

testo 635-1

The versatile instrument for measuring air humidity, U-value, material equilibrium moisture and pressure dewpoint in compressed air systems.

The humidity sensor, developed by Testo, has proven itself worldwide and has excellent features in terms of precision, long-term stability, temperature resistance and robustness.

Up to 3 temperature or humidity probes can be displayed wirelessly in the testo 635 measuring instrument, i.e. data is transmitted by radio. Selectable user profiles, i.e. function buttons allocated to a specified application and menu guide facilitate intuitive operation. Data is transmitted via infrared to the Testo printer.

Material moisture can be displayed directly using special probes. The heat transfer coefficient (U-value) is measured using the U-value temperature probe and a radio probe. To analyse humidity on ceilings and walls, testo 635 shows the dewpoint difference between ambient air and wall surface. Precision probes up to $-60\text{ }^{\circ}\text{C}$ tpd are available for checking pressure dewpoint in compressed air systems.

testo 635 Common advantages

- Connection of 3 radio probes
- Measurement of air humidity, material equilibrium moisture and pressure dewpoint in compressed air systems
- Display of dewpoint difference, min, max and mean values
- Print data on testo printer (optional)
- Backlit display
- Protection type IP 54

testo 635-1 Advantages

Cyclic printing of readings on testo printer, e.g. once per minute

testo 635-2 Advantages

- Instrument store for 10,000 readings
- PC software for filing and documenting measurement data
- Direct display of material moisture due to storable characteristics curves (Basis: material equilibrium moisture)
- U-value probe connection possible
- Storage of single measurements or measurement series by measurement site
- Quick access to the most important functions via user profiles

testo 635-1

testo 635-1, humidity/temperature measuring instrument, with battery and calibration protocol

Part no. 0560 6351

testo 635-2

testo 635-2, humidity/temperature measuring instrument with readings memory, PC software and USB data transmission cable, with battery and calibration protocol

Part no. 0563 6352



Wireless measurement of warehouse temperature and humidity, with radio handle and attachable humidity probe head

Technical data

Probe type	Type K (NiCr-Ni)	NTC (Humidity Probes)	Testo humid. sensor, cap.	Absolute pressure probe
Meas. range	-200 to +1370 °C	-40 to +150 °C	0 to +100 %RH	0 to 2000 hPa
Accuracy ±1 digit	±0.3 °C (-60 to +60 °C) ±(0.2 °C + 0.3% of mv) (remaining range)	±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)		
Resolution	0.1 °C	0.1 °C	0.1 %RH	0.1 hPa
Oper. temp.	-20 to +50 °C			
Storage temp.	-30 to +70 °C			
Battery type	Alkali manganese, mignon, Type AA			
Battery life	200 h			
Weight	428 g			
Dimensions	220 x 74 x 46 mm			


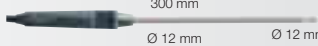



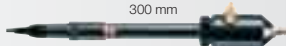




Time for the essentials

"To be quite honest, the phones are usually quiet between 6 and 7pm but the few people who do call are delighted when somebody answers the phone. That's why I'm happy to be here. Testo at your service"



Regina Walz
Sales

testo 635: Probes / Accessories

Humidity probes	Illustration	Meas. range	Accuracy	Part no.	
Humidity/temperature probe	 Ø 12 mm	-20 to +70 °C 0 to +100 %RH	±0,3 °C ±2 %RH (+2 to +98 %RH)	0636 9735	
Robust humidity probe for meas. up to +125 °C, short-term up to +140 °C, Ø 12 mm, e.g. exhaust ducts, and for meas. of material equilibrium moisture, e.g. bulk goods	 300 mm Ø 12 mm Ø 12 mm	0 to +100 %RH -20 to +125 °C	±2 %RH (+2 to +98 %RH) ±0,2 °C	0636 2161	
Thin humidity probe with built-in electronics, incl. 4 attachable PTFE protection caps for material moisture equilibrium measurement	 60 mm Ø 4 mm	0 to +100 %RH 0 to +40 °C	±2 %RH (+2 to +98 %RH) ±0,2 °C	0636 2135	
Scatter field probe for fast and damage-free material moisture measurement, with probe cable 1.2 m.		Woods: $\leq 50\%$ Building materials: $\leq 20\%$		0636 6160	
Pressure dewpoint probes	Illustration	Meas. range	Accuracy	t99	Part no.
Pressure dewpoint probe for measurements in compressed air systems	 300 mm Fixed cable	-30 ... +50 °C tpd 0 to +100 %RH	±0,9 °C tpd (+0,1 to +50 °C tpd) ±1 °C tpd (-4,9 to 0 °C tpd) ±2 °C tpd (-9,9 to -5 °C tpd) ±3 °C tpd (-19,9 to -10 °C tpd) ±4 °C tpd (-30 to -20 °C tpd)	300 s	0636 9835
Precision pressure dewpoint probe for measurements in compressed air systems, including certificate with test point -40 °C tpd	 300 mm Fixed cable	-60 to +50 °C tpd 0 to +100 %RH	±0,8 °C tpd (-4,9 to +50 °C tpd) ±1 °C tpd (-9,9 to -5 °C tpd) ±2 °C tpd (-19,9 to -10 °C tpd) ±3 °C tpd (-29,9 to -20 °C tpd) ±4 °C tpd (-40 to -30 °C tpd)	300 s	0636 9836
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	t99	Part no.
Robust air probe, T/C Type K	 115 mm Ø 4 mm Fixed cable	-60 to +400 °C	Class 2	25 s	0602 1793
Surface probes	Illustration	Meas. range	Accuracy	t99	Part no.
Fast-action surface probe with sprung thermocouple strip, also for uneven surfaces, measurement range short-term to +500 °C, TC Type K	 115 mm Ø 5 mm Ø 12 mm Conn.: Fixed cable	-60 to +300 °C	Class 2	3 s	0602 0393
Temperature probe to determine U-value, triple sensor system for measuring wall temperature, modelling clay included		-20 to +70 °C	Class 1 U-value: ±0,1 ±2% of fsy *		0614 1635

* when used with an NTC or wireless humidity probe for measuring outside temperature and 20 K difference between the air inside and outside


Further accessories measuring instrument/probes	Part no.	Printer and Accessories	Part no.
Plug-in mains adapter, 5 VDC 500 mA with European adapter, 100-250 VAC, 50-60 Hz	0554 0447	Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
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	Spare thermal paper for printer (6 rolls), permanent ink, measurement data documentation legible for up to 10 years	0554 0568
testo saline pots for control and humidity adjustment of humidity probes, 11.3 %RH and 75.3 %RH with adapter for humidity probe	0554 0660	Spare thermal paper for printer (6 rolls)	0554 0569
Sintered PTFE filter, Ø 12 mm, for corrosive media	0554 0756	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
PTFE cap, Ø 5 mm, attachable, PTFE material, (5 off) PTFE	0554 1031	Transport and Protection	Part no.
Stainless steel sintered filter, pore size 100 µm, probe protection in dusty atmospheres or at higher flow speeds	0554 0647	Service case for basic equipment of measuring instrument and probes, dimensions: 400 x 310 x 96 mm	0516 0035
Adapter for surface humidity measurement, for humidity probes Ø 12mm	0628 0012	Service case for measuring instrument, probes and accessories, dimensions 520 x 380 x 120 mm	0516 0735
Adhesive material for fixing and sealing	0554 0761	Calibration Certificates	Part no.
Cap for bore holes, for humidity probe Ø 12 mm, Measures equilibrium moisture in bore holes	0554 2140	ISO calibration certificate humidity, Calibration points 11.3 %RH and 75.3 %RH at +25 °C	0520 0006
Lithium battery button cell, CR2032 AA batteries for radio handle	0515 0028	ISO calibration certificate/humidity, cal. points freely selectable from 5 to 95%RH at +15 to +35 °C or at -18 to +80 °C	0520 0106
		DKD calibration certificate/humidity, electronic hygrometers; calibration points 11.3%RH and 75.3%RH at +25 °C	0520 0206
		ISO calibration certificate/U-value probe	0520 0481
		DKD calibration certificate/U-value probe	0520 0981

testo 635: Option: Radio

Radio module for upgrading measuring instrument with radio option

Country versions	Radio freq.	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	869.85 MHz FSK	0554 0188
Radio module for measuring instrument, 915.00 MHz FSK, approval for USA, CA, CL	915.00 MHz FSK	0554 0190

Radio probes for immersion/penetration measurements

Radio immersion/penetration probes	Meas. range	Accuracy	Resolution	t ₉₉
Radio immersion/penetration probe, NTC 	-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


Country versions	Radio freq.	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	869.85 MHz FSK	0613 1001
Radio immersion/penetration probe, NTC, approval for USA, CA, CL	915.00 MHz FSK	0613 1002

Assembled for you: Radio handles with probe head


Radio handles with probe head for air-/ immersion-penetration-meas.	Meas. range	Accuracy	Resolution	t ₉₉
Radio handle for attachable probe heads with T/C probe head for air and immersion/penetration 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)	t ₉₉ (in water) 10 s

Country versions	Radio freq.	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	869.85 MHz FSK	0554 0189
T/C probe head for air/immersion/penetration measurement, attachable to radio handle, T/C Type K		0602 0293
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL	915.00 MHz FSK	0554 0191
T/C probe head for air/immersion/penetration measurement, attachable to radio handle, T/C Type K		0602 0293

Assembled for you: Radio handles with probe head


Radio handles with probe head for surface measurement	Meas. range	Accuracy	Resolution	t ₉₉
Radio handle for attachable probe heads with T/C probe head for surface 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

Country versions	Radio freq.	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	869.85 MHz FSK	0554 0189
T/C probe head for surface measurement, attachable to radio handle, T/C Type K		0602 0394
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL	915.00 MHz FSK	0554 0191
T/C probe head for surface measurement, attachable to radio handle, T/C Type K		0602 0394

Radio probes incl. humidity probe head	Meas. range	Accuracy	Resolution
Radio handle for attachable probe heads with humidity probe head 	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.3 °C	0.1 %RH 0.1 °C

Country versions	Radio freq.	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	869.85 MHz FSK	0554 0189
Humidity probe head, attachable to radio handle		0636 9736
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL	915.00 MHz FSK	0554 0191
Humidity probe head, attachable to radio handle		0636 9736

Radio handles, separate

Radio handles for attachable T/C probes	Meas. range	Accuracy	Resolution
Radio handle for attachable probe heads incl. adapter for attaching T/C probes (Type K) 	-50 to +1000 °C	±(0.7 °C +0.3% of mv) (-40 to +900 °C) ±(0.9 °C +0.5% of mv) (remaining range)	0.1 °C (-50 to +199.9 °C) 1.0 °C (remaining range)

Country versions	Radio freq.	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	869.85 MHz FSK	0554 0189
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA, CA, CL	915.00 MHz FSK	0554 0191

Radio probes: General technical data

	Radio immersion/penetration probe, NTC	Radio handle	Measuring rate	Radio transmission
Battery type	2 x 3V button cell (CR 2032)	2 AAA micro batteries	0.5 s or 10 s, adjustable on handle	Unidirectional
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)		Oper. temp. -20 to +50 °C
			Radio coverage	Storage temp. -40 to +70 °C
			Up to 20 m (without obstructions)	Protection class IP54

U-value measurement made easy with testo 635-2

The U-value (formerly k-value) is the most important value used to rate the energy efficiency of building components. With the new testo 635 measuring this value has never been easier.

Three temperature values are needed to determine the U-value: outer temperature, surface temperature of inner wall as well as indoor air temperature.

Using the new wireless probes, the outer temperature can be quickly and easily measured with the window closed. The probe is simply positioned outside and transmits readings by radio to the measuring instrument in the room.

With the new patented U-value probe the two other temperatures required are measured using one probe. To measure surface temperature, three wires from the U-value probe are attached to the

inner wall using modelling clay.

The air temperature is measured by a sensor on the probe plug.

The three temperatures needed are determined by the connected temperature probes and transferred to the testo 435. The instrument calculates the U-value from them and shows it directly in the display.



Temperature probe to determine U-value, triple sensor system for measuring wall temperature, modelling clay included

Part no. 0614 1635



Measures the U-value in a wall in need of renovation using U-value and wireless temperature/humidity probe (alternatively conventional temperature probe also)



Measures wall surface temperature using three fast-action thermocouple sensors

U-value measurement made easy with testo 635-2

testo 635-2, humidity/temperature measuring instrument with readings memory, PC software and USB data transmission cable, with battery and calibration protocol	0563 6352
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 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	0613 1001
Or alternatively	
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	0554 0189
Humidity probe head, attachable to radio handle	0636 9736
Temperature probe to determine U-value, triple sensor system for measuring wall temperature, modelling clay included Accuracy: U-value: $\pm 0.1 \pm 2\%$ of fsv (when used with an NTC or wireless humidity probe for measuring outside temperature and 20 K difference between the air inside and outside)	0614 1635
Service case for basic equipment of measuring instrument and probes, dimensions: 400 x 310 x 96 mm	0516 0035
ISO calibration certificate/U-value probe	0520 0481
DKD calibration certificate/U-value probe	0520 0981

Convenient material moisture equilibrium measurement with testo 635-2

The moisture of materials can be determined with the testo 635 using two different measurement principles.

Surface measurement

In surface measurement, the influence of water on electrical fields is exploited. With the help of the capacitive measurement principle, the material moisture is determined by the strength of the scatter field measured. The testo scatter field probe provides the benefits of non-destructive and fast measurement on the outer surface of objects, reaching up to 5 cm into the material. Testing large areas is thus child's play, and in combination with the memory function of the testo 635, quickly gives the user an overview.

Detecting extremely damp spots and creating moisture maps can be carried out quickly, easily and frequently.

Depth measurement

Hygroscopic materials (those which absorb moisture) always try to create a moisture balance, the so-called equilibrium moisture, with the surrounding air. By measuring the equilibrium moisture, this behaviour allows conclusions to be drawn about the material moisture.

The measurement is ideally taken in a drill hole in the material. In order to keep the hole as small as possible, a humidity probe with a width of 4 mm and a protective cap is ideal. An adhesive putty is used to seal the drill hole. The measurement allows the spot measurement of material moisture at greater depths.

Material characteristics curves for the following materials are stored in the instrument for the calculation and display in percent by weight [%] for both measurement principles:

- Soft wood
- Hard wood
- Chipboard
- Insulating (vertically perforated) brick
- Solid brick
- Aerated concrete
- Sand-lime brick
- Calcium sulphate screed
- Cement screed
- Concrete

The materials can be easily selected in the menu. When using the user profile "Material", the material can be selected directly with the press of a button.



Determining screed moisture quickly and easily. Measuring several points over a surface with the scatter field probe ensures better security of measurement.



Inserting the humidity probe in a bore hole with PTFE protective cap

Convenient material moisture equilibrium measurement with testo 635-2

testo 635-2, humidity/temperature measuring instrument with readings memory, PC software and USB data transmission cable, with battery and calibration protocol	0563 6352
Scatter field probe for fast and damage-free material moisture measurement, with probe cable 1.2 m.	0636 6160
Thin humidity probe with built-in electronics, incl. 4 attachable PTFE protection caps for material moisture equilibrium measurement	0636 2135
Adhesive material for fixing and sealing	0554 0761

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