

Measurement Response Time	Model	Units	Operational Range	Resolution	Accuracy (+/-)	Specification Range
Wind Speed (Air Velocity) 1 second	All Models	m/s	0.4 to 60.0 m/s	0.1	Larger of: 3% of reading, least significant digit or 20 ft/min	0.4 to 40.0 m/s
		ft/min	79 to 11,948 ft/min	1		79 to 7877 ft/min
		km/h	1.0 to 218.0 km/h	0.1		1.0 to 144.0 km/h
		mph	0.8 to 135.0 mph	0.1		0.8 to 89.0 mph
		knots	0.6 to 118.3 kt	0.1		0.6 to 78.0 kt
		Beaufort	0 to 12 B	1		0 to 12 B
1 inch diameter impeller with precision axle and low-friction Zytel® bearings. 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 5,763,753).						
Air Flow 1 second	4300	cfm	0 to 99,999 cfm	1	3% of reading	0 to 99,999 cfm
		m³/h	0 to 99,999 m³/h	1		0 to 99,999 m³/h
		m³/m	0 to 99,999 m³/m	1		0 to 99,999 m³/m
		m³/s	0.0 to 9,999.9 m³/s	0.1		0.0 to 9,999.9 m³/s
		L/s	0 to 99,999 L/s	1		0 to 99,999 L/s
Volume of air flowing through an opening. Automatically calculated from Air Velocity measurement and user-specified duct shape (circle or rectangle) and dimensions (units: in, ft, cm or m). Maximum duct dimension input: 258.0 in / 21.5 ft / 655.3 cm / 6.55 m.						
Wind Direction / Forward Heading 1 second	4300	°	360°	1	5°	0 to 360°
		Cardinal Points	360°	16 Points	5°	0 to 360°
2-axis solid-state magnetoresistive sensor mounted perpendicular to unit plane to permit operation while measuring wind speed. Declination/variation adjustable for True North readout. Accuracy of measurements dependent upon unit's vertical position. Self-calibration routine eliminates magnetic error from batteries or unit and must be run after every full power-down (battery removal or change).						
Temperature 1 second	2000 2500 3500 4000 4200 4250 4300 4300	°F	-49.0 to 257.0 °F	0.1	1.8 °F	-20.0 to 158.0 °F
		°C	-45.0 to 125.0 °C	0.1	1.0 °C	-29.0 to 70.0 °C
Air, water or snow temperature. Hermetically-sealed, precision thermistor mounted externally and thermally isolated (US Patent 5,939,645) for rapid response (fastest with airflow of 2.2 mph/1 m/s or greater). Calibration drift negligible.						
Relative Humidity 1 minute	3000 3500 4000 4200 4250 4300 4500	%RH	0.0 to 100.0 %	0.1	3.0 %RH	5.0 to 95.0 % non-condensing
		Polymer capacitive humidity sensor mounted in thin-walled chamber external to case for rapid, accurate response (US Patent 6,257,074). (To achieve stated relative humidity accuracy, unit must be permitted to equilibrate to external temperature when exposed to large, rapid temperature changes and must be kept out of direct sunlight.) Calibration drift +/- 2% over 24 months. Relative humidity may be recalibrated at factory or in field using Kestrel Humidity Calibration Kit (NK PN-0802).				
Evaporation Rate 1 second	4300	lb/ft²/hr	0.00 to 1.00 lb/ft²/hr	0.01	Typical: ±0.02 lb/ft²/hr	0.00 to 1.00 lb/ft²/hr
		kg/m²/hr	0.00 to 5.00 kg/m²/hr	0.01	Typical: ±0.1 kg/m²/hr	0.00 to 5.00 kg/m²/hr
The rate at which moisture is lost from the surface of curing concrete. Calculated from the primary measurements of wind speed, air temperature, relative humidity and concrete temperature. Requires user measurement and entry of concrete temperature obtained with an accurate IR or probe thermometer (°F or °C, not included with Kestrel 4300). For maximum accuracy, readings should be taken 20 inches above pour surface with the thermistor shaded, and averaged for 6-10 seconds using built-in averaging function. Maximum accuracy: ±0.06 lb/ft²/hr or ±0.3 kg/m²/hr.						
Pressure 1 second	2500 3500 4000 4200 4250 4300 4500	inHg	0.3 to 32.5 inHg	0.01	0.05 inHg	At 77.0 °F, 22.1 to 32.5 inHg
		hPa / mb	10.0 to 1100.0 hPa / mb	0.1	1.5 hPa / mb	At 25.0 °C, 750 to 1100hPa / mb
		PSI	0.15 to 16.0 PSI	0.02	0.02 PSI	At 77.0 °F, 10.9 to 16.0 PSI
Air pressure at the location. Adjustable reference altitude allows display of station pressure or barometric pressure corrected to MSL. Monolithic silicon piezoresistive pressure sensor with second-order temperature correction. Maximum error over temperature range 32 to 158 °F (0 to 70°C) and pressure range 600 to 1100hPa is +/- 0.074 inHg +/- 2.5hPa. Pressure sensor may be recalibrated at factory or in field.						
Altitude 1 second	2500 3500 4000 4200 4250 4300 4500	ft	-6000 to 30000 ft	1	50 ft	At 77.0 °F, <19,700 ft. Max error +/- 98 ft
		m	-2000 to 9000 m	1	15 m	At 25.0 °C, <6,000 m. Max error +/- 30 m
Height above Mean Sea Level ("MSL"). Temperature compensated pressure (barometric) altimeter.						
Crosswind Headwind, Tailwind 1 second	4300	mph	0.8 to 135.0 mph	1	5%	8.5 to 89.0 mph
		ft/min	59 to 11,880 ft/min	1	5%	750 to 7832 ft/min
		km/h	1.0 to 217.3 km/h	0.1	5%	13.7 to 143.2 km/h
		m/s	0.4 to 60.0 m/s	0.1	5%	3.8 to 40.0 m/s
		knots	0.6 to 117.3 kt	0.1	5%	7.4 to 77.0 kt
		Effective wind relative to a target or travel direction. Calculated from wind speed, wind direction and target heading. Auto-switching headwind/tailwind indication. Ranges expressed refer to primary wind speed.				
Wind Chill 1 second	2000 2500 3500 4000 4200 4250 4300 4500	°F	0.7 to 135.0 MPH, -49.0 to 257.0 °F	0.1	1.8 °F	1.8 to 89.0 mph, -50.0 to 50.0 °F
		°C	0.4 to 60.0 m/s, -45.0 to 125.0 °C	0.1	1.0 °C	0.4 to 40 m/s, -45.6 to 10.0 °C
Perceived temperature resulting from combined effect of wind speed and temperature. Calculated based on the NWS Wind Chill Temperature (WCT) Index, revised 2001, with wind speed adjusted by a factor of 1.5 to yield equivalent results to wind speed measured at 10 m above ground. (Specification temperature limits established by WCT Tables.)						
Heat Index 1 second	3000 3500 4000 4200 4250 4300 4500	°F	0.0 to 100.0 %RH, -49.0 to 257.0 °F	0.1	3.6 °F	70.0 to 130.0 °F, 0 to 100% RH
		°C	0.0 to 100.0 %RH, -45.0 to 125.0 °C	0.1	2.0 °C	21.1 to 54.4 °C, 0 to 100 %RH
Perceived temperature resulting from the combined effect of temperature and relative humidity. Calculated based on NWS Heat Index (HI) tables. (Specification temperature limits established by HI tables.)						
Dewpoint 1 second	3000 3500 4000 4200 4250 4300 4500	°F	0.0 to 100.0 %RH, -49.0 to 257.0 °F	0.1	3.6 °F	-20.0 to 158.0 °F, 20.0 to 95.0% RH
		°C	0.0 to 100.0 %RH, -45.0 to 125.0 °C	0.1	2.0 °C	-29.0 to 70.0 °C, 20.0 to 95.0% RH
Temperature to which the air must be cooled at a constant pressure for water vapor to condense into water. Calculated from temperature and relative humidity.						
Wet Bulb Temperature 1 second	3000 3500 4000 4200 4250 4300 4500	°F	-49.0 to 257.0 °F, 0.0 to 100.0 %RH, 8.86 to 32.48 inHg	0.1	3.6 °F	32.0 to 100.0 °F, 5.0 to 95.0% RH, 8.86 to 32.48 inHg, <19700 ft
		°C	-45.0 to 125.0 °C, 0.0 to 100.0 %RH, 300.0 to 1100.0 hPa	0.1	2.0 °C	0.0 to 37.8 °C, 5.0 to 95.0 %RH, -2000.0 to 9000.0 hPa, <6000 m
Temperature indicated by a wet bulb psychrometer. Calculated from temperature, relative humidity and pressure.						
Delta T 1 second	3500 DT	°F	-49.0 to 257.0 °F, 0.0 to 100.0 %RH, 8.86 to 32.48 inHg	0.1	5.4 °F	32.0 to 100.0 °F, 5.0 to 95.0% RH, 8.86 to 32.48 inHg, <19700 ft
		°C	-45.0 to 125.0 °C, 0.0 to 100.0 %RH, 300.0 to 1100.0 hPa	0.1	3.0 °C	0.0 to 37.8 °C, 5.0 to 95.0 %RH, -2000.0 to 9000.0 hPa, <6000 m
Difference between dry bulb temperature and wet bulb temperature. When spraying, indicates evaporation rate and droplet lifetime. Safe range for pesticide spraying is 4 to 16 °F / 2 to 9 °C.						
Humidity Ratio 1 second	4200 4250	gpp	0.000 to 5000.0 gpp	0.1	typical accuracy 10%	-20 to 130°F, 5 to 95% RH, 8.86 to 32.48 inHg
		g/kg	0.00 to 720.0 g/kg	0.01	typical accuracy 10%	-29 to 54°C, 5 to 95% RH, 300.0 to 1100.0 hPa
Mass of water vapor in a mass of air. Commonly expressed as grains/lb and referred to as "grains". Calculated from temperature, relative humidity and pressure.						
Density Altitude 1 second	4000 4200 4250 4300 4500	ft	-49.0 to 257.0 °F, 0.0 to 100.0 % RH, 8.86 to 32.48 inHg	1	246	32.0 to 100.0 °F, 5.0 to 95.0 %RH, 8.86 to 32.48 inHg, <19700 ft
		m	-45.0 to 125.0 °C, 0.0 to 100.0 %RH, 300.0 to 1100.0 hPa	1	75	0.0 - 37.8 °C, 5.0 to 95.0 %RH, -2000.0 to 9000 hPa, <6000 m
Air density converted to equivalent sea level elevation at the International Standard Atmosphere. Calculated from pressure, temperature and relative humidity.						
Max/Avg Wind Speed (Air Velocity), Crosswind, Headwind/Tailwind	All Models	One-button clear and restart of Max Wind Gust and Average Wind measurement.				
Pressure Trend	2500 3500	Continuously updating three-hour barometric pressure trend indicator: rising rapidly, rising, steady, falling, falling rapidly.				
Data Storage / Display	4000 4200 4250 4300 4500	Minimum, maximum, average and logged history stored and displayed for every measured value. Large capacity data logger with graphical display. Manual and auto data storage; auto-store interval settable from 2 seconds to 12 hours. Capacity by model (data sets): K4000=4000, K4200=3600, K4300 =3200, K4500=2900.				
Data Upload	4000 4200 4250 4300 4500	Requires optional PC interface and provided software. RS-232 connection with USB adapter available.				
Display	1000 2000 3000	Reflective 3 1/2 digit LCD. Digit height 0.36 in / 9 mm.				
	2500 3500	Reflective 5 digit LCD. Digit height 0.36 in / 9 mm.				
Display Update	4000 4200 4250 4300 4500	Multifunction, multi-digit programmable dot-matrix display.				
	All Models	1 second.				
Display Backlight	2000 2500 3000 3500	Aviation green electroluminescent backlight.				
	4000 4200 4250 4300 4500	Choice of aviation green or visible red (4000 & 4500 only) electroluminescent backlight. Automatic or manual activation.				
Clock / Calendar	2500 3500	Real-time hours:minutes clock.				
	4000 4200 4250 4300 4500	Real-time hours:minutes:seconds clock, calendar, automatic leap-year adjustment.				
Operational Temperature Range (LCD and Batteries)	All Models	The operational temperature range of the liquid crystal display and batteries is 14° F to 131° F / -10 °C to 55 °C. Beyond the limits of the operational temperature range, the unit must be maintained within range and exposed for minimum time necessary to take reading.				
Storage Temperature	All Models	-22 °F to 140 °F / -30 °C to 60 °C.				
Auto Shutdown	2000 2500 3000 3500	After 45 minutes of no key presses.				
	4000 4200 4250 4300 4500	User-selectable: 15 or 60 minutes with no key presses or disabled.				
Languages	4000 4200 4250 4300 4500	English, French, German, Italian, Spanish.				
Certifications	All Models	CE certified. Individually tested to NIST-traceable standards (written certificate of tests available at additional charge).				
Battery	1000 2000 2500 3000 3500	CR2032, one, included. Average life, 300 hours. Battery life reduced by backlight use in 2000 to 3500 models.				
	4000 4200 4250 4300 4500	AAA Alkaline, two, included. Average life, 400 hours of use, reduced by backlight use.				
Environmental	All Models	Waterproof (IP67 and NEMA-6). Drop-tested (MIL-STD-810F; unit only. Substantial impact may damage replaceable impeller.).				
Dimensions	2000 2500 3000 3500	Unit 4.8 x 1.7 x 0.7 in / 122 x 42 x 18 mm. Case 4.8 x 1.9 x 1.1 in / 122 x 48 x 28 mm.				
	4000 4200 4250 4300 4500	Unit 5.0 x 1.8 x 1.1 in / 12.7 x 4.5 x 2.8 cm.				
Weight	2000 2500 3000 3500	Unit 2.3 oz / 65 g. Case 1.3 oz / 37 g.				
	4000 4200 4250 4300 4500	Unit 3.6 oz / 102 g.				