

# CERTIFICATE OF CALIBRATION

ISSUED BY RAMCARE LIMITED

Cert. Number: C51860

Date of Issue: 27th February 2023



0505



**Ramcare Limited**

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Approved Signatory:

S.H.Bass

D.G.Patel

Customer: Signatrol Ltd

Address: Unit E2  
Green Lane Business Park  
Tewkesbury  
Gloucestershire  
GL20 8SJ

Order Number: 46847

Our Reference: SO19623

Customer Requirement: To carry out calibration on Rotronic Temperature & Humidity Sensor

Manufacturer: Rotronic AG

Model: HC2A-S

Serial Number: 20340055

Date of Calibration: 17th February 2023 to 27th February 2023

Location: Laboratory

General Environment: Clean & Dry

Ambient Temperature: 22.6°C ± 2°C

Ambient Humidity: 42.5%rh ± 10%rh

APPROVED BY:

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability 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 the 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 produced other than in full, except with the written approval of the issuing laboratory.

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## Before adjustment

Item No.	Serial Number	Unit Type	Reference		Unit Indicated		Uncertainties ±		Error	
			%rh	°C	%rh	°C	%rh	°C	%rh	°C
1	20340055	Rotronic AG HC2A-S	11.21	20.98	12.34	21.00	2.7	0.4	1.13	0.02
			43.13	20.97	44.10	20.97	2.7	0.4	0.97	0.00
			75.09	20.98	75.99	20.99	2.7	0.4	0.90	0.01
			-	0.01	-	0.04	-	0.4	-	0.03
			-	40.00	-	40.09	-	0.5	-	0.09

## After adjustment

Item No.	Serial Number	Unit Type	Reference		Unit Indicated		Uncertainties ±		Error	
			%rh	°C	%rh	°C	%rh	°C	%rh	°C
1	20340055	Rotronic AG HC2A-S	11.01	21.00	11.19	21.02	2.6	0.4	0.18	0.02
			43.03	20.99	43.00	21.00	2.6	0.4	-0.03	0.01
			74.97	20.99	74.86	21.01	2.6	0.4	-0.11	0.02
			-	0.02	-	0.06	-	0.4	-	0.04
			-	39.99	-	40.07	-	0.5	-	0.08

Adjustment was made to the unit under calibration

## End of results

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## **CALIBRATION PROCEDURE**

### **Humidity Sensor without Indicator**

The instrument was allowed to equilibrate in the laboratory environment for at least one hour prior to calibration. The instrument was calibrated at the required points (specified by the customer) by comparison against our Primary standards. This work was carried out in a calibration chamber and not in the normal working environment. The instrument was placed in the central area of the chamber alongside Ramcare's reference probe and its measured value taken from Ramcare's chamber with USB cable and Rotronic HW4 software. At least 30 minutes was allowed for stabilisation at each of the required set points.

### **General notes**

1. The temperature scale used is ITS 90 (as realised in BS EN 60584-1:2013 or BS EN 60751:2008).
2. Unless otherwise stated, no adjustment was made to the unit under calibration.
3. Calibrations marked \* are not UKAS accredited in this certificate and have been included for completeness (traceable only).
4. The results reported only relate to the unit(s) under calibration, as noted on this certificate by their unique identifier.
5. Errors have been rounded to match the number of decimal places indicated by the unit under calibration.

### **End of certificate**

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