



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



Certificate of Calibration

Date: Apr 18, 2018

Cert No. 512200813359780

Customer:

GES SINGAPORE PTE LTD
28 MARSILING LANE
SINGAPORE 739152

Work Order #: SG-11007699

MPC Control #: EA11065248
Asset ID: N/A
Gage Type: ALARM HYGROMETER
Manufacturer: DR SENSOR
Model Number: HT-5B
Size: N/A
Temp/RH: 21.5°C / 53.0%
Location: Calibration performed at MPC facility

Serial Number: EA11065248
Department: N/A
Performed By: ZHIYUAN LIM
Received Condition: IN TOLERANCE
Returned Condition: IN TOLERANCE
Cal. Date: April 18, 2018
Cal. Interval: 12 MONTHS
Cal. Due Date: April 18, 2019

Calibration Notes:

See attached calibration data. (1 page)

Standards Used to Calibrate Equipment

I.D.	Description.	Model	Serial	Manufacturer	Cal. Due Date	Traceability #
CC8451	HUMIDITY/TEMPERATURE INDICATOR & PROBE	HMI41 / HMP46	V0330143 / V0920024	VAISALA	Oct 10, 2018	512200813063120

Procedures Used in this Event

Procedure Name	Description
MPC-00160	Temperature Recorders, General, 3-7-2016 rev02

Calibrating Technician:

ZHIYUAN LIM

QC Approval:

JULES PHILIPPE AGPANGAN

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/NC SL Z540-1-1994, ANSI/NC SL 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.

TAN P. I.
23 APR 18.



Dr. Storage HT-5B Thermohygrometer

Procedure: MPC-00160
 ID Number: EA11065248
 Asset Number: N/A

Order Number: SG-11007699
 Serial Number: EA11065248
 Calibration Date: April 18, 2018

Temperature Accuracy

Range	Temp Set Value	REF Measured Value	Lower Limit	UUT Measured Value	Deviation	Error	Upper Limit	Result	Uncertainty (±)
0 to 50 °C	20 °C	20.2 °C	19.2 °C	20.3 °C	0.1 °C	0.50 %	21.2 °C	PASS	0.13 °C
0 to 50 °C	21 °C	21.2 °C	20.2 °C	21.3 °C	0.1 °C	0.47 %	22.2 °C	PASS	0.13 °C
0 to 50 °C	22 °C	22.3 °C	21.3 °C	22.3 °C	0.0 °C	0.00 %	23.3 °C	PASS	0.13 °C
0 to 50 °C	23 °C	23.3 °C	22.3 °C	23.4 °C	0.1 °C	0.43 %	24.3 °C	PASS	0.13 °C
0 to 50 °C	24 °C	24.3 °C	23.3 °C	24.4 °C	0.1 °C	0.41 %	25.3 °C	PASS	0.13 °C
0 to 50 °C	25 °C	25.4 °C	24.4 °C	25.5 °C	0.1 °C	0.39 %	26.4 °C	PASS	0.13 °C
0 to 50 °C	26 °C	26.3 °C	25.3 °C	26.4 °C	0.1 °C	0.38 %	27.3 °C	PASS	0.13 °C
0 to 50 °C	27 °C	27.4 °C	26.4 °C	27.5 °C	0.1 °C	0.36 %	28.4 °C	PASS	0.13 °C

Relative Humidity Accuracy

Range	RH Set Value	REF Measured Value	Lower Limit	UUT Measured Value	Deviation	Error	Upper Limit	Result	Uncertainty (±)
10 to 90 % RH	30 %RH	30.0 %RH	27.0 %RH	32.7 %RH	2.7 %RH	9.00 %	33.0 %RH	PASS	1.1 %RH
10 to 90 % RH	40 %RH	40.3 %RH	37.3 %RH	42.8 %RH	2.5 %RH	6.20 %	43.3 %RH	PASS	1.1 %RH
10 to 90 % RH	50 %RH	50.5 %RH	47.5 %RH	53.2 %RH	2.7 %RH	5.35 %	53.5 %RH	PASS	1.1 %RH
10 to 90 % RH	60 %RH	59.8 %RH	56.8 %RH	62.7 %RH	2.9 %RH	4.85 %	62.8 %RH	PASS	1.1 %RH