

# **Kestrel® 2500 POCKET WEATHER METER**

## **WIND SPEED • TEMPERATURE • WIND CHILL • 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 Zytel® 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**
- **GOLD option: standard green backlight**



### **DESCRIPTION**

The Kestrel 2500 pocket weather meter provides high quality, performance and functionality. It has three buttons below the display, making operation simple and allowing the user to view data in current, maximum and average wind speed displays, temperature, wind chill, barometric pressure and altitude displays and also the data hold function.

The Kestrel 2500 Pocket Weather Meter is a small, pocket-sized electronic rotating vane type of anemometer with built-in temperature and barometric pressure sensors. It uses high precision Zytel® 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 barometric pressure is rising, stable or falling. This trend is calculated over a 3-hour period. The pressure is monitored even when the Kestrel 2500 is switched off. Observing the barometric pressure trend enables prediction of future weather conditions.

The Kestrel 2500 also displays altitude in an easy-to-read digital format - making it the ideal instrument for walking, climbing and other outdoor activities.

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 K2500NV has a lower intensity red

backlight to help preserve 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 2500 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


**Kestrel® 2500 POCKET WEATHER METER**
**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	Gold 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 prompt)	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)	
		Barometric pressure (bAro)	
	Altitude (ALt)		
	Data hold (HOLD)		
Speed units	kt, m/s, km/h, mph, ft/min, Beaufort Force (B)		
Temperature units	°C, °F		
Pressure units	hPa, inHg		
Altitude units	m, ft		
<b>Performance</b>	Speed (1 sec response)	Operational range	0.6m/s to 60m/s (1.3 to 135.0mph)
		Specification range	0.6m/s to 40m/s (1.3 to 89.0mph) Start-up 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 start-up.
		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
	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°
	Barometric Pressure (1 sec response)	Wind chill accuracy	±1.0°C (from wind speed and temperature)
		Operational range	10 to 1100 hPa at 25°C
		Specification range	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)
	Altitude (1 sec response)	Calibration drift	Typically ±1 hPa per year (correctable)
		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 low-friction Zytel® bearings. Replacement impeller field installs without tools.	
	Temperature	Air, water or snow temperature. Hermetically-sealed, precision thermistor mounted externally and thermally isolated (US Patent 5,939,645) for rapid response. Airflow of 2.2 mph   1 m/s or greater provides fastest response and reduction of insulation effect. Calibration drift negligible.	
	Pressure	Monolithic piezo-resistive silicon based sensor with second-order temperature correction	
<b>Environmental</b>	Sealing	Electronics enclosure IP67 and NEMA-6 [Water resistant]	
	Shock	Drop tested (ML.STD.810F - unit only)	
	Temperature	Operating range: -10°C to +55°C (for LCD readability and batteries) Storage range: -30°C to +60°C	
<b>Miscellaneous</b>	EMC	CE marked	
	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	Perceived temperature resulting from combined effect of wind speed and temperature. 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	
Certification	Wind speed, temperature 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		