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HMD42/53 Humidity and Temperature Transmitters for Ducts in Commercial HVAC Applications

Features/Benefits

- Designed for building automation applications
- ±3 %RH accuracy
- Full 0 ... 100 %RH measurement range
- -20 ... +60 °C (-4 ... +140 °F) operating range
- IP65 (NEMA 4) metal housing
- Excellent stability and high reliability
- Fully interchangeable Vaisala INTERCAP® Sensor
- Variety of analog signal outputs available

The duct mounted Vaisala INTERCAP® Humidity and Temperature Transmitters HMD42 and HMD53 are designed for building automation applications. They combine reliable operation with excellent stability, providing low cost of ownership to the user.

Flexibility in Humidity and Temperature Measurement

The HMD42/53 transmitters measure humidity with a ±3 %RH accuracy and temperature with a ±0.4 °C (±0.72 °F) accuracy. They feature various selectable analog output signals and they can be powered by either AC or DC voltage.

Easy Maintenance

The HMD42/53 humidity transmitters use Vaisala INTERCAP® Sensor - the interchangeable capacitive humidity sensor. The transmitters require no recalibration if the sensor is changed. This means great savings in overall maintenance costs.

Reliable Performance in Harsh Environments

The duct mount HMD42/53 transmitters can be installed in various measurement environments due to the robust IP65 (NEMA4) rated metal enclosure, which protects the sensor from dust and splashes of water. The wide measurement temperature range from -20 °C to +60 °C (-4 ... +140 °F) covers most HVAC applications.

Typical Applications

- Office buildings
- Retail spaces
- Governmental buildings
- Educational facilities
- Sport and event complexes
- Hotels and conference centers
- Airports
- Metro stations

Technical Data

Relative Humidity

Measurement range	0 ... 100 %RH
Typical accuracy	
Temperature range	0 ... +40 °C (+32 ... +104 °F)
0 ... 90 %RH	±3 %RH
90 ... 100 %RH	±5 %RH
Temperature range	-20 ... 0 °C, +40 ... +60 °C
	(-4 ... +32 °F, +104 ... +140 °F)
0 ... 90 %RH	±5 %RH
90 ... 100 %RH	±7 %RH
Humidity sensor	Vaisala INTERCAP®
Stability	±2 %RH / 2 years
Response time at 20 °C (+68 °F), 90 % response	15 s

Temperature

Measurement range	-20 ... +60 °C (-4 ... +140 °F)
Output scale	-40 ... +60 °C (-40 ... +140 °F)
Accuracy	
0 ... +40 °C (+32 ... +104 °F)	±0.4 °C (±0.72 °F)
-20 ... 0 °C, +40 ... +60 °C	
(-4 ... +32 °F, +104 ... +140 °F)	±0.6 °C (±1.1 °F)
Sensor	Pt1000 IEC 751 Class B

General - HMD42

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

General - HMD53

Supply voltage range depends on the selected output signal

	DC	AC
0 … 1V	10 … 35V	9 … 24V
0 … 5V	14 … 35V	12 … 24V
0 … 10V	19 … 35V	16 … 24V
WITH OPTIONAL CURRENT MODULE		
0 ... 20 mA (R_L = 0 ohm)	10 … 35V	11 … 24V
**0 … 20 mA (R_L=500 ohm)	20 … 35V	17 … 24V
Power consumption @ 24VAC		12mA typical

**Optional temperature scales are available on request.

General

Operating temperature range	
electronics	-5 ... +55 °C (+23 ... +131 °F)
probe	-20 ... +60 °C (-4 ... +140 °F)
Storage temperature range	-40 ... +60 °C (-40 ... +140 °F)
Maximum flow speed	50 m/s
Housing material	
probe	stainless steel
electronics	cast aluminium
Housing classification	IP65 (NEMA 4)
Connections	screw terminal 0.5 ... 1.5 mm^2
Cable thread-through bushing for 7 ... 10 mm	
(PG9) included	(18941HM)
Complies with EMC standard EN61326 and EN55022	

Accessories

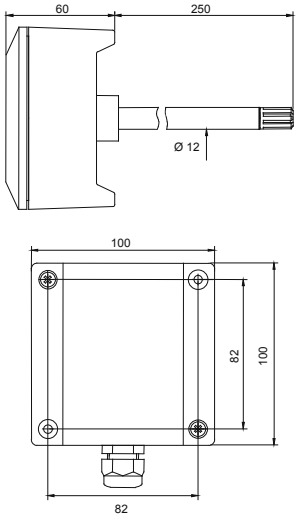
Armoured cable gland	10528HM
Current module (for HMD53)	18945HM

Spare Parts

Vaisala INTERCAP sensor, 1 piece	15778HM
Vaisala INTERCAP sensor, 10 pcs	INTERCAPSET-10PCS
Membrane filter	DRW010525
Sintered filter	HM46670SP

Dimensions

Dimensions in mm



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For more information, visit www.vaisala.com or contact us at sales@vaisala.com

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