



testo 635

# New Measurement Technology for Humidity

Assurance through precision - versatility through data transmission by radio

NEW!



%RH

°C

°C td

P<sub>abs</sub>

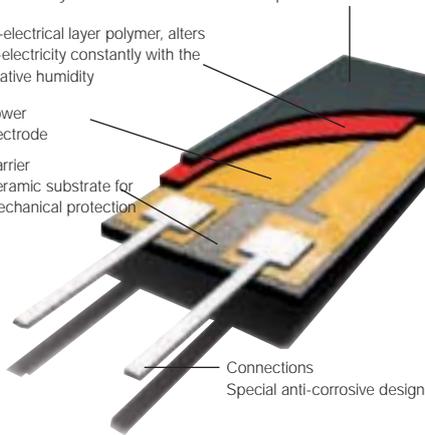
## Reliable long-term humidity measurement

Upper electrode allows moisture to penetrate through to the di-electrical layer and is condensate and dirt-proof

Di-electrical layer polymer, alters di-electricity constantly with the relative humidity

Lower electrode

Carrier  
Ceramic substrate for mechanical protection



The prerequisite for professional humidity measurement is a reliable and precise humidity probe. The internationally patented Testo humidity probe guarantees accurate and reliable long-term measurement results. The excellent long-term reliability of the probe has been proven in many endurance tests under extreme conditions and in an international inter-laboratory test. This means considerably more assurance for the user. Adherence to defined humidity values is a deciding factor in many

work, production and storage areas.

The new testo 635 provides the possibility of monitoring and analysing air humidity, material moisture (basis: equilibrium moisture) and the pressure dew-point.

Three precision probes were tested in an extensive inter-laboratory test at the PTB in Berlin, the NIST in the USA, the French National Institute CETIAT, the Italian National Institute IMGC, the English National Institute NPL, the Spanish National Institute INTA, JOA in Japan, KRISS in Korea, NRCCM in Peking and Testo DKD calibrating laboratory. All test results confirmed the accuracy given by Testo.



## The right probe for every application

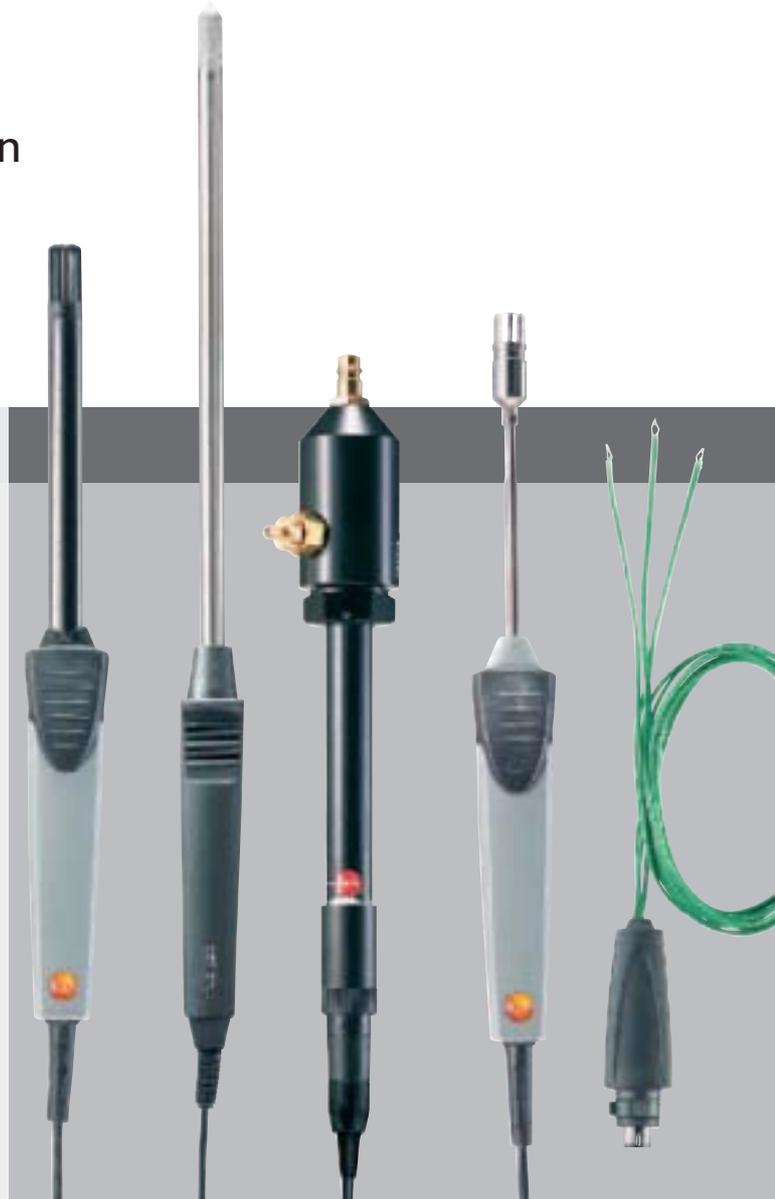
The duct and indoor air temperature range of  $-20...+70\text{ }^{\circ}\text{C}$  is monitored with a compact humidity probe. In addition to the relative humidity, air temperature and dew-point are also displayed.

Moisture on ceilings and walls can be the result of damage to the building or insufficient ventilation. With the help of testo 635, the difference between the wall surface temperature and the ascertained dew-point temperature of the room can be calculated. The wall surface temperature is measured using the patented cross-band probe. This shows the actual temperature of the object to be measured in a few seconds and also adapts excellently to rough surfaces.

Building moisture as well as material moisture can be displayed by testo 635 on the basis of equilibrium moisture. In the instrument 10 material characteristics curves are available for this.

The robust humidity probe is available for measuring equilibrium moisture at higher temperatures up to  $+140\text{ }^{\circ}\text{C}$ .

The pressure dew-point probe was developed specially for controlling and monitoring humidity in pressurized air up to  $-60\text{ }^{\circ}\text{C tpd}$ . The pressure dew-point is displayed directly in the pressurized air system with the pressure dew-point probe.



## Versatility through radio probes

In addition to classical probes, wireless measurement is possible up to a distance of 20m. Damage to the wire or hindrances in handling are therefore eliminated. A maximum of three radio probes can be read and displayed by testo 635. The probes are for the measurement parameters temperature and humidity. The optional, easily attachable radio module can be retrofitted at any time.





## More user comfort

The testo 635 excels through its logical usage and easy-to-follow menus. When making measurements at different locations, testo 635-2 offers the advantage that readings are allocated to the respective measurement location.

For long-term measurements and material moisture measurements, it is possible to switch between different user profiles.

### User profile long-term measurement:

The profile "Standard" provides direct access via function buttons to the definition of the measurement program, such as number of measurements and measurement rate.

### User profile material humidity measurement:

The characteristics curves for different materials can be selected directly via the function buttons. There are 10 material humidity characteristics curves set in the instrument's store. Any number of characteristics curves can be defined at 10 freely selectable points via the PC software. The basis of measurement is the equilibrium moisture. Each equilibrium moisture value is allocated to a material moisture value.

## Absolutely robust instrument concept

The reliability of measuring instruments is a deciding factor. The testo 635 is a robust and reliable measuring instrument with the protection class IP 54. The material used works as a built-in protection against knocks and jars. The large illuminated display is positioned slightly set back in the housing and is thus better protected. The carrying strap on the instrument enables safe transport. Magnets on the back ensure secure attachment at the measuring location.



## Assurance through documentation

With the testo 635, measurement results can be documented on your PC via the convenient PC software or on location using the handy testo report printer.

Single measurements as well as measurement series are stored in the measuring instrument (10,000 readings) and then displayed in tabular or graphic form via PC software.

On location the testo 635 transmits the data to the testo report printer wirelessly by infra-red interface. Date and time as well as the measurement data are documented on the print-out.

With the testo 635-1, measurement data can be printed out on the testo report printer cyclicly with a measurement rate from 1 minute to 24 hours via the function "Cycle printing". In this way, with the testo 635-1, measurement series can be documented even without a data store.



### testo 635 Joint advantages

- Connection of 3 radio probes
- Measurement of air humidity, material equilibrium moisture and pressure dew-point in pressurized air systems
- Display of dew-point distance, min, max and mean values
- Printing of data on the testo report printer
- Backlit display
- Protection type IP 54

### testo 635-1 Advantages

testo 635-1	Part no. 0560 6351
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Cyclic printing of readings on testo report printer, e.g. once per minute

### testo 635-2 Advantages

testo 635-2	Part no. 0563 6352
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- Instrument store for 10,000 readings
- PC software for archiving and documenting measurement data
- Direct display of material moisture due to storable characteristics curves (Basis: material equilibrium moisture)
- Storage of single measurements or measurement series by measurement location
- Quick access to the most important functions via user profiles

## Probes

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	
Robust humidity probe for measurements up to +140°C, Ø 12 mm, in e.g. exhaust ducts and for measuring equilibrium moisture in e.g. bulk material		0 to +100 %RH -20 to +125 °C	±2 %RH (+2 to +98 %RH) ±0.2 °C (-10 to +50 °C) ±0.5 °C (remaining range)	0636 2161	
Thin humidity probe with built-in electronics, incl. 4 attachable Teflon protection caps for material equilibrium humidity measurement		0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.2 °C (-10 to +50 °C) ±0.5 °C (remaining range)	0636 2135	
Pressure dewpoint probes	Illustration	Meas. range	Accuracy	t <sub>99</sub>	Part no.
Pressure dewpoint probe for measurements in compressed air systems		-30 to +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		-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	t <sub>99</sub>	Part no.
Robust air probe, T/C Type K		-60 to +400 °C	Class 2	25 s	0602 1793
Surface probes	Illustration	Meas. range	Accuracy	t <sub>99</sub>	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
Temperature probe to determine U-value, triple sensor system for measuring wall temperature		-20 to +70 °C	Class 1		0614 1635

## Technical data testo 635

Probe type	Type K (NiCr-Ni)	NTC (Humidity probe)	Testo humid. sensor, cap.	Absolute pressure probe	Oper. temp. -20 to +50 °C
Meas. range	-200 to +1370 °C	-40 to +150 °C	0 to +100 %RH	0 to 2000 hPa	Storage temp. -30 to +70 °C
Accuracy ±1 digit	±0.3 °C (-60 to +60 °C) ±0.5% 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)			Battery type Alkali manganese, mignon, Type AA
Resolution	0.1 °C	0.1 °C	0.1 %RH	0.1 hPa	Battery life 200 h
					Dimensions 220 x 74 x 46 mm
					Weight 428 g
					Material/Housing ABS/TPE/Metal
					Warranty 2 years

## 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, GB, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR	869.85 MHz FSK	0554 0188
Radio module for measuring instrument, 915.00 MHz FSK, approval for USA	915.00 MHz FSK	0554 0190

### Assembled for you: Radio handles with probe head

Radio handles with probe head for surface measurement	Meas. range	Accuracy	Resolution	t <sub>99</sub>
 Radio handle for attachable probe heads with T/C probe head for surface measurement Dimensions: 120 mm length, 40 mm probe head length, 5 mm and 12 mm diameters.	-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, GB, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR	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	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) ±0.5 °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, GB, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR	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	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, GB, BE, NL, ES, IT, SE, AT, DK, FI, HU, CZ, PL, GR	869.85 MHz FSK	0554 0189
Radio handle for plug-in probe heads, incl. T/C adapter, approval for USA	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 Up to 20 m (without obstructions)	Storage temp. -40 to +70 °C

## Ordering data

Measuring instrument	Part no.	Printer and Accessories	Part no.
testo 635-1, humidity/temperature measuring instrument, with battery and calibration protocol	0560 6351	Testo printer with wireless IRDA and infrared interface, 1 roll of thermal paper and 4 round cell batteries	0554 0547
testo 635-2, humidity/temperature measuring instrument with readings memory, PC software and USB data transmission cable, with battery and calibration protocol	0563 6352	Spare thermal paper for printer (6 rolls) Measurement data documentation legible for up to 10 years	0554 0568
Accessories for measuring instrument	Part no.	Transport and protection	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	Service case for basic equipment of measuring instrument and probes, dimensions: 400 x 310 x 96 mm	0516 0035
Plug-in mains adapter for testo 735, testo 635, testo 435, 5 VDC 500 mA with European adapter	0554 0447	Service case for measuring instrument, probes and accessories, dimensions: 490 x 420 x 110 mm	0516 0135
Additional accessories	Part no.	Calibration Certificates	Part no.
Handle for attachable humidity probe head for connection to testo 635, incl. probe wire, for measurement / calibration of humidity probe head	0430 9735	ISO calibration certificate/Temperature, Meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C	0520 0071
Control and humidity adjustment set 11.3%RH/75.3%RH incl. adapter for humidity probes	0554 0660	ISO calibration certificate/Humidity, Electronic hygrometers; calibration points 11.3%RH and 75.3%RH at +25°C	0520 0006
Teflon sintered filter, Ø 12 mm, for corrosive substances High humidity range (long-term measurements), high velocities	0554 0756	ISO calibration certificate/Pressure dew point Two adjustment points -10/-40 °C tpd at 6 bar	0520 0136
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	ISO calibration certificate/Pressure Absolute pressure; accuracy 0.1 to 0.6; 3 measuring points distributed over meas. range (0 to 70 bar)	0520 0185
Adapter for surface humidity measurement, for humidity probes Ø 12mm; Locates damp spots on walls, for example	0628 0012		

### Wireless measurement of warehouse conditions

With the radio probe, air humidity and temperature are measured wirelessly, e.g. during the storage of sensitive products.

