

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**
- **Fast response temperature sensor**
- **Long life lithium battery**
- **Includes protective cover, lanyard and battery**
- **Two year warranty**
- **Choice of measurement units**



DESCRIPTION

The original Kestrel Weather Meters have been redesigned to provide even better 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 which indicates 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 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 8mm high digits and is backlit for a clear readout in low light conditions. Power is from an easily replaceable standard lithium coin type cell, which will typically give up to 400 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, out door 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

SPECIFICATION

Performance

Speed range: 0.3m/s to 40m/s (0.7 to 89mph)
 On axis accuracy: $\pm 3\%$ of reading or \pm least significant digit
 Off -axis response: -1% @ 5° , -2% @ 10° , -3% at 15°
 Calibration drift: $<2\%$ after 100hrs operation at 7m/s (Some loss of accuracy from bearing wear may occur with sustained operation at or near maximum speed)

Temperature accuracy: $\pm 1^\circ\text{C}$

Temperature

Resolution: 0.1 $^\circ$

Temperature range: -29 to 70°C

RH accuracy: $\pm 3\%$

RH range: 5% to 95%

RH resolution: 1%

Pressure accuracy: ± 3 hPa

Pressure resolution: 0.1 hPa

Pressure range: 870.0 to 1080.0 hPa

Pressure drift: Typically ± 1 hPa per year (correctable)

Altitude accuracy: ± 30 metres (standard atmospheric conditions)

Altitude range: -500 to 9000 metres

Display - Operating Modes and Prompts:

Current speed (3 second average) (SPd)
 Max 3 second gust since power on (MAX) (SPd)
 Average speed since power on (AVG) (SPd)
 Temperature (deG)
 Wind Chill temperature (chill)
 Relative Humidity (r.h.)
 Heat Index (H.I)
 Dew point (d.P.)
 Wet bulb temperature (bulb)
 Barometric pressure (bAro)
 Altitude (ALT)

Display update: 1 second

Speed units: kt, m/s, km/h, mph, ft/min, Beaufort Force (B)

Temperature units: $^\circ\text{C}$, $^\circ\text{F}$

RH units: %

Pressure units: hPa, inHg

Altitude units: ft, m

Type: Reflective LCD

Digit height: 8mm

Physical

Dimensions: 122mm x 42mm x 20mm

Cover Dimensions: 122mm x 46mm x 26mm

Weight: 65g (Cover weight: 37g)

Environmental

Sealing: Electronics enclosure IP67
 Water resistant to 1m of water, floats

Shock: Drop tested to 2m

Temperature: Operating range -15°C to 50°C (LCD readability lost)
 Storage range -20°C to 80°C
 CE marked

EMC:

Miscellaneous

Battery: Lithium coin cell CR2032, user replaceable.

Battery Life: 400 hours operation, typical

Auto switch off: 45 minutes after last key press

Impeller: Diameter 25mm

High precision jewel bearings
 User replaceable impeller assembly

Temperature sensor:

Hermetically sealed precision thermister

Humidity sensor: Silicon based capacitive sensor

Pressure sensor: Monolithic Pietzo-resistive silicon based

Case colour: Yellow

Cover: Snap on hard cover for protection

Lanyard: 0.5m

Windchill equivalent temperature

calculation: Calculated as specified by the US and Canadian weather services

Guarantee: 12 months, parts and labour.
 Second year of warranty after registration

Certification: Wind speed, temperature, humidity and pressure measurements are tested during manufacture. Factory Certification is available for an additional fee.

The manufactures reserve the right to amend the specification and therefore the information in this document may be subject to change

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