



## WIND SPEED • TEMPERATURE • WIND CHILL • HUMIDITY • HEAT INDEX • DEW POINT • WET BULB TEMPERATURE • BAROMETRIC PRESSURE • ALTITUDE

Know your conditions - Measure environmental conditions quickly and accurately

- Small, robust design
  - 3-hour pressure trend
  - Data hold function
  - Real time clock
  - Large easy to read display with backlight
  - Navigation made easy with prompts
  - Waterproof and floats
  - High precision jewel mounted impeller
  - Replaceable impeller assembly
  - Fast response temperature sensor
  - Long life lithium battery
  - Includes protective cover, lanyard and battery
  - Five year warranty
  - Choice of measurement units
- OLIVE DRAB option: low intensity red backlight
  - YELLOW option: standard green backlight



K3500NV

### DESCRIPTION

The Kestrel 3500 pocket weather meter provides high quality, performance and functionality. Three buttons on the front of the instrument mean operation is extremely simple and allow the selection of current, maximum and average wind speed, temperature, wind chill, relative humidity, heat index, dew point, wet bulb temperature, barometric pressure and altitude displays and also data hold. To make navigation between functions even easier, a prompt indicating the function, flashes on the screen as you scroll through.

The Kestrel 3500 Pocket Weather Meter is a small, pocket-sized electronic rotating vane type of anemometer with built-in temperature, humidity and barometric pressure sensors. It uses high precision jewel bearings and a light weight impeller to provide accurate air flow measurements even at low speeds. The impeller assembly is replaceable by the user in the case of damage.

A trend arrow displays whether the pressure is rising, stable or falling, this trend is calculated over a 3-hour period. The pressure is monitored even when the Kestrel 3500 is switched off.

Wind chill and heat index are equivalent temperatures that show the user how their environment really feels. Wind chill is the combination of wind speed and temperature, while heat index is the combined effect of air temperature and relative humidity. The humidity sensor compensates for temperature changes and is designed for stability and accuracy.

The liquid crystal display has large 9mm high digits and is backlit for a clear readout in low light conditions.

For users with after dark requirements, the olive drab K3500NV has a lower intensity red backlight to preserve the user's night vision. Power is from an easily replaceable standard lithium coin type cell, which will typically give up to 300 hours of operation. The instrument automatically switches off if no keys are pressed for 45 minutes.

The Kestrel 3500 is made from high impact injection moulded plastic and corrosion resistant materials with the electronics fully sealed. It will float if accidentally dropped into water. There is a hard cover for protection when not in use and a lanyard is provided for added security.

### APPLICATIONS

**ALL** – sailors, walkers, climbers, bird watchers, model boats/air craft, kite flyers, archery, shooting, fishing, golf & athletics

**Agriculture** – checking conditions prior to crop spraying or burning

**Aviation** – gliders, para-gliders, micro-lights, parachutists and ballooning

**Construction** – site safety, working conditions, working at height in cranes or access vehicles

**Education** – air flow experiments, environmental studies, outdoor sports

**Heating and ventilation** – air flow through fans, checking condition of filters

**Industry** – air flow measurements, pollution control

**Science** – aerodynamics, environmental science and meteorology

**Fire fighters** – checking fire spreading hazard

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## SPECIFICATION

<b>Physical</b>	Dimensions	122mm x 42mm x 20mm			
	Cover dimensions	122mm x 46mm x 26mm			
	Weight	65g			
	Cover weight	37g			
	Lanyard	0.5m			
	Case colour	Yellow or olive drab for NV version			
<b>Display</b>	Display type	Reflective 4 digit LCD			
	Digit height	9mm			
	Display update	1 second			
	Functions (with on screen user prompts)	Current wind speed (3 second average) (SPd)			
		Average speed since power on (AVG) (SPd)			
		Maximum 3 second gust since power on (MAX) (SPd)			
		Temperature (deG)			
		Wind chill (chill)	Wet bulb temperature (bulb)		
		Relative humidity (r.h.)	Barometric pressure (bAro)		
	Heat Index (H.I)	Altitude (ALT)			
	Dew point (d.P.)	Data hold (HOLD)			
	Speed units	kt, m/s, km/h, mph, ft/min, Beaufort Force (B)			
	Temperature units	°C, °F			
Relative humidity units	%				
Pressure units	hPa, inHg				
Altitude units	m, ft				
<b>Performance</b>	Speed (1 sec response)	Operational range	0.4m/s to 60m/s (0.8 to 135.0mph)		
		Specification range	0.4m/s to 40m/s (0.8 to 89.0mph)		
		On axis accuracy	Larger of ± 3% of reading or least significant digit. (Some loss of accuracy from bearing wear may occur with sustained operation at or near maximum speed)		
		Off-axis response	-1% @ 5°, -2% @ 10°, -3% at 15°		
		Calibration drift	<1% after 100hrs operation at 7m/s		
		Resolution	0.1 kt, m/s, km/h, mph. 1 FPM below 1999 FPM, 10 FPM above 2000 FPM. 1 Beaufort (0 to 12)		
	Temperature (1 sec response)	Operational range	-45.0°C to +125.0°C		
		Specification range	-29.0°C to +70.0°C		
		Accuracy	±1°C		
		Resolution	0.1°		
	Relative Humidity (1 min response)	Wind chill accuracy	±1.0°C (from wind speed and temperature)		
		Operational range	0% to 100%		
		Specification range	5% to 95% non-condensing		
		Resolution	0.1%		
		Accuracy	±3% (when unit allowed to equilibrate to external temperature)		
		Calibration drift	±2% over 24 months (correctable)		
	Barometric Pressure (1 sec response)	Heat index accuracy	±2°C (between 21.1°C and 54.4°C)		
		Dew point accuracy	±2°C (above 20% relative humidity)		
		Operational range	10 to 1100 hPa at 25°C		
			750 to 1100 hPa at 25°C		
			Resolution	0.1 hPa	
			Accuracy	±1.5 hPa (max error over range 0°C to 70°C: ±2.0 hPa)	
	Calibration drift	Typically ±1 hPa per year (correctable)			
Wet bulb temperature accuracy	±2°C (between 0°C and 37.8°C)				
Altitude (1 sec response)	Operational range	-2000m to +9000m (-6000 ft to +30,000 ft)			
	Specification range	-2000m to +6000m at 25°C			
	Accuracy	±15m (max error out of spec range: ±30m)			
	Resolution	1m or 1ft			
<b>Sensors</b>	Impeller	Diameter 25mm. High precision axle and jewel (sapphire) bearings. User replaceable impeller assembly			
	Temperature	Thermally isolated, hermetically sealed precision thermistor			
	Relative Humidity	Polymer capacitive sensor, mounted externally in thin-walled chamber			
	Pressure	Monolithic piezo-resistive silicon based sensor with second-order temperature correction			
<b>Environmental</b>	Sealing	Electronics enclosure IP67 [Water resistant]			
	Shock	Drop tested (MIL.STD.810F - unit only)			
	Temperature	Operating range: -10°C to +55°C (for LCD readability and batteries) Storage range: -30°C to +60°C			
	EMC	CE marked			
<b>Miscellaneous</b>	Battery	Lithium coin cell CR2032, included, user replaceable			
	Battery Life	300 hours of use, typical ± depending on backlight use			
	Auto switch off	45 minutes after last key press			
	Cover	Snap on hard cover for protection			
	Wind chill equivalent temperature calculation	Utilises the (US) NWS Wind Chill Temperature (WCT) Index, revised 2001, with wind speed adjusted by a factor of 1.5 to yield equivalent results for wind speed measured at 10m above ground			
	Heat Index calculation	Steadman, from temperature and relative humidity			
	Certification	Wind speed, temperature, humidity and pressure measurements are tested during manufacture. A certificate of conformity (C of C) is included with each Kestrel. Calibration certificates are available for an additional fee.			
Guarantee	5 years				

The manufacturer reserves the right to amend the specification and therefore the information in this document may be subject to change. Please check our website [www.r-p-r.co.uk](http://www.r-p-r.co.uk) for details