HMW40/50 and HMD40/50 Wall and Duct Mount Transmitters for HVAC Applications

Vaisala INTERCAP® Humidity and Temperatur e Transmtters HMD/W40/50 are competitively priced and require no routine maintenance – a smart choice for your HVAC/EMC applications.

Features/Benefits

- Specially designed for building energy management systems
- 10...90 %RH measurement
- -10...+60 °C (+14…+140 °F) operating range for duct units
- -5...+55 °C (+23…+131 °F) operating range for wall units
- 4...20 mA 2-wire output (HMD/W40)
- Selectable voltage 3-wire output (HMD/W50)
- Combines excellent stability with easy installation and reliable operation
- No recalibration
- Fully interchangeable Vaisala INTERCAP® Sensor is easy to replace
- Low cost

The two and three-wire Vaisala INTERCAP® Humidity and Temperature Transmitters HMD/W40 and HMD/W50 are designed for use in energy management systems in buildings. They combine excellent stability with easy installation and reliable operation. The HMD40/50 are for duct installations and the HMW40/50 for wall installations.

Low maintenance costs

The HMD40/50 humidity transmitters use Vaisala INTERCAP® Sensor - the world's first interchangeable capacitive humidity sensor. The transmitters require no recalibration if the sensor is changed. This means great savings in overall maintenance costs. The sensor is also insensitive to dust as well as most chemicals.

Measures both humidity and temperature

The 40/50 series is available as humidity and temperature (Y), or humidity only (U) transmitters. The transmitters measure humidity with a ±3 %RH accuracy and a ±1 %RH stability per year.

Selectable functions (HMD/W50)

The HMD/W50 transmitters feature selectable output signals of 0 to 1 V and 0 to 10 V. They can be powered by either AC or DC voltage.

In energy management systems, the accurate measurement of relative humidity and temperature is essential for optimum control of the environment.

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Technical Data

Relative humidity

Measurement range (for which accuracy is specified)	10...90 %RH
Operating range	
HMD40/50	0...100 %RH
HMW40/50	0...90 %RH
Accuracy at +20 °C	better than ±3 %RH
Stability	±2 %RH over 2 years
Temperature dependence	<±1.5 %RH from -10...+60 °C (+14...140 °F)
Sensor	INTERCAP® Sensor, part no. 15778HM

Temperature   (40Y and 50Y)

Measurement range	
HMD40/50	-10...+60 °C (+14...+140 °F)
HMW40/50	-5...+55 °C (+23...+131 °F)
Total accuracy at +25 °C	±0.3 °C (±0.54 °F)
Temperature dependence	0.01 °C/°C (.01 °F/°F)
Sensor	Pt 1000 IEC 751 class B

General

Output signal for relative humidity (equals 0...100 %RH)	
HMD/W40	4...20 mA
HMD/W50	0...1 V & 0...10 V
Output signal for temperature	
HMD/W40	4...20 mA
HMW50	0...1 V & 0...10 V
HMD50	0...10 V
HMD40Y, HMD50Y	equals -40...+60 °C (-40...140 °F)
HMW40Y, HMW50Y	equals -5...+55 °C (+23...131 °F)
Load resistance	>20 kohm
Power supply	
HMD/W40	10...28 VDC
HMD/W50	for 0...1 V output: 12...35 VDC/12...24 VAC
	for 0...10 V output: 15...35 VDC/15...24 VAC
Current consumption	
HMD/W40	4 mA minimum
HMD/W50	6 mA typical
Operating temperature range	
HMD40/50	-10...+60 °C (+14...+140 °F)
HMW40/50	-5...+55 °C (+23...+131 °F)
Storage temperature range	-40...+60 °C (-40...+140 °F)
Operating humidity range	
HMD40/50	0...100 %RH
HMW40/50	0...90 %RH

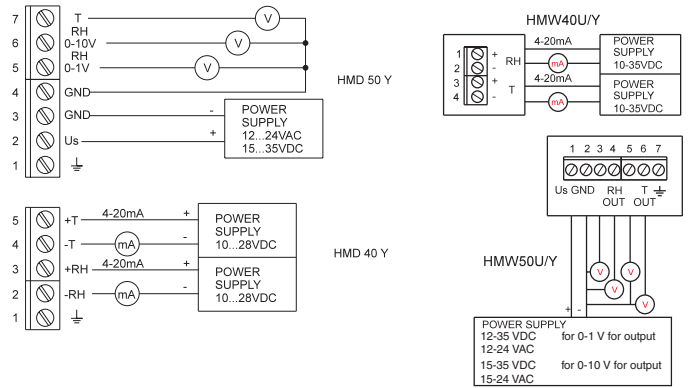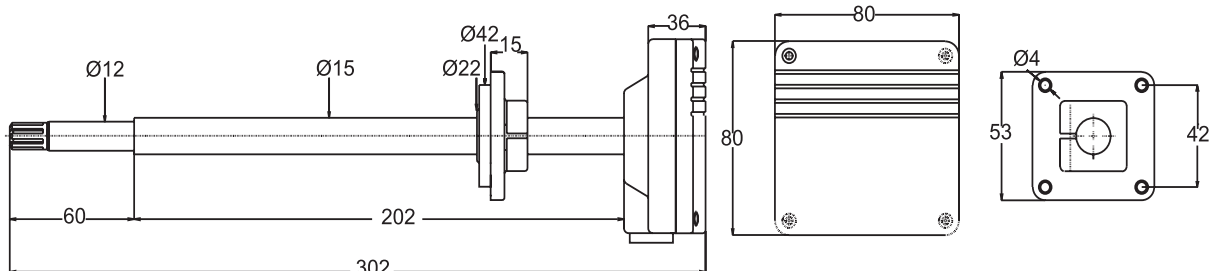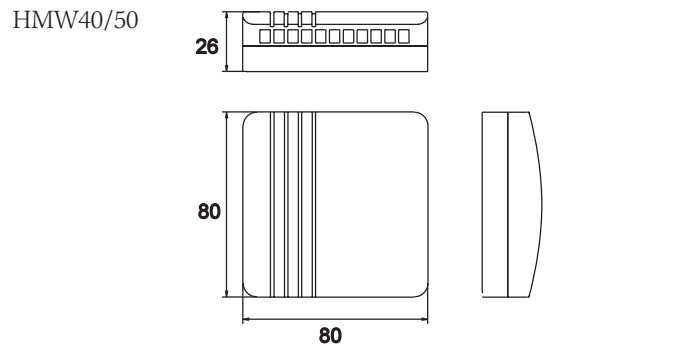|	
Sensor protection	
standard	membrane filter, part no. DRW010525
option	plastic grid, part no. DRW010522
Housing material	ABS plastic
Housing classification (HMD40/50)	IP65 (NEMA 4)

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

Wiring

HMD40/50 wiring diagram   HMW40/50 wiring diagram

Dimensions

Dimensions in mm.

HMW40/50

HMD40/50

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