rotronic
MEASUREMENT SOLUTIONS
135 Engineers Rd Suite 150
Hauppauge, NY 11788

Certificate of Calibration
Nbr: A 305

NVLAP Lab Code 201016-0

Customer: University of Hawaii
Ocean Technology Grooup
1 Sand Island Access Road
Honolulu HI 96819

Product: MP101A
S/N: 41994
Manufacturer: Rotronic AG
Specifications See report below
Lab. Conditions 23 ± 1 °C / 40 ± 25 %RH

Ref: 001734 / 45223 / 71654

The above mentioned instrument was calibrated in compliance with ISO/IEC 17025:2005 and ANSI/NCSL Z540-1 using Manufacturer's specifications and Rotronic Instrument Corp. laboratory procedures. The accuracy of all measurements is traceable to the SI through NIST or international measuring standards. The uncertainties of measurement were estimated for a coverage factor of k =2 which approximates to a 95% confidence level. This certificate does not take measurement uncertainty into account when making compliance statements. The Test Uncertainty Ratio (TUR) is reported in this certificate for each calibration point.

Humidity values have been measured within the temperature range of 24.5 ± 1°C. The report below shows both the manufacturer's specification for this product (Spec column) and the uncertainty (U column) associated with each calibration point.

Parameter	Unit	Generator	Run Type	Ref.	UUT	Error	U (k=2)	Spec	Pass	TUR
Temperature	°C	T35	AsFound	24.89	24.96	0.07	±0.09	±0.30	Yes	3.3 :1
Humidity	%RH	T00	AsFound	0.30	0.00	-0.30	±0.22	±1.50	Yes	6.8 :1
Humidity	%RH	T35	AsFound	35.07	34.06	-1.01	±0.30	±1.50	Yes	5.0 :1
Humidity	%RH	T80	AsFound	80.12	80.04	-0.08	±0.49	±1.50	Yes	3.1 :1
Temperature	°C	T35	AsLeft	24.86	24.89	0.03	±0.09	±0.30	Yes	3.3 :1
Humidity	%RH	T00	AsLeft	0.42	0.52	0.10	±0.22	±1.50	Yes	6.8 :1
Humidity	%RH	T35	AsLeft	35.10	35.29	0.19	±0.30	±1.50	Yes	5.0 :1
Humidity	%RH	T80	AsLeft	80.06	80.50	0.44	±0.49	±1.50	Yes	3.1 :1

Calibration References: see Generator column in the above report for each individual calibration point

T00 to T80: Dew or frost point measured with RH Systems Dew Point Mirror mod. 973 S/N 06-0808 (due May. 6, 2014) or S/N 11-0804 (due Nov. 28, 2014)

T00 to T80: Temperature measured with Fluke Digital Thermometer mod. 1504 S/N B25836 (due Apr. 27, 2014) and Fluke Bead Probe mod. 5611A S/N 111030998 (due Apr. 24, 2014) or with Fluke Digital Thermometer mod. 1504 S/N B25837 (due Jun. 3, 2014) and Fluke Bead Probe mod. 5611A S/N 111031098 (due May 31, 2014).

Analog signals measured with AGILENT 34401A digital multi-meter, S/N MY45008393, MY44009140, MY47005151, MY47004347, MY41047571 or MY41047840 (due Feb. 10, 2015)

By: Mary Bonney Date 4/16/2014
Calibration Technician