

INSTRUMENT

Electronic Thermometer

Manufacturer: SeaBird Electronics

Model: 37SMP 250m

Serial Number: 37SMP47472-5496

Resolution: 0,0001 °C

Calibration range: de 0 °C a 30 °C

CALIBRACIÓN

Calibration has been performed by comparison, in isothermal media with controlled temperature, using platinum resistance thermometers that are traceable to EIT-90 maintained by CEM, according to Technical Procedure CEM-PT-0012. During calibration, the laboratory temperature is maintained at $23\text{ °C} \pm 2\text{ °C}$, and the relative humidity is kept below 70%. The SeaBird has been fully immersed in the isothermal medium for calibration and has been powered with an 9V DC source. The following table reflects the results:

Reference temperature °C	Sensor reading °C	Correction °C	Uncertainty (k =2) °C
0.000	0.000	0.000	0.01
5.132	5.132	0.000	0.03
9.976	9.975	0.001	0.01
12.050	12.048	0.002	0.01
14.978	14.979	-0.001	0.01
18.032	18.030	0.002	0.01
20.028	20.026	0.002	0.01
21.975	21.973	0.002	0.01
24.974	24.972	0.002	0.01
28.015	28.012	0.002	0.01
30.028	30.026	0.002	0.01

The given values are correct with an uncertainty of 0.05 °C. The indicated uncertainty is expanded and expressed for a coverage factor $k = 2$ (approximately equivalent to a confidence level of 95%). The calculation of this uncertainty is based on the recommendations of the Guide for the Expression of Measurement Uncertainty, Spanish version, 3rd ed., 2009, published by CEM. This uncertainty does not include equipment stability or other influencing factors.