

Fact sheet of the interlaboratory comparison:

PT Température 2026_v1

1. Context and objectives:

In 2026, the CT2M organizes an european inter-laboratory comparison in the field of temperature measurement system calibration.

The objectives of this proficiency test are:

- Evaluating the performance of participants in calibrations, and monitoring the maintenance of their performance;
- Identifying problems in laboratories relate to the calibration of equipment;
- Training participants based on the results of these comparisons;
- Validation of claimed measurement uncertainties.

2. Proficiency testing item:

The temperature measurement system to be calibrated consists of the following components:

- One Pt100 probe Ø6*100mm with silicone cable length 2m
- One Delta Ohm HD 2107.1 temperature indicator with 0.01°C resolution

In order to assess the stability of the temperature measurement chain, it will be calibrated at the beginning and end of the circuit by a reference laboratory with a best uncertainty of 0.03°C (expanded uncertainty at k=2).

3. Calibration Method:

The preferred calibration method is comparison with a reference measurement chain. The number of comparisons is left to the discretion of the participant, who must use their routine operating procedures and their own calibration equipment (standard measurement chain, comparison medium).

The temperature measurement chain can be calibrated at the following points:

-20°C, 5°C, 25°C, 35°C, 60°C and 105°C

However, **it is not mandatory to perform all calibration points** if the means implemented by the participants do not allow it.

4. Conditions for participation

The following conditions must be met in order to take part:

- ✓ Possess the means and facilities necessary to perform calibration
- ✓ Provide an uncertainty associated with the correction for each calibration point performed (*)

- ✓ Be located in one of the countries of the European Union or, if this is not the case, be accredited according to ISO 17025 by an accreditation body that has signed the EA Calibration MLA or the ILAC Calibration MRA for the calibrations concerned.

(*) If you wish to take part in this ILC and you are unable to provide uncertainty associated with your results, you may be assisted by CT2M in estimating your uncertainties as part of this ILC. In this case, please indicate this on the registration form.

5. Organization of the proficiency testing:

Each participant must calibrate the measurement chain within one week of receipt. The instrument will circulate successively from one participant to the other, according to a schedule that takes into account the unavailability of each participant.

The CT2M will provide the participants with an Excel form to use to register its results. For each calibration point, the participants must indicate at least the following results:

- Standard temperature (T_{std}),
- Temperature of the temperature measurement system to calibrate (T_{mes}),
- Correction ($T_{std} - T_{mes}$),
- Expanded ($k=2$) uncertainty, if determined.

Further information will be provided by the participants on the results file (on the method and the implemented means).

6. Assigned values and evaluation of performance:

The aim of this interlaboratory comparison is to evaluate each participant's ability to obtain a calibration result close to the assigned value, taking into account the expanded uncertainty ($k=2$).

To meet this objective, an assigned value will be established for each calibration point based on the results obtained by a reference laboratory. The metrological traceability of the assigned value is guaranteed by the reference laboratory's ISO 17025 accreditation.

Participants' performance will be evaluated using the En score. This allows the participants' results to be compared with the assigned value, taking into account expanded uncertainties ($k=2$). After calculation, the En score is rounded to one decimal place. The rules for interpreting the En score are those described in ISO 13528 and ISO/IEC 17043:

$|En| < 1.0 \rightarrow$ Acceptable result

$|En| \geq 1.0 \rightarrow$ Unacceptable result

The assigned value will be reported with a maximum expanded uncertainty ($k=2$) of 0.038°C (if the entity's stability criterion is validated).

7. Report(s):

The final report will be distributed to all participants. It will be sent by the CT2M must not be distributed by participants outside their organisation. The information contained in the report may not be used by participants for scientific publications or any other communication medium.

Intermediate reports will also be issued during the circuit, in cases where a large number of participants means that the circuit will last longer than 6 months.

8. Provisional schedule:

Key steps	Estimated deadline
End of registration	03/23/2026
Planning of the circuit	April 2026
Sending of detailed protocol and results file	April 2026
Launch of circuit	April 2026
Interim report sent (if circuit > 6 months)	October 2026
Final report published	Date depends on number of participants

9. Price

Participation fees: 650 € net total

This fee is independent of the number of calibration points. It includes the provision of instruments to be calibrated, the results file to be completed, and the participation protocol, transportation costs to the first participant, and the provision of interim reports and the final report containing the analysis of results and performance evaluation.

For participant located in the European Union, the transport cost of the proficiency testing items to the next participant (located in the European Union) will be borne by him, who is free to choose the carrier. For the participants located outside the European Union, the transport to and from of proficiency testing items must be organised and paid for by the participant.

Option “Individual report”: 150 € net total (in addition to the participation fees)

In addition to the full final report, you have the option of receiving a personalised individual report. This individual report will contain only your results, the assigned values, an assessment of your performance and a conclusion as to whether or not your results are acceptable.

10. Reciprocal commitments:

CT2M commitments:

The CT2M undertakes to:

- guarantee the confidentiality of participants results and respect their anonymity (*),
- carrying out the performance evaluation in complete impartiality,
- organize and process the results in accordance with the reference applicable documents (ISO 17043, ISO 13528).

(*) The data obtained and generated during the inter-laboratory comparison may be consulted during internal or external audits. Auditors are systematically subject to a confidentiality agreement. For communication purposes (conferences, articles, etc.), the results may be used but in a totally anonymous manner. The transport of the test item from one participant to another necessarily entails the partial loss of anonymity concerning the identity of the previous participant and the following participant. Registration for this inter-laboratory comparison implies acceptance of this condition.

Participant commitments:

The participants in this inter-laboratory comparison undertake to:

- respect the protocol provided for carrying out calibrations,
- provide their results within the time limit set by the organizer by emailing the completed results file together with an accredited calibration certificate (if applicable),
- not to communicate with any other participant who may be known in order to avoid any risk of collusion,
- transmit all the necessary information of the successful completion of the inter-laboratory comparison to all the persons concerned within their laboratory,
- inform the CT2M of any malfunction.

11. Registration and contact:

To take part in the inter-laboratory comparison “PT Temperature 2026”, please complete the registration form “CT2M: REGISTRATION FORM – PT Temperature 2026” by:

- clicking on the following link: <https://forms.office.com/e/jJre7e1e5M>
- scanning the QR Code below:



For further information, please contact us:

- ✓ Email: ciltemperature@ct2m.fr
- ✓ Phone: +33 (0)4 90 50 90 14

Appendix: Terms of sale

1. Invoicing

Invoicing is carried out after sending the final report or an intermediate report of the proficiency testing. **The settlement is 30 days end of month of the invoice date.**

Every registration fee is due when the campaign is started and won't be cancelled or refund.

2. Loss, degradation or elimination of the test item

In case of loss, damage or elimination of the proficiency test item by a participant, the CT2M reserves the right to claim its amount or purchase and new shipment, to know: 400 €.

The CT2M cannot be held responsible for loss, disposal or non-receipt of the proficiency test item.

3. Number of participants

If the number of participants is insufficient for an appropriate statistical treatment, the CT2M reserves the right to cancel this inter-laboratory comparison.

4. Management and storage of personal data

The CT2M will use the data of the participants in order to communicate with the participant during the ILC. These data are also used to send them intermediate and/or final reports. The data may be used for commercial purposes: communication of new features on the website, communication on new ILC or on ILC in which a participant have already participated. The data will be kept for 5 years after the last communication. (The data listed in the quotes and reports are kept for 10 years.)

The provisions governing the management of personal data under the RGPD are available on our website.

In the event of refusal, an email should be sent to ct2m@ct2m.fr.