

# Appendix E

Noise Monitoring  
Calibration Certificate

Equipment

# *Certificate of Calibration*

*for*

**Description:** *Sound Level Meter*  
**Manufacturer:** *SVANTEK*  
**Type No.:** *971 (Serial No.: 96062)*  
**Microphone:** *ACO 7052 E (Serial No.: 78090)*  
**Preamplifier:** *SVANTEK SV 18 (Serial No.: 103808)*

***Submitted by:***

**Customer:** *Acuity Sustainability Consulting Limited*  
**Address:** *Unit 1908, Nos. 301-305 Castle Peak Road,  
Kwai Chung, N.T.*

**Upon receipt for calibration, the instrument was found to be:**

- ☒ **Within (31.5 Hz to 4k Hz)**  
☐ **Outside**

**the allowable tolerance.**

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

**Date of receipt: 2 July 2021**

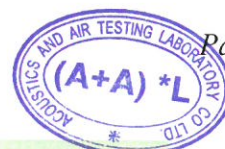
**Date of calibration: 5 July 2021**

**Calibrated by:** \_\_\_\_\_  
*Calibration Technician*

**Certified by:** \_\_\_\_\_  
*Mr. Ng Yan Wa*  
*Laboratory Manager*

**Date of issue: 5 July 2021**

**Certificate No.: APJ21-029-CC001**



Page 1 of 4

**1. Calibration Precaution:**

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

**2. Calibration Conditions:**

Air Temperature: 24.2 °C  
Air Pressure: 1004 hPa  
Relative Humidity: 60.8 %

**3. Calibration Equipment:**

|                          | Type     | Serial No. | Calibration Report Number | Traceable to |
|--------------------------|----------|------------|---------------------------|--------------|
| Multifunction Calibrator | B&K 4226 | 2288467    | AV200041                  | HOKLAS       |

**4. Calibration Results**

Sound Pressure Level

Reference Sound Pressure Level

| Setting of Unit-under-test (UUT) |                 |                |  | Applied value |               | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|--|---------------|---------------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting |  | Level, dB     | Frequency, Hz |                 |                                     |
| 20-140                           | dBA SPL         | Fast           |  | 94            | 1000          | 94.0            | ±0.4                                |

Linearity

| Setting of Unit-under-test (UUT) |                 |                |  | Applied value |               | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|--|---------------|---------------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting |  | Level, dB     | Frequency, Hz |                 |                                     |
| 20-140                           | dBA SPL         | Fast           |  | 94            | 1000          | 94.0            | Ref                                 |
|                                  |                 |                |  | 104           |               | 104.0           | ±0.3                                |
|                                  |                 |                |  | 114           |               | 114.0           | ±0.3                                |

Time Weighting

| Setting of Unit-under-test (UUT) |                 |                |  | Applied value |               | UUT Reading, dB | IEC 61672 Class 1 Specification, dB |
|----------------------------------|-----------------|----------------|--|---------------|---------------|-----------------|-------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting |  | Level, dB     | Frequency, Hz |                 |                                     |
| 20-140                           | dBA SPL         | Fast           |  | 94            | 1000          | 94.0            | Ref                                 |
|                                  |                 | Slow           |  |               |               | 94.0            | ±0.3                                |

Certificate No.: APJ21-029-CC001

Page 2 of 4

Frequency Response

Linear Response

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|----------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |                                        |
| 20-140                           | dB              | SPL            | 94            | 31.5          | 94.1               | ±2.0                                   |
|                                  |                 |                |               | 63            | 94.1               | ±1.5                                   |
|                                  |                 |                |               | 125           | 94.1               | ±1.5                                   |
|                                  |                 |                |               | 250           | 94.1               | ±1.4                                   |
|                                  |                 |                |               | 500           | 94.1               | ±1.4                                   |
|                                  |                 |                |               | 1000          | 94.0               | Ref                                    |
|                                  |                 |                |               | 2000          | 93.8               | ±1.6                                   |
|                                  |                 |                |               | 4000          | 93.3               | ±1.6                                   |

A-weighting

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|----------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |                                        |
| 20-140                           | dBA             | SPL            | 94            | 31.5          | 54.9               | -39.4 ±2.0                             |
|                                  |                 |                |               | 63            | 68.0               | -26.2 ±1.5                             |
|                                  |                 |                |               | 125           | 78.0               | -16.1 ±1.5                             |
|                                  |                 |                |               | 250           | 85.4               | -8.6 ±1.4                              |
|                                  |                 |                |               | 500           | 90.8               | -3.2 ±1.4                              |
|                                  |                 |                |               | 1000          | 94.0               | Ref                                    |
|                                  |                 |                |               | 2000          | 95.0               | +1.2 ±1.6                              |
|                                  |                 |                |               | 4000          | 94.3               | +1.0 ±1.6                              |

C-weighting

| Setting of Unit-under-test (UUT) |                 |                | Applied value |               | UUT Reading,<br>dB | IEC 61672 Class 1<br>Specification, dB |
|----------------------------------|-----------------|----------------|---------------|---------------|--------------------|----------------------------------------|
| Range, dB                        | Freq. Weighting | Time Weighting | Level, dB     | Frequency, Hz |                    |                                        |
| 20-140                           | dBC             | SPL            | 94            | 31.5          | 91.1               | -3.0 ±2.0                              |
|                                  |                 |                |               | 63            | 93.3               | -0.8 ±1.5                              |
|                                  |                 |                |               | 125           | 93.9               | -0.2 ±1.5                              |
|                                  |                 |                |               | 250           | 94.1               | -0.0 ±1.4                              |
|                                  |                 |                |               | 500           | 94.1               | -0.0 ±1.4                              |
|                                  |                 |                |               | 1000          | 94.0               | Ref                                    |
|                                  |                 |                |               | 2000          | 93.6               | -0.2 ±1.6                              |
|                                  |                 |                |               | 4000          | 92.5               | -0.8 ±1.6                              |





## 5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

|        |         |        |
|--------|---------|--------|
| 94 dB  | 31.5 Hz | ± 0.15 |
|        | 63 Hz   | ± 0.10 |
|        | 125 Hz  | ± 0.05 |
|        | 250 Hz  | ± 0.05 |
|        | 500 Hz  | ± 0.05 |
|        | 1000 Hz | ± 0.05 |
|        | 2000 Hz | ± 0.05 |
|        | 4000 Hz | ± 0.05 |
| 104 dB | 1000 Hz | ± 0.05 |
| 114 dB | 1000 Hz | ± 0.05 |

The uncertainties are evaluated for a 95% confidence level.

### Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)\*L shall not be liable for any loss or damage resulting from the use of the equipment.



# MAXLAB

## CALIBRATION CERTIFICATE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                     |                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>Certificate Information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                     |                               |
| Date of Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7-Aug-2021                                                                                                          | Certificate Number            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                     | MLCN212053S                   |
| <b>Customer Information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                     |                               |
| Company Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Acuity Sustainability Consulting Limited                                                                            |                               |
| Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Unit C, 11/F., Ford Glory Plaza,<br>Nos. 37-39 Wing Hing Street,<br>Cheung Sha Wan, Kowloon, HK                     |                               |
| <b>Equipment-under-Test (EUT)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                     |                               |
| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Acoustic Calibrator                                                                                                 |                               |
| Manufacturer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Pulsar                                                                                                              |                               |
| Model Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 105                                                                                                                 |                               |
| Serial Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 63705                                                                                                               |                               |
| Equipment Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | --                                                                                                                  |                               |
| <b>Calibration Particular</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                     |                               |
| Date of Calibration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7-Aug-2021                                                                                                          |                               |
| Calibration Equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4231(MLTE008) / AV200063 / 23-Jun-23<br>1357(MLTE190) / MLEC21/05/02 / 26-May-22                                    |                               |
| Calibration Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | MLCG00, MLCG15                                                                                                      |                               |
| Calibration Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Laboratory                                                                                                          | Temperature 23 °C ± 5 °C      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                     | Relative Humidity 55% ± 25%   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | EUT                                                                                                                 | Stabilizing Time Over 3 hours |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                     | Warm-up Time Not applicable   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                     | Power Supply Internal battery |
| Calibration Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Calibration data were detailed in the continuation pages.<br>All calibration results were within EUT specification. |                               |
| <b>Approved By &amp; Date</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                     |                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                     | K.O. Lo 7-Aug-2021            |
| <b>Statements</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                     |                               |
| <ul style="list-style-type: none"><li>* Calibration equipment used for this calibration are traceable to national / international standards.</li><li>* The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement.</li><li>* MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT.</li><li>* The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited.</li></ul> |                                                                                                                     |                               |



Certificate No.

MLCN212053S

**Calibration Data**

| EUT Setting | Standard Reading | EUT Error from Setting | Calibration Uncertainty | EUT Specification |
|-------------|------------------|------------------------|-------------------------|-------------------|
| 94 dB       | 93.9 dB          | -0.1 dB                | 0.20 dB                 | ± 0.2 dB          |

- END -

Calibrated By : Keneth  
Date : 7-Aug-21

Checked By : K.O. Lo  
Date : 7-Aug-21

Page 2 of 2

萬儀校正中心有限公司  
MaxLab Calibration Centre Limited

香港新界葵涌華星街16-18號保盈工業大廈9樓B室

Unit B, 9/F., Baldwin Industrial Bldg., 16-18 Wah Sing Street, Kwai Chung, N.T., Hong Kong Tel: (852) 2116 1380 Fax: (852) 2264 6480 Email: info@maxlab.com.hk



## Certificate of Conformity

This instrument was produced under rigorous factory production control and documented standard procedures. It was individually inspected and leak tested and the functioning of the display, backlight, buttons and firmware was verified. The accuracy of each of its primary measurements was individually calibrated and/or validated against standards traceable to the National Institute of Standards and Technology ("NIST") or other calibrated standards in accordance with the documented standard test methods detailed below. This instrument is warranted to perform in compliance with the published specifications for the specific measurements and features of its model number including specified typical drift since its date of manufacture. (See *Kestrel Limited Warranty* for full warranty terms.)

### Standards Used in Testing Wind Speed:

The Kestrel Weather & Environmental Meter impeller installed in this unit was individually tested in a subsonic wind tunnel operating at approximately 300 fpm (1.5 m/s) and 1200 fpm (6.1 m/s) monitored by a Gill Instruments Model 1350 ultrasonic time-of-flight anemometer. The Gill 1350 is calibrated regularly and is traceable to NIST with a maximum combined uncertainty of  $\pm 1.04\%$  within the airspeed range 711.4 to 3930 fpm (3.61 to 19.96 m/s), and  $\pm 1.66\%$  within the airspeed range 170 to 711.4 fpm (0.86 to 3.61 m/s).

### Temperature:

Temperature response is verified in comparison with an Ametek DTI-050 Digital Temperature Indicator and STS Reference Sensor. The DTI-050 is calibrated annually and is traceable to NIST with a maximum relative expanded uncertainty of  $\pm 0.04\text{C}$ .

### Relative Humidity:

Relative humidity is verified in comparison with an Edgetech HT120 Humidity Transmitter. The HT120 is calibrated annually and is traceable to NIST with a maximum relative expanded uncertainty of  $\pm 1.0\%RH$ .

### Barometric Pressure:

Pressure response is verified against a Vaisala PTB210A Digital Barometer. The Vaisala Barometer is calibrated annually and is traceable to NIST with a maximum relative expanded uncertainty of  $\pm 0.3hPa$ .

### Approved By:

Michael Naughton  
Chief Product Officer, Nielsen-Kellerman



# Product Specifications for Kestrel Weather Meters, Model Numbers 1000-3500

## SENSORS

| SENSOR                 | ACCURACY<br>(+/-)                                             | RESOLUTION                                                     | SPECIFICATION<br>RANGE                                                                                           | NOTES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------|---------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wind Speed   Air Speed | Larger of 3% of reading, least significant digit or 20 ft/min | 0.1 m/s<br>1 ft/min<br>0.1 km/h<br>0.1 mph<br>0.1 knots<br>1 B | 0.6 to 40.0 m/s<br>118 to 7,874 ft/min<br>2.2 to 144.0 km/h<br>1.3 to 89.5 mph<br>1.2 to 77.8 knots<br>0 to 12 B | 1 inch 25 mm diameter impeller with precision axle and low-friction Zytel® bearings. Startup speed stated as lower limit, readings may be taken down to 0.4 m/s  79 ft min 1.5 km/h  .9 mph  .8 kt after impeller startup. Off-axis accuracy -1% @ 5° off axis; -2% @ 10°; -3% @ 15°. Calibration drift < 1% after 100 hours use at 16 MPH  7 m/s. Replacement impeller (NK PN-0801) field installs without tools (US Patent 5,783,753). Wind speed calibration and testing should be done with triangle on impeller located at the top front face of the Kestrel. Measuring wind speeds above 60 m/s / 134.2 mph can damage the impeller. |
| Ambient Temperature    | 0.9 °F<br>0.5 °C                                              | 0.1 °F<br>0.1 °C                                               | -20.0 to 158.0 °F<br>-29.0 to 70.0 °C                                                                            | Airflow of 2.2 mph 1 m/s or greater provides fastest response and reduction of insulation effect. For greatest accuracy, avoid direct sunlight on the temperature sensor and prolonged sunlight exposure to the unit in low airflow conditions. Calibration drift is negligible for the life of the product. For further details, see Display & Battery Operational Temperature Limits.                                                                                                                                                                                                                                                    |
| Relative Humidity      | 3%RH                                                          | 0.1 %RH                                                        | 5 to 95% 25°C non-condensing                                                                                     | To achieve stated accuracy, unit must be permitted to equilibrate to external temperature when exposed to large, rapid temperature changes and be kept out of direct sunlight. Calibration drift is typically less than ±0.25% per year.                                                                                                                                                                                                                                                                                                                                                                                                   |
| Pressure               | 1.5 hPa mbar<br>0.044 inHg<br>0.022 PSI                       | 0.1 hPa mbar<br>0.01 inHg<br>0.01 PSI                          | 25°C 77°F<br>750-1100 hPa mbar<br>22.15-32.48 inHg<br>10.88-15.95 PSI                                            | Monolithic silicon piezo-resistive pressure sensor with second-order temperature correction. Between 1100–1600 mbar, unit will operate with reduced accuracy. Sensor may not operate above 1600 mbar and can be damaged above 6,000 mbar or below 10 mbar. Calibration drift is negligible for the life of the product.                                                                                                                                                                                                                                                                                                                    |

## CALCULATED MEASUREMENTS

| MEASUREMENT                          | ACCURACY<br>(+/-)                                                                              | RESOLUTION                            | SENSORS EMPLOYED                          |
|--------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------|
| Altitude                             | typical: 23.6 ft/7.2 m<br>from 750 to 1100 mBar<br>max: 48.2 ft/14.7 m<br>from 300 to 750 mBar | 1 ft<br>1 m                           | Pressure, User Input (Reference Pressure) |
| Barometric Pressure                  | 0.07 inHg<br>2.4 hPa mbar<br>0.03 PSI                                                          | 0.01 inHg<br>0.1 hPa mbar<br>0.01 PSI | Pressure, User Input (Reference Altitude) |
| Delta T                              | 3.2 °F<br>1.8 °C                                                                               | 0.1 °F<br>0.1 °C                      | Temperature, Relative Humidity, Pressure  |
| Dew Point                            | 3.4 °F<br>1.9 °C<br>15-95% RH.<br>Refer to Range<br>for Temperature Sensor                     | 0.1 °F<br>0.1 °C                      | Temperature, Relative Humidity            |
| Heat Index                           | 7.1°F<br>4.0°C                                                                                 | 0.1 °F<br>0.1 °C                      | Temperature, Relative Humidity            |
| Wet Bulb Temperature - Psychrometric | 3.2 °F<br>1.8 °C                                                                               | 0.1 °F<br>0.1 °C                      | Temperature, Relative Humidity, Pressure  |
| Wind Chill                           | 1.6 °F<br>0.9 °C                                                                               | 0.1 °F<br>0.1 °C                      | Wind Speed, Temperature                   |

## ADDITIONAL PRODUCT INFO

|                                                  |                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display                                          | Reflective LCD                                                                                                                                                                                                                                                                                            |
| Backlight                                        | Standard or dim red (NV models only) backlight. Manual activation with auto-off.                                                                                                                                                                                                                          |
| Response Time & Display Update                   | Display updates every 1 second. After exposure to large environmental changes, all sensors require an equilibration period to reach stated accuracy. Measurements employing RH may require longer periods particularly after prolonged exposure to very high or very low humidity.                        |
| Auto Shutdown                                    | After 45 minutes with no key presses.                                                                                                                                                                                                                                                                     |
| Clock                                            | Real Time Hour:Minute Display                                                                                                                                                                                                                                                                             |
| Certifications                                   | CE certified, RoHS and WEEE compliant. Individually tested to NIST-traceable standards.                                                                                                                                                                                                                   |
| Origin                                           | Designed and manufactured in the USA from US and imported components. Complies with Regional Value Content and Tariff Code Transformation requirements for NAFTA Preference Criterion B.                                                                                                                  |
| Bluetooth® Data Connect                          | Wireless range up to 100ft. Employs Kestrel Link protocol for data transmission with Kestrel Link Ballistics App. (iOS/Android)                                                                                                                                                                           |
| Battery                                          | Requires one CR2032 battery, included. Up to 300 hours of use, reduced by backlight or Bluetooth use.                                                                                                                                                                                                     |
| Shock Resistance                                 | MIL-STD-810g, Transit Shock, Method 516.7 Procedure IV; unit only; impact may damage replaceable impeller.                                                                                                                                                                                                |
| Sealing                                          | Waterproof (IP67 and NEMA-6)                                                                                                                                                                                                                                                                              |
| Display & Battery Operational Temperature Limits | 14° F to 131° F   -10 °C to 55 °C Measurements may be taken beyond the limits of the operational temperature range of the display and batteries by maintaining the unit within the operational range and then exposing it to the more extreme environment for the minimum time necessary to take reading. |
| Storage Temperature                              | -22.0 °F to 140.0 °F   -30.0 °C to 60.0 °C.                                                                                                                                                                                                                                                               |
| Size & Weight                                    | 4.8 x 1.9 x 1.1 in   12.2 x 4.8 x 2.8 cm, 3.6 oz   102 g (including slip-on cover).                                                                                                                                                                                                                       |

\*Note: Accuracy calculated as uncertainty of the measurement derived from statistical analysis considering the combined effects from primary sensor specifications, circuit conversions, and all other sources of error using a coverage factor of k=2, or two standard deviations (2σ)

\*\*Note: For Kestrel 1000, 2000, 2500, 3000, 3500 series these specifications are valid for units with a serial number higher than 2262687. If your product has a lower serial number, please reference the K4000 specifications 329011.