

Calibration Certificate

Certificate No: D130412F0D01**Date:** 9th April 2013**Manufacturer:** JSB TECH**Description:** Dual Axis Precision Digital Level**Model No:** DWL2000XY**Serial No:** S/N 11A20634**Options Installed with Specifications:** Temperature Compensated to -10° C to + 50° C**Date of Calibration:** 2nd April 2013**Temperature:** 20° C $\pm$ 1 °C**Relative Humidity:** 55 $\pm$ 10 %RH**Procedure:** DP_3000XYV1V1/temp 382793093

This certifies that the above product (s) was calibrated in compliance with ISO9001:2008 using applicable *Digi-Pas®* procedures. These calibration procedure and test points are those recommended in the procedure developed by *Digi-Pas®*.

As received: Factory tested**As Shipping Conditions:** At the completion of the calibration, measure values were In-Specification at the points tested.**Remarks or Special Requirements:** The product (s) bear a CE and/or FCC marks which is tested and certified by TÜV SÜD & PSB to comply with the EC and/or USA directives.**Traceability Information:** Supporting document related to traceability is available for review by appointment. This report shall not be reproduced accept in full, without prior written approval of the calibration facility.

Calibration Equipment Used:

<u>Model Number</u>	<u>Model Description</u>
SH-240 S3	ESPEC -TAIBAI Temperature & Humidity Chamber
P3- KPI897803	<i>Digi-Pas®</i> Reliability, Test & Evaluation Equipment
GT-0401008	Mitutoyo Granite Table (Grade Zero)
MS-308405	Starrett Master Square (Grade AA)
SB-283809	Sine Bar
BG-516-946R-10	Mitutoyo Block Gauge (Grade Zero)

Test/Inspection Report:

<u>Test Description</u>	<u>Specifications</u>	<u>Results</u>	<u>Judgments</u>
Resolution:	0.01° ($\pm$ 0.175mm/M)	OK	PASS
Accuracy Cal:	$\pm$ 0.02° at 0° ~ $\pm$ 2.00° $\pm$ 0.04° for other angles	$\pm$ 0.02° $\pm$ 0.04°	PASS PASS
Repeatability:	$\pm$ 0.01°	$\pm$ 0.01°	PASS
Symmetrical Check:	$\pm$ 0.01°	$\pm$ 0.01°	PASS
Metal Base Surface Flatness:			
Base Surface:	8 μ m	6 μ m	PASS
Vertical Surface:	8 μ m	7 μ m	PASS
Metal Base Angle:	90° $\pm$ 0.01°	90° $\pm$ 0.01°	PASS
Buzzer (Smart sensor):	>50dBA	63dBA	PASS
LCD display:	TFT LCD	OK	PASS
Operating Temp.:	-10° C to + 50° C	-15° C to + 55° C	PASS
Storage Temp.:	-20° C to + 70° C	-25° C to + 75° C	PASS

The result of this Certificate of Calibration apply only to the item described above. All reported accuracy values are as measured with no reduction by the uncertainty of measurement. Measurement uncertainty is expresses at a confidence level of 95% (coverage factor k=2).

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Uncertainty: ± 0.01
Units : Degrees

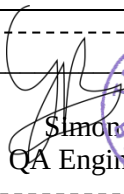
Single Axis:

Description	Standard	Lower Limit	Upper Limit	As Found
(+) SLOPE	0.00	-0.02	0.02	0.00
	0.10	0.08	0.12	0.12
	0.50	0.48	0.52	0.51
	1.00	0.98	1.02	0.98
	2.00	1.98	2.02	2.02
	15.00	14.96	15.04	15.02
	30.00	29.96	30.04	30.01
	45.00	44.96	45.04	45.03
	45.50	45.46	45.54	45.50
	46.00	45.96	46.04	46.00
	60.00	59.96	60.04	59.96
	90.00	89.96	90.04	90.01
(-) SLOPE	0.00	-0.02	0.02	0.00
	0.10	0.08	0.12	0.12
	0.50	0.48	0.52	0.51
	1.00	0.98	1.02	0.98
	2.00	1.98	2.02	2.02
	15.00	14.96	15.04	15.01
	30.00	29.96	30.04	30.00
	45.00	44.96	45.04	45.02
	45.50	45.46	45.54	45.51
	46.00	45.96	46.04	46.01
	60.00	59.96	60.04	59.97
	90.00	89.96	90.04	90.00

Dual Axis:

Description	Standard	Lower Limit	Upper Limit	As Found
X-axis				
(+) SLOPE	0.00	-0.02	0.02	0.00
	0.10	0.08	0.12	0.10
	0.50	0.48	0.52	0.49
	1.00	0.98	1.02	1.02
	1.20	1.18	1.22	1.20
	1.50	1.48	1.52	1.49
	2.00	1.98	2.02	2.01
	2.50	2.46	2.54	2.47
	3.00	2.96	3.04	3.01
(-) SLOPE	0.00	-0.02	0.02	0.00
	0.10	0.08	0.12	0.11
	0.50	0.48	0.52	0.49
	1.00	0.98	1.02	1.02
	1.20	1.18	1.22	1.19
	1.50	1.48	1.52	1.50
	2.00	1.98	2.02	2.02
	2.50	2.46	2.54	2.48
	3.00	2.96	3.04	3.02
Y-axis				
(+) SLOPE	0.00	-0.02	0.02	0.00
	0.10	0.08	0.12	0.09
	0.50	0.48	0.52	0.48
	1.00	0.98	1.02	0.99
	1.20	1.18	1.22	1.21
	1.50	1.48	1.52	1.51
	2.00	1.98	2.02	1.99
	2.50	2.46	2.54	2.49
	3.00	2.96	3.04	2.97
(-) SLOPE	0.00	-0.02	0.02	0.00
	0.10	0.08	0.12	0.09
	0.50	0.48	0.52	0.48
	1.00	0.98	1.02	0.99
	1.20	1.18	1.22	1.21
	1.50	1.48	1.52	1.50
	2.00	1.98	2.02	2.00
	2.50	2.46	2.54	2.48
	3.00	2.96	3.04	2.98

Checked by:


Simon
QA Engineer

Authorized by:


Kuu
Senior Engineer