



### Calibration Certificate:

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Cal.Cert. Number: WT18/021 WIKA ID No. 18/021

Object : Temperature Sensor with Indicator

Manufacturer : WIKA+ASL

Type : CTH7000+CTP5000

Serial number : 020560/05+PO00059233-1-10-2 ID No. MT-1-50020-22

Customer : Internal Calibration

Order No. : - Date : -

OA No. : - Date : -

Number of Pages of the Certificate : 3

Date of Calibration : 8-Aug-18

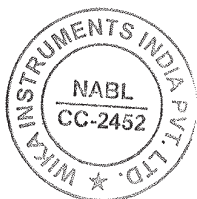
This Calibration Certificate documents the traceability to National/International standards which realise the units of measurements according to the International System of Units (SI)

The user is obliged to have the object recalibrated at appropriate intervals

This Calibration Certificate may not be reproduced other than in full except the permission of both, the NABL and the issuing laboratory. Calibration Certificates without signatures and seal are not valid.

The results in this certificate only relate to the object stated

Next Recommended Date for Calibration as per Customer Request 7-Aug-19



Date

8-Aug-18

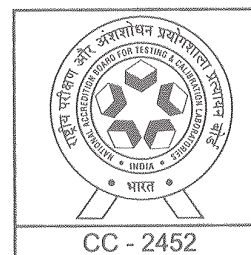
Calibrated by

V. Patil

for Head of the calibration laboratory

V. Patil  
Manager - QA

Pressure + Temperature



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### Specifications of Device Under Calibration :

Temperature Range: -70 to 650 °C  
Calibration Range: -35 to 650 °C  
Method of Measurement : Comparison  
Accuracy as per data sheet : - -  
Least Count: 0.001 °C

### Calibration Conditions :

Ambient Temperature : 21.9 °C Humidity 58.2 %Rh  
Atmospheric Pressure : 942.3 mbar

Place of Calibration :

Location: WIKA Instruments India Ltd., Pune

Number of measurements : 5

Calibration Procedure : Calibration Work Instruction Manual Section-5

### Reference/Secondary Standard:

Name: Temperature Sensor with Indiactor

Model No: CTH 7000+CTP 5000

Sr. No: 008508/20+P00028709-10-1

Cal. No: ARAI/CAL/1801/2714

Validity: 8-Feb-19

Range: -39 to 660 °C

### Temperature Sources used:

Name	Sr. No	Range
Temp. Bath	1402286	-35 to 165 °C
Temp. Bath	1402117	40 to 650 °C

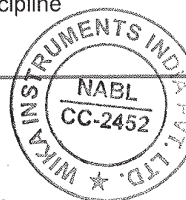
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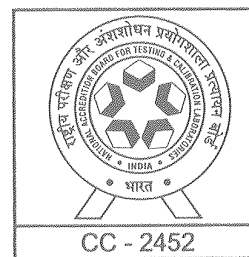
Calibration methods:

For calibration following norms are used:

- IEC 751- Specifications and tables for Resistance Temperature Detectors (RTD)
- IEC 584- Specifications and tables for Thermocouples
- NABL 124-Specific Criteria for Calibration Laboratories in Thermal & Optical Discipline
- EN 13190- Bi-metal, Gas in metal thermometers

Pressure + Temperature





### Calibration Results :

Step	Set Point °C	Reading on Standard	Reading on DUC	Deviation (DUC-Std)	Expanded Uncertainty
		°C	°C	°C	U °C
1	-35	-33.170	-33.193	-0.023	0.100
2	0	0.014	0.013	-0.001	0.100
3	150	149.682	149.697	0.014	0.100
4	300	299.795	299.795	0.000	0.100
5	650	650.114	650.118	0.004	0.100

### Notes:

- 1 The reported readings are average values of five readings rounded off as per least count of standard
- 2 Temperature readings are taken after proper stabilization of set points in temperature source
- 3 Set points are taken as per the least count of DUC
- 4 International Temperature scale 1990-ITS 90 is referred

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k = 2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

The calibration object is labeled with a calibration mark, which shows the number of this calibration certificate and the month and the year of the calibration date.

Pressure + Temperature

