

# HMD/W60/70 Humidity and Temperature Transmitters for HVAC Applications



Vaisala HUMICAP® Humidity and Temperature Transmitters HMD/W60 and HMD/W70 are designed for use in air conditioning applications where accurate and stable control of relative humidity and temperature are required.

The duct and wall-mounted Vaisala HUMICAP® Humidity and Temperature Transmitters HMD/W60 and HMD/W70 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 novel 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 HMD/W60 and HMD/W70 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 the Vaisala HUMICAP® Hand-Held Humidity and Temperature Meter HM70 or the 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.

Customized calibration and maintenance contracts are available on request.

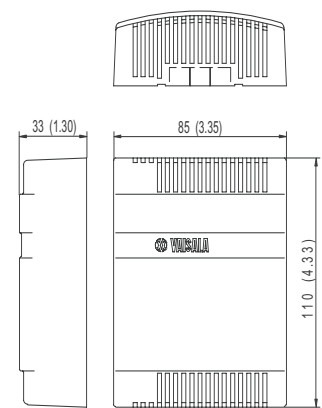
## Features/Benefits

- Full 0...100 %RH measurement
- Accuracy up to  $\pm 2$  %RH
- True two-wire transmitters with 4...20 mA loop powered output (HMD60 and HMW60)
- Selectable signal output of 0...1 V, 0...5 V or 0...10 V (HMD70 and HMW70) with optional current module also 0...20 mA (HMD70)
- Vaisala HUMICAP® Sensor for excellent accuracy and long-term stability, negligible hysteresis and resistance to dust and most chemicals.
- Temperature compensated
- IP65 (NEMA 4) housing (duct unit only)
- Also available as temperature-only transmitters HMD/W 60T/70T
- NIST traceable (certificate included)
- Compatible with Vaisala HUMICAP® Hand-Held Humidity and Temperature Meter HM70

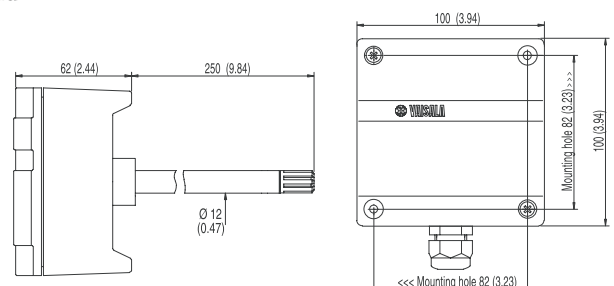
## Dimensions

Dimensions in mm (inches)

HMW60/70



HMD60/70



# Technical Data

## 60 series: 2-wire, 4 to 20 mA output

Wall mount	RH only	HMW60U
	RH & T	HMW60Y
Duct mount	RH only	HMD60U
	RH&T	HMD60Y

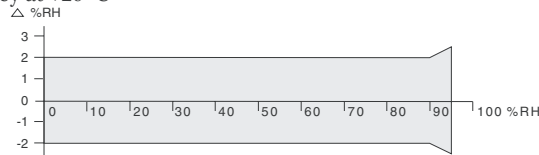
## 70 series: 3-wire, variable voltage output

Wall mount	RH only	HMW70U
	RH & T	HMW70Y
Duct mount	RH only	HMD70U
	RH & T	HMD70Y

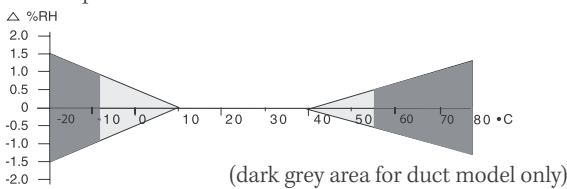
## Relative humidity

Measurement range	
duct mount	0...100 %RH*
wall mount	0...95 %RH*

Accuracy at +20 °C



Temperature dependence



Response time at +20 °C (+68 °F),

90% response	15 s (with membrane filter)
Sensor	HUMICAP® 180

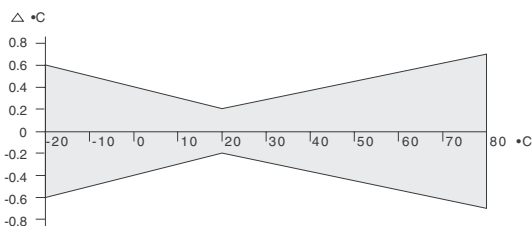
\* Output signal corresponds to 0...100 %RH

## Temperature (Y-models only)

Linearity	better than 0.1 °C
Sensor	Pt 1000 IEC 751 class B

**HMD60Y and HMD70Y**

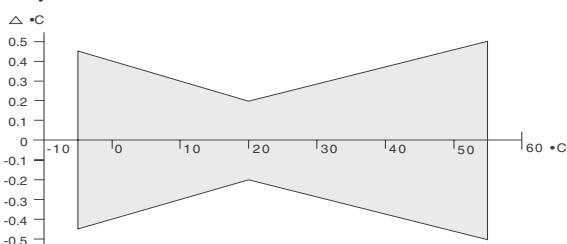
Measurement range	-20...+80 °C (-4...176 °F) **
Accuracy	



**HMW60Y and HMW70Y**

Measurement range	-5...+55 °C (+23...131 °F) **
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Accuracy



\*\* Optional temperature scales are available on request.

## General - 60 series

Supply voltage	10...35 VDC (RL = 0 ohm) 20...35 VDC (RL = 500 ohm)
Output signal	4...20 mA

## General - 70 series

Supply voltage range depends on the selected output signal		
	DC	AC
0...1V	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 (RL = 0 ohm)	10...35 V	11...24 V
**0...20 mA (RL = 500 ohm)	20...35 V	17...24 V
** HMD models only.		
Power consumption @ 24 VAC		
HMD/W70U		10 mA typical
HMD/W70Y		12 mA typical

## General

Operating temperature range	
electronics	-5...+55 °C (+23...+131 °F)
sensor head (duct mount)	-20...+80 °C (-4...+176 °F)
Storage temperature range	-40...+80 °C (-40...+176 °F)
Long-term humidity range for electronics (wall mount)	0...85 %RH
Housing	
sensor head (duct mount)	stainless steel
electronics (duct mount)	cast aluminum
electronics (wall mount)	ABS plastic
Connections	screw terminals 0.5...1.5 mm <sup>2</sup>
Sensor protection (duct mount)	
standard	membrane filter (part no. DRW010525)
option	stainless steel sintered filter (part no. HM46670)

For duct mount units:

Cable thread-through	
bushing for 7...10 mm (PG9)	
cable housing IP65 (NEMA 4)	part no. 18941HM
or	
armoured cable glands	part no. 10528HM
(must be ordered separately)	

For field check

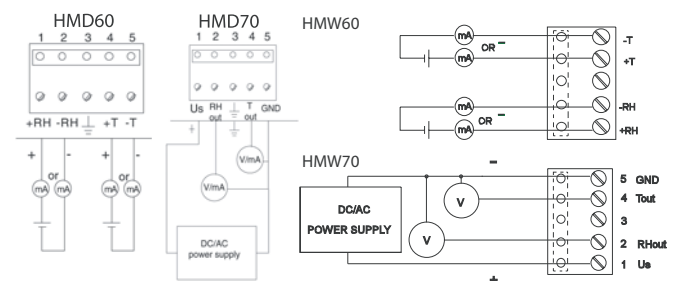
HM70 hand-held humidity and temperature meter or  
HMI41 humidity indicator

Complies with EMC standard EN61326-1:1997 + Am1:1998 +  
Am2:2001; Generic Environment.

## Wiring

HMD60/70 wiring diagram

HMW60/70 wiring diagram



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