

Multi-function measuring instrument

**testo 435 – The allrounder for
ventilation and indoor air quality**

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 CO₂, 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 possibilities 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 |

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 m.v. (remaining range) | ±0.3 °C (-60 to +60 °C) ±(0.2 °C +0.5% of m.v.) (remaining range) | ±0.3 °C (-60 to +60 °C) ±(0.2 °C +0.5% of m.v.) (remaining range) | See probe data |
| Resolution | 0.1 °C | 0.1 °C | 0.1 °C | 0.1 %RH |
| Sensor types | 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 m.v. (remaining range) |
| Resolution / Overload | 1 Lux; 0.1 Hz | 0.01 hPa / 200 hPa |

Accessories

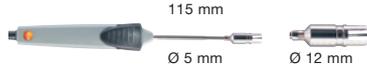
| Transport and Protection | Part no. | |
|--|-----------------|--|
| Service case for measuring instrument, probe and accessories, dimensions 454 x 319 x 135 mm | 0516 1035 | |
| Service case for measuring instrument, probe and accessories, dimensions 518 x 398 x 155 mm | 0516 1435 | |
| Additional accessories and spare parts | | |
| 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; length 5 m; 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 5028 | |
| 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 | |
| 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 m.v.) (0 to +5000 ppm CO ₂) ±(150 ppm CO ₂ ±5% of m.v.) (+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 m.v. (+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 m.v.) | | 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 m.v.) | | 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 m.v.) | | 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 m.v.) ±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 m.v.) ±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 straightener set testovent 417 consisting of funnel set testovent 417 and flow straightener 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 |
| Immersion/penetration 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 m.v.) | | 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 at +25 °C (2 to 98 %RH) ±0.03 %RH/K (k=1) Long-term stability: ±1 %RH / year The probe accuracy corresponds to the system accuracy. | | 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 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 |  | Operating temperature 0 to +600 °C | | | 0635 2145 |
| Pitot tube, 500 mm long | | | | | 0635 2045 |
| Pitot tube, 1000 mm long | | | | | 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 handles and 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 |
|  100 mm 30 mm Ø 5 mm Ø 3,4 mm | -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 and 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 |
|  120 mm 40 mm Ø 5 mm Ø 12 mm | -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 and 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 |

