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Kestrel 5500FW

Kestrel 5500FW Fire Weather Meter Pro with Link User Manual

Model: 5500FW | Brand: Kestrel

INTRODUCTION

The Kestrel 5500FW Fire Weather Meter Pro with Link is a rugged, handheld device designed for accurate environmental monitoring, specifically tailored for fire weather applications. This meter provides essential data including heat stress index, wet bulb temperature, temperature, humidity, and wind speed, along with specialized fire weather measurements like Probability of Ignition (PIG) and Fine Dead Fuel Moisture (FDFM). Equipped with Bluetooth LiNK, it allows for real-time data monitoring and alerts on compatible iOS/Android devices.

This manual provides instructions for the proper setup, operation, maintenance, and troubleshooting of your Kestrel 5500FW meter to ensure optimal performance and longevity.



Front view of the Kestrel 5500FW Fire Weather Meter Pro with Link in orange.

SETUP

1. Battery Installation

The Kestrel 5500FW requires one AA battery for operation. Ensure the battery is inserted with the correct polarity as indicated inside the battery compartment.

- Open the battery compartment cover on the back of the device.
- Insert one AA battery, matching the positive (+) and negative (-) terminals.

- Securely close the battery compartment cover.



Back view of the Kestrel 5500FW, illustrating the battery compartment and design details.

2. Compass Calibration

Calibrating the compass is crucial for accurate wind direction, headwind, crosswind, and ballistic measurements. Calibration is required after changing the battery, updating firmware, or changing geographical locations. It is also recommended every 2-3 weeks for optimal accuracy. If the display shows "****" for direction, recalibration is needed.

1. Press the "gear" button to enter the main menu.

2. Scroll to "SYSTEM" using the arrow buttons and press the center button to select.
3. Scroll to "COMPASS CAL." and press the center button.
4. The screen will prompt you to "Hold Kestrel upright. Rotate slowly for 30 seconds."
5. Press the center button to start the calibration.
6. Slowly rotate the Kestrel meter one full turn every 6 seconds for 30 seconds, keeping it upright and away from any metal objects.
7. Once "Cal Complete" appears, the compass is calibrated.

Troubleshooting Compass Calibration: If "Cal Failed" appears, try calibrating in a different location. If the issue persists, perform a soft reset by removing the battery, holding down the power button for 30 seconds, then reinserting the battery and attempting calibration again.

Your browser does not support the video tag.

Video demonstrating the compass calibration process for Kestrel 5400, 5500, and 5700 series meters.

3. Bluetooth LiNK Connection

The Kestrel 5500FW features Bluetooth LiNK for wireless data transfer to iOS and Android devices. This allows for real-time monitoring, data logging, and alerts via the Kestrel LiNK app.

- Download the Kestrel LiNK app from your device's app store.
- Ensure Bluetooth is enabled on your Kestrel meter (check system settings).
- Open the Kestrel LiNK app and follow the on-screen instructions to pair your device.
- Once connected, you can view live data, configure settings, and download logged data.



The Kestrel 5500FW displaying data, with a tablet and smartphone showing the Kestrel LiNK app interface.

OPERATING INSTRUCTIONS

The Kestrel 5500FW provides a wide range of environmental measurements critical for fire weather assessment and other applications. The device is designed for intuitive navigation using its keypad and display.

1. Navigating the Menus

- Use the **arrow buttons** (up/down/left/right) to navigate through screens and menu options.
- The **center button** acts as a "Select" or "Enter" key.

- The **gear button** typically accesses the main menu or settings.
- The **power button** turns the device on/off.
- The **light bulb button** activates the backlight for the display.



Close-up of the Kestrel 5500FW's display and control buttons for navigation.

2. Key Measurements

The Kestrel 5500FW accurately monitors and displays various environmental parameters:

- **Wind Speed/Air Speed:** Measured by the impeller.

- **Temperature:** Ambient air temperature.
- **Humidity:** Relative humidity.
- **Heat Stress Index:** A critical measure for safety in hot environments.
- **Wet Bulb Temperature (Psychrometric) & Naturally Aspirated Wet Bulb Temperature.**
- **Barometric Pressure & Station Pressure (Absolute Pressure).**
- **Altitude (Barometric) & Density Altitude.**
- **Dew Point Temperature & Vapor Pressure Deficit (VPD).**
- **Wind Chill.**
- **Compass Direction, Crosswind, Headwind/Tailwind:** Requires calibrated compass.
- **Pressure Trend.**
- **Fire Weather Specifics:**
 - **Probability of Ignition (PIG):** Indicates the likelihood of a fire starting.
 - **Fine Dead Fuel Moisture (FDFM):** Measures moisture content in fine fuels, crucial for fire behavior prediction.

Environmental Measures	
	Altitude (Barometric)
	Barometric Pressure
	Compass Direction
	Crosswind
	Density Altitude
	Dew Point Temperature
	Fine Dead Fuel Moisture (FDFM)
	Headwind/Tailwind
	Heat Stress Index
	Naturally Aspirated Wet Bulb Temperature
	Pressure Trend
	Probability of Ignition (PIG)
	Relative Humidity
	Station Pressure (Absolute Pressure)
	Temperature
	Vapor Pressure Deficit (VPD)
	Wet Bulb Temperature (Psychrometric)
	Wind Chill
	Wind Direction
	Wind Speed/Air Speed

A comprehensive list of environmental measures provided by Kestrel meters, including specialized fire weather metrics.

3. Using the Weather Vane Mount

For continuous and accurate wind direction measurements, especially when stationary, the Kestrel Weather Vane Mount (sold separately) can be used. This accessory allows the Kestrel 5500FW to be mounted on a tripod,

ensuring it always faces into the wind for precise readings.



The Kestrel 5500FW mounted on a tripod with a weather vane for continuous wind direction monitoring.

MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your Kestrel 5500FW meter.

- **Cleaning:** Wipe the device with a soft, damp cloth. Avoid abrasive cleaners or solvents.
- **Storage:** Store the Kestrel in a cool, dry place when not in use. If storing for extended periods, remove the battery to prevent leakage.
- **Battery Replacement:** Replace the AA battery as needed. Always recalibrate the compass after battery replacement.
- **Firmware Updates:** Periodically check the Kestrel Instruments website or the Kestrel LiNK app for available firmware updates to ensure your device has the latest features and performance enhancements.
- **Durability:** The Kestrel 5500FW is waterproof (IP67 rated) and drop-tested (MIL-STD-810F), designed to withstand harsh outdoor conditions. However, avoid unnecessary exposure to extreme impacts or submersion beyond its rated depth.

TROUBLESHOOTING

Issue	Possible Cause	Solution
Compass displays "****" or "Cal Failed"	Compass requires calibration or interference from metal objects.	Perform compass calibration as described in the Setup section. Ensure you are away from metal objects. If calibration repeatedly fails, perform a soft reset (remove battery, hold power for 30s, reinsert battery) and try again.
Device does not power on	Dead or incorrectly installed battery.	Replace the AA battery with a fresh one. Check battery orientation.

Issue	Possible Cause	Solution
Bluetooth LiNK not connecting	Bluetooth not enabled on Kestrel or mobile device, or app issue.	Ensure Bluetooth is enabled on both the Kestrel and your mobile device. Restart the Kestrel LiNK app. Try re-pairing the device through the app.
Inaccurate readings	Sensor obstruction, environmental factors, or calibration needed.	Ensure the impeller and other sensors are clear of debris. Calibrate the compass if wind direction is affected. Allow the device to acclimate to new environmental conditions.

SPECIFICATIONS

Feature	Detail
Brand	Kestrel
Model Number	OB-KEST-0855FWLVORA
Power Source	Battery Powered (1 AA battery included)
Connectivity Technology	Bluetooth
Special Feature	Weather Resistant (IP67), Drop-tested (MIL-STD-810F)
Material	Metal, Plastic
Color	Orange
Display Type	LCD
Item Weight	1.2 ounces (0.03 Kilograms)
Product Dimensions	6 x 6 x 1 inches
Temperature Accuracy	1 degree Celsius or better
Upper Temperature Rating	140 Degrees Fahrenheit
Sensor Technology	High-precision, industry-standard sensors

WARRANTY AND SUPPORT

Kestrel Instruments are designed, built, sold, and supported in the USA by Nielsen-Kellerman Company. They specialize in rugged, waterproof environmental and sports performance instruments.

Protection Plans

Extended protection plans are available for your Kestrel 5500FW:

- **2-Year Protection Plan:** Available for \$47.99.
- **3-Year Protection Plan:** Available for \$60.99.

For further support, product information, or to explore other Kestrel products, visit the official Kestrel Store [Kestrel Store on Amazon](#).

