testo

testo 435

Multi-Function Measuring Instrument for Ventilation and Indoor Air Quality

Versatile instrument for air conditioning engineers

NEW!



m³/h

m/s

ΔP

CO_2

%RH

°C

Lux

1.800.561.8187 www.itm.com information@itm.com

Measurement of key air quality parameters

The testo 435 is a multi-function instrument designed for the analysis of air quality. The instrument is suitable for ensuring employees' safety and well-being in workplace environments and the maintainance of optimum conditions in storage and production processes.

The testo 435 can be used to measure CO_2, relative humidity and air temperature to ensure conditions are at the correct level and to indicate whether air conditioning systems are working at optimum levels.

A range of thermal probes, vane probes and Pitot tubes are available for the testo 435 to allow engineers to take measurements of air flow at various points in a building.

Also available are a range of probes to measure absolute pressure, comfort level, lux and surface temperature - making the testo 435 a truly multi-functional instrument.

Whatever the measuring task, a range of probes are available to take effective measurements:

The probe for Indoor Air Quality (IAQ) measures CO_2, relative humidity and room air temperature in order to evaluate room air quality. If required, an absolute pressure probe is also available.

When assessing the suitability of a workplace, assessments of draughts and light levels may also be needed. An objective evaluation of air velocity present in the room can be made using the comfort level probe and the lux probe reliably measures light conditions.

If surface temperature measurements are required the patented testo cross-band probe offers outstanding performance, calculating the temperature of the object in only a few seconds.

Temperature and humidity measurement have been integrated in a new thermal probe, for measurements in ducts. Flow speed, volume flow, air humidity and air temperature can thus be measured in one measurement sequence.

The vane probe with a diameter of 60 mm is suited to integrated measurements, e.g. at outlets. For duct measurements, a 16 mm vane probe with a broad measurement range from 0.6 to 40 m/s is available. The Pitot tube is ideal for high air velocities and measurements of contaminated air. A 25 mbar differential pressure probe is integrated into 435-3 and 435-4 for this purpose.



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Exceptional practicality with wireless probes

As well as cable connected probes, the testo 435 can also be used with a range of wireless probes. Wireless probes offer users exceptional practicality as hindrance during measurement and potential damage to the probe cable are eliminated.

To convert the instrument for use with the wireless probes an optional wireless module is required. Wireless probes are available for the measurement of temperature and (in some models) humidity.



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Designed for ease of use

The testo 435 is designed for ease of use, with easy to follow menus.

The 2 advanced models, testo 435-2 and testo 435-4, offer users the ability to allocate measured values to measurement locations. These instruments also offer the ability to switch between 2 User Profiles:

User profile for channel measurement:
The most important functions of a channel measurement such as time/point mean calculation and area input are directly accessed by the function buttons. Any area input, (circle, rectangle, area) is adjustable on location. 5 predefined dimensions are stored directly in the funtion buttons.

User profile for Indoor Air Quality (IAQ):
The most important function when monitoring room air quality is long-term measurement. The activation of the measurement programme is directly accessible via the function button.

Robust design for durability

The testo 435 is a robust and reliable measuring instrument with the protection class IP 54. The testo 435 has been designed to provide an instrument that is both easy to use and of strong construction. For example, the housing material offers built-in protection against knocks and jars and the large illuminated display is set back in the housing to offer protection. To assist everyday use the instrument features a carrying strap and magnets on the back panel for attachment at the measuring location.



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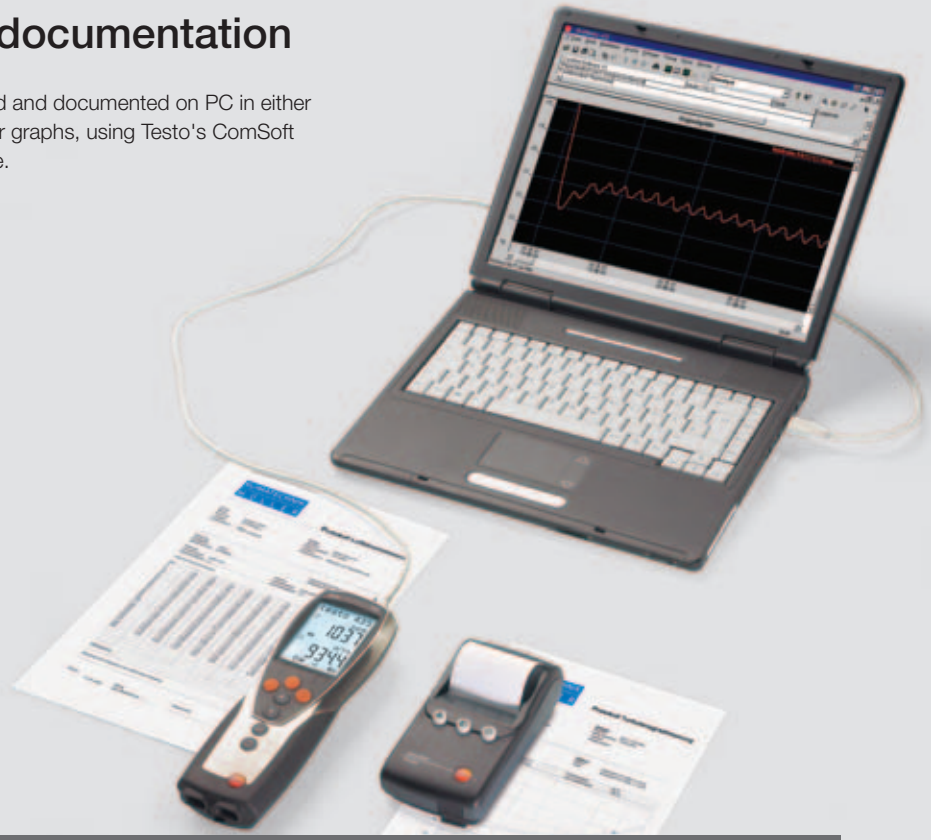
Assurance through reliable documentation

The testo 435 offers users 2 convenient documentation options; print out on-site or analysis and documentation on a PC.

The testo printer offers a convenient and easy to use option for on-site documentation. The testo 435 transmits the data to the printer wirelessly via an infrared interface. Date, time and measured data are all documented on the print-out.

When using the testo 435-1 and testo 435-3 measured data can be printed to the Testo printer at regular intervals (from 1 minute to 24 hours), using the Cycle Printing function. In this way measurement series can be documented on paper without the need to store the data.

The testo 435-2 and 435-4 models offers users the option to store both single measurents and measurement series (up to 10,000 measurement values). Data can then be analysed and documented on PC in either tables or graphs, using Testo's ComSoft software.



Common features of testo 435 series

- **WIDE SELECTION OF PROBES:**
  - IAQ probe for evaluating the indoor air quality via CO_2, air temperature, indoor air humidity and absolute pressure
  - Thermal probe with integrated temperature and air humidity measurement
  - Vane and hot wire probes
  - Radio probes for temperature
- **EASY USE WITH USER PROFILES**
- **PRINTING ON THE TESTO REPORT PRINTER**

Features of specific models

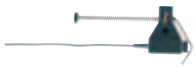
- **INTEGRATED DIFFERENTIAL PRESSURE MEASUREMENT (435-3/-4, not retrofittable)**
  - for flow measurement
  - for monitoring filters
- **EXTENDED INSTRUMENT FUNCTION (435-2/-4, not retrofittable)**
  - Instrument store for 10,000 readings
  - PC software for analysing, archiving and documenting measurement data
  - Humidity probes with radio or wire
  - Lux probe connection possible
  - Comfort level probe connection possible

testo 435-1	testo 435-2	testo 435-3	testo 435-4
		INTEGRATED DIFFERENTIAL PRESSURE MEASUREMENT	INTEGRATED DIFFERENTIAL PRESSURE MEASUREMENT
	EXTENDED INSTRUMENT FUNCTION		EXTENDED INSTRUMENT FUNCTION
testo 435-1 multi-function measuring instrument for A/C, ventilation and Indoor Air Quality, with battery and calibration protocol	testo 435-2, multi-function measuring instrument for air conditioning, ventilation and Indoor Air Quality with readings memory, PC software, USB data transmission cable, battery and calibration protocol	testo 435-3, multi-function measuring instrument with built-in differential pressure measurement for air conditioning, ventilation and Indoor Air Quality, with battery and calibration protocol	testo 435-4, multi-function measuring instrument with built-in differential pressure measurement for A/C, ventilation and Indoor Air Quality with readings memory, PC software, USB data transmisstion cable, battery and calibration protocol

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Probes

435-1/-2/-3/-4

Multi-function probes	Illustration	Meas. range	Accuracy	Part no.
IAQ probe to assess Indoor Air Quality, CO_2, humidity, temperature and absolute pressure measurement		0 to +50 °C 0 to +100 %RH 0 to +10000 ppm CO_2 +600 to +1150 hPa	±0.3 °C ±2 %RH (+2 to +98 %RH) ±(50 ppm CO_2 ±2% of mv) (0 to +5000 ppm CO_2) ±(100 ppm CO_2 ±3% of mv) (+5001 to +10000 ppm CO_2) ±5 hPa	0632 1535
Thermal velocity probe with built-in temperature and humidity measurement, Ø 12 mm, with telescopic handle (max. 745 mm)		-20 to +70 °C 0 to +100 %RH 0 to +20 m/s	±0.3 °C ±2 %RH (+2 to +98 %RH) ±(0.03 m/s +4% of mv)	0635 1535
Flow probe	**Illustration**	**Meas. range**	**Accuracy**	**Part no.**
Vane measurement probe, 16 mm diameter, with telescopic handle max. 890 mm, e.g. for measurements in ducts		+0.6 to +40 m/s	±(0.2 m/s +1.5% of mv)	0635 9535
Vane measurement probe, 60 mm diameter, with telescopic handle max. 910 mm, e.g. for measurements at duct exit		+0.25 to +20 m/s	±(0.1 m/s +1.5% of mv)	0635 9335
Hot wire probe for m/s and °C, Ø probe head 7.5 mm, with telescopic handle (max. 820 mm)		0 to +20 m/s	±(0.03 m/s +5% of mv)	0635 1025
Absolute pressure probes	**Illustration**	**Meas. range**	**Accuracy**	**Part no.**
Absolute pressure probe 2000 hPa		0 to +2000 hPa	±5 hPa	0638 1835
Air probes	**Illustration**	**Meas. range**	**Accuracy**	**t_{99}** **Part no.**
Efficient, robust NTC air probe		-50 to +150 °C	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	60 s 0613 1712
Surface probes	**Illustration**	**Meas. range**	**Accuracy**	**t_{99}** **Part no.**
Fast-action surface probe with sprung thermocouple strip, also for uneven surfaces, measurement range short-term to +500°C, T/C Type K		-60 to +300 °C	Class 2	3 s 0602 0393
Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Measurement range short-term to +280°C, T/C Type K		-60 to +130 °C	Class 2	5 s 0602 4592
Clamp probe for measurements on pipes, pipe diameter 15 to 25 mm (max. 1"), meas. range short-term up to +130°C		-50 to +100 °C	Class 2	5 s 0602 4692
Immers./penetr. probes	**Illustration**	**Meas. range**	**Accuracy**	**t_{99}** **Part no.**
Waterproof immerstion/penetration probe, T/C Type K		-60 to +400 °C	Class 2	7 s 0602 1293

435-2/-4

Comfort level probes	Illustration	Meas. range	Accuracy	Part no.
Comfort level probe for degree of turbulence measurement with telescopic handle (max. 820 mm) and stand, meets DIN 1946 Part 2 requirements		0 to +50 °C 0 to +5 m/s	±0.3 °C ±(0.03 m/s +4% of mv)	0628 0109
Lux probe, for measuring light intensity			Accuracy to DIN 5032, Part 6: f1 = 6% = V(Lambda) adjustment f2 = 5% = cos-like weighting	0635 0545
Humidity probes	**Illustration**	**Meas. range**	**Accuracy**	**Part no.**
Humidity/temperature probe		-20 to +70 °C 0 to +100 %RH	±0.3 °C ±2 %RH (+2 to +98 %RH)	0636 9735

435-3/-4

Prandtl's Pitot tubes	Illustration	Oper. temp.	Part no.
Pitot tube, 350 mm long, stainless steel, measures velocity in connection with pressure probes		0 to +600 °C	0635 2145
Pitot tube, 500 mm long, stainless steel, measures velocity in connection with pressure probes		0 to +600 °C	0635 2045

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Wireless Probes

435-1/-2/-3/-4

Upgrade module for wireless option

	Radio freq.	Part no.
Wireless module for measuring instrument	869.85 MHz	0554 0188

Wireless handle with surface temperature probe head

		Meas. range	Accuracy	Resolution	t_{99}
Wireless handle for attachable probe heads with T/C probe head for surface temperature measurement		-50 to +350 °C Short-term to +500 °C	Radio handle: ±(0.5 °C +0.3% of mv) (-40 to +500 °C) ±(0.7 °C +0.5% of mv) (remaining range) T/C probe head: Class 2	0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range)	5 s

	Radio freq.	Part no.
Wireless handle for plug-in probe heads (including T/C adaptor)	869.85 MHz	0554 0189
T/C probe head for surface temperature measurement (attachable to wireless handle), T/C Type K		0602 0394

435-2/-4

Wireless handle with humidity probe head

		Meas. range	Accuracy	Resolution
Wireless handle for attachable probe heads with humidity probe head		0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.5 °C	0.1 %RH 0.1 °C

	Radio freq.	Part no.
Wireless handle for plug-in probe heads (including T/C adaptor)	869.85 MHz	0554 0189
Humidity probe head (attachable to wireless handle)		0636 9736

Wireless probes: General technical data

	Wireless immerion/penetration probe, NTC	Wireless handle
Battery type	2 x 3V button cell (CR 2032)	2 AAA micro batteries
Battery life	150 h (meas. rate 0.5 s) 2 months (meas. rate 10 s)	215 h (meas. rate 0.5 s) 6 months (meas. rate 10 s)

Measuring rate	0.5 s or 10 s, adjustable on handle
Radio coverage	Up to 20 m (without obstruction)

Radio transmission	Unidirectional
Oper. temp.	-20 to +50 °C
Storage temp.	-40 to +70 °C

Technical data

435-1/-2/-3/-4								435-3/-4	435-2/-4
Probe type	**NTC**	**Type K (NiCr-Ni)**	**Testo capacitive humidity sensor**	**Vane**	**Hot wire**	**CO_2 (IAQ probe)**	**Absolute pressure probe**	**Differential pressure probe, internal**	**Lux**
Measuring range	-40 to +150 °C	-200 to +1370 °C	0 to +100 %RH	0 to +60 m/s	0 to +20 m/s	0 to +10000 ppm CO_2	0 to +2000 mbar	0 to +25 mbar	0 to +100000 Lux
Accuracy ±1 digit	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (-40 to -25.1 °C) ±0.4 °C (+75 to +99.9 °C) ±0.5% of mv (remaining range)	±0.3 °C (-60 to +60 °C) ±0.5% of mv (remaining range)						±0.02mbar (0 to +2 mbar) 1% of mv (remaining range)	
Resolution	0.1 °C	0.1 °C	0.1% RH	0.01 (0635 9335) 0.01 (0635 9535)	0.01 m/s	1 ppm	0.1mbar	0.01 mbar	1 Lux
Oper. temp.	-20 to +50 °C				Battery life		200 h (typical vane measurement)		

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Ordering data

Measuring instrument	Part no.
testo 435-1, multi-function meas. instr., for A/C, ventilation and Indoor Air Quality, with battery and calibration protocol	0560 4351
testo 435-2, multi-function measuring instrument for air conditioning, ventilation and Indoor Air Quality with readings memory, PC software and USB data transmission cable, incl. battery and calibration protocol	0563 4352
testo 435-3, multi-function measuring instrument with built-in differential pressure measurement for air conditioning, ventilation and Indoor Air Quality, with battery and calibration protocol	0560 4353
testo 435-4, multi-function meas. instr. with built-in differential pressure measurement for A/C, ventilation and Indoor Air Quality with readings memory, PC software and USB data transmisstion cable, with battery and calibration protocol	0563 4354
Accessories for measuring instrument	**Part no.**
External recharger incl. 4 Ni-MH rechargeable batteries with built-in, international mains adapter - 100-240 V, 300 mA, 50/60 Hz, 12 VA/instrument	0554 0610
Plug-in mains adapter for testo 735, testo 635, testo 435, 5 VDC 500 mA with European adapter	0554 0447
System case	**Part no.**
Service case for basic equipment of measuring instrument and probes, dimensions: 400 x 310 x 96 mm	0516 0035
Service case for measuring instrument, probes and accessories, dimensions: 490 x 420 x 110 mm	0516 0135
Printer and Accessories	**Part no.**
Testo printer with wireless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries, For printout of reading on site	0554 0547
Spare thermal paper for printer (6 rolls), Measurement data documentation legible for up to 10 years	0554 0568
Spare thermal paper for printer (6 rolls)	0554 0569

Accessories	Part no.
testovent 410, volume flow funnel, Ø 340mm/330 x 330mm, incl. case	0554 0410
testovent 415, volume flow funnel, Ø 210mm/190x190mm, incl. case	0554 0415
Connection hose, silicone, 5m long, Max. load 700 hPa (mbar)	0554 0440
Handle for plug-in humidity probe head for connection to testo 635 and testo 435, probe cable included, measures/calibrates humidity probe head	0430 9735
Control and humidity adjustment set 11.3%RH/75.3%RH incl. adapter for humidity probes, Quick checks or calibration of humidity probe	0554 0660
Teflon sintered filter, Ø 12 mm, for corrosive substances, High humidity range (long-term measurements), high velocities	0554 0756
Stainless steel sintered cap, Ø 12 mm, is screwed onto humidity probe, For measurements at high velocity speeds or in dirt ingressed air	0554 0647
Calibration Certificates	**Part no.**
ISO calibration certificate/Temperature. For air/immersion probes, calibration points -18, 0, +60 °C	300520 0042
UKAS calibration certificate/Temperature. For immersion probes, calibration points 0, 50, 100 °C	300520 0214
ISO calibration certificate/Humiidity. Calibration points 11.3 / 45.3 / 75.3 %rh at 25 °C	300520 0078
UKAS calibration certificate/Humiidity. Calibration points 11.3 / 45.3 / 75.3 %rh at 25 °C	300520 0202
ISO calibration pressure. 5 points across range	300520 0018
ISO calibration certificate/air velocity. 5 points across range	300520 0012
ISO calibration/CO_2. 0 and 5000 ppm	300520 0070
Other points and probe types available on request.	



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Subject to change without notice.

1 9513/msp/Si/07.2005

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