

Traceability and Calibration

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Traceability of calibration

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- A key issue for recognition of laboratory test results is the traceability of the calibration of the equipment

Traceability

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- Calibrations trace back to **the** Standard International Unit

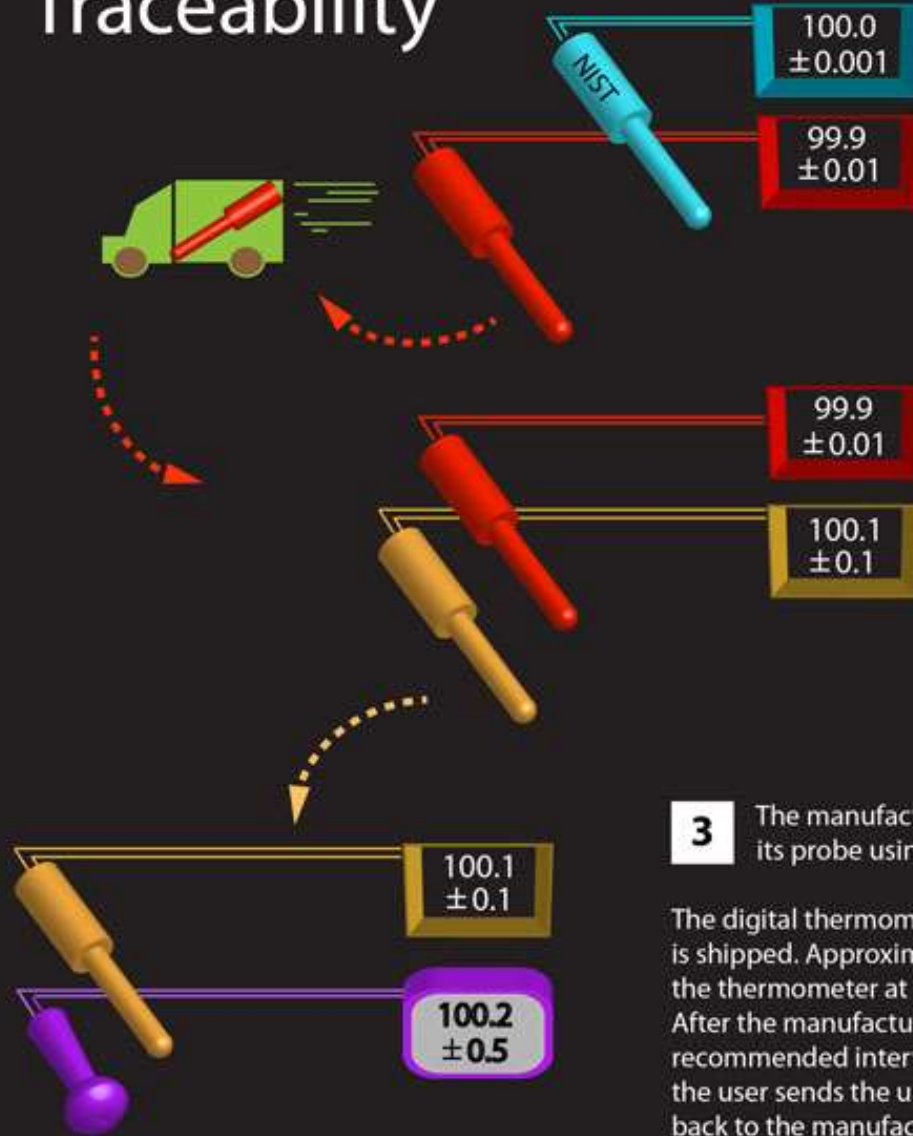
"The candela is the luminous intensity, in a given direction, of a source that emits monochromatic radiation of frequency 540×10^{12} hertz and that has a radiant intensity in that direction of $1/683$ watt per [steradian](#)."

- Each level of calibration incorporates the uncertainty of measurement from the levels above



<http://www.pyrometro.com/calibration.html>

Traceability

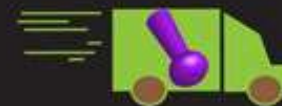


1 A manufacturer sends a platinum resistance thermometer (PRT – red) to NIST for calibration against a NIST Standard PRT (blue). The calibrated unit is then returned.

2 The manufacturer calibrates another PRT (gold) against the NIST-calibrated PRT (red). Careful records are kept of the measurements.

3 The manufacturer calibrates a digital thermometer and its probe using the second PRT as a reference.

The digital thermometer, now traceable to NIST calibration, is shipped. Approximately every year, the user measures the thermometer at the ice point. After the manufacturer's recommended interval, the user sends the unit back to the manufacturer for re-calibration.



International Accreditation System

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- International recognition of lighting testing and reports from laboratories within a country is achieved by having the national accreditation body accrediting these labs meet the requirements of a global, mutual recognition arrangement framework.
- The International Laboratory Accreditation Cooperation (ILAC)
- Asia Pacific Laboratory Accreditation Cooperation (APLAC) is a regional accreditation body (www.aplac.org). APLAC is recognized by the Asia Pacific Economic Cooperation (APEC) as one of five Specialist Regional Bodies (SRBs) that support the work of the APEC Sub-Committee on Standards and Conformance.AC) heads this arrangement framework (www.ilac.org).

