



Low Cost – High Performance Devices for HVAC Professionals



rotronic
MEASUREMENT SOLUTIONS

HVAC SOLUTIONS

Rotronic offers a full range of products designed specifically for the HVAC (heating, ventilation and air conditioning) market that combine our industry leading technology and performance but at a lower cost. Our HVAC portfolio includes transmitters, displays, handhelds and probes to measure various parameters. It covers all applications within a Building Management System (BMS). Our products can be integrated into any existing infrastructure with standard analogue outputs or with our full range of digital devices using various protocols including Modbus.

HVAC MEASUREMENT PARAMETERS



Humidity



Temperature



CO₂



Differential Pressure



Air Flow

INDUSTRIES

- Commercial, Industrial, Pharmaceutical
- Schools, Hospitals, Labs
- Public spaces: Arenas, museums, pools etc.
- Transportation: airports, subways, train stations
- Any environment where reliable and stable measurements are crucial

APPLICATIONS

- Building Management
- Data Centers
- Warehousing
- Indoor Air Quality
- Energy Efficiency
- Humidex Monitoring
- Inspection
- Outdoor, Rooftop



Monitoring of a duty-free warehouse

ASHRAE OCCUPANCY SETTINGS

Temperature and relative humidity measurements are often collected as part of an indoor environmental quality investigation because these parameters affect the perception of comfort in an indoor environment. Heat transfer from the body to the environment is influenced by factors such as temperature, humidity, air movement, personal activities, and clothing.

- The ANSI/ASHRAE Standard 55-2013: Thermal Environmental Conditions for Human Occupancy specifies the combinations of indoor environmental and personal factors that produce acceptable thermal conditions to a majority of occupants within a space [ANSI/ASHRAE 2013b].
- ASHRAE also recommends that indoor **relative humidity be maintained at or below 65%** [ANSI/ASHRAE 2013b].
- Assuming slow air movement (less than 40 feet per minute) and **50% indoor relative humidity**, the operative temperatures recommended by ASHRAE range from **20 °C to 24 °C in the winter**, and from **24 °C to 27 °C in the summer**. The difference in temperature ranges between the seasons is largely due to clothing selection.

CO₂ GUIDELINES

A high CO₂ content becomes apparent in humans through fatigue and loss of concentration. Therefore CO₂ monitoring is important.

350 – 450 ppm	400 – 1,200 ppm	> 1,000 ppm	5,000 ppm (0.5 %)	38,000 ppm (3.8 %)	> 100,000 ppm (10 %)
Fresh air outdoors	Room air	Fatigue and loss of concentration become apparent	Maximum permissible value at the workplace during an 8-hour workday	Breathing air (direct exhalation)	Nausea, vomiting, loss of consciousness and death

DISPLAYS

Economical displays with date, time and indoor air quality indicators. Bench top or wall mountable.



HD1



CO₂ Display



Measurement of class room air quality

Parameter	RH, T	RH, T, CO ₂
Accuracy	±3 %RH ±0.5 K	±5 %RH, ±30 ppm ±0.5 K
Range	0...50 °C	0...5000 ppm 0...100 %RH -20...60 °C
Datalogging	No	Yes

HANDHELDS

Handheld devices for CO₂, humidity, temperature and air velocity. Precise and easy to use.



HP32



CP11



TP31



AFP1

Parameter	RH, T	RH, T, CO ₂	T	Air Velocity, RH, T
Accuracy	±0.8 %RH * ±0.1 K *	±3 %RH, ±30 ppm ±0.3 K	-50...20 °C : ±2.5 °C 20...300 °C : ±1.0%	±3 %RH, ±0.2 m/s ±0.3 K
Range	-10...100°C * 0...100%RH *	0...50°C 0...95%RH	-50...1000°C	1...20m/s 0...100%RH -20...+60°C
Datalogging	Yes	Yes	Yes	No

* with HC2A-S probe

TRANSMITTERS

A wide range of digital and analogue HVAC transmitters.

For higher accuracy devices please visit www.rotrotron.com



HF1



TF1



CF1



AF1



PF1

Parameter	RH, T	T	RH, T, CO ₂	Air Flow, T	ΔP
Accuracy	±2 %RH ±0.3 K	±0.3 K	±3 %RH ±0.3 K ±40 ppm	±3 % full scale ±0.3 K	±1.5 % full scale
Range	-20...50 °C 0...100 %RH	-20...50 °C	0...2000 ppm 0...5000 ppm	0...50 °C (housing) 0...80 °C (medium)	-10...+50 °C 0...90 %RH
Analog Output	4...20 mA / 0...1 V / 10 V				
Modbus	Yes	No	No	Yes	No
Relays	No	No	1	No	No

ABOUT ROTRONIC

SWISS PRECISION AT THE HIGHEST LEVEL

Founded in 1965, Rotronic offers the best accuracy and long term stability in the field of relative humidity measurement and pride ourselves in continuing these offerings throughout our product range.

- Class leading humidity probes with 0.5%rh accuracy & <1% drift / year
- Experts in challenging applications including high relative humidity, temperature and hydrogen peroxide environments
- Fully compliant monitoring system with next generation range of wired and wireless sensors (FDA 21 CFR Part 11, Gamp5 compatibility)



Head Office in Switzerland

SERVICES

- Calibration (ISO17025 and ISO9001)
- Service
- Mapping
- Validation
- Training

ADDITIONAL PARAMETERS



Pressure



Water activity



Dew Point



mA/V

SIMPLY EXPLAINED

You can find out more on individual products and measurement parameters in our short **explanatory videos**. Visit our Rotronic website or Youtube channel.

CO₂

Why is it important to monitor CO₂?



Humidity

How and when to monitor RH?



Monitoring System

Measurement data centrally available at any time



Differential Pressure

How and when to monitor ΔP ?



A brand of

PST
PROCESS SENSING
TECHNOLOGIES

rotronic
MEASUREMENT SOLUTIONS