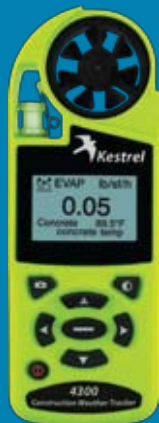


# **Kestrel**<sup>®</sup> Pocket Weather<sup>®</sup> Meters



*The Most Relied-Upon  
Pocket Weather Instruments  
in the World*

*Making Work & Play  
Easier & Safer*



## ***Kestrel Pocket Weather Meters — the Most Relied-Upon Pocket Weather Meters in the World***

Kestrels are small, fast falcons that can be found all over North America. Glider pilots like them because their circling indicates the presence of thermal lift. And, since the very first Kestrel Pocket Wind Meter was designed by a glider pilot, the name seemed appropriate.

Environmental instruments aren't a sideline for us—they ARE our business. We can't afford to let our customers down. You can be sure that every detail is scrutinized over and over and over. For more than ten years now, we've been improving and adding to the Kestrel family of products. Every Kestrel is developed, built and supported by NK in Boothwyn, Pennsylvania. Our staff of engineers are constantly devising new technology to make our products tougher, more accurate and better performing. Owners Paul Nielsen and Richard Kellerman are committed to US manufacturing to ensure that each Kestrel Meter meets our high standards.

### ***Making Work and Play Easier and Safer***

Our new Specialty Kestrels address specific markets, incorporating job-specific measurements that professionals have been requesting. The 4100 was our first Kestrel Specialty Meter, and it has been simplifying HVAC technician's jobs since 2005. In 2008, you'll find two new Kestrels, the 4250 and 4300, for the auto racing and construction markets respectively.



We've also been hard at work making NK the best customer-service company possible. We've recently upgraded the warranty for every Kestrel Meter to a full five-years. Even after our industry-leading warranty expires, each Kestrel is covered by our lifetime Trade-In/Trade-Up Customer Care program. Our website, [www.kestrelmeters.com](http://www.kestrelmeters.com), has been growing exponentially over the past year. You can register your Kestrel, download the latest version of software, purchase tune-ups or certifications, post technical questions and comments on our Knowledge Center, and check out what other Kestrel users are saying in the product reviews section—all on Kestrel's home on the web.

You might find a weather meter that is a little less expensive, but you won't find one that works better. No matter whether you're using your Kestrel for work or play, you'll be able to count on it to make your activity easier and safer, day after day.



# Notes

All Kestrel Pocket Weather Meters are MADE IN THE USA and covered by a FIVE YEAR warranty against manufacturing defects. (Batteries, calibration, user damage, and excess impeller wear are not covered under warranty. Some electronic components manufactured outside the USA.)

Kestrel Pocket Weather Meters are covered by the following US Patents: 5,783,753 (All Models), 5,939,645 (All Models except 1000), 6,257,074 (4000, 4100, 4200, 4250, 4300, 4500), 7,059,170 (3000, 3500, 4000, 4000, 4100, 4200, 4250, 4300, 4500, 4500)

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# Which Kestrel is Best for You?

					
<b>Available Functions</b>	<b>1000 Page 6</b>	<b>2000 Page 7</b>	<b>2500 Page 8</b>	<b>3000 Page 9</b>	<b>3500 Page 10</b>
Current Wind Speed	■	■	■	■	■
Max Wind Gust	■	■	■	■	■
Avg Wind Speed	■	■	■	■	■
Volume Air Flow					
Temperature		■	■	■	■
Wind Chill		■	■	■	■
Relative Humidity				■	■
Heat Stress Index				■	■
Dewpoint Temp				■	■
Wet Bulb Temp					■
Humidity Ratio					
Evaporation Rate					
Delta T					
Barometric Pressure			■		■
Absolute Pressure					
Altitude			■		■
Air Density					
Density Altitude					
Digital Compass					
Wind Direction					
Crosswind					
Headwind/Tailwind					
Backlit Display		■	■	■	■
Pressure Trend			■		■
Data Storage & Charting					
Data Upload					
Clock			■		■
NV Model Available			■		■



# **Kestrel® 1000**

## **Pocket® Wind Meter**

Here's the one that started it all! We developed the Kestrel 1000 Pocket Wind Meter in 1995 when NK co-owner Richard Kellerman needed a reliable wind meter for flying his glider. Over 10 years later, it looks a little slicker, and it still gives you the reliable, accurate wind measurements that you need. The large impeller turns in the faintest of breezes and is easily replaced. The hard cover lets you throw the Kestrel 1000 into your pack without damage.

### **Measures**

- Current Wind Speed
- Max Wind Gust
- Average Wind Speed

### **Features**

- Sure-Grip Protective Cover
- Large Easy-to-Read Display
- Wide Operating Range
- High Accuracy
- Patented Impeller Technology
- No-Tools User-Replaceable Impeller
- Minimum & Maximum Values

- Convenient Averaging Function
- Hold Function
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### **Includes**

- Neck Lanyard
- CR2032 Coin Cell Battery (Average life 300 hours)
- Kestrel Certificate of Conformity



actual size



Part #0810

# Kestrel® 2000

## Pocket Weather® Meter

For those of you who like to know just how cold and windy it really is, the Kestrel 2000 Pocket Weather Meter is your reality check. Whether planning your shot or checking to see how low the wind chill can go, the Kestrel 2000 is the easy-to-use tool you need. Thanks to the external temperature sensor, the Kestrel 2000 can take accurate water and snow temperature readings too. The backlight lets you check the temperature in your tent, without finding your flashlight. Like all Kestrel meters, it's fully waterproof and it floats.

### Measures

- Current Wind Speed
- Max Wind Gust
- Average Wind Speed
- Air/Water/Snow Temperature

### Features

- Sure-Grip Protective Cover
- Large Easy-to-Read Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller
- Quick-Response External Temperature Sensor

- Minimum & Maximum Values
- Convenient Averaging Function
- Hold Function
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### Includes

- Neck Lanyard
- CR2032 Coin Cell Battery (Average life 300 hours)
- Kestrel Certificate of Conformity



actual size



Part #0820

# **Kestrel<sup>®</sup> 2500**

## **Pocket Weather<sup>®</sup> Meter**

The Kestrel 2500 takes the great features of the Kestrel 2000 and adds in a pressure sensor. A three-hour pressure trend indicator helps you predict fish and wildlife activity and know when the weather's going to turn nasty. With its easy-to-use digital pressure altimeter, you have the perfect instrument for any outdoor activity.

### **Measures**

- Current Wind Speed
- Max Wind Gust
- Average Wind Speed
- Air/Water/Snow Temperature
- Wind Chill
- Barometric Pressure
- Altitude

### **Features**

- Sure-Grip Protective Cover
- Large Easy-to-Read Display
- Backlight
- Wide Operating Range
- High Accuracy
- Patented Impeller and Sensor Technology
- No-Tools User-Replaceable Impeller

- Quick-Response External Temperature Sensor
- Minimum & Maximum Values
- Convenient Averaging Function
- Hold Function
- Clock
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### **Includes**

- Neck Lanyard
- CR2032 Coin Cell Battery (Average life 300 hours)
- Kestrel Certificate of Conformity

**See the Olive Drab Kestrel 2500 NV with red backlight on page 14.**



actual size



Part #0825

# Kestrel® 3000

## Pocket Weather® Meter

NK was the first to provide accurate relative humidity measurements from a hand-held weather meter, and the Kestrel 3000 has since become practically required equipment for wildland firefighters. We've improved the humidity response speed for greater accuracy in changing conditions, and with the Heat Stress Index and Wet Bulb readings from the Kestrel 3000, you'll have environmental information to let you know when conditions become unhealthy for strenuous exercise.

### Measures

- Current Wind Speed
- Max Wind Gust
- Average Wind Speed
- Air/Water/Snow Temperature
- Wind Chill
- Relative Humidity
- Heat Stress Index
- Dewpoint Temp

### Features

- Sure-Grip Protective Cover
- Large Easy-to-Read 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
- Minimum & Maximum Values
- Convenient Averaging Function
- Hold Function
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### Includes

- Neck Lanyard
- CR2032 Coin Cell Battery (Average life 300 hours)
- Kestrel Certificate of Conformity



actual size



Part #0830

# **Kestrel® 3500**

## **Pocket Weather® Meter**

Many Kestrel users need to know everything that the weather is doing, but don't need to log the data. We developed the Kestrel 3500 just for them. It provides comprehensive environmental data on nine different measurements with the simplicity of the Kestrel 1000. Simply turn it on and scroll left and right to see the exact environmental conditions. In addition to the current weather readings, you'll be prepared for rapid weather changes with the three-hour barometric pressure trend. When you're done, slip on the hard cover and your Kestrel 3500 Pocket Weather Meter is just about indestructible.

### **Measures**

- Current Wind Speed
- Max Wind Gust
- Average Wind Speed
- Air/Water/Snow Temperature
- Wind Chill
- Relative Humidity
- Heat Stress Index
- Dewpoint Temp
- Wet Bulb Temp
- Barometric Pressure
- Altitude

### **Features**

- Sure-Grip Protective Cover
- Large Easy-to-Read 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
- Minimum & Maximum Values
- Convenient Averaging Function
- Hold Function
- Clock
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### **Includes**

- Neck Lanyard
- CR2032 Coin Cell Battery (Average life 300 hours)
- Kestrel Certificate of Conformity



actual size



Part #0835

**See the Olive Drab Kestrel 3500 NV with red backlight on page 14.**



# ***Kestrel 4000 Series***

In 2000, we introduced the Kestrel 4000 Pocket Weather Tracker, and today it is still the most comprehensive hand-held weather device on the market. Since its introduction, the 4000 series has expanded to include numerous customer-requested features not previously available in a hand-held meter.

The Kestrel 4000 series is unparalleled in its ease of use and totally customizable navigation and data display. In addition to measuring current environmental conditions, all models also track and store up to 2000 data points for each parameter so you can see what's happened in the past and forecast what's coming. With both automatic and manual data storage, the extensive data log can store the exact information that you need. Current conditions along with minimum, maximum and average values can be viewed, and stored data is charted on-screen with the date and time. You can even upload the stored information to your computer for use with dozens of applications.

Kestrel 4000 models have been put to the test in some of the harshest conditions on the planet. U.S. Special Forces, combat weather teams, wildland firefighters, smoke jumpers, Mt. Everest expeditions and IRL pit crews are just a few who rely on a Kestrel 4000 model to provide them with the crucial environmental data they need. And, watch the Weather Channel during a hurricane, and you're sure to spot a Kestrel 4000 being wielded by an intrepid on-screen meteorologist.

If you need to see and track environmental conditions for your work or play, there's no better companion than an affordable, pocket-sized Kestrel 4000 model.

# **Kestrel® 4000**

## **Pocket Weather® Tracker**

The Kestrel 4000 raised the bar to a new level when it comes to portable conditions monitoring. For just under 4 ounces, you get every environmental reading with the press of a single button. Durable? You bet. The 4000 has been subjected to impact, water submersion and extreme temperature tests, and keeps on working. Just ask the US Military — the Kestrel 4000 is on the “most wanted” for armed forces personnel in many different specialties.

Due to popular demand in a range of applications, the Kestrel 4000 is available in Gray, Olive Drab and Safety Orange. It's also available in the NV configuration.

### **Measures**

- Wind Speed
- Air/Water/Snow Temperature
- Wind Chill
- Relative Humidity
- Heat Stress Index
- Dewpoint Temp
- Wet Bulb Temp
- Barometric Pressure
- Altitude
- Density Altitude

### **Features**

- Flip-Open Impeller 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
- Minimum & Maximum Values
- Convenient Averaging Function
- Clock & Calendar
- Customizable Automatic & Manual Data Logger - 2000 Points
- Onscreen Data Charting
- Data Upload (with Optional Interface)
- Five Languages - English, French, Spanish, German & Italian
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### **Includes**

- Soft Carry Pouch
- Neck Lanyard
- Batteries - 2 AAA
- Kestrel Certificate of Conformity

**See the Olive Drab Kestrel 4000 NV with red backlight on page 14.**



actual size



**Gray**  
**Orange**  
**Olive Drab**

**Part #0840GRY**  
**Part #0840ORA**  
**Part #0840OLV**

# Kestrel® 4500

## Pocket Weather® Tracker

For years our customers have been asking for wind direction along with wind speed. New for 2007, the Kestrel 4500 does just that with its built in digital compass. But it doesn't stop there. It also calculates crosswind and headwind/tailwind with reference to a user-set target heading, and stores the information along with all the other environmental readings in its 1400 data point memory.

Pair the 4500 with the Kestrel Vane Mount and you have a data-logging weather station that sets up in seconds and rotates in the slightest of breezes. Did we mention that the whole kit is the ultimate in portability? It packs down into a 2 x 6 inch pouch and weighs under 8 ounces.

### Measures

- Wind Speed
- Air/Water/Snow Temperature
- Wind Chill
- Relative Humidity
- Heat Stress Index
- Dewpoint Temp
- Wet Bulb Temp
- Barometric Pressure
- Altitude
- Density Altitude
- Digital Compass
- Wind Direction
- Crosswind
- Headwind/Tailwind

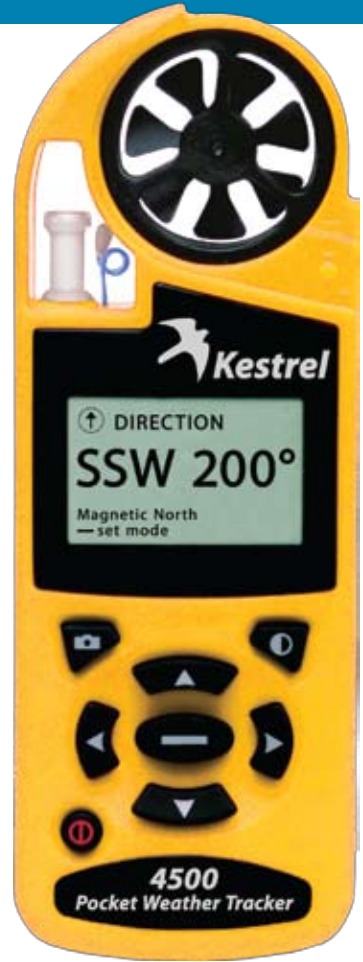
### Features

- Flip-Open Impeller 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
- Minimum & Maximum Values
- Convenient Averaging Function
- Clock & Calendar
- Customizable Automatic & Manual Data Logger - 1400 Points
- Onscreen Data Charting
- Data Upload (with Optional Interface)
- Five Languages - English, French, Spanish, German & Italian
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### Includes

- Soft Carry Pouch
- Neck Lanyard
- Batteries - 2 AAA
- Kestrel Certificate of Conformity



actual size



Part #0845

**See the Olive Drab Kestrel 4500 NV with red backlight on page 14**

# Kestrel NV

With so many military personnel using Kestrel Meters, we developed the NV line just for them. Olive drab in color to make them less visible, and with a red-filtered reduced-brightness backlight to help protect the user's natural night vision. (Non-infrared, not NVG compatible.)

Military personnel and pilots flying in darkness are often concerned with preserving their night vision. It takes 30 to 45 minutes for the average eye to adapt to darkness and maximize night vision. Even a short burst of white, yellow, green or blue light "bleaches out" the rod cell photoreceptors in the eye and causes night blindness until the entire adaptation process can take place again.

Light in the red spectrum does not cause this "bleaching out", preventing night blindness and night vision fatigue. This unit's red-filtered backlight is also much dimmer than a standard backlight, making it more difficult to detect with the naked eye in night operations.

- 2500 NV    Part #0825NV
- 3500 NV    Part #0835NV
- 4000 NV    Part #0840NV
- 4500 NV    Part #0845NV



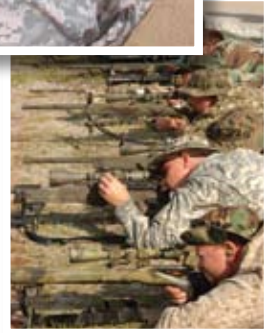
*Measurements and features are the same as the Kestrel 2500, 3500, 4000 and 4500.*

## **Kestrel is on the Ground and in the Air with Our US Military**

Kestrel Weather Meters play a key role in maximizing the safety of our military personnel and ensuring mission success. Here are just a few places Kestrels can be seen on duty, every day, with our troops all around the world: assessing wind conditions in drop zones; measuring environmental conditions required for accurate targeting solutions; providing ground weather reports for air operations; predicting movement of chemical and biological agents; assessing launch and landing conditions for UAV's; tracking heat stress and wind chill limitations on training and operations; ensuring HVAC equipment is functioning maximally; and helping K9 dogs work more effectively and safely. Just like all Kestrel customers, our military users love to tell us about how Kestrel helps them in the field:



*"We have been out on a thirty five day field problem in the Central Hindu Kush Mountains. Yes, very cold and very snowy. We were ecstatic to hear that you had shipped us a Kestrel 4000 with all of the accoutrements. OUTSTANDING!!! Weather here, as you can tell by my description in the first few sentences, is KEY to our operations. Especially with us reconnaissance/Sniper types who depend on accurate measurements meteorologically speaking to make accurate shots and to determine extreme weather changes at the life threatening altitudes we operate in. That is where the Kestrel will assist... I, we, thank you and your organization for your assistance. It is companies like yours that make us all motivated when we get so much support... Thanks again and we will be in touch... WE LOVE YOUR PRODUCTS!"*



And, while most Kestrels reach our troops with the help of our military vendor partners and GSA contract holders, we try to help out personnel who haven't been lucky enough to get this much-desired equipment. Last year we donated 100 Kestrel 4000s to the American Snipers organization. The American Snipers organization was formed by a group of police snipers who were struggling with insufficient equipment in their own jobs. They were concerned that the deployed military snipers were experiencing the same issues, and started sending the overseas snipers equipment from their own personal gear bags. The organization gained momentum and now sends everything from personal hygiene products to highly specialized equipment. For more information about this organization, visit: [www.AmericanSnipers.org](http://www.AmericanSnipers.org).

*"I am currently a sniper team leader on my second tour in Iraq. I have put my Kestrel 4000 through extreme heat, dust, rain, mud, impact, and concussion. Day after day it continues to perform and is one of the best pieces of equipment in my pack."*

—Joe



# Specialty Kestrel Pocket Weather® Meters

In 1996, the first Kestrel Meter was designed at Nielsen-Kellerman, and 10 years later we started our Specialty Kestrel line. Devoted to simplifying the jobs of technicians, professionals and enthusiasts worldwide, these Kestrels are application-specific, generating specialized calculations that were previously unavailable or cumbersome to obtain.

Affordable, accurate and rugged, Kestrel Meters have long been the most relied upon weather instruments in the world, and now there's a model designed especially for you! CFM, evaporation rate, grains, air density, absolute pressure or Delta T — these are just a few of the measurements that are now available with the press of a button with a Kestrel Specialty Meter. And you can be sure your Kestrel Specialty Meter will provide years of accurate use as each is backed with individual calibration and a 5-Year warranty.

*These Kestrels generate specialized calculations that were previously unavailable or cumbersome to obtain.*



# Kestrel® 3500 Delta T

## Pocket Weather® Meter

The Kestrel 3500 Delta T wind meter takes all the great features of the Kestrel 3500 and adds in an additional useful reading — Delta T. The Delta T is the spread between the wet bulb temperature and the dry bulb temperature (in degrees C). Delta T offers a quick guide to determining acceptable spraying conditions. For example, it is not recommended to apply pesticides when Delta T is above 10 — a range of 2 to 8 is ideal. With the Kestrel 3500 Delta T, the calculation is done for you, accurately and simply.

The Kestrel 3500 Delta T incorporates barometric pressure correction in its wet bulb temperature calculation, ensuring accuracy even on low pressure days, at high altitudes, and in the very dry weather when Delta T monitoring is important. No other pocket weather meter offers this feature with this level of accuracy.

### Measures

- Current Wind Speed
- Max Wind Gust
- Average Wind Speed
- Air/Water/Snow Temperature
- Relative Humidity
- Dewpoint Temp
- Wet Bulb Temp
- Barometric Pressure
- Altitude
- Delta T

### Features

- Sure-Grip Protective Cover
- Large Easy-to-Read 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
- Minimum & Maximum Values
- Convenient Averaging Function
- Hold Function
- Clock
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### Includes

- Neck Lanyard
- CR2032 Coin Cell Battery (Average life 300 hours)
- Kestrel Certificate of Conformity



actual size



Part #0835DT

# Kestrel® 4100

## Pocket Air Flow Tracker

We set out to make HVAC technicians' jobs easier with Kestrel Pocket Air Flow Trackers. CFM without a calculator? The Kestrel 4100 makes it possible. For immediate and accurate air flow readings, simply enter the duct shape and dimensions, hold the 4100 in the air flow and the volume air flow readings are displayed ... no calculator required!

In addition, the Kestrel 4100 measures temperature, relative humidity and dewpoint, and features a powerful data logger that records 2000 sets of measurements at user-selectable time intervals. Review the logged data with the 4100's on-screen graphing capabilities, or upload the data to a PC for in-depth review. The Kestrel 4100 is an affordable tool that is easy to carry and use and is perfect for facilities managers, home inspectors, HVAC equipment sales people, field installers and technicians.

### Measures

- Air Velocity
- Volume Air Flow
- Temperature
- Wind Chill
- Relative Humidity
- Heat Stress Index
- Dewpoint Temp

### Features

- Flip-Open Impeller 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
- Minimum & Maximum Values

- Convenient Averaging Function
- Clock & Calendar
- Customizable Automatic & Manual Data Logger - 2000 Points
- Onscreen Data Charting
- Data Upload (with Optional Interface)
- Five Languages - English, French, Spanish, German & Italian
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### Includes

- Soft Carry Pouch
- Neck Lanyard
- Batteries - 2 AAA
- Kestrel Certificate of Conformity



actual size



Part #0841

# Kestrel® 4200

## Pocket Air Flow Tracker

The Kestrel 4200 has made HVAC technicians' jobs even easier with built-in wet bulb temperature and humidity ratio readings. And like the 4100, the Kestrel 4200 features automatic air flow readings — for immediate and accurate air flow readings, simply enter the duct shape and dimensions, hold the 4200 in the air flow and the volume air flow readings are displayed... no calculator required! The convenient averaging mode ensures accurate CFM readings in any airflow or duct size and shape.

Don't let the inexpensive price tag fool you — the Kestrel 4200 is as accurate and comprehensive as instruments costing far more. On-screen customization allows each technician to personalize their 4200. Easy set-up screens display only relevant readings, and hide screens not relative to the job. Plus the Kestrel's User Screens group pertinent information on one easily referenced screen. Rounding out the features is a 1600 memory point data logger and PC interfacing capabilities.

### Measures

- Air Velocity
- Volume Air Flow
- Temperature
- Wind Chill
- Relative Humidity
- Heat Stress Index
- Dewpoint Temp
- Wet Bulb Temp
- Humidity Ratio
- Barometric Pressure
- Altitude
- Density Altitude

- Temperature-Corrected Humidity Sensor
- Minimum & Maximum Values
- Convenient Averaging Function
- Clock & Calendar
- Customizable Automatic & Manual Data Logger - 1800 Points

- Onscreen Data Charting
- Data Upload (with Optional Interface)
- Five Languages - English, French, Spanish, German & Italian

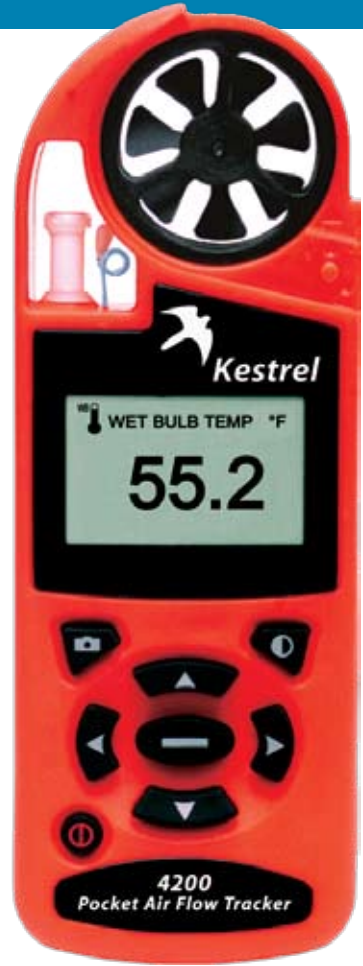
### Features

- Flip-Open Impeller 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

- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### Includes

- Soft Carry Pouch
- Neck Lanyard
- Batteries - 2 AAA
- Kestrel Certificate of Conformity



actual size



Part #0842

# Kestrel® 4250

## Racing Weather Tracker

In pits around the country, racers have been trading in their bulky and expensive weather monitoring stations for a portable Kestrel 4000. And new for 2008, a Kestrel just for them — the 4250 Racing Weather Tracker. Now with air density, absolute pressure, grains and density altitude, the 4250 arms racers with the accurate weather data they need to make those last minute dial-in or tuning decisions.

Knowing how the weather influences the way a car drives is the first step to optimizing performance. And with the Kestrel 4250's automatic and manual data storage, racers can easily keep an electronic weather data log of race day. The Kestrel Interface and Communicator software makes long-term storage, in-depth analysis and detailed charting of stored data a breeze.

### Measures

- Wind Speed
- Temperature
- Relative Humidity
- Dewpoint Temp
- Moisture Content/Grains
- Absolute Pressure
- Air Density
- Density Altitude

### Features

- Flip-Open Impeller 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

- Minimum & Maximum Values
- Convenient Averaging Function
- Clock & Calendar
- Customizable Automatic & Manual Data Logger - 1600 Points
- Onscreen Data Charting
- Data Upload (with Optional Interface)
- Five Languages - English, French, Spanish, German & Italian
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### Includes

- Soft Carry Pouch
- Neck Lanyard
- Batteries - 2 AAA
- Kestrel Certificate of Conformity



actual size



Part 08425

# Kestrel® 4300

## Construction Weather Tracker

For years construction professionals have been using Kestrel Meters to monitor the weather on the job site. Now NK has partnered with industry experts to develop a customized Kestrel instrument for construction professionals who place concrete. The new Kestrel 4300 Construction Weather Tracker measures and displays evaporation rate — the user simply enters the concrete temperature (obtained via an IR or probe thermometer\*) and the evaporation rate is instantly displayed.

Many construction applications require documentation of conditions, which is quick and easy with the Kestrel Interface and accompanying software. Use the 4300's 1800 data-point log to document that work was done during the appropriate conditions, then upload the data to a PC with the Kestrel Interface. The Kestrel Communicator software makes long-term storage, in-depth analysis and detailed charting of stored data a breeze.

### Measures

- Wind Speed
- Temperature
- Wind Chill
- Relative Humidity
- Heat Stress Index
- Dewpoint Temp
- Wet Bulb Temp
- Evaporation Rate
- Barometric Pressure
- Altitude
- Density Altitude

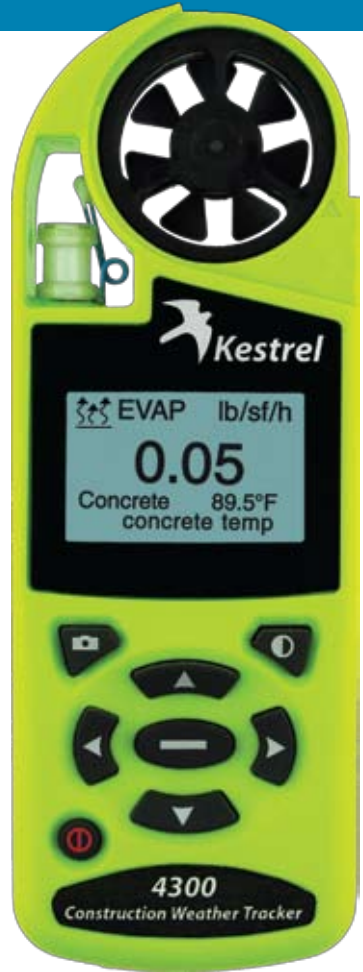
### Features

- Flip-Open Impeller 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
- Minimum & Maximum Values
- Convenient Averaging Function
- Clock & Calendar
- Customizable Automatic & Manual Data Logger - 1800 Points
- Onscreen Data Charting
- Data Upload (with Optional Interface)
- Five Languages - English, French, Spanish, German & Italian
- Waterproof & Floats
- Rugged, Drop-Tested
- Made in the USA
- 5-Year Warranty

### Includes

- Soft Carry Pouch
- Neck Lanyard
- Batteries – 2 AAA
- Kestrel Certificate of Conformity



actual size



Part 0843

# Kestrel Accessories

These accessories have been hand-picked to help customize and enhance the utility of Kestrel Meters. Each offers the same durability and practicality that you'd expect from the Kestrel brand.



## Replacement Impeller

Every Kestrel features a patented user-replaceable jewel bearing impeller. After extensive use (approx. 400 hours), or use at speeds over 60 mph, the impeller's accuracy may be reduced slightly. This replacement impeller is necessary only when the original impeller is damaged or worn.

**Part #0801**



## RH Field Calibration Kit

To ensure the accuracy of your Kestrel's humidity measurements, we offer our RH Field Calibration Kit. The kit includes two salt solutions, salt bath jars with plastic suspension grids, one water jar to stabilize temperature, and an insulated calibration case. Every Kestrel RH Meter features an easy-to-run self-calibration routine for use with this kit. The calibration chambers can also be used to verify unit accuracy. The kit can be used indefinitely, and salt refills can be purchased as required.

**Part #0802**



## Kestrel 4000 Belt Clip Case

This sturdy padded nylon case lets you build a Kestrel 4000 toolkit and still carry it on your belt with ease. The top flap features a hook/loop closure and a special window designed to keep the Kestrel 4000 sensors continuously exposed to the outside air, ensuring accurate logged readings. The elastic loop on the side of the case is perfect for carrying a small flashlight or other tool. No need to find yourself in the field with dead batteries — an elastic battery loop inside securely holds two backup AAA batteries. Manufactured exclusively for NK by Nitelze™, this case features their patented J-hook belt clip made of sturdy nylon/fiberglass composite. This hook accommodates up to a 2 1/4" belt and also attaches reliably over a waistband. For complete flexibility, this case includes a strong hook/loop strap to allow for easy mounting on a backpack or harness strap. Available in black only.



**Part #0805**

### Kestrel Tactical MOLLE-Compatible Case

This case is designed for military personnel wishing to carry their Kestrel on a MOLLE/PALS mounting system. Manufactured exclusively for NK by Special Operations Technology in the USA of USA components, it features a padded 1000 denier DuPont® Cordura® Plus fabric body, a reinforced top flap, a 1" Fastex® buckle closure, and an inner pouch for spare AAA batteries. The mounting system is SOTech's unique MOLLE/PALS compatible secure fold/lock design with no hardware to break or rust. This mounting system also adapts for use on a belt up to 2 1/2" wide. Sized for the Kestrel 4000 line, it will also hold a Kestrel 1000 to 3500 series inside its slip-on cover. Available in Black, Coyote Brown (dark khaki) and Ranger Green (muted drab olive).



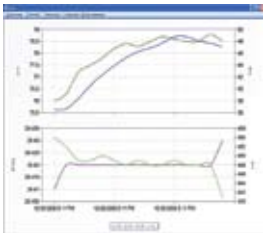
**Black**  
**Ranger Green**  
**Coyote Brown**

**Part #0806BLK**  
**Part #0806GRN**  
**Part #0806BRN**

### Computer Interface and Communicator Software

(for use with the Kestrel 4000 series models)

With the addition of the Interface and Communicator software, any Kestrel 4000 series meter becomes a complete weather station and data logger. The Kestrel Communicator software allows data to be easily uploaded for long-term storage, in-depth analysis and detailed charting. It also has a tripod mount, allowing the Kestrel to be mounted for continuous data logging.



Simply connect the interface cable to your computer, rest the Kestrel on the cradle, and upload your stored data. The provided software works with PC (Windows 3.0 or higher). The interface is available with either an RS-232 9-pin serial connector or a USB connector.

The provided Communicator software works with PC (Windows 3.0 or higher). The interface is available with either an RS-232 9-pin serial connector or a USB connector.

**Serial Interface**  
**USB Interface**

**Part #0804SER**  
**Part #0804USB**

# Kestrel®

## Portable Vane Mount & Accessories

### Kestrel Portable Vane Mount

The Kestrel Portable Vane Mount is an ingeniously simple accessory designed for extreme light weight and portability. The Vane Mount assembles in seconds and the precision pivot and lightweight vane extension allows the unit to spin freely in the slightest of breezes. The incorporated level ensures that the Vane Mount is installed correctly and that direction readings will be accurate. Paired with a Kestrel 4000 Series with its extensive data log, hours of readings can be collected for later review or upload.

Together, a Kestrel 4000 series model and Vane Mount weigh less than 8 ounces (227 g.) and pack into a compact 2 x 6 inch (5 x 15.25 cm) case. The Vane Mount can be affixed to any tripod for a complete weather station you can easily pack into remote locations.



Part #0791

### Kestrel Collapsible Tripod

This durable tripod stands 51.4" high when fully extended and has five-section twist-and-pull legs. The collapsed tripod measures just 13.6", and weighs under 2 pounds. It comes with a clamp that mounts any Kestrel Meter and is also compatible with the Kestrel Portable Vane Mount.

Part #0792



### Kestrel Portable Mini Tripod

Clamp any Kestrel into this sturdy but lightweight tripod to take readings in the field. The tripod's legs extend to a maximum height of 10 inches (25.4 cm), and a minimum of 6 inches (15.25 cm). Ultra-compact and portable, it folds to just 7.5 inches (19 cm) and weighs 4.8 ounces (136 g). For further options, the top clamp detaches and is compatible with any tripod with a standard tripod mount. Or replace the clamp with the Kestrel Portable Vane Mount for a small, lightweight, portable weather station (limited to winds of 15 MPH or less). Comes with a padded carry pouch.

Part #0807



# Private Labeling

There's no doubt — Kestrel Weather Meters are far more than mere gadgets. They're accurate, durable, American-made, and, well, cool! You'd be hard-pressed to find a person who wouldn't be excited to get a Kestrel as a gift. That's why Kestrel has worked with many companies over the years to develop customized co-branded versions of Kestrel Weather Meters for powerful promotional and gift campaigns.

Because Kestrels are made one at a time right in Pennsylvania, we have the ability to produce striking presentations of company logos and promotional messages with a far shorter lead time than overseas manufacturers.

Customization options include special labels, pad-printed logos or slogans, custom colors and detailed full-color packaging labels. Companies we've worked with have used private-labeled Kestrel units as executive gifts, purchase premiums, and field support tools for sales and installation personnel. Of course, co-branded Kestrel units receive full warranty and support from NK.

Let your brand soar on Kestrel's reputation. Get in touch with us to discuss your idea for a private-labeled Kestrel Meter.



*DeKalb is a major producer of corn seed in the US. In 2006, they ran the "DeKalb Stands Tall in All Kinds of Weather" promotion to increase customer awareness of the challenges that farmers face due to the weather. A Kestrel Meter was an ideal promotional item!*

*We worked with their advertising agency to develop a custom DeKalb Kestrel 2000. It featured a DeKalb yellow case with their slogan pad printed on the front, and a custom window lens with their logo. We also added their contact information to the instructions, and packaged the units in a custom box with a 4-color label designed to convey the message of the campaign.*

# Users Spotlight

*RIGHT: Australian climber "Black Pete" on the summit of Mt. Aspiring (9,940 ft) in South Island, NZ. His Kestrel 4000 measured winds approaching 35 mph!*



*LEFT: "We teach HVACR for offshore and marine environments ... Through the use of the Kestrel 4100 Pocket Air Flow Tracker, [our students] can now calculate CFM with ease."*

*—Instructor Arthur Wilde  
Nance Universal HVAC Technical School*

*RIGHT: Citadel Contractors in Wanado, SC use a Kestrel 3500 on the jobsite.*





*LEFT: Cal-Poly students measure the weather with a Kestrel Meter as part of their studies. Kestrels measure conditions relevant to Golf Course Management, Horticulture, Crop Science, BioResource and Agricultural Engineering.*



*ABOVE: "Knowing the winds on the ground is crucial to us, and Kestrel makes my job so much safer than ever before."*

*—Northwest Smokejumper*



*LEFT: Tony Stellato uses his Kestrel on his boat to check the wind out on the South River in Annapolis, MD.*



# Common Kestrel Uses

You'll never believe how handy a Kestrel Meter is! At shows, in emails and letters, and on the phone, Kestrel enthusiasts love to tell us about how their Kestrel is making their job easier. And the list of applications keeps growing. From wildland firefighters putting their lives on the line, to kite surfers who are looking for the perfect conditions to play, a Kestrel Meter is the ideal companion. With thirteen different Kestrels to choose from, you can bet there's a Kestrel Meter with the specific features for each and every application. Visit [www.kestrelweather.com](http://www.kestrelweather.com) for more detailed information about how people use their Kestrel Meters.



*Got a Kestrel use not listed? We'd love to hear from you!*

## Outdoor

- backpacking & hiking
- biathlon
- camping
- climbing & mountaineering
- conditions monitoring by athletic trainers
- dog sledding
- figure skating
- fishing & hunting
- geocaching
- golfing & caddying
- hang gliding
- kite boarding
- kite surfing
- model airplanes
- paddle sports
- sailing & yachting

- scuba diving
- skeleton & luge
- ski patrol
- sky diving
- snow making
- snow sports
- wind surfing

## Industrial

- air quality monitoring
- asphalt placement
- brick drying systems
- building science
- civil engineering construction
- concrete installation
- construction site monitoring
- crane operations
- demolition work

- electrical line work
- facilities monitoring
- furnace industry
- heating, ventilation, air conditioning
- indoor air surveys
- infrared roof inspection
- micro climate surveys
- mine operations
- mold samplings
- odor control surveys
- spray applications
- water damage restoration
- welding inspection

## Scientific & Education

- academic research
- animal behavior research

arboriculture  
astronomy  
biological research  
bird watching  
botany observation  
Boy Scouts  
cave research  
child care  
classroom use  
ecology & geology  
environmental conservation  
horticulture  
infrared thermography  
lab safety  
marine & ocean research  
mine surveys  
scientific expeditions survey  
windmill & wind power generation

### Military

combat weather  
critical response teams  
drop & landing zone safety  
expeditionary flight operations  
HVAC & space conditions monitoring  
K9 operations  
medic support  
mine removal  
NVBC & HAZMAT response  
sniper training & operations  
thermal imaging systems (FLIR)  
unmanned aerial vehicles

### Forestry & Firefighting

environmental conservation  
fire & rescue training  
hazardous materials response  
ladder trucks  
prescribed burning  
smoke coordinators  
smoke jumping  
structural fire fighting  
wildland firefighting

### Weather

amateur weather watching  
meteorology  
NOAA weather data collection  
storm chasing  
skywarn spotters  
TV weather reporting  
wind power generation

### Rescue Services

avalanche patrol  
border patrol  
coroner reports & studies  
dive rescue specialists  
emergency management  
EMT & first responders  
forensics  
HAZMAT/biohazard  
K9 handlers  
mountain rescue  
search & rescue

### Auto

drag racing  
engine tuning  
go-carting  
jetting  
motocross  
open wheel racing  
snowmobiling  
stock car racing  
track monitoring

### Shooting Sports

archery  
bench rest shooting  
biathlon  
firearm ballistics  
hunting  
long range rifle competition  
SWAT  
safari guides  
target shooting

### Agriculture

animal husbandry  
arboriculture

barn ventilation & RH monitoring  
crop harvesting  
golf course management  
grain handling  
herbicide & pesticide application  
irrigation audits  
landscaping  
livestock comfort  
poultry farming  
spray drift monitoring  
spraying  
vineyard management

### Aviation

air plane engine tuning  
crop dusting  
drop zone monitoring  
glider flying  
hot air ballooning  
parachuting  
paragliding & sailing  
powered parachute training  
small airport weather reporting  
space shuttle operations  
ultralight flying



See more Kestrel uses at [www.kestrelweather.com](http://www.kestrelweather.com)

# What Makes a Kestrel So Special?



## Certified and Guaranteed Accuracy

Every single Kestrel manufactured at Nielsen-Kellerman is calibrated for every single value, either directly against NIST-traceable standards or against an intermediary standard that is calibrated daily. Every unit is shipped with a FREE Certificate of Conformity, meaning the customer can be absolutely sure that their weather readings are accurate to the stated specifications.

## Field and Factory Recalibration

Not only is every Kestrel guaranteed accurate when it leaves the factory, but accuracy can be ensured by field and factory recalibration for years of reliable performance. Relative humidity, wind, and barometric pressure measurements on each Kestrel can be calibrated in the field, no matter how old the Kestrel.

## US Manufacturing

The entire Nielsen-Kellerman Kestrel line is designed and built in the USA. Some electronic components have to be sourced overseas these days, but we buy American wherever we can. Having close control of our manufacturing facilities is part of the reason our inventory system works — we have a 97% on-time ship rate.



*Customers can be absolutely sure that their weather readings are accurate to the stated specifications.*

## Money-Back Guarantee

Every Kestrel Meter is covered with a 30-day satisfaction guarantee, and a 5-Year Warranty. Even after the regular warranty expires, Nielsen-Kellerman covers every Kestrel FOR LIFE with our Customer Care Trade-in/Trade-up Warranty Program. And if a customer ever has a problem or question about their Kestrel, they can come straight to us. From our Customer Service Representatives to the President of the company, we all answer the phone and know these products inside and out. If you have a problem, we'll fix it.

## Product Tune-Ups and Certification

If you would like to have your Kestrel checked for accuracy, Nielsen-Kellerman offers a Tune-up service that includes a new impeller, new batteries and full recalibration for a fraction of the original purchase cost. We also offer NIST-traceable Certificates of Calibration for industries that require it.



### Patented Removable Impeller

The Kestrel impeller measures 1 inch across and turns on a Swiss precision pivot mounted on sapphire bearings. Its large size ensures accurate readings even if pointed off-angle or at very low wind speeds. If damaged, a new calibrated impeller can be purchased for \$19 and popped in without tools, restoring like-new performance.



### Patented Dual Temperature Sensor RH Measurement

Relative humidity is tricky to measure — particularly in a sealed product. With Nielsen-Kellerman's patented Kestrel dual temperature sensor, it's not necessary to wait the 20 to 40 minutes that would normally be required for the unit temperature to equilibrate to the air temperature after a temperature shift. The Kestrel instantly and accurately calculates relative humidity accuracy of +/- 3% RH from 5 to 95%.

### Patented Temperature Measurement

Unlike most watches and other products with a temperature measurement, the Kestrel sensor is outside the case to ensure it measures the air, not your hand or pocket. The "curls" serve to further isolate the temperature sensor from the effects of the case temperature. Simply wave the Kestrel back and forth a few times and you'll have accurate air temperature readings in seconds.

And, since the Kestrel is completely waterproof, you can actually take water temperature and snow temperature readings.

*Even after the regular warranty expires, Nielsen-Kellerman covers every Kestrel FOR LIFE with our Customer Care Trade-in/Trade-up Warranty Program.*

### Leak and Drop Testing

Nielsen-Kellerman specifies IP-67 sealing for every Kestrel. This means that a Kestrel is totally protected from dust and can be submerged in water to 1m (3ft) for up to 30 minutes without any leakage. To ensure that each Kestrel meets this standard, we subject each one to a vacuum leak test after final assembly. We have also drop-tested the Kestrel lineup to MIL-STD-810F (20 drops from 5' onto a hard surface.)



# Customer Service

While Kestrel Meters may appear to be just neat “gadgets”, all of us at NK know that they are far more than that for most of our customers. The majority of Kestrel users rely on their unit to make decisions about how to do their jobs safely and effectively, and sometimes lives are even on the line. That’s why our engineers are absolutely committed to making the Kestrel Pocket Weather Meter the most accurate hand-held weather instrument available. We also believe that a Kestrel Meter should last for a long time, and offer services to keep units reliable and accurate for years to come. Our Warranty and Lifetime Product Support policies were structured with these beliefs in mind.



## **Kestrel’s 5-Year Warranty**

NK does not believe in “disposable electronics.” We know our products don’t lead a pampered life, and we design them for years of performance in tough conditions. We guarantee every NK product to be free of defects in materials and workmanship for a period of FIVE YEARS from your date of purchase, and offer a 30-day satisfaction guarantee.

## **Lifetime Customer Care**

After the regular warranty expires, NK covers every Kestrel FOR LIFE with our Customer Care Trade-In/Trade-Up Warranty Program, which allows users to trade in a used or damaged Kestrel for a new replacement at about half price.

## **Field Calibration**

Kestrel Meters can be quickly recalibrated in the field, giving users confidence to rely on their Kestrel. To field calibrate the wind or air flow readings, simply replace the impeller with a new one. For relative humidity readings, use the RH Field Calibration Kit. For pressure sensor calibration, check our website or contact our Customer Service Department for instructions. The only sensor that cannot be field calibrated is the temperature sensor. The Kestrel’s accurate temperature readings are due to NK’s patented external thermistor, and over the 10+ years that we’ve been building Kestrels, we’ve never identified one that needed recalibration.

***Kestrel Meters can be quickly recalibrated for relative humidity readings using the RH Field Calibration Kit***





***We're committed to making the Kestrel Pocket Weather Meter the most accurate hand-held weather instrument available.***

### **Tune-Up Services**

Just like a car goes into the shop for an oil change and lube, we offer Tune-Ups for each Kestrel model. The unit will be cleaned, updated with a new impeller, batteries, battery door (if needed), and its readings will be verified to be within specification. Depending on the model, sensors will also be recalibrated as needed. Once complete, the unit is leak tested, packed up and sent back to its owner, ready to go. Visit [www.kestrelweather.com](http://www.kestrelweather.com) for more information and pricing.

### **Test & Calibration Services**

All of our measurements are traceable to the National Institute of Standards and Technology, ensuring the highest level of reliability. Our primary Calibration Standards are sent for calibration in accordance with NIST requirements and based on a regular schedule. Only approved laboratories and NIST itself are used for these calibration services. Every Kestrel Pocket Weather Meter is individually calibrated and tested to be within specification at the time of manufacture.

For users who must ensure that their Kestrel is operating within specifications, we offer Factory Calibration and Certification services for any Kestrel. For users who require documentation, we also offer fully documented NIST-traceable calibration services. Visit [www.kestrelweather.com](http://www.kestrelweather.com) for more information and pricing.

# Kestrel Pocket Weather Meters Specifications

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		0.4 to 60.0 m/s
		ft/min	59 to 11,948 ft/min	1		59 to 7677 ft/min
1 inch diameter impeller with precision axle and snap-fit bearings. Off-axis accuracy: 1% @ 5 mph. Error: ±0.1 mph. Impeller may cause destruction of impeller. Replacement impeller (NK PN-0803) may be field-installed without tools. (US Patent 5,743,763).		km/h	1.0 to 218.0 km/h	0.1		Larger of 3% of reading or least significant digit
		mph	0.8 to 135.0 mph	1		
		knots	0.6 to 119.3 kt	0.1		
		Beaufort	0 to 12 B	0.1		
1 inch diameter impeller with precision axle and snap-fit bearings. Off-axis accuracy: 1% @ 5 mph. Error: ±0.1 mph. Impeller may cause destruction of impeller. Replacement impeller (NK PN-0803) may be field-installed without tools. (US Patent 5,743,763).						
Air Flow 1 second	4100	cfm	0 to 99,999 cfm	1		0 to 99,999 cfm
Wind Direction / Forward Heading 1 second	4300	m <sup>3</sup> /h	0 to 99,999 m <sup>3</sup> /h	1		0 to 99,999 m <sup>3</sup> /h
		m <sup>3</sup> /min	0 to 99,999 m <sup>3</sup> /min	1		0 to 99,999 m <sup>3</sup> /min
		m <sup>3</sup> /s	0.0 to 9,999.9 m <sup>3</sup> /s	0.1		0.0 to 9,999.9 m <sup>3</sup> /s
		L/s	0 to 99,999 L/s	1		0 to 99,999 L/s
Automatically calculated from Air Velocity measurement and user-specified duct shape (circle or rectangle) and dimensions (units: in, ft, cm or m). Maximum duct diameter input: 258.0 in / 21.5 ft / 655.3 cm / 6.55 m.						
Temperature 1 second		°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
Relative Humidity 1 minute		%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 ambient 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/ft <sup>2</sup> /hr	0.00 to 1.00 lb/ft <sup>2</sup> /hr	0.01	Typical: ±0.02 lb/ft <sup>2</sup> /hr	0.00 to 1.00 lb/ft <sup>2</sup> /hr
		kg/m <sup>2</sup> /hr	0.00 to 50.00 kg/m <sup>2</sup> /hr	0.01	Typical: ±0.1 kg/m <sup>2</sup> /hr	0.00 to 50.00 kg/m <sup>2</sup> /hr
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 thermometer shaded, and averaged for 6-10 seconds using built-in averaging function. Maximum accuracy: ±0.08 lb/ft <sup>2</sup> or ±0.3 kg/m <sup>2</sup> /hr.						
Pressure 1 second (mb & PSI 4000 model only)	3300 3400 4300	inhg	8.86 to 32.48 inhg	0.01	0.05 inhg	At 77.0 °F: <19,700 ft At 45.0 °C: <6,000 m
		hPa / mb	300.0 to 1100.0 hPa / mb	0.1	1.5 hPa / mb	At 77.0 °F: <19,700 ft At 45.0 °C: <6,000 m
Monolithic silicon piezoresistive pressure sensor with second-order temperature correction. Maximum error beyond specified temperature: +/- 0.09 inhg / 3.0 hPa. Calibration drift typically -0.03 inhg / -1.0 hPa per year. Pressure sensor may be recalibrated at factory or in field.						
Altitude	3500 3600 4300	ft	-6000 to 30000 ft	1	50 ft	At 77.0 °F: <19,700 ft. Max error +/- 98 ft At 25.0 °C: <6,000 m. Max error +/- 30 m
		m	-2000 to 9000 m	1	15 m	
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 11,980 ft/min	1	5%	750 to 7632 ft/min
		km/h	1.0 to 217.3 km/h	0.1	5%	13.7 to 143.2 km/h
		mph	0.4 to 60.0 mph	0.1	5%	3.8 to 60.0 mph
Calculated from the primary measurements of wind speed, wind direction and target heading. Auto-switching headwind/tailwind indication. Ranges expressed refer to primary/wind speed.						
Wind Chill 1 second	2000 4300	°F	0.7 to 135.0 °F, -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 °C, -45.0 to 125.0 °C	0.1	1.0 °C	0.4 to 40 °C, -45.0 to 10 °C
Calculated from the primary measurements of wind speed and temperature. Utilizes 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 minute	3000	3500	4000	4100	4200	4300	4400	°F	0.0 to 100.0 %RH, -49.0 to 257.0 °F	0.1	3.6 °F	76.0 to 130.0 °F, 0 to 100% RH
	3000	3500	4000	4100	4200	4300	4400	°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
Calculated from the primary measurements of temperature and relative humidity. Utilizes the NWS Heat Index (HI) tables. (Specification temperature limits established by HI tables.)												
Dewpoint 1 minute	3000	3500	4000	4100	4200	4300	4400	°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
	3000	3500	4000	4100	4200	4300	4400	°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
Calculated from the primary measurements of temperature and relative humidity. Temperature to which the air would need to be cooled at a constant pressure to become saturated.												
Wet Bulb Temperature 1 minute	3000	3500	4000	4100	4200	4300	4400	°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
	3000	3500	4000	4100	4200	4300	4400	°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 fPa, -5000.0 m
Calculated from the primary measurements of temperature, relative humidity and pressure. Temperature indicated by a wet bulb psychrometer												
Humidity Ratio 1 minute	4200							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
	4200							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
Calculated from the primary measurements of temperature, relative humidity and pressure. The measure of Grams/lb of dry air, called the humidity ratio, is an indication of the mass of water vapor in 1												
Density Altitude 1 second	4000	4100	4200	4300	4400	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		
	4000	4100	4200	4300	4400	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 9000.0 hPa, -5000.0 m		
Calculated from the primary measurements of temperature, relative humidity and pressure. Air density converted to equivalent sea level elevation at the International Standard Atmosphere.												
Max/Avg Wind Speed (Air Velocity), Crosswind, Heading/Fallwind	All Models											
Pressure Trend	One-button clear and restart of Max Wind Gust and Average Wind measurement.											
	Continuously updating three-hour barometric pressure trend indicator: rising rapidly, rising, steady, falling, falling rapidly.											
Data Storage / Display	2600 3500		Minimum, maximum, average and logged history stored and displayed for every measured value. 2000-point data logger with graphical display (5200 logs 1600 data points, 4500 logs 1800 points, 4500 logs 1400 data points). Auto data storage interval selectable from 2 seconds to 12 hours. Manual data capture.									
	4000 4100 4200 4300 4500		Requires optional PC interface (NK-PN-0830) and provided software. RS-232 connection with USB adapter available.									
Data Upload	1000 2000 3000		Reflective 3 1/2 digit LCD. Digit height 0.36 in / 9 mm.									
	2500 3500		Reflective 4 digit LCD. Digit height 0.36 in / 9 mm.									
Display	4000 4100 4200 4300 4500		Multifunction, multi-digit, programmable dot-matrix display.									
	All Models		1 second.									
Display Update	2000 2500 3000 3500		Aviation green electroluminescent backlight.									
	4000 4100 4200 4300 4500		Choice of aviation green or visible red (4000 & 4500 only) electroluminescent backlight. Automatic or manual activation.									
Display Backlight	2500 3500		Real-time hours:minutes:seconds clock.									
	4000 4100 4200 4300 4500		Real-time hours:minutes:seconds clock, calendar, automatic leap-year adjustment.									
Clock / Calendar	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.											
	-22 °F to 140 °F / -30 °C to 60 °C.											
Operational Temperature Range (LCD and Batteries)	After 45 minutes of no key presses.											
	User-selectable. 15 or 60 minutes with no key presses or disabled.											
Storage Temperature	2000 2500 3000 3500		English, French, German, Italian, Spanish.									
	4000 4100 4200 4300 4500		CE certified. Individually tested to NIST traceable standards (written certificate of tests available at additional charge).									
Auto Shutdown	2000 2500 3000 3500		CR2032, one included. Average life, 300 hours of use. +/-depending on backlight use.									
	4000 4100 4200 4300 4500		AAA, Alkaline, two included. Average life, 400 hours of use. +/-depending on backlight use.									
Languages	2000 2500 3000 3500		Waterproof (IP67 standard). Drop-tested (MIL-STD-810F; unit only. Substantial impact may damage replaceable impeller.).									
	4000 4100 4200 4300 4500		Unit 4.8 x 1.7 x 0.7 in / 122 x 42 x 18 mm. Class 4.8 x 1.8 x 1.1 in / 122 x 48 x 28 mm.									
Batteries	2000 2500 3000 3500		Unit 5.0 x 1.8 x 1.1 in / 12.7 x 4.5 x 2.8 cm.									
	4000 4100 4200 4300 4500		Unit 2.3 oz / 65 g. Case 1.3 oz / 37 g.									
Environmental	2000 2500 3000 3500		Unit 3.6 oz / 102 g.									
	4000 4100 4200 4300 4500											
Dimensions												
Weight												



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