

Calibration Report: Pressure Transmitter S/N: S3820006

2 September 2008

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Science Systems and Applications, Inc.
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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: S3820006, 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: S3820006

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.



806 MIDDLE GROUND BLVD.
NEWPORT NEWS, VA 23606

Certificate No. 3989864

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

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

Serial No: **S3820006**

Asset No: **A058123**

Simco ID: **39640-5797**

Dept: **NONE**

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	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% or .1Pa, >)	60338
DEAD WEIGHT TESTER BASE	37232*1008	04/25/11	36	PC.TEMP/+/- .1C	60338
10 KPA/KG PISTON-CYLINDER	37232*1017	07/14/09	12	PRESSURE	61889
10 KPA/KG PISTON-CYLINDER	37232*1017	07/14/09	12	+/- (.2Pa+13ppm)	CONTINUATION
DMM	37590*256	03/18/09	12	DCV +/- 8PPM	271881-05

Detail Of Work Performed:

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

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Detail Of Work Performed:
instructions.

Calibration Data:

<u>Parameter</u>	<u>Nominal</u>	<u>Measured Before</u>	<u>Measured After</u>	<u>Tolerance</u>
Pressure	691.69 mbar*	683.3		+/-0.5 mbar
	863.38 mbar		863.3	+/-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 #: 3989864
Model: PTB101B Serial #: S3820006 Asset #: A058123

Report Information

Test Performed:	Tuesday, July 22, 2008 @ 4:20:42 PM
Data file:	C:\Program Files\COMPASS for Pressure\Data\Vaisala\S3820006\08072200.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) = 0.005346 V/mbar
Zero Intercept (y) = -3.1811253213 V
Sensitivity (x/y) = 186.990393 mbar/V
Zero Intercept (x) = 595.1717958669 mbar

Linearity: 0.7822 %DUTSpan
Hysteresis: 0.0000 %DUTSpan
Repeatability: %DUTSpan

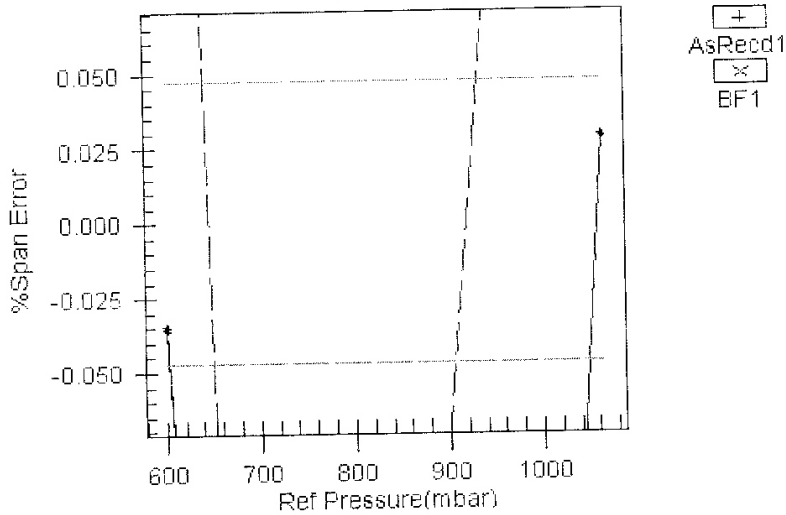


Mfr: Vaisala Desc: Pressure Transmitter Cert #: 3989864
 Model: PTB101B Serial #: S3820006 Asset #: A058123

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	601.04784	600.9	0.057	-0.1	-0.0342	0.5		29.9029
692.0	691.69140	683.3	0.495	-8.4	-1.8167	0.5	T	29.9031
784.0	782.80030	776.5	0.991	-6.3	-1.3619	0.5	T	29.9042
876.0	873.44400	869.1	1.484	-4.3	-0.9378	0.5	T	29.9042
968.0	963.84380	961.5	1.976	-2.3	-0.5095	0.5	T	29.9048
1060.0	1063.10200	1063.2	2.517	0.1	0.0285	0.5		29.9048
968.0	963.84370	961.5	1.976	-2.3	-0.5085	0.5	T	29.9042
876.0	873.44410	869.1	1.484	-4.3	-0.9366	0.5	T	29.9049
784.0	782.80060	776.5	0.992	-6.3	-1.3594	0.5	T	29.9039
692.0	691.69160	683.3	0.495	-8.4	-1.8165	0.5	T	29.9015
600.0	601.04810	600.9	0.057	-0.1	-0.0357	0.5		29.9009

* 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 #: 3989864
Model: PTB101B Serial #: S3820006 Asset #: A058123

Report Information	
Test Performed:	Tuesday, September 2, 2008 @ 7:47:12 AM
Data file:	C:\Program Files\COMPASS for Pressure\Data\Vaisala\S3820006\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

Sensitivity (y/x) = 0.005428 V/mbar
Zero Intercept (y) = -3.2544623477 V
Sensitivity (x/y) = 184.240366 mbar/V
Zero Intercept (x) = 599.6035975998 mbar

Linearity: 0.0443 %DUTSpan
Hysteresis: 0.0061 %DUTSpan
Repeatability: %DUTSpan



Mfr: Vaisala Desc: Pressure Transmitter Cert #: 3989864
 Model: PTB101B Serial #: S3820006 Asset #: A058123

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
863.376	863.37559	863.3	1.43139	0.0	-0.0192	0.2		30.1281
903.316	903.30640	903.3	1.64854	0.0	0.0160	0.2		30.1275
943.256	943.54190	943.6	1.86702	0.0	0.0213	0.2		30.1286
983.196	983.87280	983.9	2.08578	0.0	0.0036	0.2		30.1286
1023.136	1024.10900	1024.1	2.30403	0.0	-0.0126	0.2		30.1301
1063.076	1063.11500	1063.1	2.51560	-0.1	-0.0286	0.2		30.1297
1023.136	1024.10833	1024.1	2.30396	0.0	-0.0187	0.2		30.1283
983.1956	983.87281	983.9	2.08577	0.0	0.0034	0.2		30.1281
943.2556	943.54200	943.6	1.86701	0.0	0.0195	0.2		30.1290
903.3156	903.30640	903.3	1.64858	0.0	0.0195	0.2		30.1297
863.3756	863.37592	863.3	1.43141	0.0	-0.0177	0.2		30.1298

* 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.

