

Requested By : PT. Sentral Teknologi Managemen  
Cikarang Square Blok B No. 11  
Jalan Raya Cibarusah, Cikarang Selatan  
Bekasi – Jawa Barat

Job Order No. : 180122  
Ambient Temperature :  $22 \pm 3^{\circ}\text{C}$   
Relative Humidity :  $55 \pm 10\% \text{ rh}$

**Descriptions**

Instrument : Thermocouple Stick  
Brand : -  
Model : Type K  
Serial No. : 018/02/2018  
Immersion : Approx. 170 mm  
Calibration Range :  $0^{\circ}\text{C}$  to  $1000^{\circ}\text{C}$   
Date Calibrated : 01<sup>st</sup> March 2018 to 08<sup>th</sup> March 2018

**Method of Calibration**

The Thermocouple Wire has been calibrated at PT. Certus Metrology Indonesia under the ambient conditions stated above according to in-house calibration procedure STCP-004. The results of calibration reported traceable to SI units of measurement through LK-160-IDN. The calibration was performed in terms of the International Temperature Scale of 1990 (ITS-90).

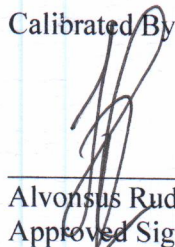
The following reference standards were used during the calibration:

- |                                       |                               |
|---------------------------------------|-------------------------------|
| i) Reference Sensor(s)                | Serial No. : 31733/2, 31733/5 |
| ii) Reference Indicator(s)            | Serial No. : 31733/1, 0694280 |
| iii) Thermocouple Multi Cold Junction | Serial No. : 31773/6          |

**Results of Calibration**

The results of the calibration are shown on the table next page(s). The expanded uncertainty are estimated associated with the measurement at a confidence level of approximately 95% with a coverage factor of  $k = 2$ .

Calibrated By

  
Alvonsus Rudianto  
Approved Signatory



**CERTIFICATE OF CALIBRATION**
**No : CE00357**
**Thermocouple Stick  
Serial No.: 018/02/2018**

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**Results of Calibration**

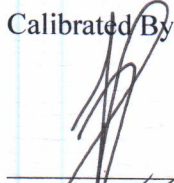
Actual Temperature (°C)	T/C Sensor Reading (mV)	T/C Sensor Equivalent Temperature (°C)*	Corrections (°C)	Uncertainty (°C)
0.00	0.0200	0.50	-0.50	0.39
100.08	4.0104	97.89	2.19	0.39
200.16	8.1111	199.30	0.86	0.39
300.07	12.1360	298.26	1.81	0.39
400.62	16.3306	398.43	2.19	0.41
500.85	20.5750	498.37	2.48	0.92
601.31	24.8169	597.92	3.39	1.31
699.79	28.9391	695.45	4.34	1.62
800.88	32.9197	791.35	9.53	2.26
899.48	36.8848	889.00	10.48	2.37
998.91	40.7847	987.41	11.50	2.48

\* The equivalent Thermocouple temperature is converted from voltage based on the IEC-60584

\* "The results reported herein have been performed in accordance with the laboratory's terms of accreditation under the Komite Akreditasi Nasional – LK-160-IDN".

Note : User have to take note of the inhomogeneity in the calibrated thermocouple when it is used for temperature measure in the workplace

Calibrated By

  
**Alvonsus Rudianto**  
Approved Signatory

**PT. Certus Metrology Indonesia**

Komplek ITC Duta Mas Fatmawati Blok D2 no. 8, Jl. RS Fatmawati No. 39, Jakarta Selatan - Indonesia  
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