Vaisala HUMICAP® Humidity and Temperature Transmitters HMT120 and HMT130



The HMT120/130 with and without a display.

The Vaisala HUMICAP® Humidity and Temperature Transmittersw HMT120 and HMT130 are designed for humidity and temperature monitoring in cleanrooms and are also suitable for demanding HVAC applications.

Performance

The HMT120/130 incorporates Vaisala HUMICAP® technology that measures relative humidity accurately and reliably. The Vaisala HUMICAP® is resistant to dust and most chemicals.

The transmitter enclosure is optimized for use in cleanrooms. The smooth surface of the enclosure makes it easy to clean and the enclosure material is chosen to tolerate purifying agents. Furthermore, the cabling can be

done through the back wall of the transmitter.

Interchangeable Probe

The HMT120/130 transmitters use a fully interchangeable relative humity probe. The probe can be easily removed and replaced with a new one without having to adjust the transmitter, which allows for easy and quick recalibration of the transmitter. The probe can be adjusted using one of Vaisala's portable meters as a reference.

Also available is a constant output probe with fixed RH and T output for convenient inspection of the monitoring system and signal transfer line.

Features/Benefits

- Vaisala HUMICAP® technology with humidity sensor HUMICAP® 180R
- 2-wire loop-powered or 3-wire voltage output configurations
- Interchangeable probe (easy field calibration)
- Accurate and reliable
- Resistant to dust and most chemicals
- Optional LCD display
- USB cable available for a PC connection for maintenance
- Wall-mounted or with a remote probe
- Constant output probe available
- Can be mounted outdoors using a Vaisala installation kit and the Vaisala Radiation Shield DTR502B
- Enclosure IP65
- Suitable for cleanrooms and demanding HVAC applications

Available Options

The HMT120 and HMT130 transmitters are available as wall mounted or with remote probe. For high temperature applications or where space is limited, the remote probe is ideal. The transmitters come with an optional, LCD display, which shows the measurement results of selected parameters in selected units. The parameters are displayed simultaeously at two separate rows on the display.

Technical Data

Performance

RELATIVE HUMIDITY Measurement range 0 ... 100 %RH Accuracy including non-linearity, hysteresis, and repeatability at 0 °C ...+40 °C ±1.7 %RH (0 ... 90 %RH) ±2.5 %RH (90 ... 100 %RH) at -40 °C ...+0 °C and ±3.0 %RH (0 ... 90 %RH) at +40 °C ...+80 °C ±4.0 %RH (90 ... 100 %RH) Factory calibration uncertainty at +20 °C (+68 °F) ±1.5 %RH Vaisala HUMICAP® 180R Humidity sensor TEMPERATURE -40 °C ...+80 °C Measurement range Accuracy over temperature range at +15 °C ...+25 °C ±0.2 °C at 0 ...+15 °C and at +25 °C ...+40 °C ±0.25 °C at -40 °C ... +0 °C and at +40 °C ... +80 °C ±0.4 °C Pt1000 RTD 1/3 Class B IEC 751 Temperature sensor Operating temperature range -40 °C ...+60 °C transmitter body, no display transmitter body with display -20 °C ...+60 °C HMP110 probe -40 °C ...+80 °C -50 °C ...+70 °C Storage temperature range Electromagnetic compatibility EN 61326-1 and EN 55022

Inputs and outputs

Current output signals	420 mA	
External loop voltage	$10 30 \text{ VDC } (R_L = 0 \text{ ohms})$	
	$20 30 \text{ VDC } (R_{L} < 500 \text{ ohms})$	
HMT130 THREE-WIRE TRANSMITTER		
Voltage output signals	0 1 V, 0 5 V, 0 10 V	
	or user defined between $0 \dots 10 \mathrm{V}$	
Min output resistance	1 kohm	
Serial output	RS485, non-isolated	
Relay output	1 relay (max.50 VDC,200 mA)	
Supply voltage	10 35 VDC	

HMT120 TWO-WIRE TRANSMITTER (LOOP POWERED)

15 ... 35 VDC (when output 0 ... 10 V) $24 \text{ VAC } (\pm 20 \text{ \%})$

8 mA, if relay closed 15 mA

Current consumption at 24 VDC Max. additional error caused by the analog outputs after calibration at

+20 °C ambient temperature ±0.1 % of FS output signal

Temperature dependence of the

analog outputs ±0.005 % of FS output signal

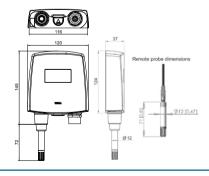
Mechanics

Material	
transmitter housing	PBT plastic
display window	PC plastic
probe body	Chrome coated aluminum
probe grid filter	Chrome coated ABS plastic
Housing classification	IP65
Connections	
inputs and outputs	Screw terminals 0.5 1.5 mm ²
probe interface	4-pin M8 female panel connector
Probe cable lengths	3 m, 5 m, 10 m - up to 50 m
Display (optional)	128 x 64 resolution full graphics
	B&W display without backlight
Weigth (including probe)	270 g

Accessories

Probe mounting flange 226061 Probe mounting clamps, 10 pcs 226067 HMP110 sensor protection plastic grid filter DRW010522SP plastic grid with membrane filter DRW010525 stainless steel sintered filter HM46670SP Probe cable 3 m HMT120Z300 Probe cable 5 m HMT120Z500 Probe cable 10 m HMT120Z1000 Radiation shield DTR502B Probe installation kit for DTR502 Rain shield with installation kit 215109 Duct installation kit HMI41 connection cable 25917ZZ HM70 connection cable 211339	Accessories	
Constant output probe Humidity sensor Probe mounting flange Probe mounting clamps, 10 pcs HMP110 sensor protection plastic grid filter plastic grid with membrane filter stainless steel sintered filter Probe cable 3 m Probe cable 5 m HMT120Z300 Probe cable 10 m Radiation shield Probe installation kit HMI41 connection cable HMI41 connection cable HMP10REF* HUMICAP® 180R PROBO HUMICAP® 180R PROW10525 PROW10522SP DRW010522SP DRW01052SP DRW010522SP DRW01052SP DRW0	Humidity and temperature probe	HMP110*
Humidity sensor HUMICAP® 180R Probe mounting flange 226061 Probe mounting clamps, 10 pcs 226067 HMP110 sensor protection plastic grid filter DRW010522SP plastic grid with membrane filter DRW010525 stainless steel sintered filter HM46670SP Probe cable 3 m HMT120Z300 Probe cable 5 m HMT120Z500 Probe cable 10 m HMT120Z1000 Radiation shield DTR502 Probe installation kit for DTR502 Rain shield with installation kit 215109 Duct installation kit HMI41 connection cable 25917ZZ HM70 connection cable 211339	Humidity and temperature replacement probe	HMP110R*
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Radiation shield DTR502B Probe installation kit for DTR502 210623 Rain shield with installation kit 215109 Duct installation kit 215619 HMI41 connection cable 25917ZZ HM70 connection cable 211339	Probe cable 5 m	HMT120Z500
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Rain shield with installation kit215109Duct installation kit215619HMI41 connection cable25917ZZHM70 connection cable211339	Radiation shield	DTR502B
Duct installation kit215619HMI41 connection cable25917ZZHM70 connection cable211339	Probe installation kit for DTR502	210623
HMI41 connection cable 25917ZZ HM70 connection cable 211339	Rain shield with installation kit	215109
HM70 connection cable 211339	Duct installation kit	215619
	HMI41 connection cable	25917ZZ
USB serial interface cable 219685	HM70 connection cable	211339
	USB serial interface cable	219685

^{*}See separate order form





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