

 $\leq \pm 20 \text{ ppb}$

Temperature Hand-Helds

≥ 0.05 °C

Bathe Dry w Multi

THERMOMETER, THERMOCOUPLE & PT 100 CALIBRATION

erature Calibrator

(Competency Training)

PROGRAMME OVERVIEW:

Industrial

solution

Portable solution

This thermometer calibration training module is designed to meet ISO quality management system requirement include ISO 9001, ISO14001, ISO/IATF 16949, ISO 22000, ISO/IEC 17025, GMP, HACCP and other quality management systems. The calibration procedure is adopted from ASTM E644-06 and ASTM E564-02 through comparison technique. This module includes the evaluation of measurement uncertainty base on ISO Guide to the expression of uncertainty in measurement (GUM).

TARGET GROUP:

Accuracy pyramid

Quality Managers, Technical Managers, Laboratory Managers, Supervisors, Chemist, Engineer, Signatories of test reports & certificates, Laboratories Personnel.

OBJECTIVE:

At the end of the course, participants are expected to:

- 1) Able to perform calibration of various types of thermometers.
- 2) Understand differences between various types of thermometer for example liquid in glass thermometer, thermocouple, and resistance thermometer PT100
- 3) Perform calibration independently
- 4) Perform necessary calculations include uncertainty estimation based on ISO Guide [according to the model given only]
- 5) Able to generate ISO quality management system accepted calibration report

<u>CONTENT:</u>

E008

- 1. Principle of metrology and ISO requirement on calibration.
- 2. Understand the equipment and its use
 - ✓ Differences between various principles of thermoelectricity and resistance thermometry
 - Various types of thermocouples for example types K, N, T, S, J, R and their applications
 - ✓ Understand resistance thermometer for example PT100 and its input terminal
- 3. Care and Maintenance
 - Environmental Condition
 - ✓ Other Important Items
- 4. Calibration
 - ✓ Step by step procedure based on CSIRO technical paper no. 4
 - ✓ Hands on practice
- 5. Estimate uncertainty of test base on ISO Guide.
- 6. Calculation and Interpretation
- 7. Form and formula
- 8. Work example

METHODOLOGY :

Lectures, discussion, demonstration, hands-on practice and practical exercises

CERTIFICATE :

Participants are required to complete a project usually at the end of training or within 2 weeks of completion of the training

- ✓ Certificate of competency achieves score points above 70 %
- ✓ Certificate of attendance score points below 70 % or no submission of assessment

REGISTRATION FORM (E008):				
Course Fee Duration Time HRDF Maximum No. CANCELLAT 1. Ascendent T	PUBLIC TRAINING : RM 2,100 Per Pax : Refer to Training Calendar : Ascendent Training Room : 2 Days : 9:00 AM - 5:00 PM : Ascendent Technology Sdn Bhd : SBL - Khas N-HOUSE TRAINING : RM 6,000 Per Day : 2 Days : 9:00 AM - 5:00 PM : SBL - Khas : 5 - 25 Candidates ON / POSTPONEMENT POLICY echnology Sdn.Bhd. reserves the right	Participant Designation NRIC Mobile No. Email Participant Designation NRIC Mobile No. Email Participant Designation NRIC Mobile No. Email	(E008): : Mr / Ms	
 to cancel, postpone or make any changes to the venue and training dates due to unavoidable circumstances. 2. Reservation can be made by telephone or email, but will only be confirmed upon the received of completed registration form and payment. 3. Please do not make any travel arrangements until you have received written confirmation for your registration from us. 4. No cancellation is allowed but a candidate replacement can be arranged. 5. For confirm cancellation: 7 days notice prior to commencement will subjected to RM250 service charge. If less than 7 days notice, there will be no refund. 6. Confirm postponement for in-house training less than 14 days notice prior to commencement will subjected to 50% service charge on total invoice. 		Participant:Mr / Ms.Designation:		
FOR HR DEPARTMENT				
Company Name:		Contact Person: Mr / Ms:		
Address:		Designation:		
		Department:		
		Email:		
		Mobile No: Signature: Company Stamp:		
Training Date:		Signature:	Company	stamp:
		•		
Telephone: Type of Industry:		•		
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