

# CERTIFICATE OF CALIBRATION

ISSUED BY ROTRONIC INSTRUMENTS (UK) LTD

DATE OF ISSUE: 3<sup>rd</sup> September 2015

CERTIFICATE NUMBER: 27125



## rotronic

MEASUREMENT SOLUTIONS

Calibrated by: P Image

Approved Signatory: M Smith 

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Dates Measurements Performed:

2<sup>nd</sup> September 2015

Calibration Procedure Used: RUKP20

Customer Details : Signatrol Limited, Unit E2, Green Lane Business Park,  
: Tewksbury, Gloucestershire, GL20 8SJ

Customer's Order Number : 44945

Rotronic Ref Number : 27125

Instrument Description : Humidity & Temperature Probe

Manufacturer : Rotronic AG

Model Type : HC2-S

Serial Number : 60785 619

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 HW4 Software. The calibration was conducted in controlled laboratory conditions  $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ .

Applied Relative Humidity (%rh)	Calibration Uncertainty ** (%rh)	Indicated Relative Humidity (%rh)	Instrument Error (%rh)	Indicated Temperature ( $^{\circ}\text{C}$ ) *	Ambient Temperature ( $^{\circ}\text{C}$ ) *
11.3	$\pm 0.5$	10.8	-0.5	22.3	22.3
49.7	$\pm 1.1$	49.8	+0.1	22.1	22.1
75.3	$\pm 1.3$	75.0	-0.3	22.0	22.0

\* 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. (TSDC1 Issue 7)

# CERTIFICATE OF CALIBRATION

ISSUED BY ROTRONIC INSTRUMENTS (UK) LTD

DATE OF ISSUE: 11<sup>th</sup> September 2015      CERTIFICATE NUMBER: 27184



**rotronic**  
MEASUREMENT SOLUTIONS

Calibrated by: G Thompson

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Dates Measurements Performed:

10<sup>th</sup> September 2015

Calibration Procedure Used:

RUKP2

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Customer Details	: Signatrol Ltd, Unit E2, Green Lane Business Park, Tewkesbury, : Gloucestershire, GL20 8SJ
Customer's Order Number	: 44945
Rotronic Ref Number	: 27184
Instrument Description	: Humidity and temperature probe
Manufacturer	: Rotronic AG
Model Type (s)	: HC2-S
Serial Number (s)	: 60785 619

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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 liquid temperature bath under controlled laboratory conditions  $23\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ . The probe under calibration was immersed to a depth of 120mm. The temperature scale used is ITS-90.

Applied Temperature $^{\circ}\text{C}$	Indicated Temperature ( $^{\circ}\text{C}$ )	Instrument Error ( $^{\circ}\text{C}$ )	Calibration Uncertainty ( $^{\circ}\text{C}$ )*
-0.01	0.08	+0.09	$\pm 0.07$
39.99	39.96	-0.03	$\pm 0.07$

\*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. (TSDC12 Issue 8)