

Weather Tracker Information

Temperature The air temperature at your location.	Wind chill This is an indication of how cold it feels. If the wind is blowing strongly, it feels cooler than if it were calm. Wind chill is a combination of temperature and wind speed.
Wet bulb temperature This is the lowest temperature to which a thermometer can be cooled by evaporating water into the atmosphere at a constant pressure.	Dewpoint This is the temperature to which air is cooled before the moisture it contains condenses into dew (or hoar frost if it is below freezing).
Heat Index This is a combination of Relative Humidity and temperature. If there is high humidity we feel hotter because our bodies cannot be cooled so efficiently by evaporating perspiration. If the humidity is low, then we feel cooler for a given temperature.	Altitude The height above Sea Level. The Weather Tracker calculates altitude from the station pressure and barometric pressure.
Station pressure This is the air pressure at your location not reduced to Sea Level.	Density altitude This is the height at which you would be given the current air density. This measurement is not normally required as it is mainly used by pilots who wish to know how an aircraft will perform.
Relative Humidity This is a ratio of the amount of water vapour in the air at the current temperature and the maximum amount of water vapour that the the air could possibly hold at that temperature. The Relative Humidity is shown as a percentage. Over 90% is very humid air; under 30% is very dry air.	Barometric pressure This is the pressure measurement used in the weather forecast and is the pressure at your location as if it were based at Sea Level. This is so that all the pressure measurements can be compared around the world as height affects pressure. Falling pressure indicates rain or unsettled weather; rising pressure indicates settled weather conditions.

Features and Specifications

Wind Speed

Accuracy: $\pm 3\%$. Response Time: 1 second.
Calibration Drift: $< 2\%$ after 100 hours use at 7m/s

Units		Display	Resolution	Range
Knots		KTS	0.1	0.6 to 78
Metres per Second		M/S	0.1	0.3 to 40
Kilometres per Hour		KM/H	0.1	1.0 to 144
Miles per Hour		MPH	0.1	0.7 to 89
Feet per Minute		FPM	1	59 to 7877
Beaufort Force		BEAU	1	1 to 16

Temperature

Accuracy: Temperature: $\pm 1^\circ\text{C}$,
Wind Chill: $\pm 1^\circ\text{C}$,
Dew Point: $\pm 2^\circ\text{C}$,
Heat Index: $\pm 3^\circ\text{C}$.
Response Time: approximately 1 minute for most conditions.

Units	Display	Resolution	Range
Celsius	$^\circ\text{C}$	0.1	-29 to 70
Fahrenheit	$^\circ\text{F}$	0.1	-20 to 158

Relative Humidity

Accuracy: $\pm 3\%$. Response Time: Approx. 1 minute.
Calibration Drift: $\pm 2\%$ over 24 months (can be field calibrated)

Units	Display	Resolution	Range
Percent	%	0.1	5 to 95%

Barometric Pressure

Accuracy: $\pm 3\text{hPa}$ (between -10°C and 60°C).
Calibration Drift: $\pm 1\text{hPa}$ over 12 months (can be field calibrated)

Units	Display	Resolution	Range
hectoPascal (mb)	hPa	0.1	870.0 to 1080.0
Inches Mercury	inHg	0.01	25.70 to 31.90

Altitude, Density Altitude

Units	Display	Resolution	Range
Metres	M	1	-500 to 9000
Feet	FT	3	-1600 to 30000

Display

Update 1 second
Temperature Range Normal operation from -20°C to 60°C
Storage Temperature -30°C to 60°C
Auto Shutdown After 15 minutes of no button presses. (This feature can be disabled.)

Physical

Battery Two AAA alkaline batteries (included).
Impeller 25 mm. diameter, sapphire bearings, light weight.
User-replaceable impeller/housing assembly.

Temperature Sensor Hermetically sealed precision thermistor.
Humidity Sensor Solid state silicon capacitive sensor.
Pressure Sensor Monolithic silicon piezoresistive sensor.
Dimensions 12.7 x 4.5 x 2.8 cm.
Weight 102 g.
Sealing Water resistant. Electronics enclosure IP65 standard
Shock Drop tested to 1m.
Battery life 50 hours with unit on and backlight; one year unit off but still datalogging once a hour; 250 hours with unit on and backlight off.
EMC CE marked

Data storage

Datalogging Programmable 2 sec to 2 hour intervals or manual storage; 250 data points.

P C Interface

Software Kestrel Pocket Weather Tracker Upload application v. 1.7. Windows 3.1 or higher
Serial cable 9 pin serial connections
Cradle With optical connectors to Weather Tracker
Tripod mount Standard tripod connection

Guarantee

12 months parts and labour

Weather Tracker - Out of the box

Weather Tracker includes

Wrist and neck lanyards 2 AAA batteries
 Soft carry pouch Quick Start Guide
 Warranty

Kestrel Interface includes

Interface cradle Tripod attachment
 Serial cable USB-Serial connector (optional)
 Weather Tracker program, user guides and project information.

Default settings

Unit	Metric	Imperial
Wind functions	m/s	mph
Temperature functions	°C	°F
Barometric pressure	hPa	inHg
Altitude functions	m	ft
Time format	24 hour	12 hour
Date format	Day/month/year	Month/day/year

Setting	Factory default
Auto data store	On
Data store rate	1 hour
Data overwrite	On
Manual data store	On
User screen 1	Wind speed, temperature, humidity
User screen 2	Humidity, dewpoint, wet bulb
User screen 3	Pressure, altitude, density altitude
Display contrast	10
Auto shutdown	15 minutes
Language	English

Starting off

When you insert the 2 AAA batteries as indicated on the battery door at the base of the Weather Tracker, the unit will automatically start the Date and Time set-up.

Press the up and down arrows to scroll through the settings and the left and right arrows to change them.

Press the red Power Button to exit the Date and Time set-up

Switching on and off

Press the red Power Button to switch **on**.

Press and hold the red Power Button to switch **off**.

If the Weather Tracker is set to Auto store it will still record data when the power is off.