

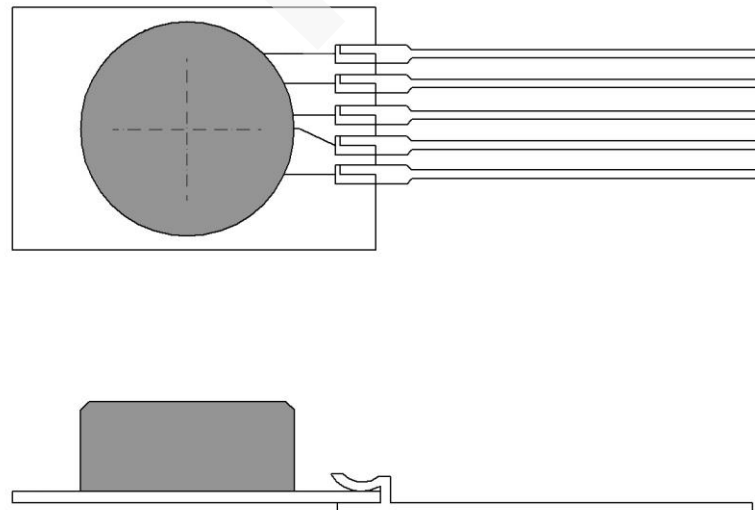
Heated HYT 223

Digital Humidity and Temperature Module Optimal for critical application areas

Benefits & characteristics

- Heatable digital humidity sensor
- With PTFE membrane filter for long term stability
- Calibrated and temperature compensated
- High chemical resistance
- Wide humidity and temperature range
- Excellent humidity/temperature accuracy and stability
- I2C protocol (address 0x28 or alternative address)
- Very low drift
- Interchangeable without adjustments
- Very stable at high humidity

Illustration ¹⁾



¹⁾ for actual size see dimensions in order information

Technical data

Operating temperature range:	-40 to + 125 °C
Operating humidity range:	0 % RH to 100 % RH
Hysteresis:	< ±1 % RH
Digital interface:	I ² C, address 0x28
Measuring principle:	Capacitive polymer humidity sensor

	Humidity Sensor	Heater
Operating voltage:	2.7 V to 5.5 V	8 - 9 V (for regulated temperature)
Operating voltage limit:	-0.3 V to 6 V	0 - 9 V
Current consumption:	< 22 µA at 1 Hz measuring rate	
Current consumption (sleep):	< 1 µA	
Power consumption:	< 720 mW	

	Humidity Sensor	Temperature Sensor
Accuracy:	23 °C: ± 1.8 % RH at 0 - 90 % RH ± 3.0 % RH at 90-100 % RH	0 to 60 °C: ± 0.2 °C
Reproducibility:	±0.2 % RH	±0.1 °C
Resolution:	0.03 % RH	+0.015 °C
Response time t_{63} :	< 10 s	< 10 s
Long-term drift:	< 0.5 % RH/a Exposure to VOCs can lead to higher values. Please find more details in application note AHHeatedHYT223_E and the section on thermal reconditioning.	



Thermal reconditioning

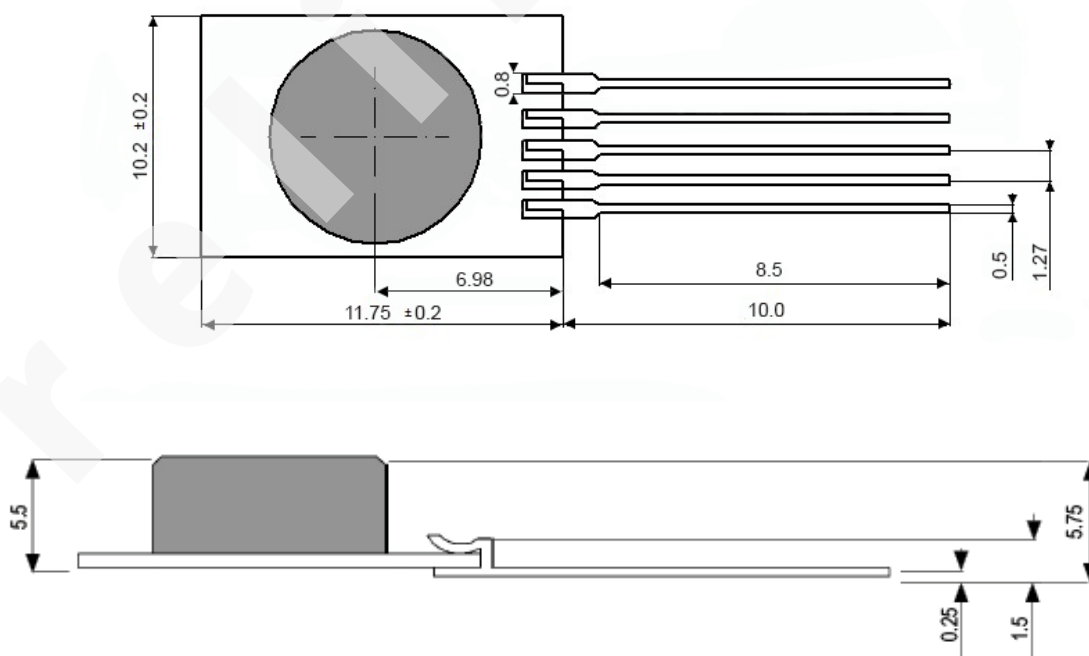
HYT223 contains a microheating structure which allows for thermal reconditioning. A reconditioning cycle is recommended in challenging atmospheres and conditions. Length and interval required depend on the application environment. A possible reconditioning setting is heating the module with 8 to 9 V and 700mW power for 10 minutes every 24 hours.

The temperature regulation is set in a way that the humidity sensor reaches a maximum of 120° C. When this regulation is activated, within the range of 8-9 V supply voltage, a constant temperature is reached.

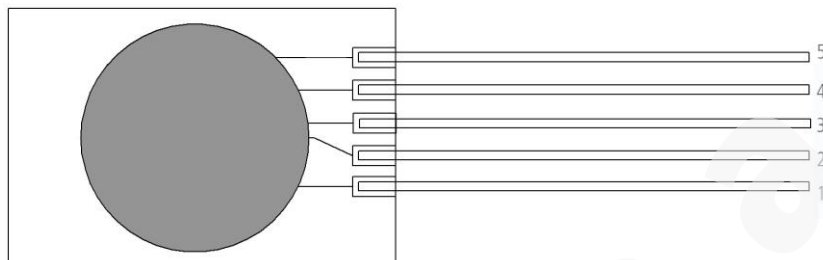
With lower supply voltage heating is not regulated, but it can still be used with slightly higher fluctuations. The exact temperature reached at the humidity sensor depends on the thermal mass of the housing as well as the fixation of the sensor to it. Please refer to the application note for more information on heating and expected temperature ranges.

During reconditioning, the read-out values are not calibrated measurement data.

Mechanical Dimensions



Pin Assignment



1	2	3	4	5
SDA	Ground	VDD	SCL	Heater

Order Information

	Heated HYT 223
Order code	151331

Additional Documents

	Document name:
Application Note:	AHHeatedHYT223_E
	AHHYTM_E



Innovative Sensor Technology IST AG • Stegrütistrasse 14 • 9642 Ebnat-Kappel • Switzerland
+41 71 992 01 00 • info@ist-ag.com • www.ist-ag.com

All mechanical dimensions are valid at 25 °C ambient temperature, if not differently indicated • All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics • Technical changes or product specifications without previous announcement reserved • The information on this data sheet was examined carefully and will be accepted as correct; No liability in case of mistakes • Load with extreme values during a longer period can affect the reliability • The material contained herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner • All rights reserved.