

CERTIFICATE OF CALIBRATION

ISSUED BY ROTRONIC INSTRUMENTS (UK) LTD

DATE OF ISSUE: 29th July 2016

CERTIFICATE NUMBER: 28609



rotronic

MEASUREMENT SOLUTIONS

Calibrated by: P Image

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Dates Measurements Performed:

27th to 29th July 2016

Customer Details : Signatrol Limited, Unit E2, Green Lane Business Park, Tewkesbury, Gloucestershire, GL20 8SL
Customer's Order Number : 45180
Rotronic Ref Number : 28609
Instrument Description : Humidity & Temperature Probe
Manufacturer : Rotronic AG
Model Type (s) : HC2-S
Serial Number (s) : 60508 298

Humidity Procedure RUKP20

The hygrometer was calibrated using ROTRONIC non-saturated salt relative humidity (RH) standards, certified as traceable to National Standards. The probe of the hygrometer was subjected to the relative humidity generated by the RH standard inside a calibration chamber, and the values taken from the instruments display. The calibration was conducted in controlled laboratory conditions 23 °C ± 2 °C.

Post Adjustment Results

Applied Relative Humidity (%rh)	Calibration Uncertainty ** (%rh)	Indicated Relative Humidity (%rh)	Instrument Error (%rh)	Indicated Temperature (°C) *	Ambient Temperature (°C) *
11.3	±0.5	11.3	0.0	22.0	22.0
50.0	±1.1	50.2	+0.2	22.2	22.1
75.3	±1.3	75.3	0.0	23.1	22.9

Temperature Procedure RUKP2

The probe was calibrated by comparison with platinum resistance thermometers, which are traceable to national standards, and the values taken from the instruments display. The calibration was conducted in a HygroGen temperature chamber in controlled laboratory conditions 23 °C ± 2 °C. The probe under calibration was fully immersed in the chamber. The temperature scale used is ITS-90.

As-Found Results

Applied Temperature (°C)	Indicated Temperature (°C)	Instrument Error (°C)	Calibration Uncertainty (°C)**
0.00	0.05	+0.05	±0.26
39.92	39.94	+0.02	±0.17

* Not included within the scope of the UKAS accreditation

**The uncertainties quoted apply only to values obtained during the calibration and are not indicative of long-term stability of the instrument under calibration.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.


This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. (TSDC39 Issue 1)

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p style="text-align: center;">UKAS CALIBRATION</p> <p style="text-align: center;">0766</p> <p style="text-align: center;">Accredited to ISO/IEC 17025:2005</p>	Rotronic Instruments (UK) Limited	
	Issue No: 009 Issue date: 16 May 2014	
Unit 1A Crompton Fields Crompton Way Crawley West Sussex RH10 9EE	Contact: Mr Chris Aicken Tel: +44 (0)1293 571000 Fax: +44 (0)1293 571008 E-Mail: instruments@rotronic.co.uk Website: www.rotronic.co.uk	
Calibration performed at the above address only		

DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks
DEW POINT and RELATIVE HUMIDITY Using a chilled mirror hygrometer Dew-point Temperature sensors incorporated in humidity instruments Relative humidity Using unsaturated salts capsules Saturated salt capsules	- 60 ° to - 40 °C - 40 °C to 60 °C 60 °C to 70 °C -60 °C to 0 °C 0 °C to 70 °C 70 °C to 150 °C Example conditions At 0 °C: 2 %rh to 10 %rh 10 %rh to 95 %rh 9 At 23 °C: 2 %rh to 10 %rh 10 %rh to 95 %rh At 70 °C: 2 %rh to 95 %rh Temperature range 23 °C ± 2 °C: 5 %rh 10 %rh 11 %rh 20 %rh 35 %rh 50 %rh 65 %rh 75 %rh 80 %rh 95 %rh 5 % rh to 95 % rh	0.14 °C 0.11 °C 0.12 °C 0.08 °C to 0.06 °C 0.05 °C 0.07 °C to 0.16 °C Corresponding to above dew- point and temperature uncertainties 0.20 %rh 0.20 %rh to 1.0 %rh 0.20 %rh 0.20 %rh to 0.80 %rh 0.20 %rh to 0.60 %rh 0.50 %rh 0.50 %rh 0.50 %rh 0.60 %rh 0.70 %rh 1.1 %rh 1.0 %rh 1.3 %rh 1.3 %rh 1.3 %rh 1.6 % rh	



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Rotronic Instruments (UK) Limited
Issue No: 009 Issue date: 16 May 2014

Calibration performed at main address only

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k = 2$)	Remarks
TEMPERATURE Temperature indicators and recorders, with temperature sensor(s). In air chamber In liquid bath	 -60 °C to 0 °C 0 °C to 70 °C 70 °C to 150 °C - 10 °C to 0 °C 0 °C to 125 °C	 0.08 °C to 0.06 0.05 °C 0.07 °C to 0.16 0.080 °C 0.070 °C	
END			