Kestrel® 3000
Pocket Weather Meter

When health and safety are on the line, perception is not reality. The Kestrel 3000 gives you real conditions **in real time.**

Professional and collegiate athletic trainers, storm chasers and wild-land firefighters alike understand the importance of monitoring field conditions. You know you're working hard – make sure you're staying safe. The Kestrel 3000 keeps you from working past your limits.

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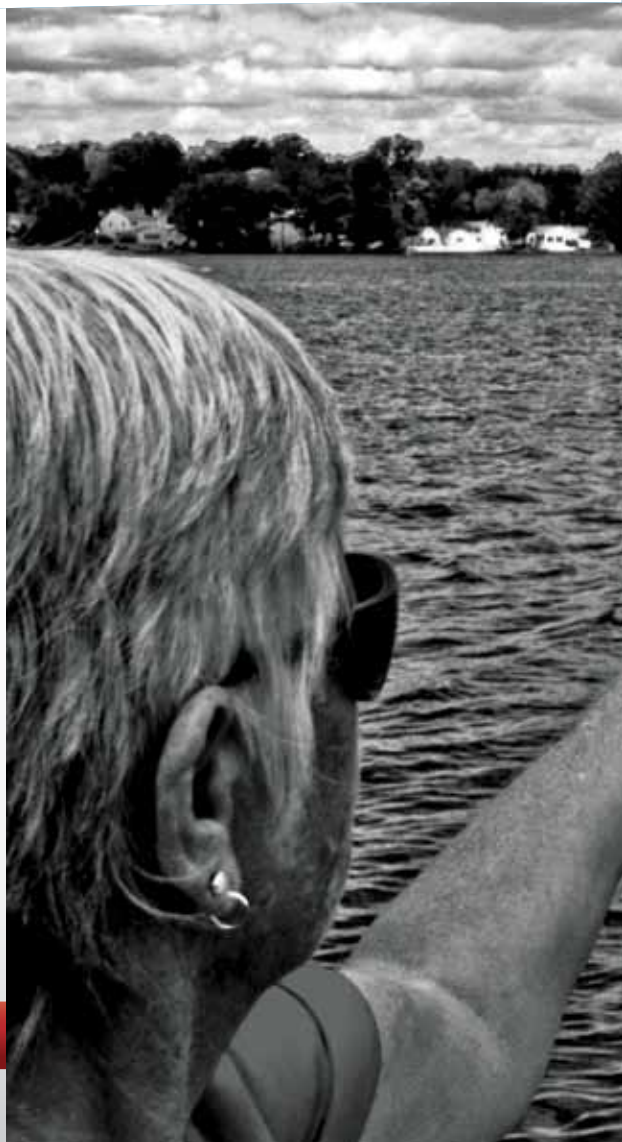

features

- Sure-Grip Protective Cover
- Large Three-Line Graphical Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick Response External Temperature Sensor
- Temperature Corrected Humidity Sensor
- Maximum Gust Capture
- Wind Speed Average Function
- Hold Function
- Clock
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

INCLUDES

Neck Lanyard

Slide on Cover

CR2032 Coin Cell Battery (average life 300 hours)

Kestrel Certificate of Conformity

ACCESSORIES

Kestrel Portable Vane Mount

Tripod for Stationary Use

Carrying Case

Replacement Impeller

RH Calibration Kit

measures

WIND SPEED | MAX WIND GUST | AVERAGE WIND SPEED | AIR/WATER/SNOW TEMPERATURE
WIND CHILL | RELATIVE HUMIDITY | HEAT STRESS INDEX | DEWPOINT TEMPERATURE

KESTREL SPECIFICATIONS

Measurement *Response Time*	Model	Units	Operational Range	Resolution	Accuracy (+/-)
Wind Speed (Air Velocity) *1 second*	All Models	**m/s**	*0.4 to 60.0 m/s*	*0.1*	***Larger of 3% of reading or least significant digit***
		ft/min	*59 to 11,948 ft/min*	*1*	
		km/h	*1.0 to 218.0 km/h*	*0.1*	
		mph	*0.8 to 135.0 mph*	*0.1*	
		knots	*0.6 to 118.3 kt*	*0.1*	
		Beaufort	*0 to 12 B*	*1*	

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 impe Patent 5,783,753).

Air Flow *1 second*	4200	**cfm**	*0 to 99,999 cfm*	*1*	***3% of reading***
		m^3/h	*0 to 99,999 m^3/h*	*1*	
		m^3/m	*0 to 99,999 m^3/m*	*1*	
		m^3/s	*0.0 to 9,999.9 m^3/s*	*0.1*	
		L/s	*0 to 99,999 L/s*	*1*	

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 dimensi

Wind Direction / Forward Heading *1 second*	4500	**°**	*360°*	*1*	*5°*
		Cardinal Points	*360°*	*16 Points*	*5°*

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 c 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 3000 3500 4000 4200 4250 4300 4500	**°F**	*-49.0 to 257.0 °F*	*0.1*	*1.8 °F*
		°C	*-45.0 to 125.0 °C*	*0.1*	*1.0 °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). Calibra

Relative Humidity *1 minute*	3000 3500 4000 4200 4250 4300 4500	**%RH**	*0.0 to 100.0 %*	*0.1*	*3.0 %RH*

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 equi 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 (N

Evaporation Rate *1 second*	4300	**$lb/ft^2/hr$**	*0.00 to 1.00 $lb/ft^2/hr$*	*0.01*	*Typical: ±0.02 $lb/ft^2/hr$*
		$kg/m^2/hr$	*0.00 to 5.00 $kg/m^2/hr$*	*0.01*	*Typical: ±0.1 $kg/m^2/hr$*

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 measure 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

Maximum accuracy: ±0.06 $lb/ft^2/hr$ or ±0.3 $kg/m^2/hr$.

Pressure *1 second*	2500 3500 4000 4200 4250 4300 4500	**inHg**	*0.3 to 32.5 inHg*	*0.01*	*0.05 inHg*
		hPa / mb	*10.0 to 1100.0 hPa / mb*	*0.1*	*1.5 hPa / mb*
		PSI	*0.15 to 16.0 PSI*	*0.02*	*0.02 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 temperatu 32 to158 °F (0 to70°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*
		m	*-2000 to 9000 m*	*1*	*15 m*

Height above Mean Sea Level ("MSL"). Temperature compensated pressure (barometric) altimeter.

Crosswind **Headwind, Tailwind** *1 second*	4500	**mph**	*0.8 to 135.0 mph*	*1*	*5%*
		ft/min	*59 to 11,880 ft/min*	*1*	*5%*
		km/h	*1.0 to 217.3 km/h*	*0.1*	*5%*
		m/s	*0.4 to 60.0 m/s*	*0.1*	*5%*
		knots	*0.6 to 117.3 kt*	*0.1*	*5%*

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 3000 3500 4000 4200 4250 4300 4500	**°F**	*0.7 to 135.0 MPH, -49.0 to 257.0 °F*	*0.1*	*1.8 °F*
		°C	*0.4 to 60.0 m/s, -45.0 to 125.0 °C*	*0.1*	*1.0 °C*

Perceived temperature resulting from combined effect of wind speed and temperature. Caclulated based on the NWS Wind Chill Temperature (WCT) Index, revised 2001, with wind speed adjusted by a factor of 1.5 to 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*
		°C	*0.0 to 100.0 %RH, -45.0 to 125.0 °C*	*0.1*	*2.0 °C*

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
		°C	0.0 to 100.0 %RH, -45.0 to 125.0 °C	0.1	2.0 °C
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
		°C	-45.0 to 125.0 °C, 0.0 to 100.0 %RH, 300.0 to 1100.0 hPa	0.1	2.0 °C
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
		°C	-45.0 to 125.0 °C, 0.0 to 100.0 %RH, 300.0 to 1100.0 hPa	0.1	3.0 °C
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%
		g/kg	0.00 to 720.0 g/kg	0.01	typical accuracy 10%
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
		m	-45.0 to 125.0 °C, 0.0 to 100.0 %RH, 300.0 to 1100.0 hPa	1	75
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 rap*
Data Storage / Display	**4000 4200 4250 4300 4500 Horus 4500**	*Minimum, maximum, average and logged history stored and displayed for every measured value. Large capacity data l storage; auto-store interval settable from 2 seconds to 12 hours. Capacity by model (data sets): K4000=4000, K4200=3*
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.*
	4000 4200 4250 4300 4500	*Multifunction, multi-digit programmable dot-matrix display.*
Display Update	**All Models**	*1 second.*
Display Backlight	**2000 3000**	*Aviation green electroluminescent backlight.*
	NV Models	*Choice of aviation green or faded pink night vision preserving electroluminescent backlight. Manutal activa*
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 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 are available with certificate of conformity with each new K*
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 bac*
Environmental	**All Models**	*Waterproof (IP67 and NEMA-6). Drop-tested (MIL.STD.810F; unit only. Substantial impact may damage replaceable imp*
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.*