



Committing to the future

Building climate under control – Operating costs under control

NEW!

Thanks to precise measurement of temperature,
humidity and differential pressure



Save operating costs thanks to precise measurement of indoor climate

In focus: optimum product quality and operational cost-efficiency

The correct air conditioning of a room is crucial not only to the subjective well-being and performance of humans. It is also very important for optimum development, production and storage in industry – i. e. for the **quality of the products**.

In times of rising energy costs and diminished resources, **operational cost-consciousness** is also growing. Whereas in the past, the cost of investment in an air conditioning and ventilation system was at the forefront of cost consideration,

today the total costs incurred by years of operation of the systems are attracting increased attention. The operator of a building, for example, today also has economic interests in the energy used for the air conditioning of a building.

Enormous potential for savings are created by efficient energy use.

In addition to the recording of **humidity** and **temperature**, the measurement of **differential pressure** plays an important



Frank Höpcke (Haus & Technik GmbH) plans, installs and maintains measurement and control systems in industrial companies.

„For my customers in industry, optimum indoor conditions are indispensable for the achievement of the required product quality. In times of rising energy costs and diminished resources, the focus is of course increasingly on running operational costs. For this reason, my customers are placing more and more emphasis on the accuracy of the measurements and low maintenance costs.“

part in the correct air conditioning of buildings. In order to supply rooms with the

optimum quantity of fresh air, the air input supply must be regulated reliably.

Range regulation in air conditioning and ventilation systems

Spot regulation in air conditioning and ventilation systems lead to considerably higher operating costs than range regulation. In order to lower operating costs, regulation of the system according to defined humidity ranges is recommended. A very exact definition of the ideal indoor

conditions for the manufacturing process of the product is usually possible.

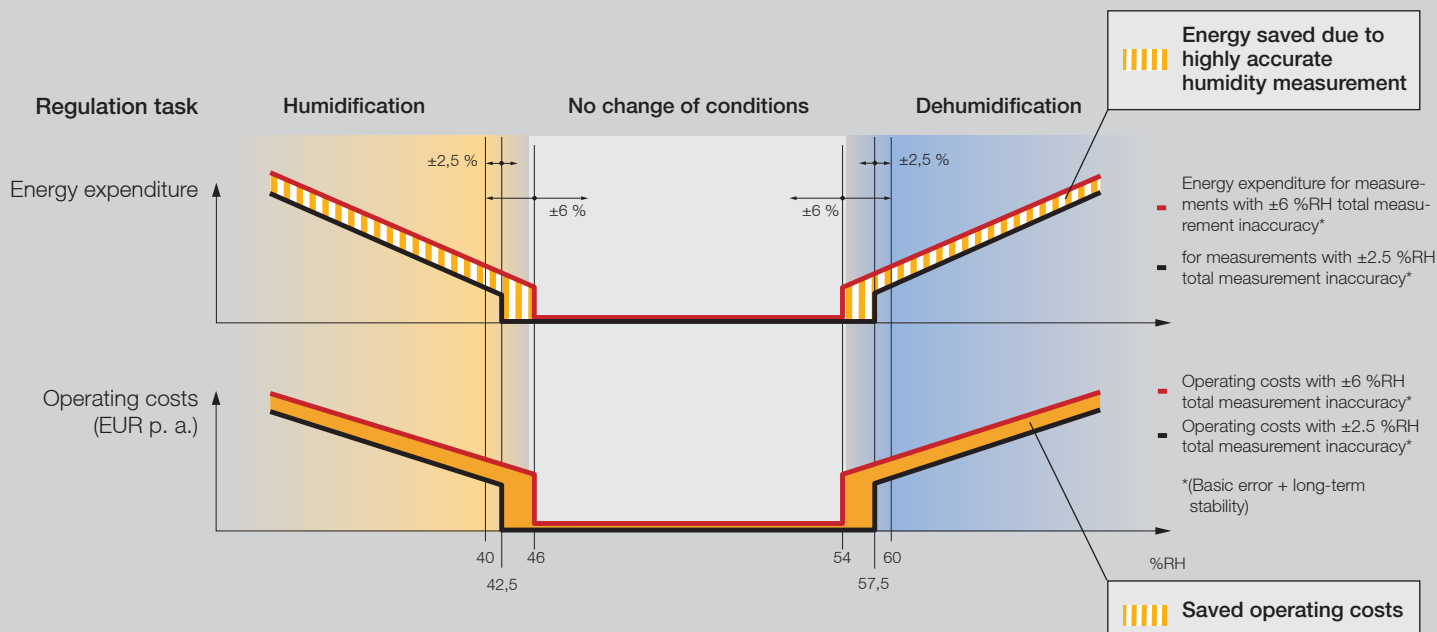
The graphic below shows the savings potential for a humidity range between 40 and 60 %RH (range regulation). The upper humidity limit varies according to

the ambient temperature. The air conditioning and ventilation system does not need to become active as long as the indoor humidity remains within the prescribed range.

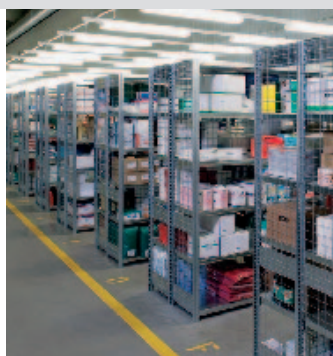
Operating costs are only incurred when the system needs to

become active. The accuracy of the humidity measurement is thus a deciding factor for the efficient regulation of the indoor climate.

The more accurate the measurement, the higher the savings in operating costs.



Measure temperature, humidity and differential pressure



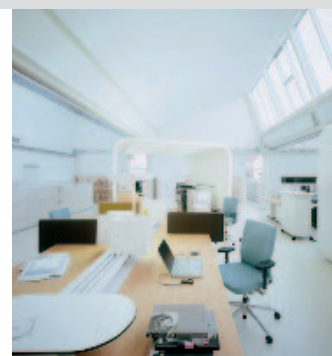
Monitoring ambient conditions in warehouses



Monitoring ambient conditions in ducts



Ideal air conditioning in museums








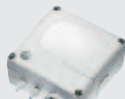

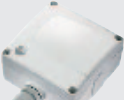

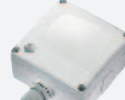
Monitoring ambient conditions in offices

Ideal building air conditioning depends above all on the measurement and regulation of temperature, humidity and differential pressure.

The Testo transmitters are ideal for the monitoring and regulation of climate, e. g. in:

- Industrial and commercial buildings (e. g. production, storage),
- Offices and administrative buildings,
- Sales outlets and exhibition halls,
- Museums and libraries,
- School buildings, hotels, clinics etc.

Overview of Testo transmitters

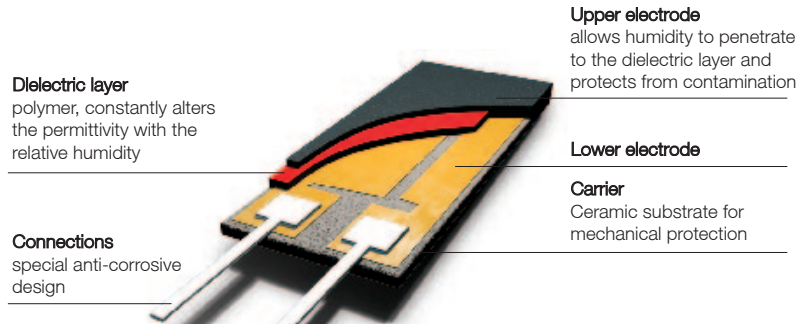
	Temperature transmitter testo 6920		Humidity and temperature transmitter testo 6621		Differential pressure transmitter testo 6321	
Instrument versions	Wall version with target value setter 	Wall version with display and buttons 	Wall version with display 	Wall version without display 	Wall version with display 	Wall version without display 
	Duct version with display 	Duct version without display 	Wall version with external probe and display 	Duct version without display 		
Properties	- easy operation via P2A software and fast on-site adjustment		- easy operation via P2A software and fast on-site adjustment - patented robust humidity sensor - large selection of protective filters		- easy operation via P2A software and fast on-site adjustment - externally long-term stable sensor	
Measurement sensor	wide selection of temperature sensors (Pt100/1000, NTC, NI1000)		Testo humidity sensor, NTC (active temperature sensor), NI1000 (passive temperature sensor)		Piezoresistive sensor	
Measuring range	0 to +70 °C (active without display) 0 to +50 °C (active with display) -20 to +70 °C (passive sensors)		Humidity: 0 to 100%RH (> 90%RH short-term) Temperature: 0 to 60 °C (wall version) -20 to 70 °C (duct version)		-2 to +2 bar selectable in the ranges -100 to +100 Pa	
Accuracy	±0.5 °C		Humidity: ±2.5%RH (0 to 90%RH), ±4.0%RH (> 90 to 100%RH) Temperature active: ±0.5 °C Temperature passive, tolerance Ni1000 < 0 °C: 0.4 °C + (0.028 x t) > 0 °C: 0.4 °C + (0.007 x t)		1.2 % of measuring range (+ 0.3 Pa basic error) 0.05 % of measuring range per Kelvin deviation from 22 °C	
Outputs	4 to 20 mA (±0.05 mA) 0 to 1 VDC (±2.5 mV) 0 to 5 VDC (±12.5 mV) 0 to 10 VDC (±25 mV) passive output optional		4 to 20 mA (±0.05mA); 2-wire 0 to 1 VDC (±2.5mV); 4-wire 0 to 5 VDC (±12.5 mV); 4-wire 0 to 10 VDC (±25 mV); 4-wire Passive temperature output optional Scaling range: -50 to +100 °C / -50 to +100 %RH		4 to 20 mA (±0.05mA); 4-wire 0 to 1 VDC (±2.5mV); 4-wire 0 to 5 VDC (±12.5 mV); 4-wire 0 to 10 VDC (±25 mV); 4-wire	

Long-term stable and reliable measurement

With the testo 6621, the worldwide patented Testo humidity sensor is now fully utilized in stationary air conditioning applications. With professional solutions for indoor rooms and ventilation ducts.

Thanks to its special design, the Testo humidity sensor guarantees a measurement inaccuracy of $\pm 2.5\%$ RH. In addition to this, it has a high degree of long-term stability which has been proven in an international inter-laboratory test in a number of calibration institutes worldwide.

Operators, Facility Managers, but also system constructors have recognized that accurate and long-term stable measuring instruments guarantee not only the achievement of an optimum room climate and the product quality dependent on this. Operating costs also are considerably reduced by exact measurements.



Optimize processes and save time in commissioning and maintenance

P2A software = **P**arameterization
Adjustment
Analysis



On-site adjustment

The transmitters are delivered ready to use. For professional application, the following functions are among those available via the easy-to-use software:

- Parameterization of unit and scale
- Sensor adjustment (1-point, 2-point) and adjustment of the analog outputs
- Parameterization and adjustment history of all activities of the P2A software are registered in the PC

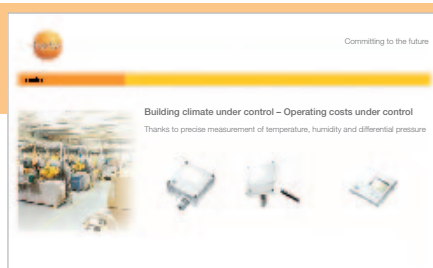
P2A software

The testo 400 or testo 650 reference instruments can be connected via an adjustment adapter via the external interface – without opening the transmitter. A few operating steps in the menu of the reference instrument are sufficient to adjust the transmitter.

Conclusion: Saved time and lower operating costs!

Find out more about the transmitters from Testo on the internet:

www.testo.com/building climate



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