

HMW40 & HMW50 Humidity and Temperature Transmitters

- **Designed for use in building energy management systems**
- **Combines excellent stability with easy installation and reliable operation**
- **Incorporates advanced INTERCAP® technology**

Correct relative humidity of the air we breathe is important to our health and comfort; in many HVAC energy management systems the accurate measurement of relative humidity as well as temperature is essential for optimum control of the environment. Dry air feels colder than humid air, and so when humidity is maintained at the correct level, it saves energy needed for heating. Accurate control of relative humidity is also very important in many storage and manufacturing applications.

LOWER MAINTENANCE COSTS

Vaisala's HMW40/50 two and three-wire wall mounted humidity and temperature transmitters have been designed for use with building energy management systems. They combine excellent stability with easy installation, reliable operation and no recalibration if the sensor is changed. This means great savings in overall maintenance costs. These features make the HMW40/50 Transmitters the ideal choice for most air-conditioning applications.

The HMW40/50 Transmitters can operate in the humidity range from 0 to 90 %RH but measure from 10 to 90 %RH. The Y-models measure temperature from -5 to +55 °C.

WORLD'S FIRST TRULY INTERCHANGE-ABLE CAPACITIVE HUMIDITY SENSOR

The HMW40/50 Humidity Transmitters use Vaisala's INTERCAP® — the world's first interchangeable capacitive humidity sen-



sor. Transmitters that incorporate this sensor require no calibration even when the sensor is changed. The transmitters measure humidity with ± 3 %RH accuracy and ± 1 %RH stability per year. The sensor has excellent long-term stability, negligible hysteresis and is insensitive to dust as well as most chemicals.

TECHNICAL DATA

HMW40U/40Y HMW50U/50Y

RELATIVE HUMIDITY

Measurement range (for which accuracy is specified)	10...90 %RH
Operating range	0...90 %RH
Accuracy at +20 °C	better than ± 3 %RH (see figure 1)
Temperature dependence	$\leq \pm 1.5$ %RH (see figure 2)
Sensor	INTERCAP® Humidity Sensor, part no. 15778

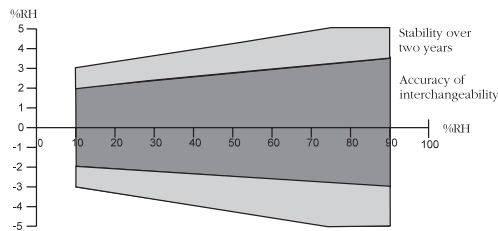


Fig. 1 Accuracy of humidity measurement

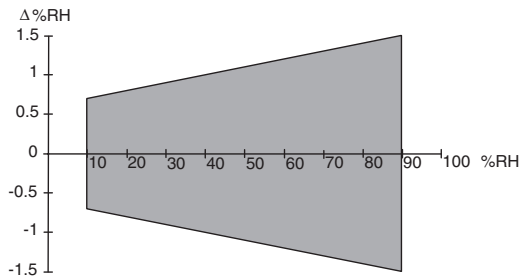
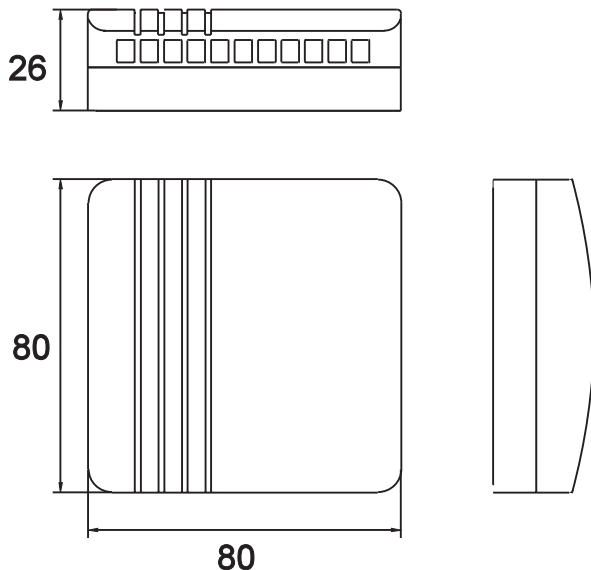


Fig. 2 Temperature dependence (-5...+55 °C)

Dimensions in mm



TEMPERATURE (Y-models only)

Measurement range	-5...+55 °C
Total accuracy at +25 °C	± 0.3 °C
Temperature dependence	0.01 °C/°C
Sensor	Pt 1000 DIN 43760B

GENERAL

Output signal	equals 0...100 %RH and -5...+55 °C
HMW40U/40Y	4...20 mA
HMW50U/50Y	0...1 V & 0...10 V
	load resistance >20 kohm

Power supply

HMW40U/40Y	10...28 VDC
HMW50U/50Y	0...1 V 12...35 VDC
	12...24 VAC
	0...10 V 15...35 VDC
	15...24 VAC

Current consumption

HMW40U/40Y	4 mA minimum
HMW50U/50Y	6 mA typical

Operating temperature range	-5...+55 °C
Storage temperature range	-40...+60 °C
Operating humidity range	0...90 %RH
Housing material	ABS plastic

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

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Connections

