iST
Innovative Sensor Technology

physical. chemical. biological.

HUMIDITY SENSORS & MODULES

Capacitive humidity measurement with excellent accuracy and high chemical resistance available as sensor components and modules

Innovative Sensor Technology IST AG humidity sensors are capable of measuring measuring 0 % RH to 100 % RH and operate at temperature ranges between -80 °C and +190 °C.

Humidity Sensors & Modules

By specially developed polymers and use of high-quality materials, our humidity sensors perform extremely well, even under harsh conditions caused by temperature cycling and exposure to aggressive chemicals.

- Excellent linearity
- Low hysteresis
- Fast response time
- High chemical resistance
- Condensation-resistance
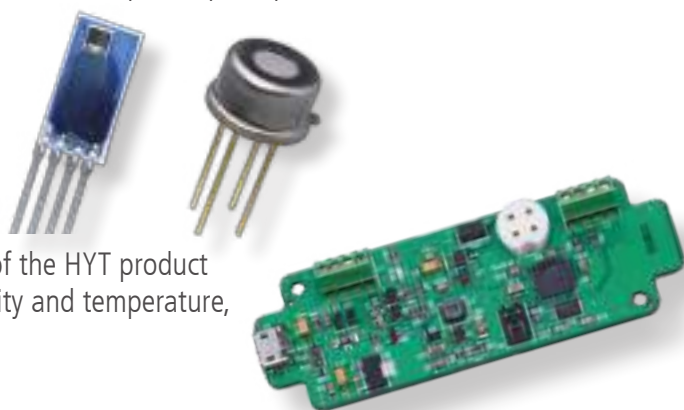- Suitable for extreme environments and to dew point measurement

IST AG's humidity modules are assembed with the required sensor element and calibrated to the specified accuracy down to dew point measuring.

HYT Family

Our digital HYT humidity modules offer a wide application window and an optimal price-performance ratio.

- Technically robust
- Chemical and condensed waterproof sensing area
- Precisely calibrated
- Outstanding accuracy
- Excellent long-term stability even at high humidity

We offer an evaluation board compatible with all RH/T modules of the HYT product family, digital (I^2C) and analog voltage outputs for relative humidity and temperature, HYT specific connectors or extension cable port.

HYT223 with integrated heater

Factory-calibrated humidity and temperature module with I^2C outputs with an integrated ceramic microheater for an effective reconditioning of the capacitive humidity sensor.

- Temperature range from -20 °C up to +120 °C
- Humidity range 0 % RH to 90 % RH
- Accuracy humidity ±1.8% RH (0 - 90% RH)
- Accuracy temperature ±0.2 °C
- Suitable for monitoring processes with high humidity or chemicals requiring degassing to avoid drift

HYT.R.411 - Fast Responding Humidity and Temperature Module

Fully factory-calibrated, exchangeable humidity and temperature module with I^2C outputs for precise measurement at low temperatures at high altitudes.

- Excellent RH/T reproducibility
- Fast response
- Temperature range from -80 °C up to +50 °C
- Humidity range 0 % RH to 100 % RH
- High accuracy

HYT939P with PTFE Filter

Optimal humidity and temperature sensor component for industrial drying applications. The factory calibrated sensor module comes in a standard TO39 housing and is equipped with a PTFE filter.

- Temperature range from -40 °C up to +125 °C
- Humidity range 0 % RH to 100 % RH
- Accuracy ±1.8 % RH at +23 °C (0 % to 90 % RH)
- Digital output I^2C

HYT Analog Transmitter

Connector to allow module replacement without re-calibration and is compatible with HYT 271 and HYT 221 modules.

- Temperature range from -40 °C up to +60 °C
- Humidity range 0 % RH to 100 % RH
- Additional Pt1000 element on PCB
- Two analog voltage outputs for relative humidity and temperature

HYT939 Module for Dew Point Monitoring

Mechanically robust and with a chemical and condensed waterproof sensing area. The HYT 939 is also ideal for high pressure applications and is also offered with a pressure tight packaging.

- Calibrated and temperature compensated
- Excellent humidity/temperature accuracy and stability
- High chemical resistance
- Very low drift
- Interchangeable without adjustments
- Humidity range 0 % RH to 100 % RH
- Temperature range from -40 °C up to +125 °C

CUSTOMIZED SENSOR SOLUTIONS FOR YOUR APPLICATION

Benefit from an agile co-creation of a sensor with IST AG and enable your business to focus on your core competence: From simple adaptions of our sensors to fit your application's needs to new development of a tailor-made sensor – from early prototyping to series manufacturing.

SUBSTRATES

- Alumina
- Zirconia
- Sapphire
- Steel
- Copper
- Polymide
- Aluminium nitride
- Silicon

METAL THIN FILM

- Pt
- Rh
- Ti
- Ni
- W
- Cr
- Ag
- Au
- Al
- Mo
- Alloys

DIELECTRIC THIN FILM

- SiO_2
- Si_3N_4
- Ta_2O_5
- Polyimide

DESIGN

- Concept
- Material choice
- Technology choice
- Design of layout

METAL THICK FILM

- Pt
- Au
- Ag
- Alloys

DIELECTRIC THICK FILM

- Glass
- Organic polymers

CONNECTION

- Enameled Cu wire, Ø 0.2 mm
- Ag-wire, Ø 0.25 mm
- Ni/Au-wire, Ø 0.2 mm
- Pt-wire, Ø 0.2 mm
- Cu/Ag-wire, PFTE insulated
- Cu/Ag-wire, Peek insulated
- Cu/Ag stranded, PTFE-insulated
- and many more

ASSEMBLY

- Electrical final testing
- Optical final testing
- ESD testing
- Packaging
- Additional assembly

PACKAGING

- Welding*
- Bonding
- Soldering*
- Hot-melt
- Injection molding

PATTERING

- Photolithography
- Laser trimming
- Dry & wet etching