



# HMD60/70 Humidity and Temperature Transmitters

for Ducts in HVAC Applications



## Features

- Full 0 ... 100 %RH measurement
- Accuracy up to  $\pm 2$  %RH
- True two-wire transmitters with 4 ... 20 mA loop powered output (HMD60)
- Selectable signal output of 0 ... 1 V, 0 ... 5 V or 0 ... 10 V (HMD70) and an optional 0 ... 20 mA (HMD70) current module
- Vaisala HUMICAP<sup>®</sup> sensor for excellent accuracy and long-term stability, negligible hysteresis and resistance to dust and most chemicals.
- Temperature compensated
- IP65 (NEMA 4) housing
- Temperature-only models HMD 60T/70T also available
- Traceable calibration (certificate included)

Vaisala HUMICAP<sup>®</sup> Humidity and Temperature Transmitters HMD60 and HMD70 are designed for use in air conditioning applications where accurate and stable control of relative humidity and temperature are required.

The duct mounted Vaisala HUMICAP Humidity and Temperature Transmitters HMD60 and HMD70 are designed for monitoring relative humidity and temperature in building energy management systems. The combination of high accuracy, stability, and reliable operation make these products the ideal choice for demanding applications.

### Resistant to Chemicals and Dust

The duct mount HMD60 and HMD70 transmitters can also be used in many industrial humidity monitoring applications, where their stability and

resistance to chemicals and dust are of great value. A useful feature of these duct mount transmitters is the ability to remove the electronics without removing the unit from the duct.

### Measures both Humidity and Temperature

The HMD60 and HMD70 transmitters are available in three models: U for humidity measurement only, Y for humidity and temperature measurement, and T for temperature only.

### Fast, On-Site Calibration

The accuracy of the transmitters is simple to check using either Vaisala HUMICAP Hand-Held Humidity and Temperature Meter HM70 or Vaisala HUMICAP Humidity Indicator HMI41. The calibration can be done in seconds with a single potentiometer without disturbing the operation, resulting in great savings both in maintenance time and costs.

# Technical Data

## 60 Series: 2-wire, 4 to 20 mA Output

Duct mount	RH only	HMD60U
	RH & T	HMD60Y
	T only	HMD60T

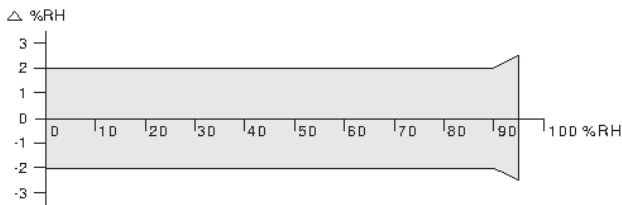
## 70 Series: 3-wire, Variable Voltage Output

Duct mount	RH only	HMD70U
	RH & T	HMD70Y
	T only	HMD70T

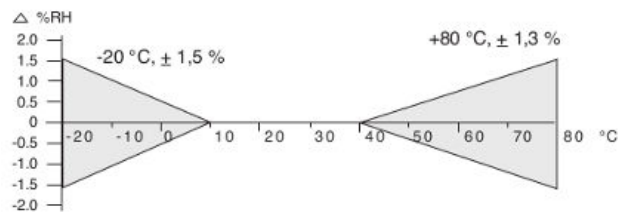
## Measurement Performance

### Relative Humidity

Measurement range	0 ... 100 %RH
Response time at +20 °C (+68 °F), 90 % response	15 s (with membrane filter)
Stability	+ 2 %RH / 2 years



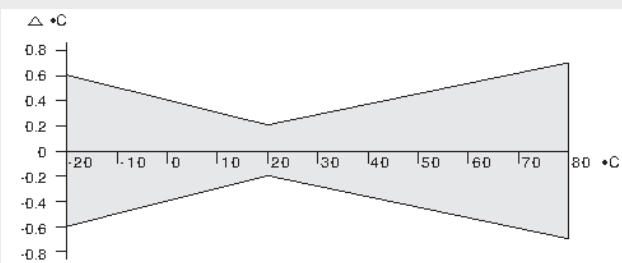
Accuracy at +20 °C



Temperature Dependence

### Temperature (Y and T Models)

Linearity	Better than 0.1 °C
Sensor	Pt 1000 RTD Class F0.3 IEC 60751
Measurement range	-20 ... +80 °C (-4 ... 176 °F) <sup>1)</sup>



Accuracy

<sup>1)</sup> Optional temperature scales are available on request.

## 60 Series Inputs and Outputs

### 60 Series

Supply voltage	10 ... 35 VDC ( $R_L = 0 \Omega$ ) 20 ... 35 VDC ( $R_L = 500 \Omega$ )
Output signal	4 ... 20 mA

## 70 Series Inputs and Outputs

### Supply Voltage<sup>1)</sup>

Output signal: 0 ... 10 V	19 ... 35 V (DC) 16 ... 24 V (AC)
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With Optional Current Module

Output signal: 0 ... 20 mA ( $R_L = 0 \Omega$ )	10 ... 35 V (DC) 11 ... 24 V (AC)
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Output signal: 0 ... 20 mA ( $R_L = 500 \Omega$ )	20 ... 35 V (DC) 17 ... 24 V (AC)
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### Power Consumption at 24 VAC

HMD70U	10 mA typical
HMD70Y	12 mA typical

<sup>1)</sup> Range depends on the selected output signal. See HMD60/70 User Guide for other output signals.

## Operating Environment

Operating temperature, electronics	-5 ... +55 °C (+23 ... +131 °F)
Operating temperature, probe	-20 ... +80 °C (-4 ... +176 °F)
Storage temperature	-40 ... +80 °C (-40 ... +176 °F)
Maximum flow speed	50 m/s (112 mph)
EMC compliance	EN61326 EN55022

## Mechanical Specifications

Probe housing	Stainless steel
Electronics housing	Cast aluminum
Connections	Screw terminals 0.5 ... 1.5 mm <sup>2</sup>
Standard sensor protection	Membrane filter
Optional sensor protection	Stainless steel sintered filter

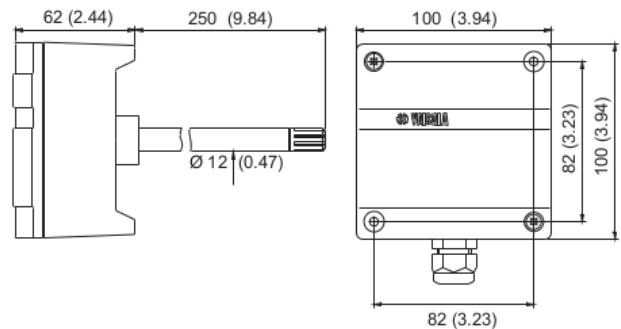
## Spare Parts and Accessories

Current module	18945 HM
Membrane filter	DRW010525
Stainless steel sintered filter	HM46670SP
Humidity sensor HUMICAP180	15778HM

### Cable Thread-through<sup>1)</sup>

Bushing for NPT1/2" cable glands	242020
Bushing for 7 ... 10 mm (PG9)	18941HM
Cable housing IP65 (NEMA 4)	
Armoured cable glands	10528HM

<sup>1)</sup> Must be ordered separately.



Dimensions in mm (inches)



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