



HYT 939 Digital Humidity and Temperature Module Optimal for highly sophisticated, industrial applications

Benefits & Characteristics

- Calibrated and temperature compensated
- High chemical resistance
- Wide humidity and temperature range
- Very stable at high humidity
- Mechanically robust

- Excellent humidity/temperature accuracy and stability
- I²C protocol (address 0x28 or alternative address)
- Very low drift
- Interchangeable without adjustments
- Pressure-resistant version up to 16 bar upon request

Illustration¹⁾



1) For actual size, see mechanical dimensions

Technical Data

| Operating temperature range: | -40 °C to +125 °C | | | |
|---------------------------------|---|---|--|--|
| Operating humidity range: | 0 % RH to 100 % RH | 0 % RH to 100 % RH | | |
| Hysteresis: | < ±1 % RH | < ±1 % RH | | |
| Linearity error: | < ±1 % RH | < ±1 % RH | | |
| Temperature error: | 0.05 % RH/K (0 °C to +60 °C) | 0.05 % RH/K (0 °C to +60 °C) | | |
| Operating voltage: | 2.7 V to 5.5 V | 2.7 V to 5.5 V | | |
| Current consumption (nominal): | $<$ 22 μ A at 1 Hz measuring rate | < 22 µA at 1 Hz measuring rate; 850 µA max. | | |
| Current consumption (sleep): | < 1 µA | < 1 µA | | |
| Digital interface: | I ² C, address 0x28 or alternative | I ² C, address 0x28 or alternative address | | |
| Operating voltage (limits): | -0.3 V to 6 V | -0.3 V to 6 V | | |
| Storage conditions: | -20 °C to +50 °C | -20 °C to +50 °C | | |
| | | | | |
| | Humidity | Temperature | | |
| Accuracy: | ±1.8 % RH at +23 °C (0 % RH to 90 % RH) | ±0.2 K (0 °C to +60 °C) | | |
| Reproducibility: | ±0.2 % RH | ±0.1 K | | |
| Resolution: | 0.02 % RH | 0.015 °C | | |
| Response time t ₆₃ : | < 10 s with metal mesh filter | < 10 s with metal mesh filter | | |
| Long-term drift: | < 0.5 % RH/a (at +23 °C and | < 0.05 K/a | | |

30 % RH to 70 % RH - laboratory conditions)

Capacitive polymer humidity sensor PTAT (integrated)

Measuring principle:



physical. chemical. biological.

Product image



Mechanical Dimensions - HYT 939



Mechanical Dimensions - HYT 939p







physical. chemical. biological.



Pin Assignment

| | | bottom view | | |
|---------------------------------|---------------------|---------------------------------------|-----|--|
| 1 | 2 | 3 | 4 | |
| SCL | VCC | GND | SDA | |
| Order Informati | on | | | |
| Order code Former order code | | HYT 939 103922 <i>150.00067</i> | | |
| Order Informati | on - Pressure-tight | up to 16 bar | | |
| | | | | |
| Order code | | HYT 939p 103941 | | |
| Former oder code | | 150.00096 | | |
| Additional Elect | ronics | | | |
| | | Document name: | | |
| LabKit: | | DHHYTLabKit_E | | |
| Additional Docu | uments | | | |
| | | | | |
| Application Note: | | Document name: AHHYTM_E | | |



Innovative Sensor Technology IST AG, Stegrütistrasse 14, 9642 Ebnat-Kappel, Switzerland Phone: +41 71 992 01 00 | Fax: +41 71 992 01 99 | Email: 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 without previous announcement as well as mistakes 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 • Typing errors and mistakes reserved • Product specifications are subject to change without notice • All rights reserved

DHHYT939_E2.3.0 | Humidity Module | HYT 939