



# SMSB

SENDI MAHIR SDN. BHD. (333138-T)

NO.6, 8 & 10, JALAN KAPAR 27/89, MEGAH INDUSTRIAL PARK,  
SEKSYEN 27, 40400 SHAH ALAM, SELANGOR DARUL EHSAN, MALAYSIA.

TEL: 03-5191 7388 (HUNTING LINE), 5191 7502, 5191 7592, 5192 9481 FAX: 03-5191 0675, 5191 9716

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MS ISO/IEC 17025  
CALIBRATION  
SAMM NO. 082

## CERTIFICATE OF CALIBRATION

Certificate No. : SM15425574

Date of Issue : 13 May 2015

Issued By : Sendi Mahir Sdn Bhd

Page 1 of 3 Pages



**Customer** : CULMI AIR-COND & REFRIGERATION PARTS SUPPLY SDN. B  
NO.24, JALAN INDUSTRI USJ 1/5,  
TAMAN PERINDUSTRIAN USJ 1,  
47600 SUBANG JAYA SELANGOR

**Instrument** : Air Quality Meter

**Calibration Date** : 13 May 2015

**Manufacturer** : TPI

**Recalibration Date** : 13 May 2016  
**Specified By Customer**

**Model/Type** : 1010a

Remark : The user should be aware that any numbers of factors may cause this instrument to drift out of calibration before the specified calibration interval has expired.

**Serial No** : 25322810003

**Capacity** : -

**Resolution** : 0.1°C ; 1%RH

**Calibration Environment Condition:**

**Condition Upon Receiving** : Good in Physical Condition

**Temperature** : 22.3 to 22.9 °C

**Relative Humidity** : 50 to 55 %RH

**Condition Upon Returning** : Calibrated and Tested Serviceable.

**Calibration Method** : In-house procedure ICPT4 & ICPF20

**Calibration Venue** : This Instrument has been calibrated at Sendi Mahir Sdn Bhd

**Calibration Result** : The result as following page(s). The expanded uncertainties are based on an estimated confidence probability of approximately at 95% and have a coverage factor of k=2 unless stated otherwise.

### Reference Standard(s) Used :

Reference Standard Name	Serial No	Calibration Due Date	Traceable To
RTD & PRT C/W THERMOMETER	T046	26 Jun 2015	NML(MY)
THERMOHYGROMETER	T048	24 Feb 2016	NML(MY)
CALIBRATION GAS	G001	02 Jul 2017	NIST(USA)

Calibrated By:   
Mohana

Approved Signatory:   
L.H. Seah

This certificate is issued in accordance with the conditions of accreditation granted by the SAMM which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realised at the corresponding national standards laboratory. The results of calibration performed by Sendi Mahir Sdn. Bhd. apply to the particular equipment at the time of its test. They do not indicate or imply that Sendi Mahir Sdn. Bhd. approves, recommends or endorses the manufacturers or suppliers or users of such equipment that Sendi Mahir Sdn. Bhd. in any way guarantees the equipment's performance after calibration. Copyright of this certificate is owned by the issuing laboratory and may not be reproduced other than in full except with the prior written approval of the Head of the issuing laboratory.

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Certificate No : SM15425574

Page 2 of 3 Pages

### Technical Information

Readability : 0.1 °C ; 1 %RH  
 Manufacturer Specification : N/A

### Calibration Results :

#### Accuracy Test

Temperature °C

Calibration Humidity : 40%RH ( 15 ~ 20°C)

Calibration Humidity : 50%RH ( 25 ~ 35°C)

Temperature Reading	Correction	
	Before Adjustment	After Adjustment
15	+ 0.2	N/A
20	+ 0.2	N/A
25	+ 0.3	N/A
30	+ 0.3	N/A
35	+ 0.2	N/A

Measurement Uncertainty : ± 0.2 °C

Humidity %RH

Calibration Temperature : 25 °C

Humidity Reading	Correction	
	Before Adjustment	After Adjustment
30	- 7	N/A
50	- 7	N/A
70	- 7	N/A
90	- 6	N/A

Measurement Uncertainty : ± 2 %RH

Note 1 : User Instrument Reading = Temperature/Humidity Reading - Correction

Note 2 : To derive Temperature/Humidity Reading = User Instrument Reading + Correction

Note 3 : Interpolation = Reading in between 2 test point may be derive by interpolate and plot a straight line graph where Temp. Reading(x-axis) Vs. Correction(y-axis).

Note 4 : Uncertainty = Parameter, associated with the result of measurement, that characterises the dispersion of the value that reasonably be attributed to the measurand.

Note 5 : If no adjustment was done refer to 'Correction before adjustment'. If adjustment was done refer to 'Correction after adjustment' to derive true value.

Note 6 : N/A = Not Available.



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Page 3 of 3 Pages

### Calibration Results :

#### Resolution:

CO : 1 ppm  
 CO<sub>2</sub> : 1 ppm

#### Accuracy Test

Component	Reference Value	Measured Value	
		Before Adjustment	After Adjustment
CO <sub>2</sub>	0 ppm 5000 ppm	0 ppm 4730 ppm	N/A N/A
CO	0 ppm 100 ppm	0 ppm 97 ppm	N/A N/A

Remark : Gas Detector is not under "SAMM" scope yet.

Measurement Uncertainty : ± , ± 2% (CO,CO<sub>2</sub>)

Note 1 : Uncertainty = Parameter, associated with the result of measurement, that characterises the dispersion of the value that reasonably be attributed to the measurand.

Note 2 : If no adjustment done refer to 'Measured Value before adjustment' . If adjustment was done refer to 'Measured Value after adjustment' to derive the true value.

