



## Climate Meter PCE-EM 890



Climate meter PCE-EM 890

Climate weather measuring device for recording various environmental data / Various measuring functions / MAX / MIN measurement / High accuracy

The climate meter PCE-EM 890 is an instrument for measuring environmental conditions. The climate meter gives you an accurate measurement very quickly. Due to the small dimensions and the low weight, this climate meter is an easy-to-use information system on the weather condition. It is possible to switch between the measuring functions with just one push of a button. Thus, this climate meter is ideal for technicians, sailors, farmers and many other people who are dependent on the weather or whose activities are significantly influenced by the weather.

With just one gauge, you can read wind speed, temperature, wind chill (sensed temperature), dew point, relative humidity, heat index, barometric pressure, and height above sea level. The anemometer offers you the functions of the individual measured value, minimum value, maximum value measurement.

### **Explanation of various environmental conditions:**

#### **Wind Chill**

The wind chill describes the difference between the measured air temperature and the sensed temperature as a function of the wind speed. Some of our anemometers can record the wind chill and other parameters.

#### **Air Pressure**

The air pressure at any location in the Earth's atmosphere is the hydrostatic pressure of the air that prevails in that location. This pressure is consistent with the weight of the column of air that is on the surface of the earth or a body on it. The average atmospheric pressure of the atmosphere at sea level is  $101325 \text{ Pa} = 1013.25 \text{ hPa} = 101.325 \text{ kPa}$  and is thus part of the normal conditions.

#### **Dew Point / Dew Point Temperature**

Air can absorb more water vapor with increasing temperature. With decreasing temperature of a building material or the air, in which the relative humidity of 100% is reached, then the excess water vapor precipitates in the form of condensation. The boundary area is called dew point. Buildings should be designed so that the dew point temperature on the inside of the air tightness layer is not undershot. The formation of condensation and resulting structural damage or mold is thereby avoided. Particularly harmful are air currents through the air tightness layer. In this case, a fall below the dew point is always to be expected. The wet bulb temperature, which plays an important role in the air conditioning industry, for example, is a very important parameter in many other areas.

- **Compact and robust construction**
- **High precision**
- **Very precise, smooth-running impeller**
- **Easy to read digital display**

- Backlight
- Interchangeable impeller
- Max-Min measurement
- 11 measurement functions in one device

## Specifications:

Measuring function	Measuring range	Resolution	Accuracy
Wind speed	80 ... 3937 ft/min 0.4 ... 20 m/s 1.4 ... 72 km/h 0.9 ... 44.7 mph 0.8 ... 38.8 Knots	1 ft/min 0.1 m/s 0.1 km/h 0.1 mph 0.1 Knots	± 3% of measured value
Air temperature	Measuring range 0 ... 50°C / 32 ... 122°F	Resolution 0.1°C / 0.18°F	Accuracy ± 1.2°C / 2.16°F
Humidity	Measuring range 10 ... 95% r.H.	Resolution 0.1% r.H.	Accuracy <70% r.H.: ± 4% r.H. >70% r.H.: ± 4 of measured value +1.2% r.H.
Barometric-air pressure	Measuring range 10 ... 999.9 hPa 1000 ... 1100 hPa	Resolution 0.1 hPa 1 hPa	Accuracy ± 1.5 hPa ± 2 hPa
UV A 290 ... 390 nm	Measuring range 0 ... 1999 µW/m <sup>2</sup> 2 ... 20 mW/m <sup>2</sup>	Resolution 0.1 µW/m <sup>2</sup> 0.01 mW/m <sup>2</sup>	Accuracy ±(4% of measured value + 2 digits)
External temperature (Pt1000 input)	Measuring range -10 ... 70 °C / 14 ... 158°F	Resolution 0.1°C / 0.18	Accuracy ± 1.2°C / 2.16°F
Volume flow	Measuring range 0.024 ... 3600 cmm	Resolution 0.001 cmm 0.01 cmm 0.1 cmm 1 cmm	
Dew point	Measuring range -25.3 ... 49°C / 13.54 ... 120.2°F	Resolution 0.1°C / 0.18°F	

<b>Wet bulb temperature</b>	<b>Measuring range</b> -5.4 ... 49°C / 22.28 ... 120.2°F	<b>Resolution</b> 0.1°C / 0.18°F
<b>Heat stress index</b>	<b>Measuring range</b> 0 ... 100°C / 32 ... 212°F	<b>Resolution Accuracy</b> 0.1°C / ± 2°C / 3.6°F 0.18°F
<b>Windchill</b>	<b>Measuring range</b> -9.4 ... 44.2°C / 15.8 ... 111.56°F	<b>Resolution Accuracy</b> 0.1°C / ± 2°C / 3.6°F 0.18°F
<b>Height above sea level</b>	<b>Measuring range</b> -2000 ... 9000 m / -6561 ... 29527 ft	<b>Resolution Accuracy</b> 1 m / 3 ft 3" ± 15 m

**General technical data for the climate meter**

Display	LC display 8 mm character height
Measurement functions	Wind speed / temperature Humidity / temperature UV Air pressure Volume flow Dew point Wet bulb temperature Windchill Heat stress index Height above sea level External temperature over Pt1000
Display parameters	
Power supply	CR2032 3V batteries
Current consumption	ca. 5-mA
Operating conditions	0 ... 50°C / 32 ... 122°F / max. 80% r.H.
Dimensions	120 x 45 x 20 mm / 4.7 x 1.7 x 0.7"
Weight	ca. 160 g / < 1 lb

## Delivery Scope

- 1 x Climate Meter PCE-EM 890
- 1 x CR2032 batteries
- 1 x User manual