CERTIFICATE OF CALIBRATION

ISSUED BY ROTRONIC INSTRUMENTS (UK) LTD

DATE OF ISSUE: 24th April 2023 **CERTIFICATE NUMBER:** 42268

UKAS CALIBRATION 0766

rotronic MEASUREMENT SOLUTIONS

Calibrated by: G Thompson

Approved Signatory: M Smith

Unit 1a Crompton Fields, Crompton Way,
Crawley, West Sussex, RH10 9EE.
Telephone: 01293 571000 Fax: 01293 571008
Email: service@rotronic.co.uk www.rotronic.co.uk

Dates Measurements Performed:
19th & 20th April 2023
Calibration Procedure Used: RUKP2

Customer Details	: Signatrol Ltd, Unit E2, Green Lane Business Park, Tewkesbury
	: Gloucestershire, GL20 8SJ
Customer's Order Number	: 46846
Rotronic Ref Number	: 42268
Instrument Description	: Humidity and temperature generator with chilled mirror hygrometer control
Manufacturer	: Michell Instruments
Model Type (s)	: Optical
Serial Number (s)	: 071476/154675/153905

The hygrometer was calibrated by comparison against a chilled mirror hygrometer certified as traceable to National Standards. The hygrometer was also calibrated in terms of temperature by comparison with platinum resistance thermometers, which are traceable to national standards. The applied relative humidity was calculated using the measured dew point and the measured temperature. The indicated values were taken from the instruments display and are given in the table below. The calibration was conducted in an environmental chamber. The calibration was conducted in controlled laboratory conditions of 23 °C ± 2 °C. The probe under calibration was fully immersed. The temperature scale used is ITS-90.

Applied Dew Point (°C)	Calibration Uncertainty Dew Point **(°C)	Calculated Relative Humidity (%rh)	Calibration Uncertainty ** (%rh)	Applied Temperature Setpoint Optical (°C)	Calibration Uncertainty ** (°C)	Applied Relative Humidity Setpoint Optical (%rh)	Indicated Relative Humidity Optical (%rh)	Instrument Error (%rh)	Indicated Dewpoint Optical (°Cdp)***	Instrument error (°Cdp)	Measured Temp. Optical (°C)	Instrument Error (°C)
-8.55*	±0.17	11.8	±0.5	21.0	±0.17	10	11.1	-0.7	-9.3	-0.7	21.0	0.0
1.05	±0.17	26.2	±0.5	21.0	±0.17	25	26.8	+0.6	1.3	+0.2	21.1	+0.1
11.17	±0.17	52.6	±0.9	21.0	±0.17	50	53.4	+0.8	11.3	+0.1	21.1	+0.1
17.36	±0.17	78.9	±1.2	21.0	±0.17	75	80.4	+1.5	17.5	+0.1	21.0	0.0
20.00	±0.17	93.3	±1.4	21.0	±0.17	90	95.1	+1.8	20.2	+0.2	21.0	0.0

*Ice was on the reference hygrometer
** The uncertainties quoted apply only to values obtained during the calibration and are not indicative of long-term stability of the instrument under calibration.
***calculated Psychrometric conversions from HW4 V3.9

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.