TESTER BASE	37232*1008	04/25/11	36	AMB.TEMP/+/-1C	60338
DEAD WEIGHT TESTER BASE	37232*1008	04/25/11	36	AMB.Px/+/-2kPa	60338
DEAD WEIGHT TESTER BASE	37232*1008	04/25/11	36	AMB.RH/+/-10%	60338
DEAD WEIGHT TESTER BASE	37232*1008	04/25/11	36	VACUUM/+/-10%	60338
DEAD WEIGHT TESTER BASE	37232*1008	04/25/11	36	or .1Pa, >)	60338
10 KPA/KG PISTON-CYLINDER	37232*1017	07/14/09	12	PC.TEMP/+/-1C	60338
10 KPA/KG PISTON-CYLINDER	37232*1017	07/14/09	12	PRESSURE	61889
DMM	37590*256	03/18/09	12	+/-0.2Pa+13ppm)	CONTINUATION

Detail Of Work Performed:

Procedure: See data sheets for detail.
Limited calibration: Calibrated range 860 to 1060 mbar. Overall range is 600 to 1060mbar.
Adjusted within tolerance per manufacturer instructions.

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Calibration Data:

<u>Parameter</u>	<u>Nominal</u>	<u>Measured Before</u>	<u>Measured After</u>	<u>Tolerance</u>
Pressure	691.69 mbar*	689.8	863.5	+/-0.5 mbar
	863.38 mbar			+/-0.2 mbar

Work performed by: *W. Thrift*
William Thrift
Mechanical Tech C/QA Rep (13105)

Reviewed by: *[Signature]*



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Dated: 09/02/08





Mfr: Vaisala Desc: Pressure Transmitter Cert #: 3989365
Model: PTB101B Serial #: U1120013 Asset #: A058122

Report Information

Test Performed:	Tuesday, July 22, 2008 @ 5:19:21 PM
Data file:	C:\Program Files\COMPASS for Pressure\Data\Vaisala\U1120013\08072201.dat
Software Used:	COMPASS for Pressure Basic 2.00d
Test Profile:	Barometer Abs test mbar

Device Under Test (DUT) Information

Measurement Mode:	Absolute	Nominal Uncertainty:	0.1 %Span
Pressure Range:	600.000 to 1060.000 mbar	Data Acq. Method:	Other Device

Test Information

Pressure Units:	mbar	Dwell Time:	10 s
Pressure Stability setting:	0 %DUTSpan	Leak Rate:	

Calculations X = Reference Pressure, Y = DUT Output

Sensitivity (y/x) = 0.005362 V/mbar
Zero Intercept (y) = -3.1884605071 V
Sensitivity (x/y) = 186.492039 mbar/V
Zero Intercept (x) = 594.6391195662 mbar

Linearity: 0.1672 %DUTSpan
Hysteresis: 0.0095 %DUTSpan
Repeatability: %DUTSpan

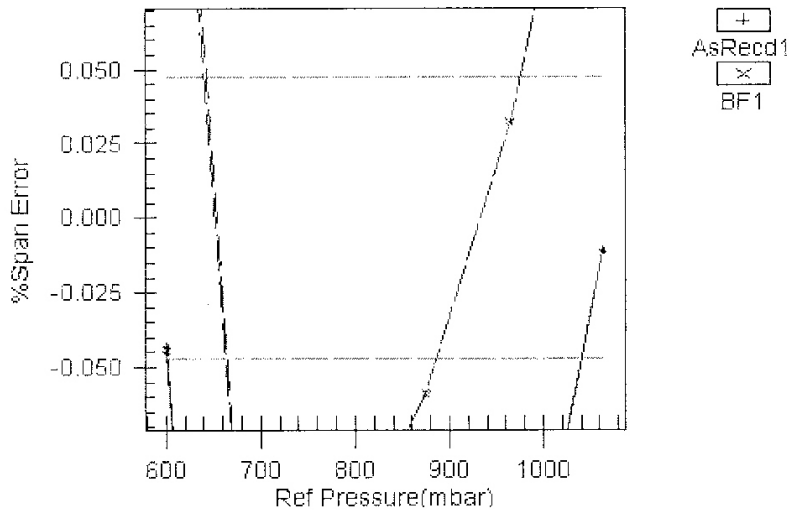


Mfr: Vaisala Desc: Pressure Transmitter Cert #: 3989365
 Model: PTB101B Serial #: U1120013 Asset #: A058122

Test Data (a blank entry in the Status column indicates a Passing result)								
Set Pt mbar	Reference Pressure mbar	DUT Pressure mbar	DUT Output V	Abs. Error mbar	"% Span" Error %	DUT Tolerance mbar	Status	Barometer inHg
600.0	601.04900	600.9	0.040	-0.1	-0.0432	0.5		29.8915
692.0	691.69277	689.8	0.516	-1.9	-0.4141	0.5	T	29.8927
784.0	782.80200	781.2	1.006	-1.6	-0.3388	0.5	T	29.8917
876.0	873.44610	872.2	1.494	-1.2	-0.2642	0.5	T	29.8930
968.0	963.84608	963.1	1.980	-0.7	-0.1720	0.5	T	29.8920
1060.0	1063.10500	1063.1	2.516	0.0	-0.0111	0.5		29.8904
968.0	963.84610	963.1	1.981	-0.7	-0.1702	0.5	T	29.8888
876.0	873.44620	872.2	1.494	-1.2	-0.2634	0.5	T	29.8868
784.0	782.80250	781.2	1.006	-1.6	-0.3376	0.5	T	29.8863
692.0	691.69330	689.8	0.516	-1.9	-0.4139	0.5	T	29.8868
600.0	601.04954	600.8	0.040	-0.2	-0.0449	0.5		29.8856

* Status: t = test target time out T = DUT is out of tolerance. R = Test Reference Not Ready during averaging. E = Error occurred during test point.

%Span Error vs. Reference Pressure
(Fit Order: 1)





Mfr: Vaisala Desc: Pressure Transmitter Cert #: 3989365
Model: PTB101B Serial #: U1120013 Asset #: A058122

Report Information	
Test Performed:	Tuesday, September 2, 2008 @ 7:29:57 AM
Data file:	C:\Program Files\COMPASS for Pressure\Data\Vaisala\U1120013\08082000.dat
Software Used:	COMPASS for Pressure Basic 2.00d
Test Profile:	SIMCO 20% steps PG

Device Under Test (DUT) Information		
Measurement Mode:	Absolute	Nominal Uncertainty: 0.1 %Span
Pressure Range:	863.400 to 1063.100 mbar	Data Acq. Method: Other Device

Test Information			
Pressure Units:	mbar	Dwell Time:	4 s
Pressure Stability setting:	0 %DUTSpan	Leak Rate:	

Calculations X = Reference Pressure, Y = DUT Output
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Sensitivity (y/x) = 0.005434 V/mbar
Zero Intercept (y) = -3.2558275064 V
Sensitivity (x/y) = 184.009998 mbar/V
Zero Intercept (x) = 599.1053296852 mbar

Linearity: 0.0640 %DUTSpan
Hysteresis: 0.0107 %DUTSpan
Repeatability: %DUTSpan



Mfr: Vaisala Desc: Pressure Transmitter Cert #: 3989365
 Model: PTB101B Serial #: U1120013 Asset #: A058122

Test Data (a blank entry in the Status column indicates a Passing result)

Set Pt mbar	Reference Pressure mbar	DUT Pressure mbar	DUT Output V	Abs. Error mbar	"% Span" Error %	DUT Tolerance mbar	Status	Barometer inHg
863.40	863.37571	863.5	1.436	0.1	0.0534	0.2		30.1296
903.34	903.30640	903.3	1.653	0.0	0.0043	0.2		30.1310
943.28	943.54190	943.5	1.872	0.0	-0.0224	0.2		30.1304
983.223	983.87260	983.8	2.091	-0.1	-0.0375	0.2		30.1305
1023.16	1024.10800	1024.0	2.310	-0.1	-0.0303	0.2		30.1312
1063.10	1063.11400	1063.1	2.522	0.0	0.0089	0.2		30.1302
1023.16	1024.10800	1024.1	2.310	0.0	-0.0196	0.2		30.1292
983.22	983.87250	983.8	2.091	-0.1	-0.0402	0.2		30.1302
943.28	943.54180	943.5	1.872	0.0	-0.0157	0.2		30.1303
903.34	903.30616	903.3	1.653	0.0	0.0139	0.2		30.1315
863.40	863.37568	863.5	1.436	0.1	0.0565	0.2		30.1312

* Status: t = test target time out T = DUT is out of tolerance. R = Test Reference Not Ready during averaging. E = Error occurred during test point.

%Span Error vs. Reference Pressure
(Fit Order: 1)

