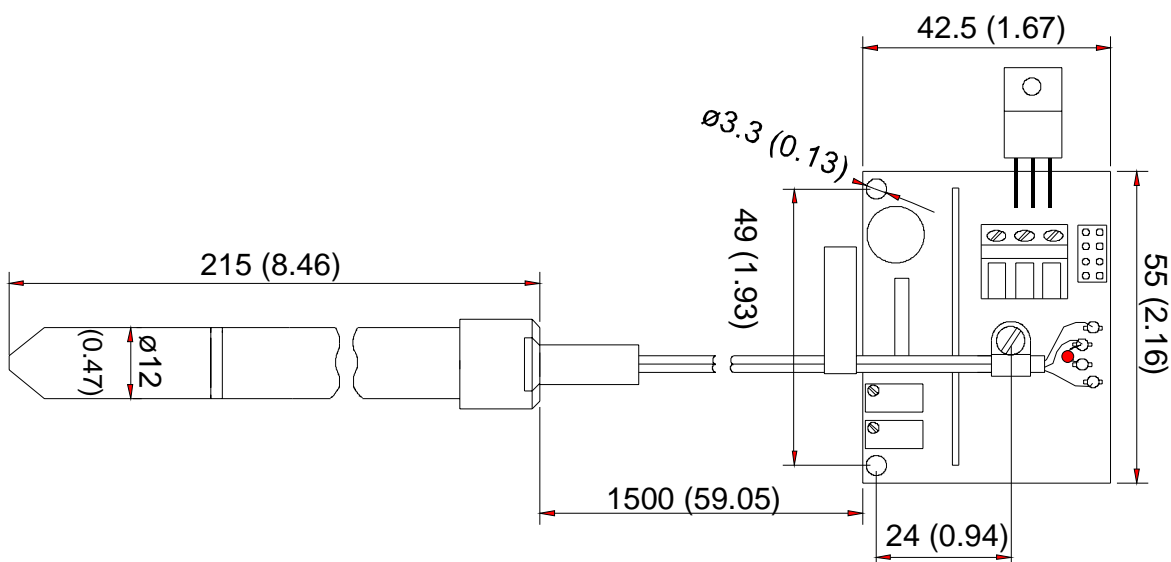


## HMM30C humidity module

### GENERAL

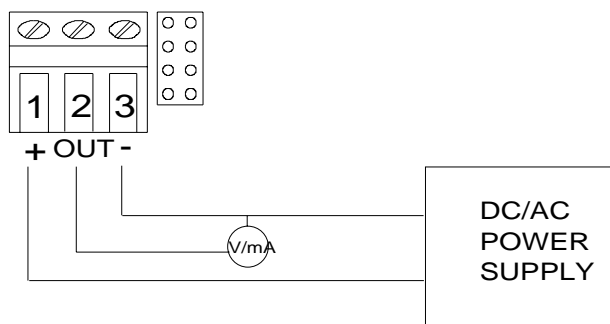
The HMM30C humidity module is an open print, which is connected with two screws. Its small sensor head is separated from the circuit board with a cable. Mounting dimensions are shown in Figure 1.



**Figure 1** Mounting dimensions in mm (in inches)

### ELECTRICAL CONNECTIONS

Make connections according to Figure 2.



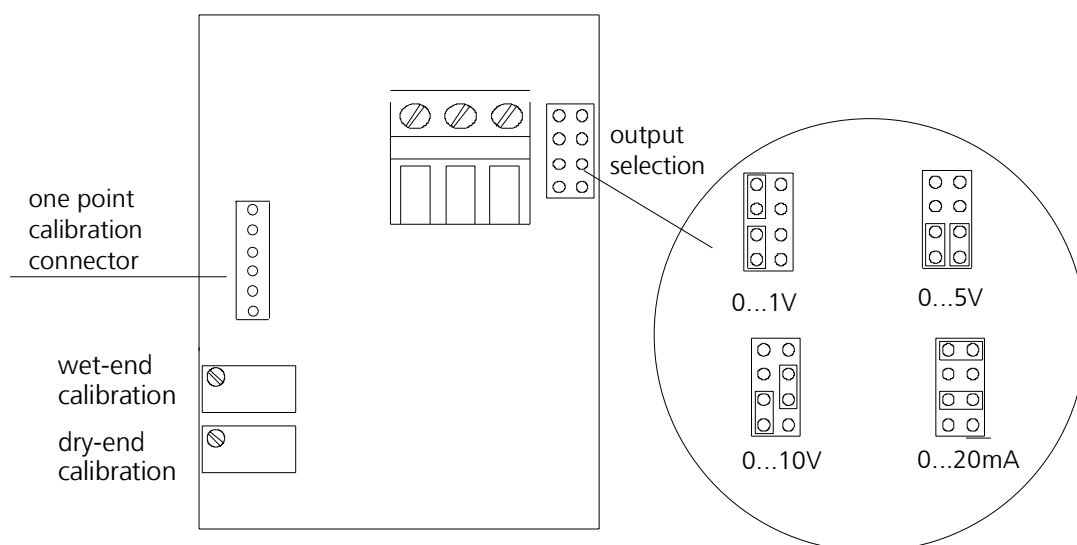
**Figure 2** Electrical connections

## NOTE

If the metal tube of the HMM30C is in contact with metal parts (e.g. chamber wall) that are in galvanic contact with the power supply ground, problems may occur in strongly condensing situations. If the condensed water forms a conductive path between the tube and the sensor legs, the generated currents in this path may cause electrochemical reactions and corrosion in the probe structure. Therefore, it is recommended to install the probe so that the metal tube is galvanically isolated from the chamber wall.

## OPERATING THE MODULE

The desired output range is chosen with appropriate jumpers (see Figure 3). When the output has been chosen and the module has been connected to an external power supply, it is ready for use.



**Figure 3 Output selections and calibration connectors and potentiometers**

## ONE POINT HUMIDITY CALIBRATION

The calibration can be checked with Vaisala's one point calibrator: the HMI41 indicator equipped with a suitable reference probe (e.g. HMP46) and the calibration cable 19165ZZ. Make the necessary adjustments with the dry-end calibration potentiometer. If a more accurate two point calibration is preferred, the HMK15 or the HMK13B calibrators with salt solutions are recommended. For detailed instructions, see the corresponding manuals.

The calibration interval depends on the surrounding conditions and the desired accuracy. It is recommended to perform a calibration at least once a year. However, long term exposure to certain chemicals and gases, e.g. some organic solvents, acids or bases may cause drift in the sensor response. If there is a reason to believe that such conditions exist, it is recommended to check the calibration at a shorter interval after taking the HMM30C into use. Make the first check/adjustment after 6 months and 12 months and later extend the interval to one year.

## REPLACEMENT OF THE HUMICAP® SENSOR OR THE FILTER

If the sensor is damaged for some reason, remove it and insert a new one. Handle the sensor by the plastic socket. **DO NOT TOUCH THE SENSOR PLATE.** Check the output after sensor change. If it deviates too much from the reference value, recalibrate the module.

Replace or clean a dirty filter. The sensor can be cleaned with distilled water; if this does not help, replace the sensor. Do not use any mechanical methods.

## TECHNICAL DATA

### Relative humidity

Measurement range	0...100 %RH
Accuracy at +20 °C (including calibration inaccuracy, linearity and repeatability):	±2 %RH (0...90 %RH) ±3 %RH (90...100 %RH)
Temperature coefficient	±0.04 %RH/°C (NOTE: after T compensation)
Humidity sensor	Vaisala HUMICAP® capacitive polymer sensor

### Electronics

Output DC	Supply voltage	
	DC	AC
0...1 V	10...35 V	9...24 V
0...5 V	14...35 V	12...24 V
0...10 V	19...35 V	16...24 V
0...20 mA	10...35 V	9...24 V ( $R_L = 0 \text{ ohm}$ )
0...20 mA	20...35 V	17...24 V ( $R_L = 500 \text{ ohm}$ )

Recommended external load for outputs	$\geq 10 \text{ kohm}$
Current consumption	15 mA max.

Electrical connections	Screw terminals for wires 0.5...1.5 mm <sup>2</sup> (AWG 20...16)
Operating temperature	
electronics	-5...+55 °C (+23...+131 °F)
sensor head	-40...+180 °C (-40...+350 °F)
Survival temperature range	
sensor head	-70...+180 °C (-94...+350 °F)
Long-term humidity range (electronics)	0...85 %RH

## **Mechanics**

Sensor protection	Sintered filter Ø 12 mm
PCB dimensions	55 x 42.5 x 23 mm
Weight	144 g
Cable length	1.5 m (5 ft.)

## **SPARE PARTS AND ACCESSORIES**

<b>Order code</b>	<b>Description</b>
0195	sintered filter Ø 12 mm
HUMICAP K	HUMICAP <sup>®</sup> humidity sensor

## **GUARANTEE**

Vaisala issues a guarantee for the material and workmanship of this product under normal operating conditions for one (1) year from the date of delivery. Exceptional operating conditions, damage due to careless handling or misapplication will void the guarantee.