

## HMS80 Series Humidity and Temperature Transmitters for Outdoor Measurements in Building Automation Applications



### Features/Benefits

- Reliable outdoor transmitters with integrated radiation shields
- $\pm 3\%$  RH accuracy
- User-exchangeable INTERCAP® sensor for easy field replacement
- Default output parameters are relative humidity and temperature. Dew point temperature, wet bulb temperature, and enthalpy outputs selectable using dip switches.
- Options for both current and voltage outputs
- Ingress protection IP65

*HMS80 Series Humidity and Temperature Transmitters with integrated radiation shields.*

Vaisala INTERCAP® Humidity and Temperature Transmitter Series HMS80 are designed for outdoor measurements in various building automation applications. These  $\pm 3\%$  transmitters include an integrated radiation shield to reduce the influence of solar radiation on temperature and humidity measurements.

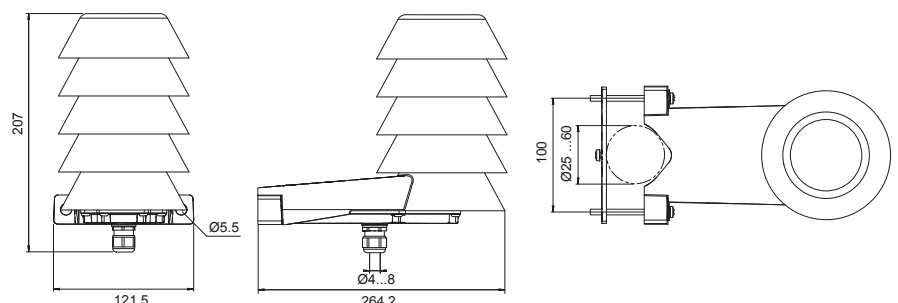
### Easy Installation

HMS80 transmitters are easy to install. They can be mounted directly onto a wall or pole without any extra accessories. There are no loose parts, screws are retained in the enclosure, all connectors are clearly labeled, and the connectors are within easy reach.

For fast and convenient configuration, the most popular control parameters in free cooling control – dew point temperature, wet bulb temperature, and enthalpy – are selectable using dip switches.

### Low Maintenance

HMS80 series transmitters require minimal maintenance thanks to their excellent sensor stability and high-quality materials. If necessary, the INTERCAP® sensor can easily be replaced in the field with minimum downtime.



# Technical Data

## Models

MODEL NUMBER	TYPE	OUTPUT	INGRESS PROTECTION
HMS82	Outdoor, RH+T	2-wire, current output	IP65
HMS83	Outdoor, RH+T	3-wire, voltage output	IP65

## Performance

### RELATIVE HUMIDITY

Measurement range 0 ... 100 %RH

### Accuracy

Temperature range +10 ... +30 °C (+50 ... +86 °F)

0 ... 90 %RH ±3 %RH

90 ... 100 %RH ±5 %RH

Temperature range -20 ... +10 °C, +30 ... +60 °C  
(-4 ... +50 °F, +86 ... +140 °F)

0 ... 90 %RH ±5 %RH

90 ... 100 %RH ±7 %RH

Temperature range -40 ... -20 °C (-40 ... -4 °F)

0 ... 100%RH ±7 %RH

Stability in typical HVAC applications ±2 %RH over 2 years

Humidity sensor Vaisala INTERCAP®

### TEMPERATURE

Measurement range -40 ... +60 °C (-40 ... +140 °F)

### Accuracy

At +20 °C (+68 °F) ±0.3 °C (±0.54 °F)

Temperature dependence ±0.01 °C/ °C

Temperature sensor Pt1000 RTD Class F0.1 IEC 60751

### CALCULATED PARAMETERS

Measurement range for dew point temperature and wet bulb temperature -40 ... +60 °C (-40 ... +140 °F)

Measurement range for enthalpy -40 ... 460 kJ/kg  
(-10 ... +190 BTU/lb)

Accuracy of the calculated parameters should be calculated at the actual condition based on the relative humidity and temperature specification.

Accuracy at 20°C (68°F) and 80%RH:

Dew point ±0.9 °C (1.6 °F)

Wet bulb temperature ±0.7 °C (1.3 °F)

Enthalpy ±2kJ/kg (0.9 BTU/lb)

## Operating Environment

Operating temperature range -40 ... +60 °C (-40 ... +140 °F)

Operating humidity range 0 ... 100 %RH

Maximum wind/flow speed 30 m/s

Storage temperature -40 ... +60 °C (-40 ... +140 °F)

Electromagnetic compliance EN61326-1, Industrial Environment

## Mechanics

Max wire size 1.5 mm<sup>2</sup> (AWG 16)

Standard housing color White (RAL9003)

Housing material PC + 10%GF (UL-V0 approved)

## Inputs and Outputs

### Current output model HMS82 (2-wire)

Outputs 4 ... 20 mA, loop powered

Loop resistance 0 ... 600 Ω

Supply voltage 20 ... 28VDC at 600 Ω load

10 ... 28VDC at 0 Ω load

### Voltage output model HMS83 (3-wire)

Outputs 0...10 V

Load resistance 10 kΩ min

Supply voltage 18 ... 35 VDC

24 VAC ±20 % 50/60 Hz

## Spare Parts and Accessories

INTERCAP® sensor 15778HM

10 pcs of INTERCAP® sensors INTERCAPSET-10PCS

Conduit fitting + O-ring (M16x1.5 / NPT1/2 Inch) 210675SP

Conduit fitting + O-ring (M16x1.5 / PG9, RE-MS) 210674SP

Fastening set HMS80 237805

Membrane Filter ASM210856SP

Terminal Block, Blue 236620SP

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