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We measure it. testo

Multi-function measuring instrument

testo 435 – The allrounder for ventilation and indoor air quality

°C
%RH
m/s
hPa
ppm CO_2
Lux

Large selection of probes (optional):
IAQ probe for evaluating Indoor Air Quality
Thermal probes with integrated temperature and air humidity measurement
Vane and hot wire probes
Integrated differential pressure probe for Pitot tube measurement (see versions)
Wireless probe for temperature and humidity (see versions)

Easy operation with user profiles

PC software for the analysis, archiving and documentation of measurement data (see versions)

All HVAC measurement parameters

The multi-function measuring instrument testo 435 is your reliable partner for analyzing Indoor Air Quality. Indoor Air Quality has a crucial influence on the well-being of humans at their workplaces, and is also a determining and important factor in storage and production processes.
In addition to this, the Indoor Air Quality signals whether the HVAC system is working at optimum energy level, or needs to be adjusted using the testo 435. The parameters CO_2, relative humidity and room temperature are available for the evaluation of Indoor Air Quality.
In addition to this, absolute pressure, draught, Lux, U-value and surface temperature can be measured. For the determination of volume flow, you can use all possiblities for the measurement of flow velocity – such as thermal probes, vanes and Pitot tubes.

The right instrument for every application

The new testo 435 is available in four versions. Depending on the application, you can choose from versions with built-in differential pressure measurement as well as versions with additional instrument functions such as instrument memory, PC software and an extended range of probes.

Technical data

testo 435-1

testo 435-1 multi-functional measurement instrument for A/C, ventilation and Indoor Air Quality, battery and calibration protocol included

Part no. 0560 4351

testo 435-2

testo 435-2 multi-function measuring instrument for air conditioning, ventilation and Indoor Air Quality with data memory, PC software and USB data transfer cable, includes battery and calibration protocol

Part no. 0563 4352

testo 435-3

testo 435-3 multi-functional measurement instrument with built-in differential pressure measurement for A/C, ventilation and Indoor Air Quality, battery and calibration protocol included

Part no. 0560 4353

testo 435-4

testo 435-4 multi-function measuring instrument with built-in differential pressure measurement for air conditioning, ventilation and Indoor Air Quality, with data memory, PC software and USB data transfer cable, includes battery and calibration protocol

Part no. 0563 4354

Improved convenience of operation thanks to user profiles

The operation of testo 435 is easy and efficient: User profiles are stored for the typical applications duct measurement and IAQ measurement. This makes complicated programming of the measuring instrument unnecessary.

Secure measurement data monitoring

The measurement data reports provide the customer with the data from the duct, long-term and degree of turbulence measurement. The company logo can be integrated into the form. The testo 435-1 and testo 435-3 allow the measurement values to be printed cyclically on the Testo fast printer.

Flexibility thanks to wireless probes

In addition to classical probes on wires, a wireless measurement up to a distance of 20 m (without obstruction) is possible. Damage to the wire or hindrances in usage are thus eliminated. A maximum of three wireless probes can be recorded and displayed with testo 435. The wireless probes are for the measurement parameters temperature and, depending on the instrument type, humidity. The optional, easily plugged-in radio module can be retrofitted at any time.

Measure temperature and humidity values wirelessly over a distance of up to 20m without obstruction

2 connections for external probes

General technical data

Operating temperature	-20 to +50 °C
Storage temperature	-30 to +70 °C
Dimensions	220 x 74 x 46 mm
Battery type	Alkali manganese, mignon, Type AA
Battery life	200 h (typical vane measurement)
Weight	428 g
Housing material	ABS/TPE/Metal
Protection class	IP54
Warranty	2 years

Technical data

Overview of versions testo 435

The table provides a fast overview of the connectable probes and the instrument equipment per version.

Connectable probes (optional)	**testo 435-1**	**testo 435-2**	**testo 435-3**	**testo 435-4**
IAQ probe for the measurement of CO_2, air temperature, indoor air humidity and absolute pressure	X	X	X	X
Thermal flow velocity probe with integrated temperature and air humidity measurement	X	X	X	X
Vane and hot wire probes	X	X	X	X
Temperature probe for immersion/penetration, air and surface measurements	X	X	X	X
Wireless probes for temperature measurements	X	X	X	X
Ambient CO probe	X	X	X	X
Absolute pressure probe	X	X	X	X
Integrated differential pressure measurement for flow velocity measurement with Pitot tube and for monitoring filters (not retro-fittable)			X	X
Comfort probe for degree of turbulence measurement for the objective evaluation of the air velocity in a room		X		X
Humidity probe for air temperature and air humidity measurements		X		X
Wireless probe for air temperature and air humidity measurement		X		X
Lux probe for the measurement of light intensity		X		X
Temperature probe for determining U-value		X		X
Instrument equipment				
Easy operation with user profiles	X	X	X	X
Illuminated display	X	X	X	X
Testo fast printer for documenting measurement data (optional)	X	X	X	X
Instrument store for 10000 measurement values (not retro-fittable)		X		X
PC software for the analysis, archiving and documentation of the readings		X		X

	testo 435-1/-2/-3/-4			
Sensor types	**NTC**	**Type K (NiCr-Ni)**	**Type T (Cu-CuNi)**	**Testo humid. sensor, cap.**
Measuring range	-50 to +150 °C	-200 to +1370 °C	-200 to +400 °C	0 to +100 %RH
Accuracy ±1 digit	±0.2 °C(-25 to +74.9 °C) ±0.4 °C (-50 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) ±(0.2 °C +0.5% of mv) (remaining range)	±0.3 °C (-60 to +60 °C) ±(0.2 °C +0.5% of mv) (remaining range)	See probe data
Resolution	0.1 °C	0.1 °C	0.1 °C	0.1 %RH
	Vane	**Hot wire**	**Absolute pressure probe**	**CO_2 (IAQ probe)**
Measuring range	0 to +60 m/s	0 to +20 m/s	0 to +2000 hPa	0 to +10000 ppm CO_2
Accuracy ±1 digit	See probe data	See probe data	See probe data	See probe data
Resolution	0.01m/s (60 + 100 mm Vane) 0.1 m/s (16 mm Vane)	0.01 m/s	0.1 hPa	1 ppm CO_2

	testo 435-2/-4	**testo 435-3/-4**
Sensor types	**Lux**	**Differential pressure probe, internal**
Measuring range	0 to +100000 Lux	0 to +25 hPa
Accuracy ±1 digit	See probe data	±0.02 hPa (0 to +2 hPa) ±1% of mv (remaining range)
Resolution / Overload	1 Lux; 0.1 Hz	0.01 hPa / 200 hPa

Accessories

Transport and Protection	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, probe and accessories, dimensions 520 x 380 x 120 mm	0516 0435	

Additional accessories and spare parts		
testovent 410, volume flow funnel, Ø 340 mm/330x330 mm, incl. case	0554 0410	
testovent 415, volume flow funnel, Ø 210 mm/210x210 mm, incl. case	0554 0415	
testovent 417 funnel set for plate outlets (Ø 200 mm) and funnel for ventilator (330 x 330 mm) for ingoing and outgoing air	0563 4170	
Connection hose; silicone; 5 m long; max. load 700 hPa (mbar)	0554 0440	
Connection hose silicone-free for differential pressure measurement, length 5 m, load up to maximum 700 hPa, (mbar)	0554 0453	
Control and adjustment set for Testo humidity probes, salt solution with 11.3% RH and 75.3% RH, incl. adapter for Testo humidity probes, quick checks or calibration of humidity probe	0554 0660	
Sintered PTFE filter, Ø 12 mm, for corrosive media, High humidity range (long-term measurements), high flow velocities.	0554 0756	
Stainless steel sintered filter, pore size 100 µm, probe protection in dusty atmospheres or higher flow velocities	0554 0641	
Plug-in mains adapter, 5 VDC 500 mA with European adapter, 100-250 VAC, 50-60 Hz	0554 0447	
Lithium battery button cell, CR2032 AA batteries for radio handle	0515 0028	
Adhesive material for fixing and sealing	0554 0761	

Printer and Accessories		
Testo fast printer IRDA with wireless infrared interface; 1 roll thermal paper; 4 AA batteries, for printing out measurements on site	0554 0549	
Spare thermal paper for printer (6 rolls), permanent ink measurement data documentation legible for up to 10 years	0554 0568	
External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging and charge control display, incl. impulse trickle charging, integrated discharge function, with built-in international mains plug, 100-240 V, 300 mA, 50/60 Hz	0554 0610	

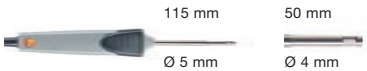
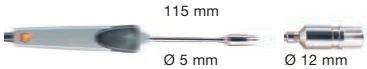
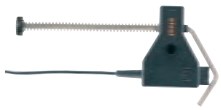
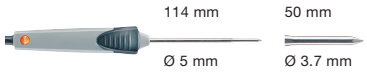
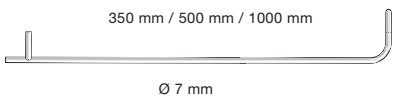
Calibration Certificates		
ISO calibration certificate/temperature meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C	0520 0071	
ISO calibration certificate humidity Calibration points 11.3 %RH and 75.3 %RH at +25 °C	0520 0006	
ISO calibration certificate pressure differential pressure; 5 points distributed over meas. range	0520 0005	
ISO calibration certificate velocity hot wire, vane anemometer; calibration points 0.3; 0.5; 0.8; 1.5 m/s	0520 0024	
ISO calibration certificate velocity hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004	
ISO calibration certificate velocity hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034	
ISO calibration certificate/light Calibration points 0; 500; 1000; 2000; 4000 Lux	0520 0010	
ISO calibration certificate/CO_2 CO_2 probes; calibration points 0; 1000; 5000 ppm	0520 0033	

Probes

Probe type	Dimensions Probe shaft/probe shaft tip	Measuring range	Accuracy	t_{99}	Part no.
IAQ probes (testo 435-1/-2/-3/-4)					
IAQ probe to assess Indoor Air Quality, CO_2, humidity, temperature and absolute pressure measurement, with desk-top stand		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) ±(75 ppm CO_2 ±3% of mv) (0 to +5000 ppm CO_2) ±(150 ppm CO_2 ±5% of mv) (+5001 to +10000 ppm CO_2) ±10 hPa		0632 1535
Ambient CO probe, for detecting CO in buildings and rooms		0 to +500 ppm CO	±5% of mv (+100.1 to +500 ppm CO) ±5 ppm CO (0 to +100 ppm CO)		0632 1235
Globe probe Ø 150mm, TC Type K, for measuring radiant heat		0 to +120 °C	Class 1		0602 0743
Flow velocity probes (testo 435-1/-2/-3/-4)					
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
Vane meas. probe, 16 mm diameter, with telescopic handle max. 890 mm, e.g. for meas. in ducts, can be used from 0 to +60 °C		+0.6 to +40 m/s Operating temperature 0 to +60 °C	±(0.2 m/s +1.5% of mv)		0635 9535
Vane meas. probe, 60 mm diameter, with telescopic handle max. 910 mm, e.g. for meas. at duct exit, can be used from 0 to +60 °C		+0.25 to +20 m/s Operating temperature 0 to +60 °C	±(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 -20 to +70 °C	±(0.03 m/s +5% of mv) ±0.3 °C (-20 to +70 °C)		0635 1025
Funnel measurement (testo 435-1/-2/-3/-4)					
Vane meas. probe, 100 mm diameter, for measurements with funnel set 0563 4170		+0.3 to +20 m/s 0 to +50 °C	±(0.1 m/s +1.5% of mv) ±0.5 °C		0635 9435
testovent 417 funnel set for plate outlets (Ø 200 mm) and funnel for ventilator (330 x 330 mm) for ingoing and outgoing air					0563 4170
Flow straightener testovent 417					0554 4172
Flow straigthener set testovent 417 consisting of funnel set testovent 417 and flow straigthener testovent 417					0554 4173
Absolute pressure probes (testo 435-1/-2/-3/-4)					
Absolute pressure probe 2000 hPa		0 to +2000 hPa	±5 hPa		0638 1835

2) More temperature probes on the internet at www.testo.com

Probes

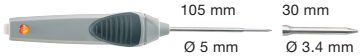
Probe type	Dimensions Probe shaft/probe shaft tip	Measuring range	Accuracy	t_{99}	Part no.
Air probes [2] (testo 435-1/-2/-3/-4)					
Efficient, robust NTC air probe, Fixed cable 1.2 m		-50 to +125 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	60 s	0613 1712
Surface probes [2] (testo 435-1/-2/-3/-4)					
Fast-action surface probe with sprung thermocouple strip, also for uneven surfaces, measurement range short-term to +500°C, TC Type K, Fixed cable		-60 to +300 °C	Class 2 [1]	3 s	0602 0393
Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Meas. range short-term up to +280°C, TC Type K, Fixed cable		-60 to +130 °C	Class 2 [1]	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, TC Type K, Fixed cable		-50 to +100 °C	Class 2 [1]	5 s	0602 4692
Immers./penetr. probes [2] (testo 435-1/-2/-3/-4)					
Waterproof immersion/penetration probe, TC Type K, Fixed cable 1.2 m		-60 to +400 °C	Class 2 [1]	7 s	0602 1293
IAQ probes (testo 435-2/-4)					
Comfort level probe for degree of turbulence measurement with telescopic handle (max. 820 mm) and stand, meets EN 13779 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		0 to 100.000 Lux 0 to 300 Hz	Accuracy acc. to DIN 13032-1: f1 = 6% = V(Lambda) adjustment f2 = 5% = cos-like weighting, Class C		0635 0545
Humidity probes (testo 435-2/-4)					
Humidity/temperature probe		-20 to +70 °C 0 to +100 %RH	±0.3 °C ±2 %RH (+2 to +98 %RH)		0636 9735
Surface probes [2] (testo 435-2/-4)					
Temperature probe to determine U-value, triple sensor system for measuring wall temperature, modelling clay included		-20 to +70 °C	Class 1 [1] U-value: ±0.1 ±2% of fsv*		0614 1635
		Note: An additional probe for measuring outer temperatures is required when determining the U-value e.g. 0602 1793 or 0613 1001 or 0613 1002. *when used with an NTC or wireless humidity probe for measuring outside temperature and 20 K difference between the air inside and outside			
Prandtl's Pitot tubes (testo 435-3/-4)					
Pitot tube, 350 mm long Pitot tube, 500 mm long Pitot tube, 1000 mm long			Operating temperature 0 to +600 °C		0635 2145 0635 2045 0635 2345

1) According to standard EN 60584-2, the accuracy of Class 2 refers to -40 to +1200 °C.
2) More temperature probes on the internet at www.testo.com

Radio probes

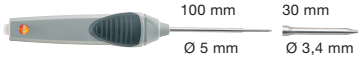
Radio probes for immersion/penetration measurements

	Part no.
Radio immersion/penetration probe, NTC, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO; Radio freq. 869.85 MHz FSK	0613 1001
Radio immersion/penetration probe, NTC, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK	0613 1002

Dimensions Probe shaft/probe shaft tip	Measuring range	Accuracy	Resolution	t_{99}
	-50 to +275 °C	±0.5 °C (-20 to +80 °C) ±0.8 °C (-50 to -20.1 °C) ±0.8 °C (+80.1 to +200 °C) ±1.5 °C (remaining range)	0.1 °C	t_{99} (in water) 12 s

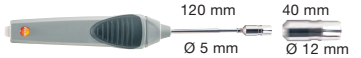
Radio handles with probe head for air-/ immersion-penetration-meas.

	Part no.
Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO; Radio freq. 869.85 MHz FSK	0554 0189
T/C probe head for air/immersion/penetration measurement (T/C Type K)	0602 0293
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK	0554 0191
T/C probe head for air/immersion/penetration measurement (T/C Type K)	0602 0293

Dimensions Probe shaft/probe shaft tip	Measuring range	Accuracy	Resolution	t_{99}
	-50 to +350 °C Short-term to +500 °C	Radio handle: ±(0.5 °C +0.3% of m.v.) (-40 to +500 °C) ±(0.7 °C +0.5% of m.v.) (remaining range) T/C probe head: Class 2	0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range)	t_{99} (in water) 10 s

Radio handles with probe head for surface measurement

	Part no.
Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO; Radio freq. 869.85 MHz FSK	0554 0189
T/C probe head for surface measurement (T/C Type K)	0602 0394
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK	0554 0191
T/C probe head for surface measurement (T/C Type K)	0602 0394

Dimensions Probe shaft/probe shaft tip	Measuring range	Accuracy	Resolution	t_{99}
	-50 to +350 °C Short-term to +500 °C	Radio handle: ±(0.5 °C +0.3% of m.v.) (-40 to +500 °C) ±(0.7 °C +0.5% of m.v.) (remaining range) T/C probe head: Class 2	0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range)	5 s

Radio probes incl. humidity probe head

	Part no.
Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO; Radio freq. 869.85 MHz FSK	0554 0189
Humidity probe head	0636 9736
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK	0554 0191
Humidity probe head	0636 9736

Dimensions Probe shaft/probe shaft tip	Measuring range	Accuracy	Resolution
	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.3 °C	0.1 %RH 0.1 °C

Radio handles for attachable T/C probes

	Part no.
Radio handle for plug-in probe heads, incl. T/C adapter, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO ; Radio freq. 869.85 MHz FSK	0554 0189
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL; Radio freq. 915.00 MHz FSK	0554 0191

Illustration	Measuring range	Accuracy	Resolution
	-50 to +1000 °C	±(0.7 °C +0.3% of m.v.) (-40 to +900 °C) ±(0.9 °C +0.5% of m.v.) (remaining range)	0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range)

Radio probes

Radio module for upgrading measuring instrument with radio option	Part no.	
Radio module for measuring instrument, 869.85 MHz, approval for the countries: DE, FR, UK, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR, CH, PT, SI, MT, CY, SK, LU, EE, LT, IE, LV, NO	0554 0188	
Radio module for measuring instrument, 915.00 MHz FSK, approval for USA, CA, CL	0554 0190	

Technical data Radio probes

Radio immersion/penetration probe, NTC

Battery type	2 x 3V button cell (CR 2032)
Battery life	150 h (meas. rate 0.5 s) 2 months (meas. rate 10 s)
Radio handle	
Battery type	2 AAA micro batteries
Battery life	215 h (meas. rate 0.5 s) 6 months (meas. rate 10 s)

Common Technical Data

Measuring rate	0.5 s or 10 s, adjustable on handle
Radio coverage	Up to 20 m (without obstructions)
Radio transmission	Unidirectional
Operating temperature	-20 to +50 °C
Storage temperature	-40 to +70 °C
Protection class	IP54

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Subject to change without notice.

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