



MICRO PRECISION CALIBRATION PTE LTD
BLOCK 5008 ANG MO KIO AVENUE 5 #07-04
TECHPLACE II SINGAPORE 569874
65 67484384



Certificate of Calibration

Date: November 17, 2017

Cert No. 512200813123826

Customer:

GES SINGAPORE PTE LTD
28 MARSILING LANE
SINGAPORE 739152

Work Order #: SG-11006714

MPC Control #: C57A10
Asset ID: N/A
Gage Type: MULTIFUNCTION I/O
Manufacturer: NATIONAL INSTRUMENTS
Model Number: PCI 6025E
Size: N/A
Temp/RH: 23°C / 44 %
Location: Calibration performed at Customer's facility

Serial Number: C57A10
Department: N/A
Performed By: JOEL DE VERA
Received Condition: IN TOLERANCE
Returned Condition: IN TOLERANCE
Cal. Date: November 17, 2017
Cal. Interval: 12 MONTHS
Cal. Due Date: November 17, 2018

Calibration Notes:

Performance test passed. See attached data (3 pages).

Standards Used to Calibrate Equipment

I.D.	Description.	Model	Serial	Manufacturer	Cal. Due Date	Traceability #
DH3876	MULTI-FUNCTION CALIBRATOR	5700A/NAF	6020913	FLUKE	Apr 3, 2018	512200812783514
CA8094	MULTIMETER	3458A	2823A25888	HEWLETT PACKARD	Nov 30, 2017	1-8338097764-1
CA8201	225MHZ UNIVERSAL COUNTER	53132A	MY40004745	AGILENT	May 23, 2018	512200812853034

Procedures Used in this Event

Procedure Name
NI 6023E/6024E/6025E

Description
I/O Terminal Summary Specifications, 370719C-01

Calibrating Technician:


JOEL DE VERA

QC Approval:


GARLO DOMINGO

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA's Publication and NIST Technical Note 1297, 1994 Edition. Services rendered comply with ISO/IEC 17025:2005, ANSI/NCSL Z540-1-1994, ANSI/NCSL Z540.3-2006, MPC Quality Manual, MPC CSD and with customer purchase order instructions.

Calibration cycles and resulting due dates were submitted/approved by the customer. Any number of factors may cause an instrument to drift out of tolerance before the next scheduled calibration. Recalibration cycles should be based on frequency of use, environmental conditions and customer's established systematic accuracy. The information on this report, pertains only to the instrument identified.

All standards are traceable to SI through the National Institute of Standards and Technology (NIST) and/or recognized national or international standards laboratories. Services rendered include proper manufacturer's service instruction and are warranted for no less than thirty (30) days. This report may not be reproduced in part or in a whole without the prior written approval of the issuing MPC lab.



CALIBRATION PERFORMANCE TEST DATA



DUT Information	
Type	PCI-6025E
Tracking number	C57A10
Serial Number	C57A10
Notes	Verification only was performed.

Operator Information	
Operator	Joel De Vera
Calibration Date	Friday, 17 November 2017 14:34:42
Notes	Performance tests passed.

Environmental Conditions	
Temperature	23.0 C
Humidity	44.0 %

Customer Information	
Name	GES SINGAPORE PTE LTD
Work Order	SG-11006714
Address	28 MARSILING LANE SINGAPORE 739152
Notes	

Version Information	
Calibration Executive Version	3.5.1.2
Procedure Version	3.4.1.2
NI-DAQmx	17.1.0

Standard Information

Type	Tracking Number	Calibration Due Date	Notes
Fluke 5700A Multifunction Calibrator	DH3876	4/3/2018	
HP 3458A Digital Multimeter	CA8094	11/30/2017	
hp5313xa	CA8201	5/23/2018	

Calibration Results



Analog Input Test

Calibration				As Found				As Left				Uncertainty
LowerRange	UpperRange	Channel	Test Value	Low Limit	Reading	High Limit	Pass/Fail	Low Limit	Reading	High Limit	Pass/Fail	
-0.05 V	0.05 V	ai0	-0.049000 V	-0.049105 V	-0.048991 V	-0.048895 V	Passed	-0.049103 V	-0.048991 V	-0.048897 V	Passed	0.00011 V
-0.05 V	0.05 V	ai0	0.000000 V	-0.000060 V	0.000000 V	0.000060 V	Passed	-0.000060 V	0.000000 V	0.000060 V	Passed	0.0000035 V
-0.05 V	0.05 V	ai0	0.049000 V	0.048895 V	0.048995 V	0.049105 V	Passed	0.048897 V	0.048995 V	0.049103 V	Passed	0.00011 V
-0.5 V	0.5 V	ai0	-0.490000 V	-0.490840 V	-0.489978 V	-0.489160 V	Passed	-0.490820 V	-0.489978 V	-0.489180 V	Passed	0.00011 V
-0.5 V	0.5 V	ai0	0.000000 V	-0.000390 V	-0.000007 V	0.000390 V	Passed	-0.000390 V	-0.000007 V	0.000390 V	Passed	0.0000035 V
-0.5 V	0.5 V	ai0	0.490000 V	0.489160 V	0.489988 V	0.490840 V	Passed	0.489180 V	0.489968 V	0.490820 V	Passed	0.00011 V
-5 V	5 V	ai0	-4.90000 V	-4.90520 V	-4.89961 V	-4.89480 V	Passed	-4.90500 V	-4.89961 V	-4.89500 V	Passed	0.00011 V
-5 V	5 V	ai0	0.00000 V	-0.00370 V	-0.00001 V	0.00370 V	Passed	-0.00370 V	-0.00001 V	0.00370 V	Passed	0.0000035 V
-5 V	5 V	ai0	4.90000 V	4.89480 V	4.89946 V	4.90520 V	Passed	4.89500 V	4.89946 V	4.90500 V	Passed	0.00011 V
-10 V	10 V	ai0	-9.8000 V	-9.8163 V	-9.7994 V	-9.7837 V	Passed	-9.8159 V	-9.7994 V	-9.7841 V	Passed	0.00011 V
-10 V	10 V	ai0	0.00000 V	-0.00740 V	0.00000 V	0.00740 V	Passed	-0.00740 V	0.00000 V	0.00740 V	Passed	0.0000035 V
-10 V	10 V	ai0	9.8000 V	9.7837 V	9.7989 V	9.8163 V	Passed	9.7841 V	9.7989 V	9.8159 V	Passed	0.00011 V

Jeff 04-Dec-17
JASON AGBAYANI



Calibration CERT #
AC-1969

Analog Output Test

Calibration				As Found				As Left				Uncertainty
LowerRange	UpperRange	Channel	Test Value	Low Limit	Reading	High Limit	PassFail	Low Limit	Reading	High Limit	PassFail	
-10 V	10 V	ao0	9.80000 V	9.79192 V	9.79968 V	9.80808 V	Passed	9.79233 V	9.79968 V	9.80767 V	Passed	0.00011 V
-10 V	10 V	ao0	0.00000 V	-0.00593 V	0.00011 V	0.00593 V	Passed	-0.00593 V	0.00011 V	0.00593 V	Passed	0.0000035 V
-10 V	10 V	ao0	-9.80000 V	-9.80808 V	-9.80068 V	-9.79192 V	Passed	-9.80767 V	-9.80068 V	-9.79233 V	Passed	0.00011 V
-10 V	10 V	ao1	9.80000 V	9.79192 V	9.79970 V	9.80808 V	Passed	9.79233 V	9.79970 V	9.80767 V	Passed	0.00011 V
-10 V	10 V	ao1	0.00000 V	-0.00593 V	-0.00013 V	0.00593 V	Passed	-0.00593 V	-0.00013 V	0.00593 V	Passed	0.0000035 V
-10 V	10 V	ao1	-9.80000 V	-9.80808 V	-9.80131 V	-9.79192 V	Passed	-9.80767 V	-9.80131 V	-9.79233 V	Passed	0.00011 V

Counter Test

Calibration		As Found				As Left			
Channel	Test Value	Low Limit	Reading	High Limit	PassFail	Low Limit	Reading	High Limit	PassFail
ctr0	5.000000 MHz	4.999500 MHz	4.999969 MHz	5.000500 MHz	Passed	4.999500 MHz	4.999969 MHz	5.000500 MHz	Passed

Uncertainty
3 x 10 ⁻¹¹

Jason 04-DEC-17
JASON ABBAYANI