

CALIBRATION CERTIFICATE

1804-04917

Customer information

Client : T Comm Telematics
Contact : Dhr Marcel Vroon
Address : Rokkeveenseweg 49
2712 PJ Zoetermeer
The Netherlands

Reference client :
Reference Trescal : 201807845/1

Instrument information

Make / type : Greisinger / GTF 401
Description : Temperature probe with readout
Range : -20 .. 25 °C
Serial number :
Identification number : T777147
Accuracy :

Date of calibration : 16 April 2018 to 19 April 2018

Method of calibration

P1-02-T.001 Calibration of digital thermometers in combination with probes
Digital thermometers in combination with sensors are calibrated by firstly examining the isolation resistance. The measuring range is examined by comparing the values of the instrument with that of a reference thermometer in baths or ovens.

Environmental conditions (limits during measurements)

Ambient temperature : 23 °C ± 7 °C
Relative humidity : 45%rh ± 20%rh

Used reference

The equipment used is traceable to National and/or International standards.

R1158/22	Precision thermometry bridge	Cert.170404291
R1451/12	Pt 25 probe	Cert.170404286
R1504/9	Pt 25 probe	Cert.171203602
R2107/12	Pt 25 probe	Cert.170800994

Issue date: 19 April 2018

Technician
Hamza Hajji

Head of the laboratory
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Unless otherwise stated, the calibration was performed at the address mentioned in the footnote.

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Note

The testpoints are on client's request.

The instrument was calibrated with readout Greisinger GMH 3700 s/n 32503196.

Resolution: 0,01 °C.

The immersiondepth during the test was 130 mm.

The instrument is measured but not adjusted, so the results are both 'as found' as 'as left'.

	Reference value	Instrument value	Difference	Uncertainty ±	Units
1	0,009	-0,040	-0,049	0,022	°C
2	-19,87	-19,97	-0,10	0,04	°C
3	25,021	25,037	0,016	0,027	°C
4	0,009	-0,027	-0,036	0,027	°C

Difference = instrument value - reference value

The measurements are an average of 3.

The stated uncertainty is that of the entire set-up including the object under test.

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95% .

The uncertainty is calculated following EA-4/02 in accordance with the requirements of the ISO/IEC 17025.