

# HUMIPOINT 05



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## 1. Prior to operation

- This instruction manual should be read carefully before operating the instrument and be adhered to in all aspects.
- Never perform measurements on live components.
- Measuring instruments should only be used for the specified measuring ranges (overheating may cause irreversible damage).
- Always use a suitable reference when adjusting the temperature and humidity.
- Please allow the instrument to acclimatise for several minutes after relocation.



### Proper use:


- The measuring instrument may only be used within the specified ranges.
- The instrument may only be used under the conditions and for the purposes for which it was built.
- Operational safety is no longer ensured if the instrument is modified or converted.

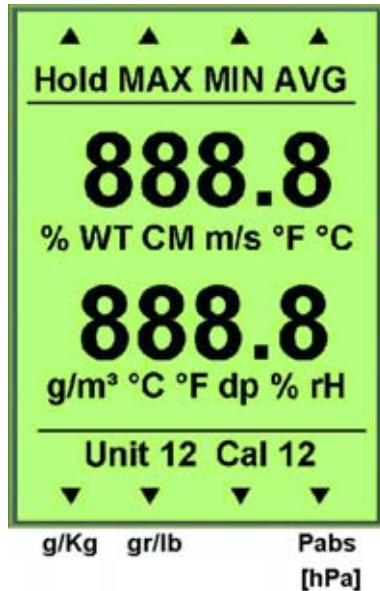
## 2. Technical Data

### Measuring values

HUMIPORT 05		
Sensor type	relative humidity	HC101
	temperature	NTC
Measuring range	relative humidity	5...95% RH
	temperature	-20...50°C (-4...122°F)
	dew point at 20°C (68°F)	-15...19°C (5...66°F)
	mixing ratio at 20°C (68°F)	1.18...14g/kg (8.26...98gr/lb)
Accuracy	relative humidity	±3% RH
	temperature	±0.4°C at 0...40°C, otherwise ±0.7°C (±0.7°F at 32...104°F, otherwise ±1.3°F)
	dew point at 20°C (68°F)	± (4.46...0.64°C); ± (8.03...1.15°F)
	mixing ratio at 20°C (68°F)	± (0.44...0.57g/kg); ± (3.08...3.99gr/lb)
Resolution	relative humidity	0.1% RH
	temperature	0.1°C (0.18°F)

### General

Supply voltage	9V battery
Battery lifetime	typ. > 150h
Working temperature range	0...50°C (32...122°F)
CE compatibility according	EN61000-6-2 EN50147-3
	
Housing / protection class	ABS / IP40
Dimensions (HxWxD)	with filter cap: 175x48x25mm (6.9x1.9x1") without filter cap: 140x48x25mm (5.5x1.9x1")
Weight	200g (0.5 lbs)
Display	LCD, 45x32 mm (1.8x1.3")



### 3. The Display

◀ Upper menu

◀ Temperature display (sensor 1)

◀ Relative humidity display (sensor 2)

◀ Lower menu

## 4. Operating the instrument

Unlike traditional hand-held devices, the Humiport 05 has a THUMB-WHEEL on the left-hand side instead of buttons.

The wheel turns 15° upwards and downwards and can also be pressed in its central start position.

Turning the thumb-wheel upwards selects the upper menu. Turning it downwards selects the lower menu for configuration and adjustment.



**THUMB-WHEEL**

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**The 3 THUMB-WHEEL positions are as follows:**

▲ Turn upwards

▼ Turn downwards

▶ Press in the start position

Switch on: ▶ (press and release)

Switch off: ▶ press and hold for approx. 2 sec. (no menu activated)

Upper menu: ▲ (press and release), select with ▲,  
enter (confirm) with ▶

Lower menu : ▼ (press and release), select with ▼,  
enter with ▶

## 5. The upper menu

The following standard functions can be selected in the upper menu:

### **HOLD MAX MIN AVG**

Use ▲, to select. The selected function flashes and is entered with ►.

A function remains displayed once it has been entered. The menu can be interrupted with ▼ or by not pressing the thumb-wheel for 20 sec.

**Hold:** Hold "freezes" the measuring value.

**MAX:** MAX displays the maximum value in the current period.

**MIN:** MIN displays the minimum value in the current period.

**AVG:** AVG displays the arithmetical average value in the current period.

## 6. The lower menu

The following functions can be selected in the lower menu:

### Unit 1 2 CAL 1

Use ▼, to select. The selected function flashes and is entered with ►.

The menu can be interrupted with ▲ or by not pressing the thumb-wheel for 20 sec.

**Unit1:** Unit1 is used to select the unit of temperature. The available options are °C and °F and they can be selected using ▲ and ▼. The selection is entered with ►.

**Unit2:** Unit2 is used to select the units for relative/absolute humidity, dew point or mixing ratio. The available options are g/m<sup>3</sup>, % rH, dp°C, dp°F and g/Kg or gr/lb and they can be selected using ▲ and ▼.

The selection is entered with ►.

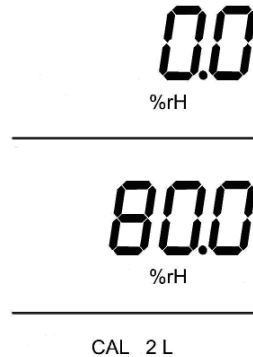
## One-point calibration of temperature and relative humidity

**CAL1:** CAL1 (one-point calibration) is used to set an offset for sensor 1 (temperature). The offset value appears at the bottom of the display. The limit values are +/- 10°C or +/- 10°F.

The selection is made using ▲ and ▼; and entered with ►.

**To obtain the factory calibration, set the offset to 0.0.**





**CAL2:** CAL2 (one-point calibration) is used to set an offset for sensor 2 (relative humidity). The offset is based on the lower adjustment point (11% RH).

The adjustment point must lie between 30% and 95% RH.

The offset value appears at the top of the display. The limit values are +/- 10% RH.

CAL2 can only be selected with the unit % RH.

The selection is made using ▲ and ▼; and entered with ►.

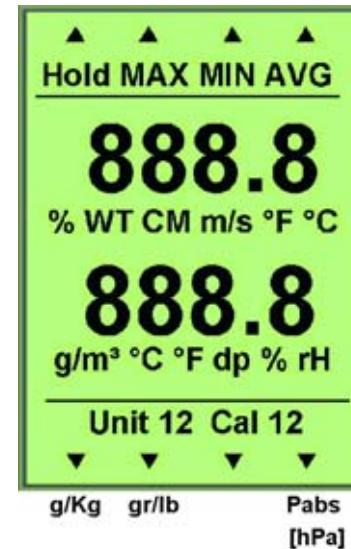
**To obtain the factory calibration, set the offset to 0.0.**

## 7. Measuring the mixing ratio

The prevailing air pressure is required to determine the exact mixing ratio in g/Kg or gr/lb.

The Humiport 05 implements a formula to correct the mixing ratio with the entered air pressure. The prevailing air pressure Pabs [hPa] needs to be entered using the arrow menu.

The air pressure can be set anywhere in the range of 500-1200 hPa.



H [m]	H [feet]	pabs [hPa] = [mbar]
0	0	1013
100	328	1007
200	656	988
300	984	976
500	1.640	952
800	2.625	917
1.000	3.281	894
1.500	4.921	840
2.000	6.562	789
3.000	9.843	697
4.000	13.123	615
5.000	16.404	543
10.000	32.808	291

The factory setting for Pabs is 1013 hPa (sea level).

Entering the air pressure only works if Unit2 is set to mixing ratio (g/Kg or gr/lb).

**Note:** If the current air pressure is not known, average values in relation to sea level H [m] or [feet] can be used to minimise the effect of the pressure (see adjacent table).

## 8. Changing the battery

If "BAT" appears in the display, the battery needs to be replaced within the next few hours. To do so, open the battery cover at the front of the instrument.

Remove the used battery and insert a new one.

Please only use 9V monobloc (PP3) batteries.

Make sure you maintain the correct polarity when inserting the new battery and use high-quality batteries only.

## 9. Maintenance and adjustment

When the instrument is used for air-conditioning purposes, we recommend annual calibration. More frequent calibration is recommended if the instrument is used in harsh environments.



Use the calibration block and the associated calibration solutions (available as accessories) for calibration.

The instrument and the calibration block should be kept at a temperature of approx. 20-25°C (68-77°F) for 12 hours prior to any checks or adjustments.

Recalibration should only be carried out using the calibration block or, better still, by an accredited calibration laboratory.

If necessary, clean the instrument using a damp cloth. Use clean water to dampen the cloth and refrain from using detergents.

Do not touch the sensor.