Committing to the future

2010

Monitoring Instruments for Food Production, Transport and Storage

Accuracy has top priority

Accuracy has top priority. This applies particularly to food production. Temperature control during food production determines the quality to the same extent as meeting hygiene requirements and adhering to defined ambient conditions when handling and storing products. Testo offers solutions designed for daily testing in the field wherever measurement engineering can help you to detect flaws. We make a point of closely following all the latest developments in food engineering and food law. We also maintain close contact with food inspectors. For this reason, we are always in a position to tell you what is important for your measurements in the context of operational self-checking.

Meeting your requirements

Regardless of whether you wish to measure temperatures, air humidities or analytical variables such as pH value or conductivity, Testo always has the most up-to-date and easy-to-use practical measurement engineering solutions suitable for everyday use in the field. One good example are the new pH probes which function with a gel electrolyte as a reference medium and which are leak-proof, maintenance-free and not affected by dirt ingress, unlike conventional sensors. A wide range of temperature probes with different sensors and various designs, including wireless probes without a bothersome cable, facilitate temperature measurements in practically every application imaginable. There is also a wide range of different probes available for stationary applications.

Ideal for field use – Fully reliable and efficient

Practical, robust and hygienic, accurate and efficient and user-friendly. The demands on measurement engineering for food production are high. But it is not just all about measuring instruments. Testo also has additional solutions with which measurement tasks can be completed in compliance with the task at hand. For example, the patented TopSafe case protects Testo's measurement instruments from splashes, dirt and impact. It is dishwasher-safe thus making it particularly hygienic. Contamination, germ multiplication on instruments and subsequently in products can be practically eliminated by using TopSafe.
The instruments can also be operated through TopSafe when wearing gloves. Another example are the practical, compact and fast printers with which many measurement instruments can be read out via infrared.
Data is printed at the touch of a button; an important tool in situations where only documented measurements count.

Perfection
Food production is regularised by extensive specifications and guidelines. One requirement is that measuring instruments are calibrated i.e. compared at different measurement points with a reference instrument. Our calibration laboratories enjoy international prestige and are also approved for calibrations on behalf of the German Calibration Service (DKD).

Learning changes
What was that again – who has to measure with calibrated measuring instruments? What exactly is the connection between germ multiplication and temperature?

If you need answers to the above questions, just give us a call. We will do our best to answer them.

Freshness guaranteed – Thanks to Testo.

Markus Meichle, Managing Director of Rudolf Meichle GmbH, Friedrichshafen, Germany

Testo in conversation with Markus Meichle, Managing Director of the Rudolf Meichle GmbH in Friedrichshafen, Germany where thirty employees are involved in all aspects of fish trade and fish processing. The range extends from Lake Constance fish to seafood and the Meichle GmbH also has the largest fish smokehouse in Lake Constance.

Mr. Meichle, what is important for the fish processing sector?

RM: Quality and therefore the freshness of the products is the bottom line – together with fast processing and delivery. Fish and seafood are highly sensitive foods; constant checks on the refrigeration temperature in particular, and careful handling of the fresh products are an important requisite for the first-class products which leave our factory every day.

What role does Testo's measurement engineering play?

RM: A central role. When we started out, I believed in the strength of experience. Nowadays the market expects much more from us; we have to account for uninterrupted cooling chains, we are required to carry out regular documented checks when processing. Thanks to Testo's products we are able to carry out our checks quickly and efficiently. An additional benefit of Testo's instruments is that we can consistently optimise our quality management. By the way, what really fascinates me most about Testo is their compact and integrated incorporation of every imaginable measurement requirement in the food sector, all combined with super easy handling.

Once Testo – Always Testo?

Never say "never" and never say "always" but I would just like to say you can rely on Testo – Just take Testo's Customer Service – they never let you down. With Testo we can measure quickly and efficiently – I presume that it will stay that way because the people at Testo are always one step ahead and they know today what the requirements will be tomorrow.

Exactly the right instrument

for every requirement

Highly accurate alarm and logger thermometer – With site management

Monitoring food

Risk factor: Bacteria
Consumers may be exposed to health risks caused by bacteriological contamination of food. This risk becomes dangerous when a specified quantity of germs is exceeded. Bacterial growth relies on temperature!

Measurements on non-frozen food
For fast and accurate measurements, the penetration probe must be inserted at least 5 times, better 10 times as deep as it is thick.

Measurements on frozen food
Use probes suitable for large pieces (e.g. screw-in frozen food probe) and insert sufficiently (min. 4 cm). In the case of flat products (e.g. pizza, fish), use probes with a thin or reinforced measurement tip.

Measurements in freezers and cold storage rooms
The air temperature in freezers and cold storage rooms should be a constant -18 °C. If monitoring over longer time periods, data loggers with alarm, if limit values are exceeded, are recommended. Fast-response probes for measuring penetration temperature are recommended when dispensing food. A minimum temperature of +65 °C to +70 °C is recommended.

Non-contact temperature measurement (screening test)
At greater distances, the ideal distance between measuring instrument and the object to be measured is dependent on the optics of the infrared measuring instrument. Always measure the temperature of the packaging on packaged food; in the case of plastic seal packaging, only measure at points where the packaging comes into direct contact with the product. Major measurement errors occur if ice crystals or shiny, reflective surfaces are measured.

Wireless measurement using radio probe

Analyses and documents readings under product names using PC software (included)

Displays site and parameter. Up to 99 product names can be stored in the instrument.

On-site printout of readings using Testo fast printer

testo 735-2

The robust and compact measuring instrument with a probe socket for highly accurate Pt100 probes and two sockets for fast-action thermocouple probes. Readings from up to three additional temperature probes can be displayed in the testo 735-2 measuring instrument's clear display; data transmission is by radio, i.e. wireless. The measurement values can be simultaneously transferred to a PC and stored there. In this way, a total of 6 channels is recorded by the measuring instrument. A system accuracy of 0.05 °C with a resolution of 0.001 °C is reached using the plug-in highly accurate Pt100 immersion/penetration probe. The measuring instrument is therefore ideally suited for use as a working standard.

Temperature characteristics are recorded in the instrument and then analysed in graphics and tables on your PC/Notebook. Data is printed on site on the Testo fast printer using infrared.

Selectable user profiles, i.e. allocation of specific function buttons to an application facilitate intuitive and fast operation. Individual protocols or measurement series can be stored according to site. Up to 99 sites can be stored in the instrument. The storage cycle is user-defined between 0.5 seconds and 24 hours.

- System accuracy up to 0.05 °C
- Instrument memory for up to 10,000 readings
- PC software for filing, analysing and documenting measurement data (included)
- Displays, saves and prints Delta T, min, max and mean values
- Audible alarm if limit values are exceeded
- Protection class IP65

testo 735-2
testo 735-2, 3 channel temperature measuring instrument T/C Type T/J/K/S/Pt100, audible alarm, connection for max. 3 optional radio probes, with data memory, PC software and USB data transmission cable, includes battery and calibration protocol **Part no. 0563 7352**

PC software for filing and documenting measurement data (included)

Monitors baking temperature

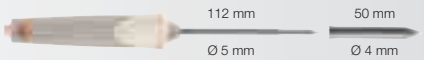
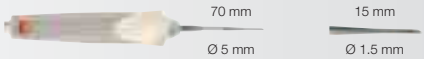
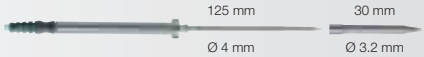
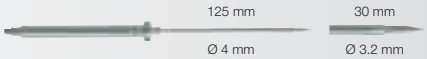
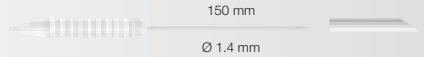
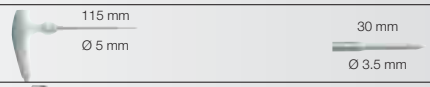
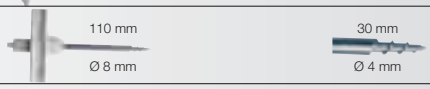
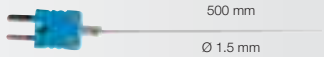
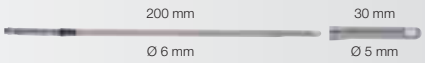
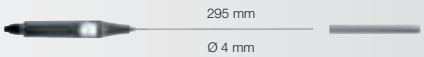
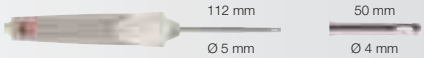
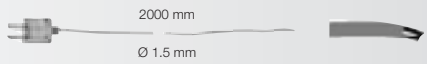
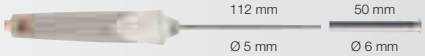
Fast documentation thanks to on-site data printout

Spot checks for frozen goods in refrigerated rooms

Printer and Accessories	Part no.
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
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
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
Additional accessories	**Part no.**
Plug-in mains adapter, 5 VDC 500 mA with European adapter, 100-250 VAC, 50-60 Hz	0554 0447
Lithium battery, button cell, type CR 2032 for wireless probes	0515 0028

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, probes and accessories, dimensions 520 x 380 x 120 mm	0516 0735
Calibration Certificates	**Part no.**
ISO calibration certificate/temperature, single point calibration for surface thermometer; calibration point +60°C	0520 0072
ISO calibration certificate/temperature, single point calibration for surface thermometer; calibration point +120°C	0520 0073
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C; +60°C	0520 0001
ISO calibration certificate/temperature, for air/immersion probes, calibration points -8°C; 0°C; +40°C	0520 0181

Suitable probes at a glance / Technical data

Immers./penetr. probes	Illustration	Meas. range	Accuracy	t99	Part no.
Waterproof standard immersion/penetration probe, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	7 s	0603 1293 **Conn.:** Fixed cable
Waterproof precision immersion/penetration probe without visible penetration hole, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)		0603 2693 **Conn.:** Fixed cable
Stainless steel food probe (IP67) with PUR cable, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	7 s	0603 2192 **Conn.:** Fixed cable
Stainless steel food probe (IP67), with PTFE cable to +250 °C, TC Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	7 s	0603 3392 **Conn.:** Fixed cable
Waterproof, super-quick needle probe for measurements without visible penetration hole, T/C Type T		-50 to +250 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	2 s	0628 0027 **Conn.:** Fixed cable
Robust food penetration probe with special handle, reinforced cable (PVC), T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	6 s	0603 2492 **Conn.:** Fixed cable
Frozen food probe, corkscrew design, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	8 s	0603 3292 **Conn.:** Plug-in cable
Quick needle probe to monitor cooking in oven, T/C Type T		-50 to +250 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	2 s	0628 0030 **Conn.:** Fixed cable
Measurement tip with T/C adapter Type T, ideal for fast-action measurement on incoming goods		-50 to +350 °C	Class 1	5 s	0628 0023
Laboratory probe Pt100, glass-coated, exchangeable glass pipe (Duran 50), resistant to corrosive substances		-50 to +400 °C	Class A (-50 to +300 °C), Class B (remaining range)	45 s	0609 7072 **Conn.:** Fixed cable
Highly accurate Pt100 immersion/penetration probe incl. factory certificate (test points 0 °C and +156 °C)		-40 to +300 °C	±0.05 °C (+0.01 to +100 °C) ±(0.05 °C +0.05% of mv) (remaining range)	60 s	0614 0235 **Conn.:** Fixed cable
Air probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Robust, affordable air probe, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	25 s	0603 1793 **Conn.:** Fixed cable
Flexible oven probe, Tmax +250 °C, PTFE cable		-50 to +250 °C	Class 1	5 s	0603 0646
Surface probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Waterproof surface probe with widened measurement tip for flat surfaces, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	30 s	0603 1993 **Conn.:** Fixed cable

The measuring instrument inside TopSafe is waterproof with this probe.

Technical data				
Probe type*	**Pt100**	**Pt100 with probe 0614 0235**	**Type K (NiCr-Ni)**	**Type T (Cu-CuNi)**
Meas. range	-200 to +800 °C	-40 to +300 °C	-200 to +1370 °C	-200 to +400 °C
Accuracy ±1 digit	±0.2 °C (-100 to +199.9 °C) ±0.2% of mv (remaining range)	See probe data	±0.3 °C (-60 to +60 °C) ±(0.2 °C + 0.3% of mv) (remaining range)	±0.3 °C (-60 to +60 °C) ±(0.2 °C + 0.3% of mv) (remaining range)
Resolution	0.05 °C	0.001 °C (-40 to +199.999 °C) 0.01 °C (remaining range)	0.1 °C	0.1 °C
Probe type*	**Type J (Fe-CuNi)**	**Type S (Pt10Rh-Pt)**		
Meas. range	-200 to +1000 °C	0 to +1760 °C		
Accuracy ±1 digit	±0.3 °C (-60 to +60 °C) ±(0.2 °C + 0.3% of mv) (remaining range)	±1 °C		
Resolution	0.1 °C	1 °C		
Battery type	Alkali manganese, mignon, Type AA		Oper. temp.	-20 to +50 °C
Battery life	Approx. 300 h with TC probe Approx. 250 h with Pt100 Approx. 60 h with 0614 0235		Storage temp.	-30 to +70 °C
			Dimensions	220 x 74 x 46 mm
Protection class	IP65		Weight	428 g

*Probe type NTC when using radio immersion/penetration probes

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

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 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

Probe type	Radio immersion/penetration probe, NTC	Radio 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 obstructions)

Radio transmission	Unidirectional
Oper. temp.	-20 to +50 °C
Storage temp.	-40 to +70 °C
Protection class	IP54

testo 926 – Fast-action, accurate, versatile thermometer

Do you manage to get home by 5pm every day?

Axel Rieple,
Head of Sales,
Germany

Probably not, because your job expects above-average dedication. You also need partners who won't let you down. We are leading the way with our quality service. Check it out for yourself.

Do you need an accessory, do you have a question about measuring or do you need a replacement instrument? – Testo Service employees are at your service when you need them. Good to know when the situation requires.

Wireless measurement using radio probes

Displays max./min values in 2 line, backlit display

TopSafe, protects measuring instrument from impact, dirt and water, dishwasher-safe (optional)

On-site data printout on Testo fast printer (optional)

testo 926

The fast-action, efficient temperature measuring instrument, testo 926, for the food sector. The optional TopSafe protection case renders it insensitive to dirt, therefore making it the ideal partner for large-scale kitchens, hotels, restaurants or the food industry. Besides measuring minimum and maximum values, readings can also be printed on site on the Testo fast printer. In addition to the wide range of standard probes with cable, a wireless radio probe can be used simultaneously, if required.

- Measurement parameters °C, °F, °R
- Fast-action probes for every application
- Wireless measurement with radio probes possible (optional)
- Audible alarm (adjustable alarm limits)
- Measurement data printout on site on the Testo fast printer
- TopSafe, the indestructible protection case (optional)

TopSafe, fast cleaning in the dishwasher

Monitoring temperature in a coffee-roasting plant

Auto-hold automatically recognises full-scale value

Measurement of penetration temperature when smoking foods, wireless radio transmission of measurement data

Printer and Accessories	Part no.
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries, for printing out measurements on site	0554 0549
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
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
Additional accessories	**Part no.**
9V rech. battery for instrument, instead of battery	0515 0025
Recharger for 9V rechargeable battery, for external recharging of 0515 0025 battery	0554 0025
Lithium battery, button cell, type CR 2032 for wireless probes	0515 0028
Transport and Protection	**Part no.**
TopSafe, protects from impact and dirt	0516 0220
Case for measuring instrument and probes	0516 0210
Transport case for meas. instr. and probes (405 x 170 x 85 mm)	0516 0201
Transport case for measuring instrument, 3 probes and accessories (430 x 310 x 85 mm)	0516 0200
Calibration Certificates	**Part no.**
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C; +60°C	0520 0001
ISO calibration certificate/temperature, meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C	0520 0071
ISO calibration certificate/temperature, single point calibration for surface thermometer; calibration point +60°C	0520 0072
ISO calibration certificate/temperature, single point calibration for surface thermometer; calibration point +120°C	0520 0073
ISO calibration certificate/temperature, for air/immersion probes, calibration point -18°C	0520 0061
ISO calibration certificate/temperature, for air/immersion probes, calibration point 0°C	0520 0062
ISO calibration certificate/temperature, for air/immersion probes, calibration point +60°C	0520 0063
ISO calibration certificate/temperature, for air/immersion probes, calibration points -8°C; 0°C; +40°C	0520 0181

EN 13485

Only in combination with TopSafe

testo 926

testo 926-1, 1 channel food temperature measuring instrument T/C Type T, audible alarm, connection to an optional radio probe, with battery and calibration protocol

Part no. 0560 9261

testo 926, Starter set

testo 926, Starter set, 1 channel food temperature measuring instrument T/C Type T, incl. TopSafe, standard immersion/penetration probes, battery and calibration protocol

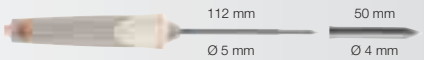
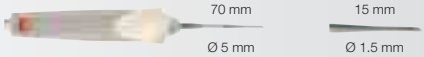
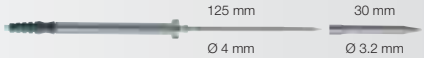
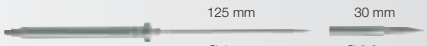
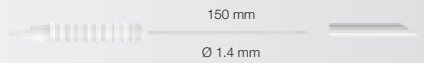
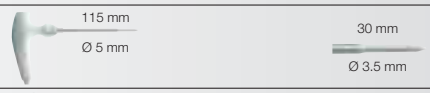
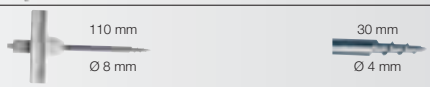
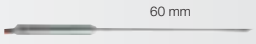
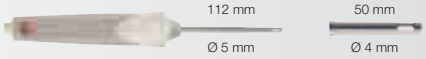
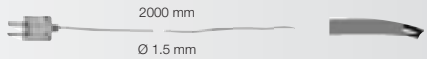
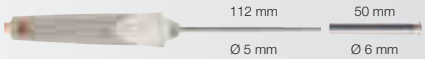
Part no. 0563 9262

Time for the essentials

"To be honest with you, the telephone is usually quiet between 6 and 7pm but the few people who do call are delighted. That's why I'm happy to be here too. Testo's Sales and Customer Service in Germany can be reached between 7am and 7pm."

Regina Walz
Sales

Suitable probes at a glance / Technical data

Immers./penetr. probes	Illustration	Meas. range	Accuracy	t99	Part no.
Waterproof standard immersion/penetration probe, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	7 s	0603 1293 **Conn.:** Fixed cable
Waterproof precision immersion/penetration probe without visible penetration hole, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)		0603 2693 **Conn.:** Fixed cable
Stainless steel food probe (IP67) with PUR cable, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	7 s	0603 2192 **Conn.:** Fixed cable
Stainless steel food probe (IP67), with PTFE cable to +250 °C, TC Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	7 s	0603 3392 **Conn.:** Fixed cable
Waterproof, super-quick needle probe for measurements without visible penetration hole, T/C Type T		-50 to +250 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	2 s	0628 0027 **Conn.:** Fixed cable
Robust food penetration probe with special handle, reinforced cable (PVC), T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	6 s	0603 2492 **Conn.:** Fixed cable
Frozen food probe, corkscrew design, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	8 s	0603 3292 **Conn.:** Plug-in cable
Quick needle probe to monitor cooking in oven, T/C Type T		-50 to +250 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	2 s	0628 0030 **Conn.:** Fixed cable
Measurement tip with T/C adapter Type T, ideal for fast-action measurement on incoming goods		-50 to +350 °C	Class 1	5 s	0628 0023
Air probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Robust, affordable air probe, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	25 s	0603 1793 **Conn.:** Fixed cable
Flexible oven probe, Tmax +250 °C, PTFE cable		-50 to +250 °C	Class 1	5 s	0603 0646
Surface probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Waterproof surface probe with widened measurement tip for flat surfaces, T/C Type T		-50 to +350 °C	±0.2 °C (-20 to +70 °C) Class 1 (remaining range)	30 s	0603 1993 **Conn.:** Fixed cable

The measuring instrument inside TopSafe is waterproof with this probe.

Technical data	
Probe type	**Type T (Cu-CuNi) or NTC and Type K if radio immersion/penetration probes are used**
Parameters	°C, °F, °R
Meas. range	-50 to +400 °C
Accuracy ±1 digit	±0.3 °C (-20 to +70 °C) ±(0.7 °C ±0.5% of mv) (remaining range)
Resolution	0.1 °C (-50 to +199.9 °C) 1 °C (remaining range)
Oper. temp.	-20 to +50 °C
Storage temp.	-40 to +70 °C
Battery type	9V block battery, 6F22
Battery life	200 h (connected probe, backlight off) 45 h (radio mode, backlight off) 68 h (connected probe, backlight always on) 33 h (radio mode, backlight always on)
Dimensions	182 x 64 x 40 mm
Weight	171 g

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

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 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

Probe type	Radio immersion/penetration probe, NTC	Radio 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 obstructions)

Radio transmission	Unidirectional
Oper. temp.	-20 to +50 °C
Storage temp.	-40 to +70 °C
Protection class	IP54

Temperature monitoring — Highly accurate

testo 110

The highly accurate, versatile testo 110 temperature measuring instrument is ideal for the food sector on account of its optional TopSafe protection case. The engineering used is specially designed for applications in refrigerated store rooms and cabinets and for outdoors.

In addition to the wide range of conventional probes available with cable, a wireless radio probe can be used simultaneously (if radio module is used in instrument).

- Wireless measurement with radio probes possible (optional)
- Audible alarm (adjustable alarm limits)
- Displays max/min readings in 2 line, backlit display

Measurement data printout on site on Testo fast printer (optional)

Monitors in warehouses

EN 13485 — Only in combination with TopSafe

TopSafe, the indestructible protective case (optional)

Checks the exact temperature of freshly melted chocolate, no annoying cable thanks to the use of the radio probe

testo 110
testo 110, 1 channel temperature measuring instrument NTC, audible alarm, connection to an optional radio probe, with battery and calibration protocol **Part no. 0560 1108**

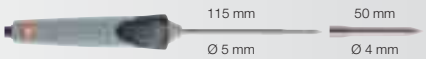
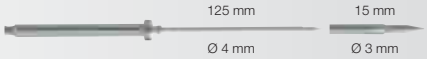
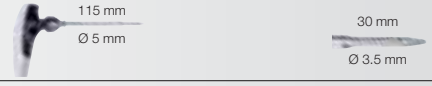
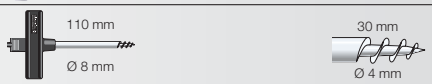
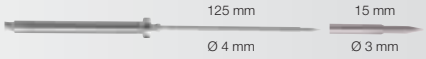
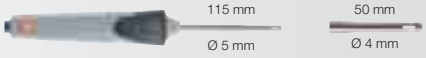
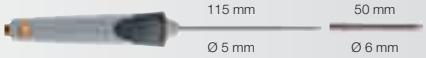
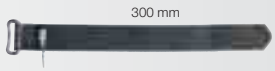
Printer and Accessories	Part no.
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
Spare thermal paper for printer (6 rolls), measurement data documentation legible for up to 10 years	0554 0568
Spare thermal paper for printer (6 rolls)	0554 0569
External 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
Additional accessories	**Part no.**
9V rech. battery for instrument, instead of battery	0515 0025
Recharger for 9V rechargeable battery, for external recharging of 0515 0025 battery	0554 0025
Lithium battery, button cell, type CR 2032 for wireless probes	0515 0028
Transport and Protection	**Part no.**
TopSafe, protects from impact and dirt	0516 0221
Case for measuring instrument and probes	0516 0210
Transport case for meas. instr. and probes (405 x 170 x 85 mm)	0516 0201
Transport case for measuring instrument, 3 probes and accessories (430 x 310 x 85 mm)	0516 0200
Calibration Certificates	**Part no.**
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C; +60°C	0520 0001
ISO calibration certificate/temperature, single point calibration for surface thermometer; calibration point +60°C	0520 0072
ISO calibration certificate/temperature, single point calibration for surface thermometer; calibration point +120°C	0520 0073

* TopSafe: TPU casing; TPE lid; PC stand

Recommended Set: testo 110 – Starter set	
testo 110, 1 channel temperature measuring instrument NTC, audible alarm, connection to an optional radio probe, with battery and calibration protocol	0560 1108
TopSafe, protects from impact and dirt	0516 0221
Waterproof NTC immersion/penetration probe	0613 1212
Transport case for meas. instr. and probes (405 x 170 x 85 mm)	0516 0201

Technical data	
Probe type	**NTC**
Meas. range	-50 to +150 °C
Accuracy ±1 digit	±0.2 °C (-20 to +80 °C) ±0.3 °C (remaining range)
Resolution	0.1 °C
Oper. temp.	-20 to +50 °C
Storage temp.	-40 to +70 °C
Battery type	9V block battery, 6F22
Battery life	200 h (connected probe, backlight off) 45 h (radio mode, backlight off) 68 h (connected probe, backlight always on) 33 h (radio mode, backlight always on)
Dimensions	182 x 64 x 40 mm
Weight	171 g

Suitable probes at a glance / Option: Radio

Immers./penetr. probes	Illustration	Meas. range	Accuracy	t99	Part no.
Waterproof NTC immersion/penetration probe		-50 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	10 s	0613 1212 **Conn.:** Fixed cable, 1.2 m
Stainless steel NTC food probe (IP65) with PUR cable		-50 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	8 s	0613 2211 **Conn.:** Fixed cable, 1.6 m
Robust NTC food penetration probe with special handle, reinforced PUR cable		-25 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	7 s	0613 2411 **Conn.:** Fixed cable
Frozen food probe NTC, corkscrew design (incl. plug-in wire)		-50 to +140 °C [1]	±0.5% of mv (+100 to +140 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	20 s	0613 3211 **Conn.:** Plug-in cable
Stainless steel NTC food probe (IP67) with PTFE cable to +250°C		-50 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	8 s	0613 3311 **Conn.:** Fixed cable
Air probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Efficient, robust NTC air probe		-50 to +125 °C [2]	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	60 s	0613 1712 **Conn.:** Fixed cable
Surface probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Waterproof NTC surface probe for flat surfaces		-50 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	35 s	0613 1912 **Conn.:** Fixed cable
Pipe wrap probe with Velcro for pipe diameter to max. 75 mm, Tmax. +75°C, NTC		-50 to +70 °C	±0.2 °C (-25 to +70 °C) ±0.4 °C (-50 to -25.1 °C)		0613 4611 **Conn.:** Fixed cable

The measuring instrument inside TopSafe is waterproof with this probe.

1) Long-term meas. range +125 °C, short-term +140 °C
2) Long-term meas. range +125 °C, short-term +150 °C

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	Illustration	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

Radio probes: General technical data

Probe type	Radio immersion/penetration probe, NTC	Radio 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 obstructions)

Radio transmission	Unidirectional
Oper. temp.	-20 to +50 °C
Storage temp.	-40 to +70 °C
Protection class	IP54

Calibratable Temperature Measuring Instrument

testo 112

testo 112 combines two temperature measuring instruments in one. In addition to the complete NTC probe range, Pt100 probes can also be attached. In this way, the temperature range of -50 to +300 °C is covered to the highest accuracy level. testo 112 is therefore the ideal instrument for food measurements ranging from the deep-freeze sector to the oil temperature in deep-fat fryers.

The backlit display makes it easy to read in environments with poor lighting. Minimum and maximum readings can be called up at the touch of a button. It is possible to print readings on site, for documentation purposes, on a fast printer (accessory).

- Large, backlit display with 14 mm high characters
- Call up max/min values at the touch of a button

Data printout on site on the Testo fast printer (optional)

TopSafe, indestructible protection case (optional)

Monitors temperature in refrigerated counter

testo 112
testo 112, 1 channel temperature measuring instrument NTC/Pt100, calibratable, with battery **Part no. 0560 1128**

14.40
92.03

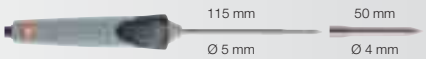
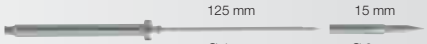
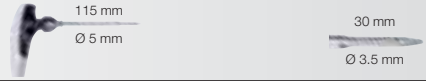
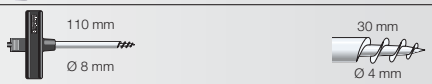
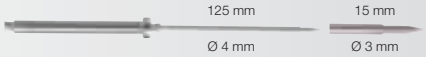
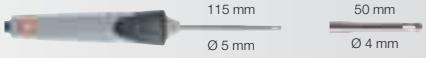
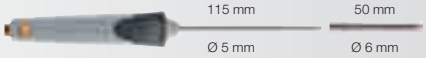
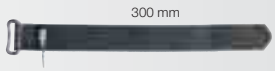
PTB Type approval

Printer and Accessories	Part no.
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
Spare thermal paper for printer (6 rolls)	0554 0568
Spare thermal paper for printer (6 rolls)	0554 0569
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
Additional accessories and spare parts	**Part no.**
9V rech. battery for instrument, instead of battery	0515 0025
Recharger for 9V rechargeable battery, for external recharging of 0515 0025 battery	0554 0025
Transport and Protection	**Part no.**
TopSafe, protects from impact and dirt	0516 0220
Transport case for meas. instr. and probes (405 x 170 x 85 mm)	0516 0201
Transport case for measuring instrument, 3 probes and accessories (430 x 310 x 85 mm)	0516 0200
Calibration Certificates	**Part no.**
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C; +60°C	0520 0001
ISO calibration certificate/temperature, meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C	0520 0071

* TopSafe: TPU casing; TPE lid; PC stand

Technical data		
Probe type	**NTC**	**Pt100**
Meas. range	-50 to +120 °C	-50 to +300 °C
Accuracy ±1 digit	±0.2 °C (-25 to +40 °C) ±0.3 °C (+40.1 to +80 °C) ±0.5 °C (remaining range)	±0.2 °C (-50 to +200 °C) ±0.3 °C (remaining range)
Resolution	0.1 °C	0.1 °C
Oper. temp.	-20 to +50 °C	
Storage temp.	-30 to +70 °C	
Battery type	9V block battery, 6F22	
Battery life	100 h	
Dimensions	182 x 64 x 40 mm	
Weight	171 g	

Suitable probes at a glance

Immers./penetr. probes (not calibratable)	Illustration	Meas. range	Accuracy	t99	Part no.
Waterproof NTC immersion/penetration probe		-50 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	10 s	0613 1212 **Conn.:** Fixed cable
Stainless steel NTC food probe (IP65) with PUR cable		-50 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	8 s	0613 2211 **Conn.:** Fixed cable
Robust NTC food penetration probe with special handle, reinforced PUR cable		-25 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	7 s	0613 2411 **Conn.:** Fixed cable
Frozen food probe NTC, corkscrew design (incl. plug-in wire)		-50 to +140 °C [1]	±0.5% of mv (+100 to +140 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	20 s	0613 3211 **Conn.:** Plug-in cable
Stainless steel NTC food probe (IP67) with PTFE cable to +250°C		-50 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	8 s	0613 3311 **Conn.:** Fixed cable
Air probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Efficient, robust NTC air probe		-50 to +125 °C [2]	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	60 s	0613 1712 **Conn.:** Fixed cable
Surface probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Waterproof NTC surface probe for flat surfaces		-50 to +150 °C [2]	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	35 s	0613 1912 **Conn.:** Fixed cable
Pipe wrap probe with Velcro for pipe diameter to max. 75 mm, Tmax. +75°C, NTC		-50 to +70 °C	±0.2 °C (-25 to +70 °C) ±0.4 °C (-50 to -25.1 °C)		0613 4611 **Conn.:** Fixed cable

The measuring instrument inside TopSafe is waterproof with this probe.

1) Long-term meas. range +125 °C, short-term +140 °C
2) Long-term meas. range +125 °C, short-term +150 °C

Efficient Pt100/NTC lab temperature measuring instrument – With wide measuring range

testo 720

The robust temperature measuring instrument testo 720 for accurate air, surface and immersion measurements in the measuring range from -100 to +800 °C. Either Pt100 or NTC probes can be connected to the one-channel measuring instrument.

testo 720 is resistant to corrosive substances when used with the indestructible TopSafe. The glass-coated probe, also resistant to corrosive substances, has proven itself in daily laboratory work. An audible alarm sounds if limit values are exceeded. Current measurement data such as max/min data can be printed on site on the Testo fast printer.

- Accurate one channel measuring instrument for Pt100 or NTC probe
- Continuous display of max/min values
- Hold button to freeze readings
- Display light
- TopSafe, the indestructible protection case (optional)
- Audible alarm (adjustable limit values)

Glass probes, the durable alternative

On-site data printout using Testo fast printer (optional)

Highly accurate temperature measurements in a food laboratory, testo 720 with TopSafe protection case

testo 720

testo 720, 1 channel temperature measuring instrument Pt100/NTC, with battery and calibration protocol

Part no. 0560 7207

Printer and Accessories	Part no.
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
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
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
Additional accessories and spare parts	**Part no.**
9V rech. battery for instrument, instead of battery	0515 0025
Recharger for 9V rechargeable battery, for external recharging of 0515 0025 battery	0554 0025
Silicone heat paste (14g), Tmax = +260°C, improves heat transfer in surface probes	0554 0004
Transport and Protection	**Part no.**
TopSafe, protects from impact and dirt	0516 0221
Case for measuring instrument and probes	0516 0210
Transport case for meas. instr. and probes (405 x 170 x 85 mm)	0516 0201
Transport case for measuring instrument, 3 probes and accessories (430 x 310 x 85 mm)	0516 0200
Calibration Certificates	**Part no.**
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C; +60°C	0520 0001
ISO calibration certificate/temperature, meas. instr. with surface probe; calibration points +60°C; +120°C; +180°C	0520 0071

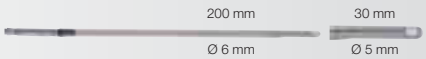
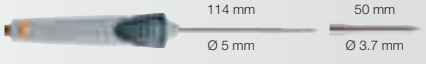
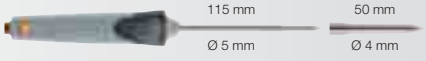
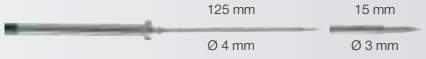
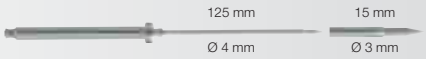
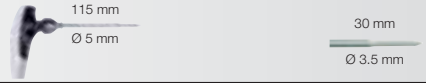
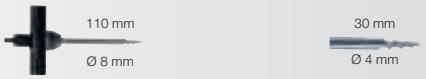
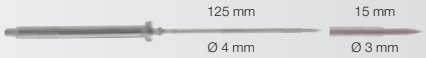
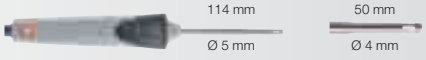
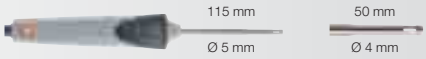
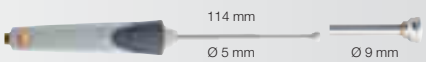
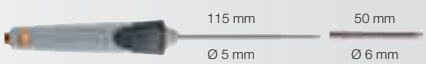
* TopSafe: TPU casing; TPE lid; PC stand

Recommended Set: Laboratory set with corrosion-proof probe

testo 720, 1 channel temperature measuring instrument Pt100/NTC, with battery and calibration protocol	0560 7207
TopSafe, protects from impact and dirt	0516 0221
Laboratory probe Pt100, glass-coated, exchangeable glass pipe (Duran 50), resistant to corrosive substances	0609 7072

Technical data		
Probe type	**Pt100**	**NTC**
Meas. range	-100 to +800 °C	-50 to +150 °C
Accuracy ±1 digit	±0.2% of mv (+200 to +800 °C) ±0.2 °C (remaining range)	±0.2 °C (-25 to +40 °C) ±0.3 °C (+40.1 to +80 °C) ±0.4 °C (+80.1 to +125 °C) ±0.5 °C (remaining range)
Resolution	0.1 °C	0.1 °C
Oper. temp.	-20 to +50 °C	
Storage temp.	-30 to +70 °C	
Battery type	9V block battery	
Battery life	70 h	
Dimensions	182 x 64 x 40 mm	
Weight	171 g	

Suitable probes at a glance

Laboratory probes	Illustration	Meas. range	Accuracy	t99	Part no.
Laboratory probe Pt100, glass-coated, exchangeable glass pipe (Duran 50), resistant to corrosive substances		-50 to +400 °C	Class A (-50 to +300 °C), Class B (remaining range)	45 s	0609 7072 **Conn.:** Fixed cable
Immers./penetr. probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Robust, waterproof Pt100 immersion/penetration probe		-50 to +400 °C	Class A (-50 to +300 °C), Class B (remaining range)	12 s	0609 1273 **Conn.:** Fixed cable
Waterproof NTC immersion/penetration 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)	10 s	0613 1212 **Conn.:** Fixed cable
Robust, Pt100 stainless steel food probe (IP65)		-50 to +400 °C	Class A (-50 to +300 °C), Class B (remaining range)	10 s	0609 2272 **Conn.:** Fixed cable
Stainless steel NTC food probe (IP65) with PUR cable		-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)	8 s	0613 2211 **Conn.:** Fixed cable
Robust NTC food penetration probe with special handle, reinforced PUR cable		-25 to +150 °C	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	7 s	0613 2411 **Conn.:** Fixed cable
Frozen food probe NTC, corkscrew design (incl. plug-in wire)		-50 to +140 °C	±0.5% of mv (+100 to +140 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	20 s	0613 3211 **Conn.:** Plug-in cable
Stainless steel NTC food probe (IP67) with PTFE cable to +250°C		-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)	8 s	0613 3311 **Conn.:** Fixed cable
Air probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Efficient, robust air probe, Pt100		-50 to +400 °C	Class A (-50 to +300 °C), Class B (remaining range)	70 s	0609 1773 **Conn.:** Fixed cable
Efficient, robust NTC air probe		-50 to +125 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	60 s	0613 1712 **Conn.:** Fixed cable
Surface probes	**Illustration**	**Meas. range**	**Accuracy**	**t99**	**Part no.**
Robust, waterproof surface temperature probe, Pt100		-50 to +400 °C	Class B	40 s	0609 1973 **Conn.:** Fixed cable
Waterproof NTC surface probe for flat surfaces		-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)	35 s	0613 1912 **Conn.:** Fixed cable

The measuring instrument inside TopSafe is waterproof with this probe.

Core thermometer – fast and robust

testo 106

The core thermometer testo 106 with a thin, robust measurement tip, excellently suited for fast core temperature checks.

- Automatic recognition of final value (Auto-Hold)

EN 13485 Only in combination with Topsafe

Accessories Ordering data	Part no.
TopSafe (indestructible protection case), waterproof and dishwasher-safe protection case (IP67)	0516 8265
Frozen food drill, loss-proof attachment to belt clip	0554 0826
Holding clip with probe protection cap	0554 0825
ISO calibration certificate/temperature, for air/immersion probes, calibration point +60°C	0520 0063
ISO calibration certificate/temperature, for air/immersion probes, calibration point -18°C	0520 0061
ISO calibration certificate/temperature, for air/immersion probes, calibration point 0°C	0520 0062
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C	0520 0041
ISO calibration certificate/temperature, for air/immersion probes, calibration points -8°C; 0°C; +40°C	0520 0181

Waterproof and protected from impact with protective case TopSafe

Set accessories

1 TopSafe

2 Probe protecting cap

3 Practical belt-clip

Checking temperature in sensitive foodstuffs

testo 106

testo 106, core thermometer incl. probe protecting cap and battery

Part no. 0560 1063

Set testo 106

Set testo 106, core thermometer incl. TopSafe (waterproof protective case, IP 67), belt clip, probe protecting cover and battery

Part no. 0563 1063

Technical data			
Meas. range	-50 to +275 °C		
Accuracy ±1 digit	±1 % of mv (+100 to +275 °C) ±0.5 °C (-30 to +99.9 °C)	±1 °C (-50 to -30.1 °C)	
Resolution	0.1 °C	Battery life	350 h
Oper. temp.	-20 to +50 °C	Dimensions	215 x 34 x 19 mm
Storage temp.	-40 to +70 °C	Weight	80 g

Robust one-hand thermometer – With interchangeable measurement tips

testo 105

The robust food thermometer with interchangeable measurement tips for monitoring in abattoirs, refrigerated rooms,...

- 2 user-defined limit values, visual or audible alarm
- Built-in display illumination
- Audible key feedback
- 1 line display
- Waterproof (IP 65) and robust

testo 105

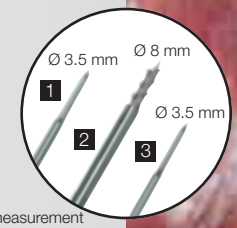
One-hand thermometer with standard measurement tip, incl. battery

Part no. 0563 1051

Technical data	
Probe type	**NTC**
Meas. range	-50 to +275 °C
Accuracy ±1 digit	±0.5 °C (-20 to +100 °C) ±1 °C (-50 to -20.1 °C) ±1 % of mv (+100.1 to +275 °C)
Resolution	0.1 °C
Storage temp.	-40 to +70 °C
Oper. temp.	-20 to +50 °C
Battery type	4 x Button cell LR44
Auto Off	10 min
Protection class	IP65
Dimensions	145 x 38 x 195 mm
Weight	139 g

Accessories Ordering data
Standard measurement tip, 100 mm long Part no. 0613 1051
Frozen food tip, 90 mm long Part no. 0613 1052
Long measurement tip, 200 mm long Part no. 0613 1053
Aluminium case for the testo 105 one-hand thermometer and accessories Part no. 0554 1051
Button cell batteries, Type LR 44, 1.5 Volt (4 off) Part no. 0515 0032
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C Part no. 0520 0041

EN 13485



1 Standard measurement tip 100 mm

2 Frozen food tip 90 mm

3 Long measurement tip 200 mm

Easy-to-change measurement tips

Penetration temperature measurement prior to further processing

testo 105 with frozen food measurement tip

testo 105 with frozen food measurement tip, belt/wall holder and batteries

Part no. 0563 1054

Complete case

One-hand thermometer with standard measurement tip, frozen food tip, long measurement tip and belt/wall holder in aluminium case

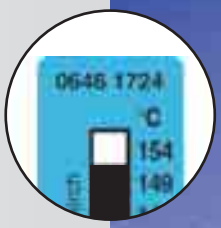
Part no. 0563 1052

Thermometer strips – Easy and reliable

testoterm strips

testoterm thermometer strips are self-adhesive foils with temperature sensitive elements for temperature monitoring and regulation.

- +37 to +280 °C
- Thermometer strips available on rolls, e.g. for labelling machines from a minimum order quantity of 5000
  Ordering options:
  1 roll of 5000 off
  5 rolls of 1000 off



Irreversible change in colour within 2 seconds

Practical booklet with 10 thermometer strips

Monitors temperature when analysing cause of damage

testoterm strips	Ordering data/Discount quantity
+37 to +65 °C **Part no. 0646 0108**	1 to 4 booklets (with 10 each)
+71 to +110 °C **Part no. 0646 0916**	5 to 9 booklets (with 10 each)
+116 to +154 °C **Part no. 0646 1724**	10 to 19 booklets (with 10 each)
+161 to +204 °C **Part no. 0646 2532**	20 to 49 booklets (with 10 each)
+204 to +260 °C **Part no. 0646 3341**	50 to 99 booklets (with 10 each)
+249 to +280 °C **Part no. 0646 0005**	1000 on a roll (minimum quantity 5000 off)
	5000 on a roll Ordering option for 5000 off: 1 roll of 5000 off 5 rolls of 1000 off Further rolls of 1000 can be ordered

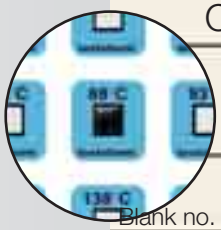
Technical data	
same as temperature single indicators, see below!	
Dimensions	l x w: 50 x 18 mm or 39 x 18 mm

Temperature single indicators – Easy and reliable

Single indicators

testoterm single indicators are self-adhesive temperature sensitive foils with elements used for control of a given maximum temperature e.g. when monitoring batches during food production.

- +46 to +199 °C
- Practical single indicator booklet
- Single indicators on rolls or sheets available from a minimum order quantity of 5000 off



Irreversible change in colour within 2 seconds

Monitoring temperature during the production of food (batch monitoring)

Single indicators	Ordering data/Discount quantity
Measuring range: +46°C to +199°C Part no. 0646 1... (...=reading) Ordering examples: Single indicator: +46°C: 0646 1046 Single indicator: +199°C: 0646 1199	1 to 4 booklets (with 50 each)
	5 to 9 booklets (with 50 each)
	10 to 19 booklets (with 50 each)
	20 to 49 booklets (with 50 each)
	50 to 99 booklets (with 50 each)
	5000 on sheets
	on sheets or rolls
	Ordering options for rolls
	1 roll of 5000 off
	5 rolls of 1000 off
	In stock: 71 °C, 77 °C, 82 °C, 110 °C, 143 °C
	For all additional single indicators (46/49/54/60/65/88/93/99/104/116/121/127/132/138/149/154/166/177/182/188/193/199 °C) the following applies: Minimum order of 10 booklets.

Technical data		
Accuracy: From +46 °C to +154 °C: ±1.5 °C; from +160 °C: ±1% ± 1°C of respective reading Max. operating temperature corresponds to the respective measuring ranges		Storage of single indicators: Up to +65 °C: max. 9 months; other measuring ranges up to 2 years; max. storage temperature +25 °C. Storage in a refrigerator is recommended.
Dimensions	l x w: 15 x 14 mm	

The reference for product quality

testo 650

The testo 650 precision measuring instrument from the reference class has everything the professional user needs to complete complicated measurement tasks efficiently, accurately and conveniently. testo 650 includes the basic parameters humidity, temperature, pressure and you also have the option of measuring CO_2, rpm, current and voltage.

aw value

Water activity is one of the most important parameters in respect of product quality in the food production sector.

The aw value provides information on chemically non-bonded water. For this reason, it is an important parameter when determining the product quality in many foodstuffs. The water activity in food determines colour stability, taste and shelf life. Potential risks exist if the food has very high water activity and is not adequately refrigerated.

The testo 650 reference measurement system sets standards in aw value measurement

Accuracy of measurement ±0.01 aw. Reproducibility of the measurement ±0.003 aw. The accuracy of the precision sensor has been proven in international interlaboratory tests!

- The trend display in testo 650 automatically indicates when the equilibrium moisture has been reached and the measurement is complete. Constant monitoring is therefore not required.
- Long-term stability of the measurement for years, i.e. frequent, time-consuming readjustments are no longer necessary.
- Measuring system traceable to national standards. Supplied with DKD calibration certificate if required. This also gives assurance in legal questions.
- Uncomplicated and reliable documentation of the measured results via attachable printer or on PC.

testo 650

Reference humidity measuring instrument, incl. battery, Li cell and calibration protocol, 2 channel humidity and temperature meas. instrument with aw value measurement, pressure measurement with option of connecting pressure probes, CO, CO2, rpm, mV/mA transmitters

Part no. 0563 6501

The tendency display in testo 650 automatically provides information on the equilibrium status.

Different measurement samples are easily read in via barcode and documentation is via the plug-in printer or PC/notebook

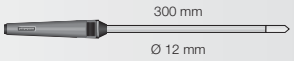
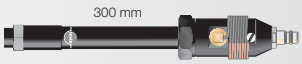
Checks product quality during food production

Recommended Set: The aw value set to assure product quality

Reference humidity measuring instrument, incl. battery, Li cell and calibration protocol, 2 channel humidity and temperature meas. instrument with aw value measurement, pressure measurement with option of connecting pressure probes, CO, CO2, rpm, mV/mA transmitters	0563 6501
aw value set: pressure-tight precision humidity probe with certificate, measurement chamber and 5 sample bowls (plastic)	0628 0024
Attachable printer (securely attached) including 1 roll of thermal paper and batteries	0554 0570
SoftCase (protects instrument from impact) with carrier strap, magnetic holder and probe holder	0516 0401
SoftCase for attachable printer (protects printer from dirt/impact), protects from impact and falls	0516 0411
We recommend:	
DKD calibration certificate/humidity, cal. points freely selectable from 5 to 95%RH at +25°C or -18°C to +70°C	0520 0216

Accessories for measuring instrument/probes	Part no.
Rech. batt. set for instr. (2 rech. 2.4V/1100mAh), selected for quick recharging in instrument	0554 0196
Mains unit 230 V/ 8 V/ 1 A, for instrument (European plug), for mains operation and battery recharging	0554 1084
Lithium battery, button cell, type CR 2032	0515 0028
Software and accessories	**Part no.**
ComSoft 3 - Professional with data management, incl. database, analysis and graphics function, data analysis, trend curve	0554 0830
RS232 cable, connects instrument to PC (1.8 m) for data transfer	0409 0178

Printer and Accessories	Part no.
Attachable printer (securely attached) including 1 roll of thermal paper and batteries	0554 0570
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
SoftCase for instrument and printer	**Part no.**
SoftCase (protects instrument from impact) with carrier strap, magnetic holder and probe holder	0516 0401
SoftCase for attachable printer (protects printer from dirt/impact)	0516 0411
System case	**Part no.**
System case (plastic) for measuring instrument, probes and accessories, probes in lid make it easy to find parts in case (540 x 440 x 130 mm)	0516 0400
Calibration Certificates	**Part no.**
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, cal. points freely selectable from 5 to 95%RH at +25°C or -18°C to +70°C	0520 0216

Humidity probes	Illustration	Meas. range	Accuracy	t99	Part no.
Standard ambient air probe up to +70°C	 Ø 12 mm	0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	12 s	0636 9740 **Conn.: Plug-in head. connection cable 0430 0143 or 0430 0145 required**
Highly accurate reference humidity/temp. probe	 Ø 21 mm	0 to +100 %RH -20 to +70 °C	* ±1 %RH (+10 to +90 %RH)* ±2 %RH (remaining range) ±0.2 °C (+10 to +40 °C) ±0.4 °C (remaining range)	12 s	0636 9741 **Conn.: Plug-in head. connection cable 0430 0143 or 0430 0145 required**
Robust humidity probe e.g. for measuring equilibrium moisture or for measurements in exhaust ducts to +120°C	 300 mm Ø 12 mm	0 to +100 %RH -20 to +120 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	30 s	0636 2140 **Conn.: Plug-in head. connection cable 0430 0143 or 0430 0145 required**
aw value set: pressure-tight precision humidity probe with certificate, measurement chamber and 5 sample bowls (plastic)		0 to +1 aW 0 to +100 %RH -20 to +70 °C	* ±0.01 aW (+0.1 to +0.9 aW) ±0.02 aW (+0.9 to +1 aW) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)		0628 0024 Reproducibility of aw value ±0.003
Precision pressure dew point probe for measurements in compressed air systems incl. cert. with test point -40°C tpd	 300 mm	0 to +100 %RH -60 to +50 °C tpd	±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 9841 **Conn.: Plug-in head. connection cable 0430 0143 or 0430 0145 required**

Accessories Ordering data	Part no.
Cable, 1.5 m long, connects probe with plug-in head to meas. instrument, PUR coating material	0430 0143
Cable, 5 m long, connects probe with plug-in head to measuring instrument, PUR coating material	0430 0145
testo saline pots for control and humidity adjustment of humidity probes, 11.3 %RH and 75.3 %RH with adapter for humidity probe, quick checks or calibration of humidity probe	0554 0660
PTFE sintered filter, Ø 21 mm, for corrosive substances, high humidity range (long-term measurements), high velocities	0554 0666
Sintered PTFE filter, Ø 12 mm, for corrosive media, High humidity range (long-term measurements), high flow velocities.	0554 0756
Stainless steel sintered cap, Ø 21 mm, can be screwed onto humidity probe, protection in case of high mechanical load and high velocities	0554 0640
Stainless steel sintered filter, pore size 100 µm, probe protection in dusty atmospheres or higher flow velocities, for measurements at higher flow velocities or in contaminated air	0554 0647

You will find more information in the "Measurement solutions for climate applications in industry" brochure and at www.testo.com.

* in the temperature range from +15°C to +30°C

Measurin production conditions - flexibly and easily

testo 605-H1

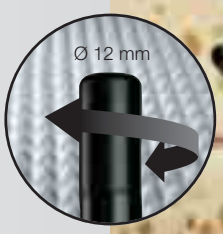
The thermo-hygrograph you can bend. Small, compact and accurate. The long-term stable sensor guarantees correct measurement even after years.

- Dewpoint calculation from -20 to +50 °Ctd
- Long-term stable Testo humidity sensor
- Ideal for measurements in ducts
- Display can be angled for easy readout ot measurement values

testo 605-H1

testo 605-H1: thermohygrometer with duct holder, incl. attachment clip and battery

Part no. 0560 6053



Sensor protection due to rotatable protective cap, probe shaft 125 mm long

With flexible joint

Monitoring production conditions in cheese production

Technical data			
Meas. range	+5 to +95 %RH 0 to +50 °C -20 to +50 °C td		
Accuracy ±1 digit	±3 %RH / ±0.5 °C		
Resolution	0.1 %RH / 0.1 °C	Battery life	Approx. 1000 h
Oper. temp.	0 to +50 °C	Storage temp.	-20 to +70 °C

Accessories Ordering data	Part no.
ISO calibration certificate/humidity, Calibration point 75.3%RH at +25°C	0520 0096
ISO calibration certificate humidity, Calibration points 11.3 %RH and 75.3 %RH at +25°C	0520 0006

Checks ambient conditions – Flexible and robust

testo 625

testo 625 is a compact measuring instrument for measuring air moisture in buildings, offices or warehouses, for example. For measurements at hard-to-access points or in A/C ducts, the humidity probe attached to the measuring instrument can be removed and extended by an optional handle with a 160 cm probe cable making it flexible to move.

- Displays temperature and relative humidity / wet bulb temperature / dewpoint
- Max./min. values
- Hold button to freeze readings
- Display light
- Auto Off function
- Patented humidity sensor
- 2 year guaranteed long-term stability
- TopSafe, instrument protection against dirt and knocks (optional)

testo 625 with handle and 160 cm probe cable

Monitors ambient air conditions during food storage

testo 625
testo 625, humidity/temperature measuring instrument, incl. plug-in humidity probe head, battery and calibration protocol **Part no. 0563 6251**

Accessories Ordering data	Part no.
Handle for plug-in humidity probe head for connection to testo 625, probe cable included (length 120 cm)	0430 9725
Transport case for measuring instrument, 3 probes and accessories (430 x 310 x 85 mm)	0516 0200
Case for measuring instrument and probes	0516 0210
TopSafe, protects from impact and dirt	0516 0221
Recharger for 9V rechargeable battery	0554 0025
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
ISO calibration certificate humidity, Calibration points 11.3 %RH and 75.3 %RH at +25°C	0520 0006

Technical data			
Probe type	**NTC**	**Testo humid. sensor, cap.**	**Type K (NiCr-Ni)**
Meas. range	-10 to +60 °C	0 to +100 %RH	-200 to +1370 °C
Accuracy ±1 digit	±0.5 °C	±2.5 %RH (+5 to +95 %RH)	
Resolution	0.1 °C	0.1 %RH	0.1 °C
Oper. temp.	-20 to +50 °C		
Storage temp.	-40 to +85 °C		
Battery type	9V block battery, 6F22		
Battery life	70 h (without radio operation)		
Dimensions	182 x 64 x 40 mm		

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 handles, separate

Radio handles for humidity probe head

Radio handle for attachable humidity probe head (humidity probe head included in delivery of testo 625)

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

Probe type	Radio immersion/penetration probe, NTC	Radio 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 transmission	Unidirectional
Radio coverage	Up to 20 m (without obstructions)	Oper. temp.	-20 to +50 °C
		Storage temp.	-40 to +70 °C

Monitor production conditions – Efficiently and accurately

testo 608-H1 /-H2

The affordable standard testo 608-H1 hygrometer measures humidity, temperature and dewpoint.

The efficient testo 608-H2 alarm hygrometer with LED alarm function for accurate signals when limits are exceeded.

- With dewpoint calculation td and Max/Min value display
- Humidity sensor not affected by condensation

Display can be read from a great distance

testo 608-H2 with LED alarm

Checks ambient production conditions at a bottling point

testo 608-H1	testo 608-H2 with alarm
Humidity/dewpoint/temperature measuring instrument incl. battery	Humidity/dewpoint/temperature measuring instrument, incl. LED alarm, battery and calibration protocol
Part no. 0560 6081	**Part no. 0560 6082**

Technical data	testo 608-H1	testo 608-H2
Meas. range	+10 to +95 %RH 0 to +50 °C -20 to +50 °C td	+2 to +98 %RH -10 to +70 °C -40 to +70 °C td
Accuracy ±1 digit	±3 %RH (+10 to +95 %RH) ±0.5 °C (at +25 °C)	±2 %RH (+2 to +98 %RH) ±0.5 °C (at +25 °C)
Oper. temp.	0 to +50 °C	-10 to +70 °C

Resolution	0.1 %RH / 0.1 °C	Measuring rate	18 s
Storage temp.	-40 to +70 °C	Dimensions	120 x 89 x 40 mm
Battery life	8736 h	Weight	168 g

Accessories Ordering data	Part no.
ISO calibration certificate humidity, Calibration points 11.3 %RH and 75.3 %RH at +25°C	0520 0006

Mini infrared thermometer – Pocket-size

testo 805

The infrared thermometer, which is only 80 mm in size, fits inside any pocket and is always ready at hand for fast measurements e.g. during and after production.

- High accuracy in a critical area for food
- Packaging remains undamaged
- TopSafe is dishwasher-proof
- Display of minimum and maximum values
- Scan mode for permanent measurement

Robust, waterproof protection case (IP65), optional

Fast temperature measurement as you pass by

testo 805	Set for fast inspections
Mini infrared thermometer and battery	Mini infrared thermometer, TopSafe and battery
Part no. 0560 8051	**Part no. 0563 8051**

Accessories Ordering data	Part no.
TopSafe, robust, waterproof protection case (IP65)	0516 8051
ISO calibration certificate/Temperature, Infrared thermometers, calibration points 0°C, +60°C	0520 0452

Technical data			
Meas. range	-25 to +250 °C		
Accuracy ±1 digit	±3 °C (-25 to -21 °C) ±2 °C (-20 to -2.1 °C) ±1 °C (-2 to +40 °C)		±1.5 °C (+40.1 to +150 °C) ±2% of mv (+150.1 to +250 °C)
Resolution	0.1 °C (-9.9 to +199.9 °C)		1 °C (remaining range)
Distance to measurement spot 1:1			
Emissivity	0.95 (adjustable to 0.95 or 1.00)		
Reaction time	‹ 1.0 s	Dimensions	80 x 31 x 19 mm
Oper. temp.	0 to +50 °C	Weight	28 g
Storage temp.	-20 to +65 °C		

Temperature measurement – Non-contact

testo 826-T1

Non-contact and fast temperature monitoring of food, convenient and without damaging the packaging.

testo 826-T2

The thermometer has an additional laser sighting.

- High accuracy
- Wall/belt holder included
- Visual alarm: testo 826-T1
- Audible alarm: testo 826-T2
- 6:1 opening ratio (distance/spot diameter)
- Fast measurement without destroying packaging

Water-proof and robust on account of TopSafe (IP67) (included)

testo 826-T2 with laser sighting and audible alarm

Temperature screening test during the liquefying of fillings for chocolates

testo 826-T1

Infrared thermometer without sighting, with TopSafe and wall/belt holder

Part no. 0563 8261

testo 826-T2 with laser

Infrared thermometer with laser sighting and audible alarm, incl. TopSafe and wall/belt holder

Part no. 0563 8262

Accessories Ordering data
ISO calibration certificate/temperature, Infrared thermometers, calibration points -18°C, 0°C, +60°C
Part no. 0520 0401

Technical data		
Meas. range	-50 to +300 °C	
Accuracy ±1 digit	±1.5 °C (-20 to +100 °C) ±2 °C or 2% of mv (remaining range)	
Resolution	0.5 °C	Storage temp. -40 to +70 °C
Oper. temp.	0 to +50 °C (826-T1)	-20 to +50 °C (826-T2)
Battery life	Approx. 150 h	Approx. 20 h (cont. oper.) (826-T2)

Temperature measurement – Non-contact or direct

testo 826-T3/-T4

Fast, non-contact measurement and core temperature measurement in one instrument. The surface temperature is measured with the infrared side while the penetration side can be used to measure the core temperature.

826-T4 also has a laser sighting and a reliable audible alarm.

- High accuracy
- Wall/belt holder included
- TopSafe case protects from impact, dirt and water
- Optical alarm: testo 826-T3
- Audible alarm: testo 826-T4
- 6:1 opening ratio (distance/spot diameter)

Only in combination with TopSafe

testo 826-T4 with laser sighting and audible alarm

Thin, robust measurement tip

Temperature screening test and core temperature measurement

testo 826-T3

Infrared and contact thermometer with TopSafe, wall/belt holder, probe protection cap and drill for frozen food

Part no. 0563 8263

testo 826-T4 with laser

Infrared and contact thermometer with laser and alarm, TopSafe, wall/belt holder, protection cap, frozen food drill

Part no. 0563 8264

Accessories Ordering data
ISO calibration certificate/temperature, for air/immersion probes, calibration point -18°C
Part no. 0520 0061
ISO calibration certificate/temperature, for air/immersion probes, calibration point 0°C
Part no. 0520 0062
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C; +60°C
Part no. 0520 0001
ISO calibration certificate/temperature, Infrared thermometers, calibration points -18°C, 0°C, +60°C
Part no. 0520 0401
ISO calibration certificate/Temperature, Infrared thermometers, calibration points 0°C, +60°C
Part no. 0520 0452

Technical data	Infrared thermometer	Contact thermometer
Meas. range	-50 to +300 °C	-50 to +230 °C
Accuracy ±1 digit	±1.5 °C (-20 to +100 °C) ±2 °C or 2% of mv (remaining range)	±0.5 °C (-20 to +99.9 °C) ±1 °C or 1% of mv (remaining range)
Resolution	0.5 °C	0.1 °C
Oper. temp.	0 to +50 °C (826-T3)	-20 to +50 °C (826-T4)

Distance thermometer for infrared measurements

testo 831

At a distance of 1 m, the spot diameter is only 3.6 cm on account of the 30:1 optics. This means that smaller objects (such as yoghurt cartons) can also be measured from a distance.

The diameter of the measuring circle is accurately displayed thanks to the 2 point laser sighting, thus avoiding measurement errors. With two measurements a second, testo 831 is so fast that scans on pallets or cold shelves can be carried out in seconds.

- Infrared thermometer with 30:1 optics
- Broad measurement range of -30 to +210 °C
- Backlit display
- Alarm limit values can be set and are optically and audibly indicated
- Including belt holder and factory calibration certificate
- Also available as a set with the core thermometer testo 106

2-point laser marking (actual measurement spot)

Backlit display

Fast measurement even at a distance

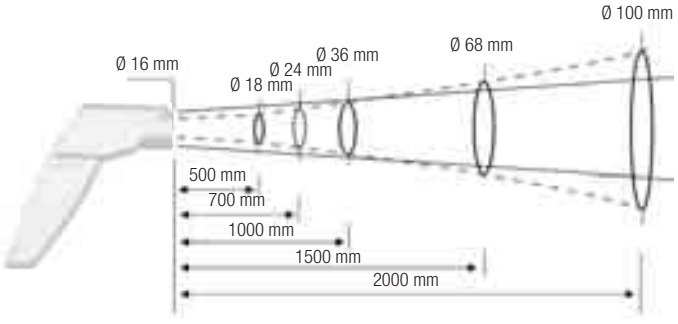
Set

In certain applications, it is necessary to carry out an additional core temperature measurement, or an additional core thermometer is required for measuring the temperature of food before serving. For this purpose, Testo offers an economical set consisting of testo 831 and the proven testo 106 core thermometer.

Set consisting of : testo 831 and the core thermometer testo 106

testo 831	Set with testo 831 and testo 106
testo 831, infrared thermometer including belt holder, battery, instruction manual and factory calibration certificate with the measurement points -20 and +80 °C	Set testo 831 and testo 106 - Infrared thermometer including belt holder, battery, instruction manual and factory calibration certificate with the measurement points -20 and +80 °C, and penetration thermometer testo 106 including TopSafe, belt holder, battery and instruction manual
Part no. 0560 8310	**Part no. 0563 8310**

testo 831: 2-point laser for mearking measurement spot



Accessories Ordering data	Part no.
9V rech. battery for instrument, instead of battery	0515 0025
Recharger for 9V rechargeable battery, for external recharging of 0515 0025 battery	0554 0025
ISO calibration certificate/temperature, Infrared thermometers, calibration points -18°C, 0°C, +60°C	0520 0401
ISO calibration certificate/Temperature, Infrared thermometers, calibration points 0°C, +60°C	0520 0452

Technical data	
Meas. range	-30 to +210 °C
Spectral range	8 to 14 µm
Accuracy ±1 digit	±1,5 °C or ±1,5% of mv (-20 to +210 °C) ± 2 °C or ±2% of mv (remaining range)
Resolution	0,5 °C
Measuring rate	0,5 s
Meas. spot marking	2-point laser
Distance to measurement spot	30:1
Emissivity	Adjustable 0.2 to 1.0
Oper. temp.	-20 to +50 °C
Storage temp.	-40 to +70 °C
Display	Illuminated LCD
Protection class	IP30
Dimensions	190 x 75 x 38 mm
Weight	200 g

See page 20 for testo 106 Technical Data

testo 845 – the infrared measurement technology for temperature with integrated humidity module

The testo 845 is a milestone in non-contact temperature measurement. For the first time, surface temperatures with smallest diameters can be measured accurately at short and long distances. The switchable optics for far-field and close focus measurement make this possible.

testo 845 is equipped with an optical resolution of 75:1 for far-field measurements. Surface temperatures can be measured accurately even at great distances from the object to be measured. At a distance of 1.2 metres from the object to be measured, the measuring spot diameter is only 16 mm. A cross laser marks the measuring spot exactly during measurement. Incorrect measurements are eliminated - you always know exactly where you are measuring.

The close focus optics allow the measurement of temperatures on the smallest surfaces with a diameter of just 1 mm and a distance of 70 mm! Two lasers mark the measuring spot exactly.

- Switchable optics for far-field measurements (75:1) and close focus (1 mm, 70 mm distance)
- Especially bright cross laser sighting for indicating the actual measuring point
- Reference accuracy ± 0.75 °C with super-fast measurement technololgy (scanning 100 ms)
- Backlit display (3-line), shows °C, min./max. values, alarm limit values and emissivity; in addition display with humidity module: %RH, °Ctd
- Optical and audible alarm when limit values are exceeded
- Instrument memory for 90 measurement protocols
- PC software for archiving and documenting measurement data (included in delivery)
- Tripod fitting for online measurement via USB cable (included in delivery)

Switch optics 1: Far-field 75:1 (16 mm, distance 1200 mm) with cross laser marking

Switch optics 2: close focus (1 mm, distance 70 mm) with 2-point laser marking

testo 845 with additional humidity module for measuring ambient air humidity and for determining dewpoint distance

Fast documentation with measurement data printout on site

Infrared Thermometer with Switchable Optics (far-field/close focus)

testo 845

testo 845, infrared temperature measuring instrument with cross-laser sighting, switchable optics for far-field and close focus measurement, contact temperature probe attachable, optical/audible alarm, reading memory, PC software incl. USB data transfer cable, aluminium case, battery and calibration protocol

Part no. 0563 8450

testo 845 with integrated humidity module

testo 845, infrared temperature measuring instrument with cross laser sighting incl. humidity module, switchable optics for far-field and close focus measurement, contact temperature probe attachable, optical/audible alarm, reading memory, PC software incl. USB data transfer cable, aluminium case, battery and calibration protocol

Part no. 0563 8451

Probe socket for TC probes for determining emissivity

Aluminium case for instrument and accessories (included)

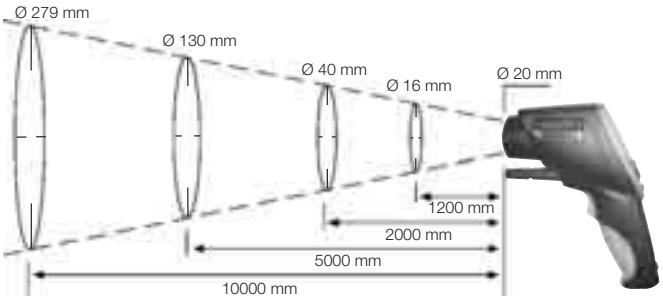
Monitoring the exact temperature during the production process

Description	Meas. range	Part no.
Fast-action surface probe with sprung thermocouple strip, also for uneven surfaces, measurement range short-term to +500°C, TC Type K 	-60 to +300 °C	0602 0393
Robust air probe, T/C Type K 	-60 to +400 °C	0602 1793

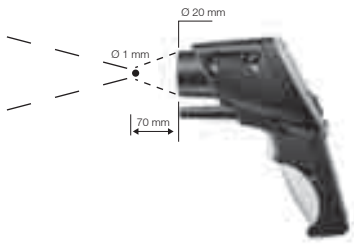
Accessories Ordering data	Part no.
Humidity module, upgradeable for testo 845 (0563 8450)	0636 9784
Plug-in mains adapter, 5 VDC 500 mA with European adapter, 100-250 VAC, 50-60 Hz	0554 0447
External fast charger for 1-4 AA rech. batteries, incl. 4 Ni-MH rech. batteries with individual cell charging 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
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries, for printing out measurements on site	0554 0549
Spare thermal paper for printer (6 rolls), 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
Adhesive tape, e.g. for bare surfaces (roll, L.: 10 m, W.: 25 mm), E = 0.95, temperature resistant to +250 °C	0554 0051
Silicone heat paste (14g), Tmax = +260°C, improves heat transfer in surface probes	0554 0004
ISO calibration certificate/temperature, infrared thermometer; calibration points +60°C; +120°C; +180°C	0520 0002
ISO calibration certificate/temperature, Infrared thermometers, calibration points -18°C, 0°C, +60°C	0520 0401

Technical data			
Meas. range	**Infrared** -35 to +950 °C	**Contact (type K)** -35 to +950 °C	**Humidity module** 0 to +100 %RH 0 to +50 °C -20 to +50 °C td
Accuracy ±1 digit	±2.5 °C (-35 to -20.1 °C) ±1.5 °C (-20 to +19.9 °C) ±0.75 °C (+20 to +99.9 °C) ±0.75% of mv (+100 to +950 °C)	±0.75 °C (-35 to +75 °C) ±1% of mv (+75.1 to +950 °C)	±2 %RH (2 to 98 %RH) ±0.5 °C (+10 to +40 °C) ±1 °C (remaining range)
Resolution	0.1 °C	0.1 °C	0.1 °C td
Emission factor	Adjustable 0.1 to 1.0		
Optical resolution	Far-field: (75:1) 16 mm, 1200 mm distance (90%) Close focus: 1 mm, 70 mm distance (90%)		
Measuring rate	t95: 250 ms; Scanning Max/Min/Alarm: 100 ms		
Dimensions	155 x 58 x 195 mm		
Battery type	2 AA batteries		
Battery life	25 h (without laser), 10 h (with laser without light), 5 h (with laser and 50% light)		
Material/Housing	ABS Black/gray, metal screen		
Oper. temp.	-20 to +50 °C		
Storage temp.	-40 to +70 °C		

Far-field measurement



Close focus measurement



Switch to far-field measurement at a measurement distance > 250 mm.

testo Saveris™ – Measurement data monitoring in the food industry

In the food industry, the products and processes are always monitored to keep the quality level constant. Legal hygiene requirements, particularly the HACCP regulations, require uninterrupted monitoring of the ambient conditions and the product temperatures. testo Saveris offers ideal support here.

testo Saveris offers a simple commissioning as well as fully-automatic data collection and issue of alarms. The bureaucracy involved in complying with the HACCP standards thus becomes the responsibility of testo Saveris.

testo Saveris offers safety and time savings for the industry.

The testo Saveris Ethernet probes are able to use the LAN infrastructure, and transfer the measurement data safely over large distances.

The testo Saveris base saves all measurement values in its long-term memory, and sends optical and audible alarm reports, e.g. by SMS.

Now new!

The testo analog coupler enables the integration of all transmitters with standardized current/voltage interfaces, e. g. 4 to 20 mA

The network-capable testo Saveris software offers a central overview of the measurement data, and uninterrupted documentation.

Conforms to important standards in the food industry (HACCP and EN 12830)

Note on the radio frequencies

868 MHz: EU countries and certain other countries (e.g. CH, NOR)

2.4 GHz: non-EU countries (country list can be called up under **www.testo.com/saveris**)

Saveris set 1

Set 1: 868 MHz, consisting of base 0572 0120, 3 NTC radio probes without display 0572 1110, mains unit for base 0554 1096 and SBE software 0572 0180 incl. USB cable

Set 1, 868 MHz

Part no. 0572 0110

Set 1: 2.4 GHz, consisting of base 0572 0160, 3 NTC radio probes without display 0572 1150, mains unit for base 0554 1096 and SBE software 0572 0180 incl. USB cable

Set 1, 2.4 GHz

Part no. 0572 0150

Saveris set 2

Set 2: 868 MHz, consisting of base 0572 0120, 5 NTC radio probes with display 0572 1120, router 0572 0119, 2 mains units for base and router 0554 1096 and SBE software 0572 0180 incl. USB cable

Set 2, 868 MHz

Part no. 0572 0111

Set 2: 2.4 GHz, consisting of base 0572 0160, 5 NTC radio probes with display 0572 1160, router 0572 0159, 2 mains units for base and router 0554 1096 and SBE software 0572 0180 incl. USB cable

Set 2, 2.4 GHz

Part no. 0572 0151

Saveris set 3

Set 3: 868 MHz, consisting of base 0572 0121 incl. GSM module for SMS alarm, aerial with magnetic base 0554 0525, 5 NTC radio probes with display 0572 1120, router 0572 0119, 2 mains units for base and router 0554 1096 and SBE software 0572 0180 incl. USB cable

Set 3, 868 MHz

Part no. 0572 0112

Set 3: 2.4 GHz, consisting of base 0572 0161 incl. GSM module for SMS alarm, aerial with magnetic base 0554 0525, 5 NTC radio probes with display 0572 1160, router 0572 0159, 2 mains units for base and router 0554 1096 and SBE software 0572 0180 incl. USB cable

Set 3, 2.4 GHz

Part no. 0572 0152

testo Saveris™ System overview

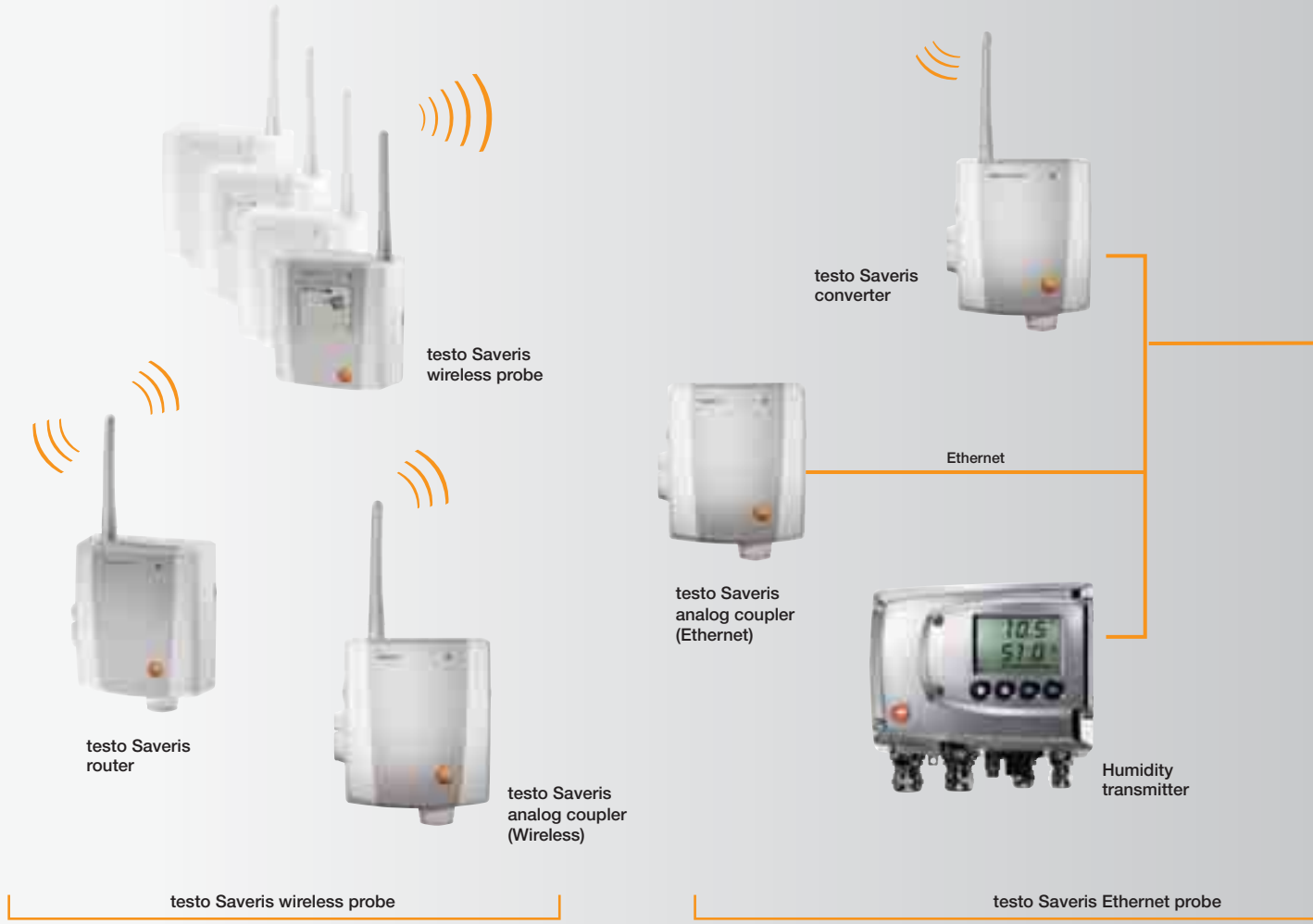
testo Saveris radio probe

Probe versions with internal and external temperature and humidity sensors allow the adaptation to every application. The radio probes are available with or without a display as an option. The memory in the probe ensures that the measurement data is not lost in the event of an interference in the radio link. Current measurement data, the battery status and the quality of the radio link are shown in the display.

testo Saveris router

The radio link can be improved or lengthened with poor structural conditions by using a router. Naturally several routers are possible in the testo Saveris system, but several routers are not connected in series.

Through the connection of a converter to an Ethernet jack, the signal of a radio probe can be converted into an Ethernet signal. This combines the flexible connection of the radio probe with the use of the existing Ethernet even over long transmission paths.



testo Saveris analog coupler

The two versions of the analog coupler (wireless/Ethernet) allow the inclusion of further measurement parameters into the testo Saveris monitoring system, by integrating all transmitters with standardized current/voltage interfaces, e. g. 4 to 20 mA or 0 to 10 V.

Humidity transmitter testo 6651/6681

Thanks to the integration of the humidity transmitter, measurement data monitoring is possible parallel to the control. This provides the solution for highest accuracy as well as for special applications (high humidity, trace humidity etc.) in compressed air, drying and air conditioning technology.

Find out more at www.testo.com/transmitter

testo Saveris Ethernet probe

In addition to the wireless probes, probes can be used which are directly connectable to the Ethernet. This allows the existing LAN infrastructure to be used, making data transfer from the probe to the base possible, even over long distances.
By connecting a converter to an Ethernet socket, the signal from a wireless probe can be converted to an Ethernet signal. This combines the flexible positioning of a wireless probe with the use of the existing Ethernet even over long transfer distances.

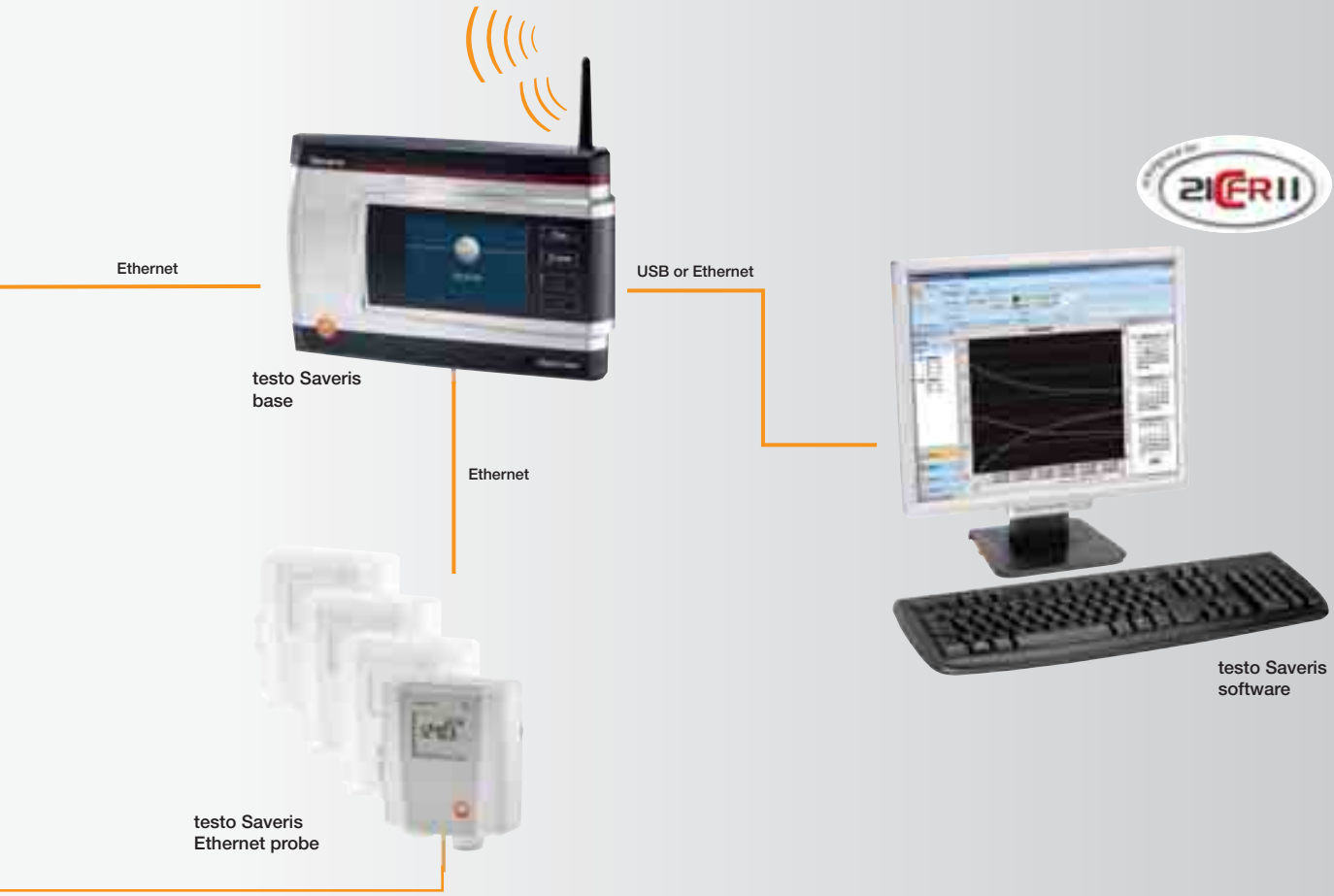
testo Saveris™ System overview

testo Saveris base

The base is the heart of testo Saveris and can save 40,000 readings per measurement channel independent of the PC. This corresponds to around one year of memory capacity at a measuring rate of 15 minutes. The system data and alarms are visible via the display of the Saveris base.

testo Saveris software

The testo Saveris software offers simple operation and an intuitive user interface. The Saveris software is available in two different versions: as the basic version SBE (Small Business Edition) or the PROF (Professional) software version with diverse additional options, or as a CFR version. The CFR software fulfils the requirements or 21 CFR Part 11 of the FDA, and is thus validatable.



Overview of software versions	SBE	PROF	CFR
Simple installation and configuration	•	•	•
Diagrams/tables/alarm overview/PDF reports	•	•	•
Calendar management	•	•	•
Representation of probe groups	•	•	•
Transmission of alarms (e-mail, SMS, relay)	•	•	•
Comprehensive alarm management		•	•
Automatic refresh of measurement data ("Online mode")		•	•
Measurement data on background photo of locations		•	•
Integration into network (client server)		•	•
Conform to 21CFR11 (validatable)			•
Electronic signature			•
Audit trail			•
Allocation of access rights on 3 user levels			•

testo Saveris™ Components: Radio probes

Probe versions with internal and external temperature sensors and with humidity sensors allow the adaptation to every application. The radio probes are available with or without a display as an option. Current measurement data, the battery status and the quality of the radio link are shown in the display.

		°C / °F			
		NTC internal	NTC internal / NTC external	TC external	Pt 100 external
					
Radio		**Saveris T1** Radio probe with internal NTC	**Saveris T2** Radio probe with external probe connection and internal NTC, door contact	**Saveris T3** 2-channel radio probe with 2 external TC probe connections (Choice of TC characteristics)	**Saveris Pt** Radio probe with 1 external Pt100 probe connection
Internal sensor	Probe type	NTC	NTC		
	Meas. range	-35 to +50 °C	-35 to +50 °C		
	Accuracy	±0.4 °C (-25 to +50 °C) ±0.8 °C (remaining range)	±0.4 °C (-25 to +50 °C) ±0.8 °C (remaining range)		
	Resolution	0.1 °C	0.1 °C		
External probe	Probe type		NTC	TC type K / TC type J	Pt100
	Meas. range (Instrument)		-50 to +150 °C	-195 to +1350 °C / -100 to +750 °C TC type T / TC type S -200 to +400 °C / 0 to +1760 °C	-200 to +600 °C
	Accuracy (Instrument)		±0.2 °C (-25 to +70 °C) ±0.4 °C (remaining range)	±0.5 °C or 0.5% of mv	at 25 °C ±0.1 °C (0 to +60 °C) ±0.2 °C (-100 to +200 °C) ±0.5 °C (remaining range)
	Resolution (Instrument)		0.1 °C	0.1 °C / TC type S 1 °C	0.01 °C
Conn.			NTC via mini-DIN socket, door contact connection cable included in delivery (1.80 m)	2 TCs via TC socket, max. difference in potential 2 V	1 Pt100 via mini-DIN socket
Dimensions (housing):		80 x 85 x 38 mm			
Weight		Approx. 240 g			
Battery life (Type: 4 AA batteries)		Battery life at +25 °C, 3 years; for freezer applications, 3 years with L91 Photo lithium Energizer batteries)			
Material/Housing		Plastic			
Protection class		IP68		IP54	IP68
Radio frequency		868 MHz / 2.4 GHz			
Measuring rate		Standard 15 min, 1 min to 24 h can be set			
Conformity with standards		DIN EN 12830			
Oper. temp.		-35 to +50 °C		-20 to +50 °C	
Storage temp.		-40 to +55 °C			
Display (optional)		LCD, 2 lines; 7-segment with symbols			
Transmission distance		approx. 300 m free field at a frequency of 868 MHz, approx. 100 m free field at a frequency of 2.4 GHz			
Wall bracket		included			

Ordering data Wireless probes	Part no.	Part no.	Part no.	Part no.
	Version without display		Version with display	
	868 MHz	2.4 GHz	868 MHz	2.4 GHz
Saveris T1 Radio probe with internal NTC	0572 1110	0572 1150	0572 1120	0572 1160
Saveris T2 Radio probe with external probe connection and internal NTC, door contact	0572 1111	0572 1151	0572 1121	0572 1161
Saveris T3 2-channel radio probe with 2 external TC probe connections (Choice of TC characteristics)	0572 9112	0572 9152	0572 9122	0572 9162
Saveris Pt Radio probe with 1 external Pt100 probe connection	0572 7111	0572 7151	0572 7121	0572 7161

The alkali manganese batteries AA (0515 0414) are included in these ordering data (analog coupler excluded). Saveris probes are delivered with a calibration protocol of the factory adjustment data. Calibration certificates must be ordered separately.

testo Saveris™ Components: Radio probes

Radio

		°C / °F and %RH				mA and V
		%RH NTC external	%RH NTC internal	%RH NTC external		mA V internal
						
		Saveris H2D Wireless humidity probe	**Saveris H3** Humidity radio probe	**Saveris H4D** Wireless probe with 1 external humidity probe connection		**Saveris U1** Wirelss probe with current/ voltage output
Internal sensor	Probe type		NTC	Humidity sensor		1 channel: current/voltage input
	Meas. range		-20 to +50 °C	0 to 100 %RH		2-wire: 4 to 20 mA, 4-wire: 0/4 to 20 mA, 0 to 1/5/10 V, load: max. 160 Ω at 24 V DC
	Accuracy		±0.5 °C	±3 %RH		Current ±0.03 mA / 0.75 µA Voltage 0 to 1 V ±1.5 mV/39 µV Voltage 0 to 5 V ±7.5 mV / 0.17 mV Voltage 0 to 10 V ±15 mV / 0.34 mV ±0.02% of. m.v./K deviating from nominal temperature 22 °C
	Resolution		0.1 °C	0.1 °C / 0.1 °C td		
External probe	Probe type	NTC	Humidity sensor		NTC	Humidity sensor
	Meas. range (Instrument)	-20 to +50 °C	0 to +100 %RH*		-20 to +70 °C	0 to +100 %RH*
	Accuracy (Instrument)	±0.5 °C	to 90 %RH: ±2 %RH > 90 %RH: ±3 %RH		±0.2 °C	see probes
	Resolution (Instrument)	0.1 °C	0.1% / 0.1 °C td		0.1 °C	0.1% / 0.1 °C td
Conn.		non-exchangeable stump probe			1 x external humidity probe mini DIN socket	2 or 4-wire current/ voltage output Service interface mini DIN for adjustment
Dimensions (housing):		85 x 100 x 38 mm	80 x 85 x 38 mm			Approx. 85 x 100 x 38 mm
Weight		Approx. 256 g	Approx. 245 g			Approx. 240 g
Battery life (Type: 4 AA batteries)		Battery life at +25 °C, 3 years; for freezer applications, 3 years with L91 Photo lithium Energizer batteries)				Supply: Mains unit 6.3 V DC, 2 to 30 V DC max. 25 V AC
Material/Housing		Plastic				
Protection class		IP54	IP42	IP54		
Radio frequency		868 MHz / 2.4 GHz				
Measuring rate		Standard 15 min, 1 min to 24 h can be set				
Oper. temp.		-20 to +50 °C				
Storage temp.		-40 to +55 °C				
Display (optional)		LCD, 2 lines; 7-segment with symbols				(no display)
Transmission distance		approx. 300 m free field at a frequency of 868 MHz, approx. 100 m free field at a frequency of 2.4 GHz				
Wall bracket		included				

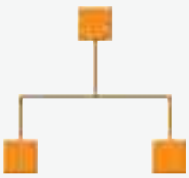
*not for continuous high-humidity applications

Ordering data Wireless probes	Part no.	Part no.	Part no.	Part no.
	Version without display		Version with display	
	868 MHz	2.4 GHz	868 MHz	2.4 GHz
Saveris H3Wireless probe with internal humidity sensor	0572 6110	0572 6150	0572 6120	0572 6160
Saveris H2D Wireless probe with external humidity sensor 2%RH, radio frequency 868 MHz (with display)			0572 6122	0572 6162
Saveris H4D Wireless humidity probe with external probe connection, radio frequency 868 MHz (with display)			0572 6124	0572 6164
Saveris U1Analog coupler with 1 current/voltage output (order mains unit separately)	0572 3110	0572 3150		

The alkali manganese batteries AA (0515 0414) are included in these ordering data (analog coupler excluded). Saveris probes are delivered with a calibration protocol of the factory adjustment data. Calibration certificates must be ordered separately.

testo Saveris™ Components: Ethernet probes

The existing LAN infrastructure can be used through the Ethernet probe. This allows the data transfer from the probe to the base, even over long distances. Ethernet probes have a display.



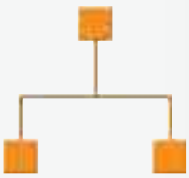
Ethernet

		°C		
		NTC externa	TC externa	Pt 100 externa
				
		Saveris T1E Ethernet probe with 1 external probe connection NTC	**Saveris T4 E** 4-channel Ethernet probe with 4 external TC probe connections	**Saveris Pt E** Ethernet probe with external Pt100 probe connection
Internal sensor				
External probe	Probe type	NTC	TC type K / TC type J	Pt100
	Meas. range (Instrument)	-50 to +150 °C	-195 to +1350 °C / -100 to +750 °C TC type T / TC type S -200 to +400 °C / 0 to +1760 °C	-200 to +600 °C
	Accuracy (Instrument)	±0.2 °C (-25 to +70 °C) ±0.4 °C (remaining range)	±0.5 °C or 0.5% of mv	at 25 °C ±0.1 °C (0 to +60 °C) ±0.2 °C (-100 to +200 °C) ±0.5 °C (remaining range)
	Resolution (Instrument)	0.1 °C	0.1 °C / TC type S 1 °C	0.01 °C
Conn.		1 x NTC via mini DIN socket	4 TCs via TC socket, max. difference in potential 50 V	1 Pt100 via mini-DIN socket
		Mini-DIN service interface for adjustment is accessible externally		
Dimensions (housing):		Approx. 85 x 100 x 38 mm		
Weight		Approx. 220 g		
Power		6.3 V DC mains unit; alternatively via 24 V AC/DC plug-in/screw terminals, PoE		
Buffer battery		Li-ion		
Material/Housing		Plastic		
Protection class		IP54		
Measuring rate		2 s to 24 h		
Oper. temp.		-20 to +60 °C		
Storage temp.		-40 to +60 °C		
Power consumption		PoE Class 0 (typical ≤ 3 W)		
Display (optional)		LCD, 2 lines; 7-segment with symbols		
Wall bracket		included		

Ordering data Ethernet probes	Part no.
Saveris T1E Ethernet probe with 1 external probe connection NTC	0572 1191
Saveris T4 E 4-channel Ethernet probe with 4 external TC probe connections (With display)	0572 9194
Saveris Pt E Ethernet probe with external Pt100 probe connection (With display)	0572 7191
Saveris H1 E Humidity Ethernet probe 1% (With display)	0572 6191
Saveris H2 E Humidity Ethernet probe 2 % (With display)	0572 6192
Saveris H4E Ethernet humidity probe with external probe connection (with display)	0572 6194
Saveris U1E Etheret analog coupler with 1 curent/voltage output	0572 3190

Saveris probes are delivered with a calibration protocol of the factory adjustment data. Calibration certificates must be ordered separately. Mains units are not included in delivery.

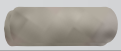
testo Saveris™ Components: Ethernet probes



Ethernet

		°C / °F and %RH						mA and V
		%RH NTC external		%RH NTC external		%RH NTC external		mA V internal
		Saveris H1E Humidity Ethernet probe 1%		**Saveris H2 E** Humidity Ethernet probe 2 %		**Saveris H4E** Ethernet probe with external humidity probe connection		**Saveris U1E** Ethernet probe with current/voltage
Internal sensor	Probe type							1 channel: current/voltage
	Meas. range							2-wire: 4 to 20 mA, 4-wire: 0/4 to 20 mA, 0 to 1/5/10V, load: max. 160 Ω at 24 V DC
	Accuracy							Current ±0,03 mA / 0.75 µA Voltage 0 to 1 V ±1.5 mV / 39 µV Voltage 0 to 5 V ±7.5 mV / 0.17 mV Voltage 0 to 10 V ±15 mV / 0.34 mV ±0.02% of. m.v./K deviating from nominal temperature 22 °C
	Resolution							
External probe	Probe type	NTC	Humidity sensor	NTC	Humidity sensor	NTC	Humidity sensor	
	Meas. range (Instrument)	-20 to +70 °C	0 to 100 %RH*	-20 to +70 °C	0 to 100 %RH*	0.1 °C	0 to 100 %RH*	
	Accuracy (Instrument)	±0.2 °C (0 to +30 °C) ±0.5 °C (remaining range)	to 90 %RH: ±(1 %RH +0.7 % of mv) at +25 °C > 90 %RH: ±(1.4 %RH +0.7 % of mv) at +25 °C	±0.2 °C (0 to +30 °C) ±0.5 °C (remaining range)	to 90 %RH: ±(1 %RH +0.7 % of mv) at +25 °C > 90 %RH: ±(1.4 %RH +0.7 % of mv) at +25 °C	±0.2 °C (-25 to +70 °C) ±0.4 °C (remaining range)	see external probes	
	Resolution (Instrument)	0.1 °C	0.1% / 0.1 °C td	0.1 °C	0.1% / 0.1 °C td	0.1 °C	0.1% / 0.1 °C td	
Conn.						1 x external Ethernet humidity probe mini DIN socket		1 x 2- or 4-wire current/voltage
		Mini-DIN service interface is accessible externally						
Dimensions (housing):		Approx. 85 x 100 x 38 mm						
Weight		Approx. 230 g				Approx. 254 g		Approx. 240 g
Power		6.3 V DC mains unit; alternatively via 24 V AC/DC plug-in/screw terminals						
Buffer battery		Li-ion						
Material/Housing		Plastic						
Protection class		IP54						
Measuring rate		2 s to 24 h						
Oper. temp.		-20 to +60 °C						
Storage temp.		-40 to +60 °C						
Power consumption		PoE Class 0 (typical ≤ 3 W)						
Display (optional)		LCD, 2 lines; 7-segment with symbols						no display
Wall bracket		included						

*not for continuous high-humidity applications

Sintered caps for Saveris H1 E, H2 E and H2 D Ethernet probes	Illustration	Part no.
Metal protective cap (open), fast reaction time at flow velocities ‹ 7 m/s (not suitable for dusty atmospheres), for measurement in flow velocities of less than 10 m/s		0554 0755
Stainless steel sintered filter, pore size 100 µm, probe protection in dusty atmospheres or higher flow velocities, for measurements at higher flow velocities or in contaminated air		0554 0647
Wire mesh filter, probe protection from coarse particles		0554 0757
Sintered PTFE filter, Ø 12 mm, for corrosive media, High humidity range (long-term measurements), high flow velocities.		0554 0756
testo saline pots for control and humidity adjustment of humidity probes, 11.3 %RH and 75.3 %RH with adapter for humidity probe, quick checks or calibration of humidity probe		0554 0660

testo Saveris™ Components: Base, Router, Converter and accessories

Base	Part no.
Saveris base, radio frequency 868 MHz	0572 0120
Saveris base, radio frequency 868 MHz, GSM module integrated (for SMS alarm)	0572 0121
Saveris base, radio frequency 2.4 GHz	0572 0160
Saveris base, radio frequency 2.4 GHz, GSM module integrated (for SMS alarm)	0572 0161

No mains units or aerials with magnetic base are contained in this ordering data.

Power supply	Part no.
Battery for radio probe (4 AA alkali manganese mignon batteries)	0515 0414
Battery for radio probe for use below -10 °C (4 Energizer L91 Photo lithium)	0515 0572
100-240 V AC / 6.3 V DC international mains unit for mains operation or battery charging in instrument	0554 1096
Mains unit (top-hat rail mounting) 90 to 264 VAC/24 VDC (2.5 A)	0554 1749
Mains unit (desk-top) 110 to 240 VAC/24 VDC (350mA)	0554 1748

Other features	Part no.
Magnetic foot aerial (dualband) with 3 m cable, for base with GSM module (not suitable for USA, Canada, Chile, Argentina, Mexico)	0554 0524
Magnetic foot aerial (quadband) for base with GSM module	0554 0525
Alarm module (visual + acoustic), can be connected to base alarm relay, Ø 70 x 164 mm, 24 V AC/DC / 320 mA, perm. light: red, perm. tone: buzzer approx. 2.4 kHz (Mains unit 0554 1749 required)	0572 9999 ID-Nr. 0699 6111/1
Progamming adapter (from mini-DIN to USB) for Ethernet probe and converter (necessary if no DHCP server available)	0440 6723

Saveris router	Part no.
Saveris router, 868 MHz, radio transmission medium	0572 0119
Saveris router, 2.4 GHz, radio transmission medium	0572 0159

Saveris converter	Part no.
Saveris converter, 868 MHz, converts the radio transmission medium to Ethernet	0572 0118
Saveris converter, 2.4 GHz, converts the radio transmission medium to Ethernet	0572 0158

No mains units are contained in this ordering data.

Software	Part no.
SBE software, incl. USB connecting cable base-PC	0572 0180
PROF software, incl. USB connecting cable base-PC	0572 0181
CFR software, incl. Ethernet connection cable PC to Base	0572 0182
Saveris adjustment software incl. connection cable for wireless and Ethernet probes	0572 0183

Calibration Certificates	Part no.
ISO calibration certificate/temperature Temperature probes; calibration points -8 °C; 0 °C; +40 °C per channel/instrument (suitable for Saveris T1/T2)	0520 0171
ISO calibration certificate/temperature Temperature probes; calibration points -18 °C; 0 °C; +60 °C; per channel/instrument (not suitable for Saveris T1/T2)	0520 0151
DKD calibration certificate/temperature Temperature probes; calibration points -20 °C; 0 °C; +60 °C; per channel/instrument (not suitable for Saveris T1/T2)	0520 0261
ISO calibration certificate humidity Humidity probe, calibration points 11.3 %RH and 75.3 %RH at +25 °C/+77 °F; per channel/instrument	0520 0076
DKD calibration cert./humidity Humidity probe, calibration points 11.3 %RH and 75.3 %RH at +25 °C; per channel/instrument	0520 0246

Magnetic foot aerial (dualband)

Magnetic foot aerial (dualband)with 3 m cable, for base with GSM module(not suitable for USA, Canada, Chile, Argentina, Mexico)

Part no. 0554 0524

Alarm module

Alarm module (visual + acoustic), can be connected to base alarm relay, Ø 70 x 164 mm, 24 V AC/DC / 320 mA, perm. light: red, perm. tone: buzzer approx. 2.4 kHz (Mains unit 0554 1749 required)
ID-Nr. 0699 6111/1

Part no. 0572 9999

Software versions

SBE software, incl. USB connecting cable base-PC

Part no. 0572 0180

PROF software, incl. USB connecting cable base-PC

Part no. 0572 0181

CFR software, incl. Ethernet connection cable PC to Base

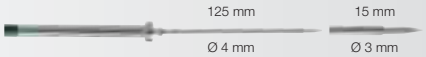
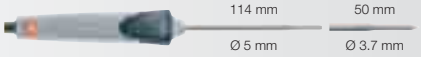
Part no. 0572 0182

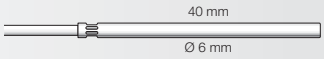
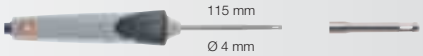
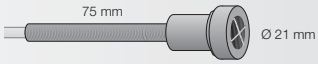
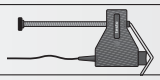
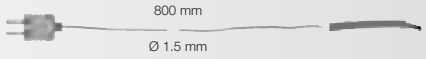
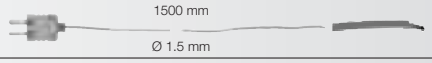
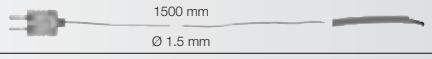
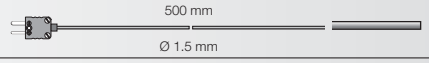
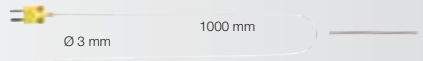
testo Saveris™ Technical data

Technical data	
	Saveris-Base
Memory	40,000 values per channel (total max. 10,160,000 values)
Dimensions	225 x 150 x 49 mm
Weight	Approx. 1510 g
Protection class	IP42
Material/Housing	Diecast zinc / plastic
Radio frequency	868 MHz / 2.4 GHz
Power supply (absolutely necessary)	6.3 V DC mains unit; alternatively via 24 V AC/DC plug-in/screw terminals, power consumption ‹ 4 W
Rech. batt.	Li-ion battery (for data back-up and for emergency SMS if power supply fails)
Oper. temp.	-10 to +50 °C
Storage temp.	-40 to +60 °C
Display	graphical display, 4 control keys
Interfaces	USB, radio, Ethernet
Connectable radio probe	max. 15 probes can be directly connected via radio interface, max. 150 total via radio / router / converter / Ethernet, max. 254 channels
Alarm relay	max. 1 A, max. 30 W, max. 60/25 V DC/AC, NC or NO contact
GSM module	850 / 900 / 1800 / 1900 MHz not valid for Japan and South Korea
Set up	Table base and wall bracket included

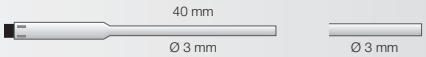
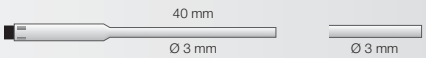
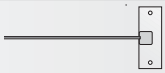
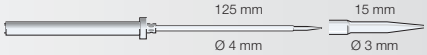
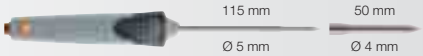
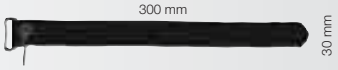
Technical data		
	Saveris router	Saveris converter
Dimensions	Approx. 85 x 100 x 38 mm	Approx. 85 x 100 x 35 mm
Weight	Approx. 180 g	Approx. 190 g
Power supply	6.3 V DC mains unit; alternatively via 24 V AC/DC plug-in/screw terminals, power consumption ‹ 0.5 W	6.3 V DC mains unit; alternatively via 24 V AC/DC plug-in/screw terminals,PoE, power consumption ‹ 2 W
Oper. temp.	-20 to +50 °C	-20 to +50 °C
Storage temp.	-40 to +60 °C	-40 to +60 °C
Material/Housing	Plastic	Plastic
Protection class	IP54	IP54
Interfaces	Radio	Radio, Ethernet
Connectable radio probe	max. 5	max. 15
Wall bracket	included	included

testo Saveris™ Accessories: External temperature probes

Pt100	Plug-in probes	Illustration	Meas. range	Accuracy	t99	Part no.
	Robust, Pt100 stainless steel food probe (IP65)		-50 to +400 °C	Class A (-50 to +300 °C), Class B (remaining range)	10 s	0609 2272 **Conn.:** Fixed cable
	Robust, waterproof Pt100 immersion/penetration probe		-50 to +400 °C	Class A (-50 to +300 °C), Class B (remaining range)	12 s	0609 1273 **Conn.:** Fixed cable
	Connection cable for unlimited Pt100 stationary probes with screw terminals (4-wire technology), max. cable length: 20 m					0554 0213

TC	Plug-in probes	Illustration	Meas. range	Accuracy	t99	Part no.
	Stationary probe with stainless steel sleeve, TC Type K		-50 to +205 °C	Class 2*	20 s	0628 7533 **Conn.:** Fixed cable 1.9 m
	Robust air probe, T/C Type K		-60 to +400 °C	Class 2*	25 s	0602 1793 **Conn.:** Fixed cable 1.2 m
	Magnetic probe, adhesive force approx. 20 N, with magnets, for measurements on metal surfaces, TC Type K		-50 to +170 °C	Class 2*	150 s	0602 4792 **Conn.:** Fixed cable
	Magnetic probe, adhesive force approx. 10 N, with magnets, for higher temp., for measurements on metal surfaces, TC Type K		-50 to +400 °C	Class 2*		0602 4892 **Conn.:** Fixed cable 1.6 m
	Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Meas. range short-term to +280°C, TC Type K		-60 to +130 °C	Class 2*	5 s	0602 4592 **Conn.:** Fixed cable 1.2 m
	Pipe wrap probe with Velcro strip, for temperature measurement on pipes with diameter up to max. 120 mm, Tmax +120°C, TC Type K		-50 to +120 °C	Class 1*	90 s	0628 0020 **Conn.:** Fixed cable 1.5 m
	Thermocouple with TC adapter, flexible, 800mm long, fibre glass, TC Type K		-50 to +400 °C	Class 2*	5 s	0602 0644
	Thermocouple with TC adapter, flexible, 1500mm long, fibre glass, TC Type K		-50 to +400 °C	Class 2*	5 s	0602 0645
	Thermocouple with TC adapter, flexible, 1500mm long, PTFE, TC Type K		-50 to +250 °C	Class 2*	5 s	0602 0646
	Immersion tip, flexible, TC Type K		-200 to +1000 °C	Class 1*	5 s	0602 5792
	Immersion measurement tip, flexible, for measurements in air/exhaust gases (not suitable for measurements in smelters), TC Type K		-200 to +1300 °C	Class 1*	4 s	0602 5693

*According to standard EN 60584-2, the accuracy of Class 1 refers to -40 to +1000 °C (Type K), Class 2 to -40 to +1200 °C (Type K), Class 3 to -200 to +40 °C (Type K).

NTC	Plug-in probes	Illustration	Meas. range	Accuracy	t99	Part no.
	Stub probe, IP 54		-20 to +70 °C	±0.2 °C (-20 to +40 °C) ±0.4 °C (+40.1 to +70 °C)	15 s	0628 7510
	Stationary probe with aluminium sleeve, IP 65		-30 to +90 °C	±0.2 °C (0 to +70 °C) ±0.5 °C (remaining range)	190 s	0628 7503* **Conn.:** Fixed cable 2.4 m
	Accurate imm./pen. probe, 6m cable, IP 67		-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	5 s	0610 1725* **Conn.:** Fixed cable 6 m
	Accurate immersion/penetration probe, cable: 1.5 m long, IP 67		-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (-35 to -25.1 °C) ±0.4 °C (+75 to +80 °C)	5 s	0628 0006* **Conn.:** Fixed cable 1.5 m
	Wall surface temperature probe, e.g. to prove damage in building material		-50 to +80 °C	±0.2 °C (0 to +70 °C)	20 s	0628 7507 **Conn.:** Fixed cable 3 m
	Stainless steel NTC food probe (IP65) with PUR cable		-50 to +150 °C 2)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	8 s	0613 2211* **Conn.:** Fixed cable 1.6 m
	Waterproof NTC immersion/penetration 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)	10 s	0613 1212 **Conn.:** Fixed cable 1.2 m
	Pipe wrap probe with Velcro for pipe diameter to max. 75 mm, Tmax. +75°C, NTC		-50 to +70 °C	±0.2 °C (-25 to +70 °C) ±0.4 °C (-50 to -25.1 °C)		0613 4611 **Conn.:** Fixed cable 1.5 m

* Probe tested to EN 12830 for suitability in the transport and storage sectors

2) Long-term meas. range +125°C, short-term +150°C (2 minutes)

%RH	Plug-in probes	Illustration	Meas. range	Accuracy	Part no.
	Humidity / Temperature Probe 12mm		-20 to +70 °C, 0 to +100 %RH	±0,3 °C, ±2 %RH (2 to 98 %RH)	0572 6172
	Humidity / Temperature Probe 4 mm		0 to +40 °C, 0 to +100 %RH	±0,3 °C, ±2 %RH (2 to 98 %RH)	0572 6174

The specified accuracy class of the Saveris radio and Ethernet probe is achieved using these external probes.

testo Saveris™ Examples of applications

Documentation and alarms

During production and quality assurance in the food industry, temperatures and sometimes also humidity values must be determined in many areas:
· Production plants
· Warehouses
· Cold storage houses
· Refrigerators...

When limit values are exceeded, an alarm should be issued; in addition the data should be safely stored and centrally compiled for evaluations and proof. testo Saveris is ideally suited for these requirements.

Saving time by means of automated measurement data recording

Claus Hacker, Dairy Foreman
Breisgaumilch GmbH

"The time expenditure required for the compliance with HACCP regulations has decreased considerably since we started using testo Saveris for automatic temperature documentation!"

Uninterrupted monitoring of the cooling chain

Above all, sensitive products and processes must be kept at a constant quality level.

testo Saveris ensures that you have no need to worry about quality parameters during production and about uninterrupted monitoring of the cooling chain.

testo Saveris thus offers a reliable complete package for measurement data recording and documentation. The conformity with HACCP and EN 12830 is of course also ensured.

testo Saveris: conforms to EN 12830

Volkmar Caduff,
Managing Director of Käse Caduff

"testo Saveris offers us a complete overview and monitoring of all temperature values in our cooling chain. With this, we are always on the safe side."

What is the temperature really?

Wolfgang Schwörer, Head of Product Development Portable and Systems

How can you be sure that your analyser measures exactly what it should be measuring? Our certified DKD laboratories are unbeatable in their accuracy and give the values for all Testo measuring instruments - That's what true measurement efficiency is all about.

The competence of our engineers is held in high esteem by expert groups and committees in Berlin and Brussels where they are involved in the developments of future guidelines in their capacity as representatives of industry.

A comprehensive exchange of knowledge and experience with official measurement institutes around the world (e.g. DKD) ensures that your Testo measuring instrument can hold up to any comparison. Indeed, these efforts do have an objective: whoever uses Testo measurement engineering, can be assured that he is using the industrial standard.

Of further benefit to you: We know today about the guidelines and test specifications we will be faced with in the future.

On site: Fast printout on the testo 575 printer

testo 580 data collector collects and transmits data on site to PC

testo 581 alarm signal output for reliable warning of limits exceeded

Ethernet facilitates data communication in the network

Monitors temperature – Small and practical

testo 174

The testo 174 mini data logger is ideal for accompanying transports as it can unobtrusively monitor temperature fluctuations non-stop. The current reading is shown in the display.
The following can be called up: Stored minimum and maximum value, limit values and battery life.

- Accurate, punctual temperature logging with up to 3900 readings
- Alarm display if user-defined maximum/minimum values are exceeded
- Software to read out data, data analysis and parameter setting
- Secure data even if battery is spent

testo 174

Mini temperature data logger, 1 channel, incl. wall holder, lock and battery

Part no. 0563 1741

testo 174, Starter Set

Mini temperature data logger, 1 channel, ComSoft 4 Basic, wall holder, lock, interface incl. PC connection cable (RS232), battery

Part no. 0563 1742

testo 174, USB Set

Mini temperature data logger, 1 channel, ComSoft 4 Basic, wall holder, USB interface with PC connection cable and battery

Part no. 0563 1743

Technical data	
Meas. range	-30 to +70 °C
Data loggers	3900 readings
Measuring rate	1 min to 4 h (selectable)
Battery life	500 days (typical)
Analysis software	MS Windows 95b / 98 / ME / 2000 / XP / Vista
Dimensions	55 x 35 x 14 mm
Weight	24 g

Tamper-proof installation on site

Data upload to PC or notebook via interface (optional)

Checks food e.g. incoming, during storage and during delivery

Accessories Ordering data	Part no.
Lithium battery, button cell, type CR 2032	0515 0028
ISO calibration certificate/temperature, temperature data logger, calibration points -18°C, +60°C	0520 0443
USB interface, suitable for testo 174 data logger, incl. PC connection cable	0554 1739

Documents temperature – Fast and easy

testo 175-T1

The 175-T1 temperature data logger guarantees uninterrupted documentation with up to 7800 readings

- Provides quick overview of current reading, last value saved, max/min value, number of times limits exceeded
- Secure data even if battery is empty
- On site: Collect data with testo 580 and upload to PC for analysis

testo 175-T1

Internal °C
testo 175-T1, temperature data logger, 1 channel with internal sensor, incl. wall holder and calibration protocol; calbration certificates (ISO/DKD) must be ordered separately

Part no. 0563 1754

Technical data		
Chann. intern	1	
Probe type	**NTC**	
Meas. range	-35 to +70 °C	
Accuracy ±1 digit	±0.5 °C (-20 to +70 °C)	±1 °C (-35 to -20.1 °C)
Resolution	0.1 °C (-20 to +70 °C)	0.3 °C (-35 to -20.1 °C)
Memory	7800	Measuring rate 10 s ... 24 h
Battery life	2.5 years at meas. rate of 15 min (-10 to +50 °C)	
Analysis software	MS Windows 95b / 98 / ME / 2000 / XP / Vista	
Dimensions	82 x 52 x 30 mm	
Weight	90 g	Protection class IP68

Data is printed on site on the fast testo 575 printer (optional)

Records temperature fluctuations e.g. during storage and transport of meat — in the context of quality assurance

Recommended Set: Starter Set

testo 175-T1, temperature data logger, 1 channel with internal sensor, incl. wall holder and calibration protocol; calbration certificates (ISO/DKD) must be ordered separately	0563 1754
Lock for wall holder for testo 175/177 data loggers	0554 1755
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1766

Accessories Ordering data see page 50

Log temperature – Simultaneously at two sites

testo 175-T2

With an additional external probe socket, the temperature data logger provides a further temperature measurement option.

- Monitors 2 temperatures simultaneously
- Fast overview of current reading, last value saved, max/min values, number of times limits exceeded
- User-friendly operation, convenient analysis

testo 175-T2

Internal °C + external °C

testo 175-T2, temperature data logger, 2 channels, with internal sensor and external probe socket, wall holder and calibration protocol; calbration certiciates (ISO/DKD) must be ordered separately

Part no. 0563 1755

Collect data on site, upload to PC and analyse

Tamper-proof with wall holder and lock (optional)

Simultaneous monitoring of product and air temperature prior to further processing

Technical data			
Chann. intern	1		
Meas. range	-35 to +70 °C		
Accuracy ±1 digit	±0.5 °C (-20 to +70 °C)	±1 °C (remaining range)	
Resolution	0.1 °C (-20 to +70 °C)	0.3 °C (remaining range)	
Chann. external (var.)	1		
Meas. range	-40 to +120 °C		
Accuracy ±1 digit	±0.3 °C (-25 to +70 °C)	±0.5 °C (remaining range)	
Resolution	0.1 °C (-25 to +70 °C)	0.3 °C (remaining range)	
Battery life	2.5 years at a meas. rate of 15 min (-10 to +50 °C)		
Analysis software	MS Windows 95b / 98 / ME / 2000 / XP / Vista		
Memory	16000	Measuring rate	10 s to 24 h
Oper. temp.	-35 to +70 °C	Storage temp.	-40 to +85 °C
Protection class	IP68	Dimensions	82 x 52 x 30 mm
Weight	84 g		

See Page 50 for Accessories Ordering Data

Recommended Set: testo 175-T2, Set to record two temperatures

testo 175-T2, temperature data logger, 2 channels, with internal sensor and external probe socket, wall holder and calibration protocol; calbration certiciates (ISO/DKD) must be ordered separately	0563 1755
Lock for wall holder for testo 175/177 data loggers	0554 1755
Accurate immersion/penetration probe, cable: 1.5 m long, IP 67	0628 0006
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1766

Description	Illustration	Meas. range	Accuracy	t99	Part no.
Stub probe, IP 54	35 mm, Ø 3 mm	-20 to +70 °C	±0.2 °C (-20 to +40 °C) ±0.4 °C (+40.1 to +70 °C)	15 s	0628 7510
Stationary probe with aluminium sleeve, IP 65	40 mm, Ø 6 mm	-30 to +90 °C	±0.2 °C (0 to +70 °C) ±0.5 °C (remaining range)	190 s	0628 7503* **Conn.:** Fixed cable
Accurate imm./pen. probe, 6m cable, IP 67	40 mm, Ø 3 mm; Ø 3 mm	-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	5 s	0610 1725* **Conn.:** Fixed cable
Accurate immersion/penetration probe, cable: 1.5 m long, IP 67					0628 0006*
Probe for surface measurement	40 mm, 8 x 8 mm	-50 to +80 °C	±0.2 °C (0 to +70 °C)	150 s	0628 7516* **Conn.:** Fixed cable
Stainless steel NTC food probe (IP65) with PUR cable	125 mm, Ø 4 mm; 15 mm, Ø 3 mm	-50 to +150 °C Long-term meas. range +125°C, short-term +150°C (2 minutes)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	8 s	0613 2211* **Conn.:** Fixed cable
Robust NTC food penetration probe with special handle, reinforced PUR cable	115 mm, Ø 5 mm; 30 mm, Ø 3.5 mm	-25 to +150 °C Long-term meas. range +125 °C, short-term +150 °C (2 minutes)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	7 s	0613 2411* **Conn.:** Fixed cable
Frozen food probe NTC, corkscrew design (incl. plug-in wire)	110 mm, Ø 8 mm; 30 mm, Ø 4 mm	-50 to +140 °C Long-term meas. range +125 °C, short-term +140 °C (2 minutes)	±0.5% of mv (+100 to +140 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	20 s	0613 3211* **Conn.:** Plug-in cable
Efficient, robust NTC air probe	115 mm, Ø 5 mm; 50 mm, Ø 4 mm	-50 to +125 °C Long-term meas. range +125 °C, short-term +150 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	60 s	0613 1712 **Conn.:** Fixed cable

☐ The specified seal class of the data loggers is achieved with these probes.

* Probe tested to EN 12830 for suitability in the transport and storage sectors

Monitor production conditions – Reliably and efficiently

testo 175-H1

The affordable humidity/temperature logger testo 175-H1 without display monitors fluctuations in the humidity and temperature of production rooms efficiently and unobtrusively.

Limit values can be entered, an alarm display is activated if the limits are exceeded. testo 575, the fast printer, supplies proof of fluctuations in ambient conditions.

testo 175-H2

The compact humidity/temperature logger with display. It provides you with a fast on-site overview of current readings, the last values saved, max and min values and the number of times limits were exceeded.

The testo 575 fast printer provides proof that the specified conditions have been adhered to. All of the values logged by the testo 580 data collector can then be uploaded to your PC for analysis.

testo 175-H1 without display. Data is printed on the fast printer.

Data analysis with easy-to-use Windows® software

testo 175-H2, production ambient conditions logging with immediate display of limits exceeded

- Humidity sensor guaranteed long-term stable
- Memory for up to 3700 readings (testo 175-H1)
- Memory for up to 16000 readings (testo 175-H2)
- Data safe even when battery is spent
- Fast documentation on infrared printer, 6 lines/s
- Data transfer to PC or Notebook via interface or testo 580 data collector
- Large display (testo 175-H2)

testo 175-H1 w/o display

Internal %RH, °C

testo 175-H1, humidity/temperature logger, 2 channels, with internal sensors, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately

Part no. 0563 1757

testo 175-H2 with display

Internal %RH, °C

testo 175-H2, humidity/temperature logger, 2 channels, with internal sensors, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately

Part no. 0563 1758

Technical data	testo 175-H1 w/o display	testo 175-H2 with display
Channels	2	2
Probe type	**Testo humid. sensor, cap. NTC**	**Testo humid. sensor, cap. NTC**
Meas. range	0 to +100 %RH* -10 to +50 °C	0 to +100 %RH* -20 to +70 °C
Accuracy ±1 digit	±3 %RH ±0.5 °C	±3 %RH ±0.5 °C
Resolution	0.1 %RH 0.1 °C	0.1 %RH 0.1 °C
Memory	3700	16000
Oper. temp.	-10 to +50 °C	-20 to +70 °C
Storage temp.	-40 to +70 °C	-40 to +85 °C
Weight	80 g	85 g
Dimensions	82 x 52 x 30 mm	82 x 52 x 30 mm
Battery life	2.5 years at a meas. rate of 15 min (-10 to +50 °C)	
Measuring rate	10 s to 24 h	10 s to 24 h
Software	MS Windows 95b / 98 / ME / 2000 / XP / Vista	

* not affected by condensation

See Page 50 for Accessories Ordering Data

Assurance when purchasing

"Often, interested customers don't even expect a visit from me following consultation by telephone. If a customer then gets to see the instrument, it gives him maximum assurance when making the decision to purchase."

Uwe Becker
Head of Customer Center, Southwest Germany

Recommended Set: testo 175-H1, Starter set

testo 175-H1, humidity/temperature logger, 2 channels, with internal sensors, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately	0563 1757
Lock for wall holder for testo 175/177 data loggers	0554 1755
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1766

Recommended Set: testo 175-H2, Starter Set

testo 175-H2, humidity/temperature logger, 2 channels, with internal sensors, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately	0563 1758
Lock for wall holder for testo 175/177 data loggers	0554 1755
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1766

Long-term temperature monitoring – Professional and non-stop

testo 177-T1

The professional testo 177-T1 data logger (without display) monitors specified temperature conditions in the refrigeration and deep-freeze sector efficiently and accurately over a period of months and years.

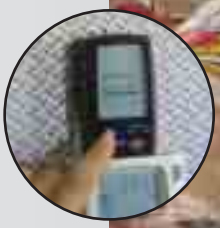
Temperature fluctuations which cause damage are documented on the testo 575 fast printer or analysed on your PC via interface.

testo 177-T2

testo 177-T2, the professional data logger with display. It provides you with a quick overview of the current reading, the last value saved, max and min values and the number of times the limits were exceeded.

All of the values collected by the testo 580 data collector during long-term monitoring over months/years can be sent to your notebook/PC. Convenient analysis possible using software based on Windows®.

testo 177-T2 with display, data is printed on the fast testo 575 printer



Collects data on site which is uploaded to PC for analysis

Long-term temperature logging in an intermediate store with testo 177-T1 (without display)

- Logs temperatures with up to 48,000 readings
- Specially for use in low temperatures (up to -40 °C)
- On-site: Fast documentation on the infrared printer, 6 lines/s
- Collect data on-site with testo 580 and download to your PC for analysis

EN 12830

testo 177-T1 without display

testo 177-T1, temperature data logger, 1 channel, with internal sensor, wall holder and calibration; calibration certificates (ISO/DKD) must be ordered separately

Part no. 0563 1771

testo 177-T2 with display

testo 177-T2, temperature data logger, 1 channel, with internal sensor, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately

Part no. 0563 1772

Recommended Set: testo 177-T1, Starter Set

testo 177-T1, temperature data logger, 1 channel, with internal sensor, wall holder and calibration; calibration certificates (ISO/DKD) must be ordered separately	0563 1771
Lock for wall holder for testo 175/177 data loggers	0554 1755
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1767

Recommended Set: testo 177-T2, Starter Set

testo 177-T2, temperature data logger, 1 channel, with internal sensor, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately	0563 1772
Lock for wall holder for testo 175/177 data loggers	0554 1755
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1767

Technical data			
Chann. intern	1	**Probe type**	**NTC**
Meas. range	-40 to +70 °C	Resolution	0.1 °C
Accuracy ±1 digit	±0.4 °C (-25 to +70 °C)	±0.8 °C (-40 to -25.1 °C)	
Measuring rate	2 s to 24 h	Memory	48000
Oper. temp.	-40 to +70 °C	Storage temp.	-40 to +85 °C
Dimensions	103 x 64 x 33 mm		
Weight	111 g (testo 177-T1)	122 g (testo 177-T2)	
Battery life	5 years at meas. cycle of 15 min (-10 to +50 °C)		
Analysis software	MS Windows 95b / 98 / ME / 2000 / XP / Vista		

See page 50 for Accessories Ordering Data

Service Warranty

"Authentic quality: one of Testo's major claims. Warranties of up to 3 years are proof of our lasting quality - this thoroughness has made us one of the leading manufacturers in the world."

Jörg Wittemer
Head of Customer Service

The truck data logger with 2 probe sockets and event logging

testo 177-T3

testo 177-T3 documents 3 temperatures and an event simultaneously providing proof of an uninterrupted cooling chain during transport.

For example, complete monitoring of ambient air, intake and outgoing temperature with simultaneous monitoring of the door or the compressor is possible when monitoring transport. The measuring rate of the event can be set completely independently of the measuring rate of the temperature channels.

- Temperature logging of up to 48000 readings
- Data is read out without interrupting the measurement series
- Data analysis as table or graph, with Email function

testo 177-T3

Internal °C + 2 x external °C + event contact

testo 177-T3, temperature data logger, 3 channels, with internal sensor, 2 probe sockets, door contact connection cable, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately

Part no. 0563 1773

Collect data on site, read out on your PC and analyse

Temperature monitoring at different sites e.g. during transport, in warehouses, in containers etc.

Technical data			
Chann. intern	1	Chann. external (var.)	2
Meas. range	-40 to +70 °C	Meas. range	-40 to +120 °C
Accuracy ±1 digit	±0.4 °C (-25 to +70 °C) ±0.8 °C (-40 to -25.1 °C)	Accuracy ±1 digit	±0.2 °C (-25 to +70 °C) ±0.4 °C (remaining range)
Resolution	0.1 °C	Resolution	0.1 °C
Memory	48000	Battery type	Lithium battery
Oper. temp.	-40 to +70 °C	Weight	127 g
Storage temp.	-40 to +85 °C	Dimensions	103 x 64 x 33 mm

External: Event logging e.g. door contact
Battery life: 5 years with meas. rate of 15 min (-10 to +50°C)
Measuring rate: 2 s to 24 h
Software: Microsoft Windows 95b / 98 /ME / NT4-Sp4 / 2000 / XP / Vista

See page 50 for Accessories Ordering Data

Recommended Set: Temperature monitoring with printout on-site

testo 177-T3, temperature data logger, 3 channels, with internal sensor, 2 probe sockets, door contact connection cable, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately	0563 1773
Lock for wall holder for testo 175/177 data loggers	0554 1755
Stationary probe with aluminium sleeve, IP 65	0628 7503
Stationary probe with aluminium sleeve, IP 65	0628 7503
Fast testo 575 printer, incl. 1 roll of thermal paper and batteries	0554 1775
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1767

Description	Illustration	Meas. range	Accuracy	t99	Part no.
Stub probe, IP 54	35 mm, Ø 3 mm	-20 to +70 °C	±0.2 °C (-20 to +40 °C) ±0.4 °C (+40.1 to +70 °C)	15 s	0628 7510
Stationary probe with aluminium sleeve, IP 65	40 mm, Ø 6 mm	-30 to +90 °C	±0.2 °C (0 to +70 °C) ±0.5 °C (remaining range)	190 s	0628 7503* **Conn.:** Fixed cable
Accurate imm./pen. probe, 6m cable, IP 67	40 mm, Ø 3 mm; Ø 3 mm	-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	5 s	0610 1725* **Conn.:** Fixed cable
Accurate immersion/penetration probe, cable: 1.5 m long, IP 67					0628 0006*
Probe for surface measurement	40 mm, 8 x 8 mm	-50 to +80 °C	±0.2 °C (0 to +70 °C)	150 s	0628 7516* **Conn.:** Fixed cable
Stainless steel NTC food probe (IP65) with PUR cable	125 mm, Ø 4 mm; 15 mm, Ø 3 mm	-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)	8 s	0613 2211* **Conn.:** Fixed cable
Robust NTC food penetration probe with special handle, reinforced PUR cable	115 mm, Ø 5 mm; 30 mm, Ø 3.5 mm	-25 to +150 °C	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	7 s	0613 2411* **Conn.:** Fixed cable
Frozen food probe NTC, corkscrew design (incl. plug-in wire)	110 mm, Ø 8 mm; 30 mm, Ø 4 mm	-50 to +140 °C	±0.5% of mv (+100 to +140 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	20 s	0613 3211* **Conn.:** Plug-in cable
Efficient, robust NTC air probe	115 mm, Ø 5 mm; 50 mm, Ø 4 mm	-50 to +125 °C Long-term meas. range +125 °C, short-term +150 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	60 s	0613 1712 **Conn.:** Fixed cable

☐ The specified seal class of the data loggers is achieved with these probes.

* Probe tested to EN 12830 for suitability in the transport and storage sectors

Professional long-term monitoring – With 4 probe sockets

testo 177-T4

The testo 177-T4 professional data logger with up to 4 external temperature probe connections for simultaneous temperature measurement at different sites.

Fluctuations in temperature e.g. in production processes, in laboratories etc. often influence the overall result. Surface, immersion and air probes enable adaptation to the respective measurement task.

- Specially for use in high and low temperatures
- Read out data without interrupting the measurement series
- Data analysis in table or graphics form, with email function
- Memory for up to 48,000 readings

Collect data on site, upload to PC and analyse

Alarm message, efficient indication of limits excee-ded

Checking technical systems (flow/return temperature) in production facilities

testo 177-T4

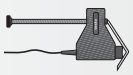
4 x external °C
testo 177-T4, temperature data logger, 4 channels, with 4 probe inputs, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be orderd separately; calibration certificates (ISO/DKD) must be ordered separately
Part no. 0563 1774

Technical data			
Chann. external (var.)	4		
Probe type	**Type T (Cu-CuNi)**	**Type K (NiCr-Ni)**	**Type J (Fe-CuNi)**
Meas. range	-200 to +400 °C	-200 to +1000 °C	-100 to +750 °C
Accuracy ±1 digit	±0.5% of mv (+70.1 to +1000 °C) ±1.5% of mv (-200 to -100.1 °C) ±0.3 °C (-100 to +70 °C)		
Resolution	0.1 °C		
Memory	48000	Measuring rate	2 s to 24 h
Oper. temp.	0 to +70 °C	Protection class	IP43
Storage temp.	-40 to +85 °C	Weight	129 g
Battery type	Lithium battery	Dimensions	103 x 64 x 33 mm
Battery life	5 years at meas. cycle 15 min (-10 to +50 °C)		
Analysis software	MS Windows 95b / 98 / ME / 2000 / XP / Vista		

See page 50 for Accessories Ordering Data

Recommended Set: Set for monitoring technical systems

testo 177-T4, temperature data logger, 4 channels, with 4 probe inputs, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be orderd separately; calibration certificates (ISO/DKD) must be ordered separately	0563 1774
Lock for wall holder for testo 175/177 data loggers	0554 1755
Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Meas. range short-term to +280°C, TC Type K	0602 4592
Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Meas. range short-term to +280°C, TC Type K	0602 4592
testo 580 data collector set with RS232, readout holders included, for testo 175/177 data loggers	0554 1778
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1767

Description	Illustration	Meas. range	Accuracy	t99	Part no.
Stationary probe with stainless steel sleeve, TC Type K		-50 to +205 °C	Class 2	20 s	0628 7533 **Conn.:** Fixed cable
Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Meas. range short-term to +280°C, TC Type K		-60 to +130 °C	Class 2	5 s	0602 4592 **Conn.:** Fixed cable
Thermocouple with TC adapter, flexible, 800mm long, fibre glass, TC Type K		-50 to +400 °C	Class 2	5 s	0602 0644
Thermocouple with TC adapter, flexible, 1500mm long, fibre glass, TC Type K		-50 to +400 °C	Class 2	5 s	0602 0645
Thermocouple with TC adapter, flexible, 1500mm long, PTFE, TC Type K		-50 to +250 °C	Class 2	5 s	0602 0646
Efficient and fast-action immersion probe, waterproof, TC Type K		-60 to +1000 °C	Class 1	2 s	0602 0593 **Conn.:** Fixed cable

☐ The specified seal class of the data loggers is achieved with these probes.

Long-term monitoring of production conditions — Professional and non-stop

testo 177-H1

Sensitive products require the right ambient conditions during production and storage. Efficient measurement and documentation of the readings over months/years is possible with the testo 177-H1 professional datalogger.

Additional surface, immersion and air probes can be attached to the data logger e.g. for uninterrupted measurement of the dewpoint difference.

- Long-term stable humidity sensor with fast response time
- Memory for 48,000 readings
- Control and adjustment option with adjustment set
- Protection caps for dirt-ingressed or corrosive gases

testo 177-H1

Intern. %RH, °C, °C td + extern. °C
testo 177-H1, humidity/temperature logger, 4 channels, with internal sensors and additional external temp. probe socket, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately
Part no. 0563 1775

Collect data on site, upload to PC and analyse

Alarm message, reliable indication when limits are exceeded

Efficient measurement of production conditions

Technical data			
Chann. intern	3		
Meas. range	0 to +100 %RH	-20 to +70 °C	-40 to +70 °C td
Accuracy ±1 digit	±2 %RH	±0.5 °C	
Resolution	0.1 %RH	0.1 °C	0.1 °C td
Chann. external (var.)	1		
Meas. range	-40 to +120 °C		
Accuracy ±1 digit	±0.2 °C (-25 to +70 °C)	±0.4 °C (remaining range)	
Resolution	0.1 °C		
Memory	48000		
Measuring rate	2 s to 24 h	Protection class	IP54
Battery life	5 years at meas. rate of 15 min (-10 to +50 °C)		
Analysis software	MS Windows 95b / 98 / ME / 2000 / XP / Vista		
Oper. temp.	-20 to +70 °C	Storage temp.	-40 to +85 °C
Dimensions	103 x 64 x 33 mm	Weight	130 g

Recommended Set: Set for logging production conditions and additional temperature measurement

testo 177-H1, humidity/temperature logger, 4 channels, with internal sensors and additional external temp. probe socket, wall holder and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately	0563 1775
Lock for wall holder for testo 175/177 data loggers	0554 1755
Accurate imm./pen. probe, 6m cable, IP 67	0610 1725
testo 580 data collector set with RS232, readout holders included, for testo 175/177 data loggers	0554 1778
ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1767

See page 50 for Accessories Ordering Data

Description	Illustration	Meas. range	Accuracy	t99	Part no.
Stub probe, IP 54	35 mm, Ø 3 mm	-20 to +70 °C	±0.2 °C (-20 to +40 °C) ±0.4 °C (+40.1 to +70 °C)	15 s	0628 7510
Stationary probe with aluminium sleeve, IP 65	40 mm, Ø 6 mm	-30 to +90 °C	±0.2 °C (0 to +70 °C) ±0.5 °C (remaining range)	190 s	0628 7503* **Conn.:** Fixed cable
Accurate imm./pen. probe, 6m cable, IP 67	40 mm, Ø 3 mm; Ø 3 mm	-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	5 s	0610 1725* **Conn.:** Fixed cable
Accurate immersion/penetration probe, cable: 1.5 m long, IP 67					0628 0006*
Wall surface temperature probe, e.g. to prove damage in building material		-50 to +80 °C	±0.2 °C (0 to +70 °C)	20 s	0628 7507 **Conn.:** Fixed cable
Stainless steel NTC food probe (IP65) with PUR cable	125 mm, Ø 4 mm; 15 mm, Ø 3 mm	-50 to +150 °C Long-term meas. range +125°C, short-term +150°C (2 minutes)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	8 s	0613 2211* **Conn.:** Fixed cable
Efficient, robust NTC air probe	115 mm, Ø 5 mm; 50 mm, Ø 4 mm	-50 to +125 °C Long-term meas. range +125 °C, short-term +150 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	60 s	0613 1712 **Conn.:** Fixed cable

☐ The specified seal class of the data loggers is achieved with these probes.

* Probe tested to EN 12830 for suitability in the transport and storage sectors

Accessories for testo 175 and 177

testo 575 fast printer

- Fast-action print mechanism, 6 lines/s
- Prints tables/graphics
- Brief info. or full memory can be printed as required
- Determine section to be printed
- Your language can be set
- Self-adhesive Testo paper can also be used

Part no. 0554 1775

Fast printout and logger rebooting with testo 575

testo 580 data collector

- Can read out up to 25 full testo 175 loggers or 10 full testo 177 loggers
- Displays all status information
- Download collected data to PC using Testo ComSoft 3

testo 580 with RS232 interface

Part no. 0554 1778

testo 580 with USB interface

Part no. 0554 1764

The testo 580 data collects data on site for upload to PC and analysis

testo 581 alarm signal output

- Transmission of alarm messages – e.g. when programmed limit values in the data logger are exceeded – to external components such as horns, lamps, PLC etc.
- Signal transfer via floating signal output

Part no. 0554 1769

Alarm signal output for reliable indication of limits exceeded

Ethernet adapter

- Fast transfer of readings
- Use of an existing network without additional cabling
- Long transmission paths
- Identification of measuring instruments in system network
- Used with ComSoft 3

Part no. 0554 1711

Read out data stored in the logger via the PC network using the Ethernet adapter

Printer and Accessories	Part no.
Fast testo 575 printer, incl. 1 roll of thermal paper and batteries, infrared thermal line printer with graphics function	0554 1775
Spare thermal paper for printer (6 rolls)	0554 0569
Spare thermal paper for printer (6 rolls), measurement data documentation legible for up to 10 years	0554 0568
Label thermal paper (Testo patent) for testo 575 printer (6 rolls), can be applied directly	0554 0561
Further accessories	**Part no.**
testo 580 data collector set with RS232, readout holders included, for testo 175/177 data loggers	0554 1778
testo 580 data collector set with USB, readout holders included, for testo 175/177 data loggers	0554 1764
testo 581 alarm signal output, floating, for testo 175/177, forwards information efficiently when limits are exceeded to e.g. horns, lamps, PLC etc.	0554 1769
Battery, 3.6 V/0.8 Ah 1/2 AA, for testo 175-T3/175-H1/175-H2/175-S1	0515 0175
Battery, 3.6 V/1.9 Ah 1AA, for testo 175-T1/175-T2 and all testo 177 loggers	0515 0177
Transport and Protection	**Part no.**
Lock for wall holder for testo 175/177 data loggers	0554 1755
Transport case for up to 6 testo 177 data loggers, testo 575 printer, testo 580 data collector and accessories	0516 1770
Accessories for humidity probes	**Part no.**
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
Metal protection cage, Ø 12 mm for humidity probes, for measurement in flow velocities of less than 10 m/s	0554 0755
Cap with wire mesh filter, Ø 12 mm	0554 0757
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 0647

Software and Accessories	Part no.
For testo 175: ComSoft 4 Set - Basic with RS 232 interface, Basic software with diagram and table function, incl. desk-top holder, PC connection cable	0554 1759
For testo 175: ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1766
For testo 177: ComSoft 4 Set - Basic with RS 232 interface, Basic software with diagram and table function, incl. desk-top holder, PC connection cable	0554 1774
For testo 177: ComSoft 4 Set - Basic with USB interface, Basic software with diagram and table function, incl. desk-top holders, PC connection cable	0554 1767
ComSoft 3 - Professional with data management, incl. database, analysis and graphics function, data analysis, trend curve (without interface)	0554 0830
ComSoft 3 - For requirements to CFR 21 Part 11, incl. database, analysis and graphics function, data analysis, trend curve (w/o interface)	0554 0821
RS232 interface for testo 175/177 incl. desk-top holders, PC connection cable, (please also order for ComSoft 3 - Professional)	0554 1757
USB interface, for testo 175/177 incl. desk-top holders, PC conn. cable, (Please order with ComSoft 3 - Professional)	0554 1768
Ethernet adapter, RS232 - Ethernet incl. software driver, mains unit, facilitates data communication in network	0554 1711
Calibration Certificates	**Part no.**
ISO calibration certificate/temperature, temperature probe; calibration points -18°C; 0°C; +60°C per channel/instrument	0520 0151
ISO calibration certificate/temperature, temp. data logger; calibration points -8°C; 0°C; +40°C per channel/instrument	0520 0171
ISO calibration certificate humidity , calibration points 11.3 %RH and 75.3 %RH at +25 °C/+77 °F; per channel/instrument	0520 0076
DKD calibration certificate/temperature, Temperature probe; cal. points -20°C; 0°C; +60°C (-4 °F, 92 °F, 140 °F); per channel/instrument	0520 0261
DKD calibration cert./humidity, humidity data logger; cal. points 11.3%RH and 75.3%RH at +25°C; per channel/instrument	0520 0246

The long termer — In full metal housing

testostor 171-0

A temperature data logger in full-metal housing with integrated temperature probe. A long life is guaranteed even in tough conditions.

The data is read out to a PC via the attachable interface.

- Logs up to 55000 readings
- Tamperproof readings
- Theft-proof mounting
- Waterproof, robust metal housing, IP 68
- On site application: Testo Software for Palm OS® replaces laptop/PC

testostor 171-0 monitors fluctuations in temperature constantly

testostor 171-0	
Internal °C testostor 171-0, temperature data logger, incl. starting magnet, battery and calibration protocol; calbration certificates (ISO/DKD) must be ordered separately **Part no.**	**0577 1719**

Additional Accessories and Spare Parts	Part no.
Spare battery for testostor 171, quick and easy battery replacement	0515 0018
Transport and Protection	**Part no.**
Holder with lock for data logger, theft-proof	0554 1782
Transport case (plastic) for measurement data storage instruments (max. 6 off) and accessories, for safe transport	0516 0117
PC Software and Accessories	**Part no.**
ComSoft 3 - Professional with data management, incl. database, analysis and graphics function, data analysis, trend curve	0554 0830
ComSoft 3 - For requirements to CFR 21 Part 11, incl. database, analysis and graphics function, data analysis, trend curve (w/o interface)	0554 0821
Interface, attachable to data logger	0554 1781
Ethernet adapter, RS232 - Ethernet incl. software driver, mains unit, facilitates data communication in network	0554 1711
Calibration Certificates	**Part no.**
ISO calibration certificate/temperature, temperature probe; calibration points -18°C; 0°C; +60°C per channel/instrument	0520 0151
DKD calibration certificate/temperature, Temperature probe; cal. points -20°C; 0°C; +60°C (-4 °F, 92 °F, 140 °F); per channel/instrument	0520 0261
ISO calibration certificate/temperature, temp. data logger; calibration points -8°C; 0°C; +40°C per channel/instrument	0520 0171

Technical data	
Meas. range	-35 to +70 °C
Accuracy ±1 digit	±0.5 °C (-35 to +39.9 °C) ±0.6 °C (+40 to +70 °C)
Resolution	0.1 °C
Material/Housing	Aluminium, anodized
Protection class	IP68
Memory	55000
Oper. temp.	-35 to +70 °C
Storage temp.	-40 to +85 °C
Dimensions	131 x 68 x 26 mm
Weight	305 g
Battery life: lithium battery up to 5 years Software: menu-driven from Microsoft Windows 95 / ME / 2000 / XP / Vista	

The long termer — With external probes

testostor 171-1

You can place the testostor 171-1 data logger beside the goods, for example, and attach the external probe to doors or refrigeration appliances located up to 12m away. Air moisture can also be monitored, if required.

- Logs up to 55000 readings
- Probe can be positioned quickly and easily
- Tamperproof measurement results
- On site application: Testo Software for Palm OS® replaces laptop/PC

testostor 171-4

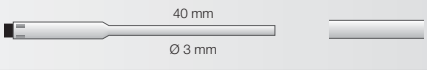
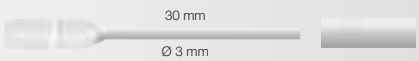
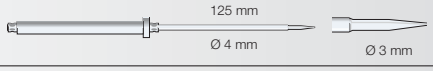
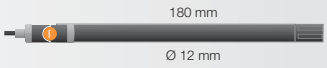
testostor 171-4 with up to 4 external temperature probe sockets is used for simultaneous temperature measurement at different locations.

testostor 171-1, external probe socket can be positioned at up to 12m away

Data analysis on your PC/Notebook with easy-to-use Windows® Software

Monitor several refrigerated storage rooms using testostor 171-4

testostor 171-1	testostor 171-4
Int.: °C + Ext.: °C or %RH/°C testostor 171-1, temperature data logger with °C/%RH probe connection, incl. starting magnet, battery and calibration protocol; calbration certificates (ISO/DKD) must be ordered separately **Part no. 0577 1715**	**4 x external °C** testostor 171-4, temperature data logger, 4 channels, with starting magnet, battery and calibration protocol; calbration certicates (ISO/DKD) must be ordered separately **Part no. 0577 1714**

Description	Illustration	Meas. range	Accuracy	Reaction time	Part no.
Robust immersion/air probe, quick-action, 6m cable, IP68 probe tip		-50 to +80 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (-50 to -25.1 °C)	5 s t_{99} (in water)	0610 1720 **Conn.:** Fixed cable
Air probe, highly accurate, can be attached directly		-35 to +70 °C	±0.2 °C (-35 to +70 °C)	180 s t_{90}	0610 1722
Robust, accurate, waterproof food probe (IP65), made of stainless steel		-50 to +120 °C	±0.2 °C (-25 to +80 °C) ±0.4 °C (-50 to -25.1 °C) ±0.5 °C (+80.1 to +120 °C)	10 s t_{99} (in water)	0610 2217 **Conn.:** Fixed cable
Humidity/temperature probe with standard plastic protection cap		0 to +100 %RH -20 to +70 °C	±2 %RH (+2 to +98 %RH) ±0.4 °C (-10 to +50 °C) ±0.5 °C (remaining range)	12 s t_{90}	0636 9717*

*Humidity/temperature probe only for testostor 171-1

Common technical data	
Chann. external (var.)	
Probe type	**NTC**
Meas. range	-50 to +120 °C
Accuracy ±1 digit	±0.2 °C (-34.9 to +39.9 °C) ±0.4 °C (+40 to +120 °C) ±0.6 °C (-50 to -35 °C)
Resolution	0.1 °C
Oper. temp.	-35 to +70 °C
Storage temp.	-40 to +85 °C
Battery type	Lithium battery
Memory	55000
Dimensions	131 x 68 x 26 mm
Weight	305 g
Meas. rate: 2 s to 24 h, selectable Battery life: up to 5 years with lithium battery Software: menu-driven from Microsoft Windows 95 / ME / 2000 / XP / Vista	

testostor 171-1	
Chann. intern	
Probe type	**NTC**
Meas. range	-35 to +70 °C
Accuracy ±1 digit	±0.2 °C (-35 to +39.9 °C) ±0.4 °C (+40 to +70 °C)
Resolution	0.1 °C
Chann. external (var.)	
Probe type	**Testo humid. sensor, cap.**
Meas. range	0 to +100 %RH
Accuracy ±1 digit	±2 %RH (+2 to +98 %RH)
Resolution	0.1 %RH

See page 51 for more Ordering data

The high temperature logger – With heat protection

testostor 171-8

A compact data logger with 4 external thermocouple connections for:

- Type K (NiCr-Ni), fast action probes for measurements from -200 to +1000 °C

- Type T (Cu-CuNi), fast accurate probes for measuring -50 to +350 °C

- Logs up to 55,0000 readings
- Heat protection case for processes with ambient temperature of +200 °C max.

testostor 171-8

4 x external °C
testostor 171-8, temperature measurement data storage device, 4-channel, incl. starter magnet, battery and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately
Part no. 0577 1718

Accessories Ordering data

Heat-proof case with heat-proof insert, rubber seal, 4 clamp screw connections for thermocouples with diameter of 1.5 mm
Part no. 0553 1701

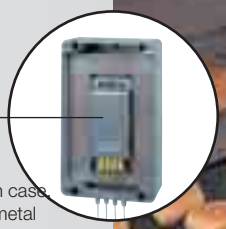
Immersion tip, flexible, TC Type K

500 mm
Ø 1.5 mm
Part no. 0602 5792

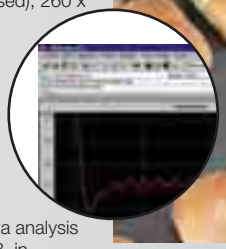
See page 51 for more Ordering data

Recommended Set: Food set

testostor 171-8, temperature measurement data storage device, 4-channel, incl. starter magnet, battery and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately	0577 1718
Immersion tip, flexible, TC Type K	0602 5792
Immersion tip, flexible, TC Type K	0602 5792
Immersion tip, flexible, TC Type K	0602 5792
Immersion tip, flexible, TC Type K	0602 5792
ComSoft 3 - Professional with data management	0554 0830
Interface	0554 1781
Transport case (plastic)	0516 0117



Heat protection case, aluminium full metal housing (anodised), 260 x 160 x 90 mm



Convenient data analysis with ComSoft 3, in graphics or table form

Monitors the oven temperature of baking lines with heat-proof case

Technical data

Probe type	Type K (NiCr-Ni)		Type T (Cu-CuNi)
Meas. range	-200 to +1000 °C		-50 to +350 °C
Accuracy ±1 digit	±(0.4 °C ±0.2% of mv)		±(0.4 °C ±0.2% of mv)
Resolution	0.1 °C (-200 to +249.9 °C) 1 °C (+250 to +1000 °C)		0.1 °C (-50 to +249.9 °C) 1 °C (+250 to +350 °C)
Oper. temp.	0 to +70 °C	Dimensions	131 x 68 x 26 mm
Storage temp.	-40 to +85 °C	Weight	305 g

Measuring rate: 2s to 24h, selectable
Battery life: up to 5 years
Software: Menu-driven from Microsoft Windows 95 / NT 4 Servicepack 4 / ME / 2000 / XP / Vista

Electronic thermohygrograph – in full-metal housing

testostor 171-3

testostor 171-3, a compact data logger with built-in humidity/temperature probe.

- Suitable for outdoor use
- Control and adjustment option using adjustment set
- Logs up to 20000 readings
- Measuring rate: 2 s to 24 h, selectable
- Sintered cap protection for dusty environments (see Accessories)
- On site application: Testo Software for Palm OS® replaces laptop/PC

testostor 171-3

Internal: %RH, °C
testostor 171-3, humidity data logger for %RH, °C with starting magnet, battery and calibration protocol; calibration certificates (ISO/DKD) must be ordered separately
Part no. 0577 1713

Set testostor 171-3

Set testostor 171-3, incl. humidity data logger for %RH, °C with starting magnet, battery, calibration protocol and software with interface; calibration certificates (ISO/DKD) must be ordered separately
Part no. 0563 1713

Accessories Ordering data

testo saline pots for control and humidity adjustment of humidity probes, 11.3 %RH and 75.3 %RH with adapter for humidity probe
Part no. 0554 0660

Stainless steel sintered cap, Ø 21 mm, can be screwed onto humidity probe
Part no. 0554 0640

See page 51 for more Ordering data

Recommended Set: The practical set in the case

Set testostor 171-3, incl. humidity data logger for %RH, °C with starting magnet, battery, calibration protocol and software with interface; calibration certificates (ISO/DKD) must be ordered separately	0563 1713
Transport case (plastic) for measurement data storage instruments (max. 6 off) and accessories, for safe transport	0516 0117

Monitoring humidity and temperature during the maturing of cheese

Technical data

Probe type	NTC		Testo humid. sensor, cap.
Meas. range	-10 to +50 °C		0 to +100 %RH
Accuracy ±1 digit	±0.5 °C (-10 to +39.9 °C) ±0.6 °C (+40 to +50 °C)		±3 %RH (+2 to +98 %RH)
Resolution	0.1 °C		0.1 %RH
Material/Housing	Aluminium, anodized		
Protection class	IP65	Storage temp.	-40 to +85 °C
Memory	20000	Dimensions	131 x 68 x 84 mm
Oper. temp.	-20 to +70 °C	Weight	320 g

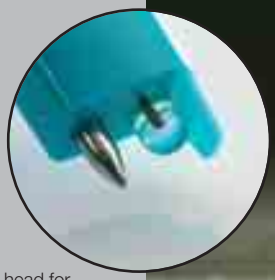
Measuring rate: 2 s to 24 h, selectable
Battery life: up to 5 years
Software: menu-driven from Microsoft Windows 95 / ME / 2000 / XP / Vista

Compact pH measuring instruments with innovative probe engineering

With the pH measuring instruments from Testo...

Stephanie Knill, Product Manager, Product Group Portable Measuring Instruments

...you are equipped for all applications, thanks to the practical one-hand operation and the flexible probe concept. The testo 206-pH1 is suited to measurements in liquids (e.g. milk, water), the testo 206-pH2 measures reliably in semi-solid media (e.g. yoghurt, creams). The testo 205 was specially designed for applications in which particularly robust measuring instruments are required, such as in meat, sausage and hams. The solution for fast, easy and versatile ph monitoring!



pH1 probe head for liquids, not affected by water on account of dual wall (diaphragm) and leak-proof (gel electrolyte)

Also with pH2 probe head for semi-solid materials

Leak-proof storage gel

Calibration bottles with practical dosing chamber

No contamination of storage solution

Always the correct buffer quantity

Buffer solutions are DKD certified

Compact pH tester – For liquids

testo 206 pH1

The pH measuring instrument for fast checks on liquids. The combination of pH immersion tip and temperature probe for fast and efficient temperature compensation is unique.

The Testo pH probe is leak-proof, maintenance-free, robust and not affected by dirt thanks to the large volume of gel electrolyte and the dual wall diaphragm.

- Maintenance-free gel electrolyte
- Built-in temperature probe
- 1, 2 or 3 point calibration possible

pH1 probe head for liquids

TopSafe, protection case (included)

Fast pH check on fruit juices, for example

testo 206-pH1 instrument set

One-hand pH/°C measuring instrument, pH1 probe head for liquids, storage cap with gel, TopSafe and belt/wall holder

Part no. 0563 2061

testo 206-pH1 Starter Set

One-hand pH/°C measuring instrument, pH1 probe head for liquids, storage cap with gel, calibration dosing bottles 250 ml pH 4+7, TopSafe, belt/wall holder and aluminium case

Part no. 0563 2065

Order data same as testo 206-pH2, see below

Technical data			
Sensor	**pH electrode**	**NTC**	
Meas. range	0 to 14 pH	0 to 60 °C (Short-term to +80 °C max. 5 min)	
Accuracy ±1 digit	±0.02 pH	±0.4 °C	
Resolution	0.01 pH	0.1 °C	
Storage temp.	-20 to +70 °C	Oper. temp.	0 to +60 °C
Compensation	Automatic temperature compensation		
Measuring rate	2 measurements per second		
Battery life	80 h (Auto Off 10 min)	Dimensions	197 x 33 x 20 mm

Compact pH tester – For semi-solid food

testo 206-pH2

The pH measuring instrument for spot checks on semi-solid food, e.g. jelly, cream, cheese, fruit...

The protection case included "TopSafe" (IP 68) is waterproof, hygienic and dishwasher-safe.

- Can be used for food containing protein
- Combination: pH penetration tip with temperature measurement probe
- Automatic full scale value

pH2 probe head for semi-solid food

Leak-proof storage gel

Spot pH checks during the production of dressings

testo 206-pH2 instrument set

One-hand pH/°C measuring instrument, pH2 probe head for semi-solid substances, storage cap with gel, TopSafe and belt/wall holder

Part no. 0563 2062

testo 206-pH2 Starter Set

One-hand pH/°C measuring instrument, pH2 probe head for semi-solid substances, storage cap with gel, calibration dosing bottles 250 ml pH 4+7, TopSafe, belt/wall holder and aluminium case

Part no. 0563 2066

Accessories Ordering data	Part no.
Spare pH probe for testo 206 incl. gel storage cap	0650 2061
Spare pH probe pH2 for testo 206 incl. gel storage cap	0650 2062
Storage cap for testo 206 with KCl gel filling	0554 2067
Storage cap for testo 206 with KCl gel filling (pack of 3)	0554 2068
pH buffer solution 4.01 in dosing bottle (250 ml), with DKD calibration certificate	0554 2061
pH buffer solution 4.01 in dosing bottle (3 x 250 ml per pack), with DKD calibration certificate	0554 2062

Accessories Ordering data	Part no.
pH buffer solution 7.00 in dosing bottle (250 ml), with DKD calibration certificate	0554 2063
pH buffer solution 7.00 in dosing bottle (3 x 250 ml per pack), with DKD calibration certificate	0554 2064
pH buffer solution 10.01 in dosing bottle (250 ml), with DKD calibration certificate	0554 2065
pH buffer solution 10.01 in dosing bottle (3 x 250 ml per pack), with DKD calibration certificate	0554 2066

Technical data same as testo 206-pH1, see above

One-hand pH/°C measuring instrument – Robust and maintenance-free

testo 205

A robust food penetration pH/°C measuring instrument with automatic temperature compensation. The robust penetration measuring tip is interchangeable and not affected by dirt and dust thanks to the hole diaphragm.

- Combined penetration tip with temperature probe
- Measuring tip can be changed by user
- Maintenance-free gel electrolyte
- Backlit display
- Audible key feedback
- 2 line display
- Automatic full-scale value recognition
- 1, 2 or 3 point calibration possible

pH tip embedded in unbreakable plastic

Constant quality control during the maturing process

Instruments Set

One-hand pH/°C measuring instrument with penetration probe, storage cap, belt/wall holder

Part no. 0563 2051

Starter Set

One-hand pH/°C meas. instr. with penetration probe, storage cap, gel and cal. bottles 250 ml pH 4+7, belt/wall holder and aluminium case

Part no. 0563 2052

Accessories Ordering data	Part no.
Spare pH probe for testo 205 with gel storage cap	0650 2051
Storage cap for testo 205 with KCL gel filling	0554 2051
Aluminium case for pH measuring instruments testo 205/206 and accessories	0554 2069

Technical data			
Measurement recorder	**pH electrode**	**NTC**	
Meas. range	0 to 14 pH	0 to 60 °C (Short-term to +80 °C max. 5 min)	
Accuracy ±1 digit	±0.02 pH	±0.4 °C	
Resolution	0.01 pH	0.1 °C	
Battery type	4 x Button cell LR44	Oper. temp.	0 to +50 °C
Auto Off	10 min	Storage temp.	-20 to +70 °C

Accessories: Buffer solutions for testo 205/206/230

Testo buffer solutions with pH 4.01/7.00/10.01

pH buffer solution 4.01 in dosing bottle (250 ml), with DKD calibration certificate

Part no. 0554 2061

pH buffer solution 7.00 in dosing bottle (250 ml), with DKD calibration certificate

Part no. 0554 2063

pH buffer solution 10.01 in dosing bottle (250 ml), with DKD calibration certificate

Part no. 0554 2065

1 Filling the dosing chamber

- To attain the right buffer quantity

2 Adjusting

- Instrument adjustment in fresh pH buffer solution, no measurement errors caused by used buffer solution

3 Emptying the dosing chamber

- Empty dosing chamber following adjustment, i.e. no contamination caused by left over buffer solution

Measuring cooking oil quality – quickly and accurately

testo 270

The cooking oil has been frequently used. Longer use is bad for the quality of the product and can lead to complaints from the customer.

The most important part of the testo 270 cooking oil tester is Testo's new capacitive oil sensor. Using this sensor, measurements are carried out directly in the hot cooking oil which means that control measurements can be quickly carried out while work in the kitchen is in progress. Several deep-fat fryers can be tested back-to-back without the sensor having to cool down.

Maximum use of the cooking oil is made possible. The oil is only changed if the limit value is reached.

- Measurement directly in the deep-fryer
- Sensor is embedded in metal and breakage-proof, can be easily wiped clean thanks to sensor protection layer
- Fast measurement value display in % TPM
- Automatic recognition of measurement end (Auto-Hold %TPM)
- With 2 freely selectable limit values
- Alarm function aubible and visual:
  - Lettering "ALARM"
  - 3-colour LED bar (green, yellow, red)
- Configuration menu and limit values can be locked to protect them from external manipulation
- Removable protective case and optional hand strap (dishwasher-proof)
- Conforms to: VO (EG) 1935/2004, EC guideline 2004/108/EC

2-line display with alarm for limit value violations

Breakage-proof, maintenance-free and easy-to-clean sensor with sensor proteection layer

Monitoring cooking oil in a deep-fryer

Washable protective case TopSafe included in delivery

testo 270, set in aluminium case incl. reference oil for monitoring accuracy

Technical data	
Measurement parameters	Total Polar Materials (%TPM) Temperature (°C/°F)
Measurement value sensor	Capacitive Testo sensor (%TPM) PTC (°C/°F)
Meas. range	0,5 to 40,0 %TPM +40 to +200 °C
Accuracy	±2 %TPM (+40 to +190 °C) (at ambient temperature of +25 °C) ±1,5 °C
Resolution	0,5 %TPM 0,5 °C/°F
Cooking oil temperature	+40 to +200 °C
Storage temp.	-20 to +70 °C
Oper. temp.	0 to +50 °C
Dimensions	Approx. 354 x 50 x 30 mm (incl. TopSafe)
Weight	Approx. 164 g (incl. batteries, TopSafe, hand strap)
Display	LCD, 2-line, display illumination
Battery type	2 x AA
Battery life	approx. 25 h continuous use approx. 500 measurements
Material/Housing	ABS (white) TopSafe as accessory (included)
Alarm function (can be switched off)	2 limit values freely adjustable, 3-clour LED (green, yellow, red), audible alarm when temperature and limit values are violated or at end of measurement (Auto-Hold)
Further displays	Maximum measuring temperature exceeded Minimum measuring temperature exceeded
Miscellaneous	Response time TPM ‹ 30 sec. (Prerequisite: measurement value is within accuracy limits) Protection class (with TopSafe) IP 65 Warranty 24 months

testo 270, set in a case

Cooking oil tester testo 270 incl. aluminium case, TopSafe, hand strap, reference oil, batteries, adjustment protocol, instruction manual and short instruction manual

Part no. 0563 2700

Accessories Ordering data	Part no.
ISO calibration certificate/analysis, calibration points 3 % TPM and 24 %TPM at 50 °C	0520 0028
Reference oil for calibrating and adjusting the cooking oil tester testo 265 (1 x 100 ml)	0554 2650
Reference oil for calibrating and adjusting the cooking oil tester testo 265 (3 x 100ml)	0554 2651

Compact pH/°C measuring instrument – With selection of probes

testo 230

A complete pH measuring instrument and a high standard thermometer in a compact, water-proof (IP54) housing.

- Probes for liquid, semisolid and solid food
- Display of calibration data and error messages

pH probes and temperature probes can be connected

Checks pH value and penetration temperature in meat prior to further processing

testo 230

Analysis instrument, incl. 2 electrode clips and battery

Part no. 0560 2304

The set for solid/semisolid food

Analysis instrument, incl. 2 electrode clips, battery, Testo buffer set pH 4/7 (50 ml each), robust penetration electrode type 13 pH, storage solution (50 ml), robust food penetration probe, transport case (plastic)

Part no. 0563 2308

testo 230, Food Set

testo 230, Food set: testo 230 analysis instrument with 2 electrode clips and battery, Testo buffer set pH 4 and 7, 50ml each, penetration electrode Type 03 pH, storage solution (50ml), connection cable (1m), food probe made of stainless steel (IP 65) and plastic set case

Part no. 0563 2306

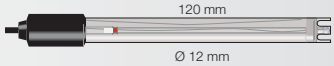
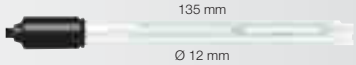
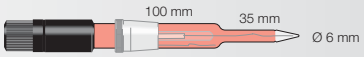
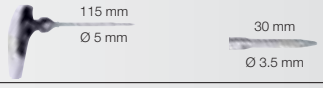
Accessories Ordering data	Part no.
Set case (plastic) for measuring instrument, probes and accessories, user-friendly arrangement of measuring instrument and accessories	0516 0230
Connection cable for electrodes with plug-in head, 1m long, S7-BNC plug-in connection	0554 2317
Testo buffer set pH 4, 7; 50 ml each, for calibration in acidic range	0554 2321
Testo buffer set pH 4, 7, 10; 50ml each, for calibration in acidic and alkaline range	0554 2320
Storage solution (refill solution for electrode type 02 pH), 50 ml, for electrodes type 01 pH, 02 pH, 04 pH, 06 mV	0554 2332
Storage solution; 50ml, for electrode type 03 pH and type 13 pH	0554 2318
Storage and refill solution; 50ml, for electrode type 05 pH	0554 2319
Redox standard 358 mV, 50ml	0554 2333
Gel storage cap for standard electrodes	0554 2053
ISO calibration certificate/water analysis, for pH buffer solutions; calibration points 4 pH; 7 pH; 10 pH	0520 0007
ISO calibration certificate/water analysis, at 3 pH values over the measuring range	0520 0037

Technical data

Probe type	pH electrode	NTC	Redox electrode
Meas. range	0 to +14 pH	-50 to +150 °C	-1999 to +1999 mV
Accuracy ±1 digit	±0.01 pH (0 to +14 pH)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (-50 to -25.1 °C) ±0.4 °C (+75 to +99.9 °C)	±1 mV (-999 to 0 mV) ±1 mV (0 to +999 mV) ±2 mV (-1999 to -1000 mV) ±2 mV (+1000 to +1999 mV)
Resolution	0.01 pH	0.1 °C	1 mV

Oper. temp.	0 to +40 °C	Battery life	100 h
Storage temp.	-20 to +70 °C	Dimensions	168 x 72 x 27 mm
Display	LCD, 2 lines	Weight	170 g
Battery type	9V block battery	Material/Housing	ABS

Temperature compensation: man. -10 to +150°C; auto -50 to +150°C

Description	Illustration	Meas. range	Oper. temp. Accuracy	Part no.
Universal electrode type 01 pH: affordable, indestructible plastic electrode with gel electrolyte, thus practically maintenance-free, with gel storage cap		0 to +14 pH	0 to +60 °C Short-term to +80°C	0650 0623 **Conn.:** Fixed cable with BNC
Type 14: indestructible plastic electrode with temperature sensor, gel electrolyte, therefore practically maintenance-free, with gel storage cap		0 to +14 pH 0 to +60 °C	0 to +60 °C	0650 2064 **Conn.:** Fixed cable with BNC
Penetration electrode type 03 pH: highly accurate glass electrode with solidified electrolyte suitable for use in food. Not affected by dirt due to hole diaphragm. Incl. ground sleeve adapter and immersion cap.		+2 to +14 pH	0 to +40 °C Short-term to +60°C	0650 0225
Conn.: Plug-in head. connection cable 0554 2317 or 0554 2314 required				
Robust penetration electrode type 13 pH: for solid or semi-solid foodstuff with break-proof plastic coating around the glass electrode and food-safe electrolyte. Not affected by dirt thanks to hole diaphragm. Incl. immersion cap		+2 to +14 pH	0 to +40 °C	0650 0245 **Conn.:** Fixed cable with BNC
Robust NTC food penetration probe with special handle, reinforced PUR cable		-25 to +150 °C Long-term meas. range +125 °C, short-term +150 °C (2 minutes)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	0613 2411 **Conn.:** Fixed cable

See testo 110 for temperature probes (except wireless probes)

Compact conductivity/°C measuring instrument – With range of probes

testo 240

testo 240 is a complete conductivity measuring instrument and a high standard thermometer combined in one compact, waterproof housing.

Measurement errors caused by high conductivities and deposits on the electrodes are avoided thanks to the 4 electrode engineering used. The salt level (NaCl) in an aqueous solution can be measured directly.

- Long life of measurement cell thanks to 4 electrode engineering
- Extremely wide measurement ranges with only one measurement cell

Conductivity and temperature measurement instrument in one

Measuring salt level (NaCl) in pickling brine

Versatile Set 1, Better value in set

testo 240 conductivity and temperature measuring instrument, battery, 2 electrode clips, versatile conductivity measurement cell, case (plastic)

Part no. 0563 2405

testo 240

Conductivity and temperature measuring instrument incl. battery and 2 electrode clips

Part no. 0560 2404

Precision Set 2, Better value in set

testo 240 conductivity and temperature measuring instrument, battery, 2 electrode clips, precision conductivity measurement cell, case (plastic)

Part no. 0563 2406

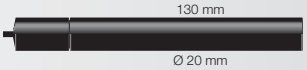
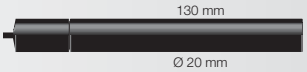
Accessories Ordering data	Part no.
Conductivity standard (1413 µS/cm), 0.01 mol/1 KCL, to calibrate conductivity measuring cells	0554 2334
Set case (plastic) for measuring instrument, probes and accessories, user-friendly arrangement of measuring instrument and accessories	0516 0230
ISO calibration certificate/analysis, for conductivity solutions; calibration point 1.413 mS/cm	0520 0019
ISO calibration certificate/temperature, for air/immersion probes, calibration points -18°C; 0°C; +60°C	0520 0001
ISO calibration certificate/analysis, at 3 conductivity values over the measuring range	0520 0049

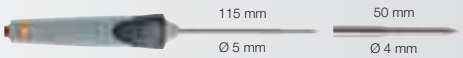
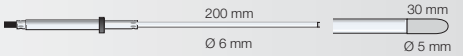
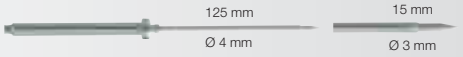
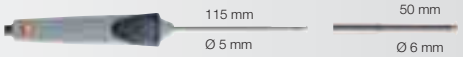
Technical data

Probe type	Conductivity measuring cell	NTC	Calc. parameter
Meas. range	0 to +2000 mS/cm	-50 to +150 °C	1 mg/l to 200 g/l NaCl
Accuracy ±1 digit	±1% of mv (0 to +2000 mS/cm)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	±1.2% of mv (1 mg/l to 200 g/l NaCl)
Resolution		0.1 °C	0.1 mg/l NaCl

Oper. temp.	0 to +40 °C	Dimensions	168 x 72 x 27 mm
Storage temp.	-20 to +70 °C	Weight	170 g
Battery life	60 h	Protection class	IP54

Resolution max. 0.1 µS/cm; temperature compensation automatic; temperature coefficient: 0 to 5 %/°C linear; compensation in accordance with non-linear function of natural water to DIN 38404 from 0...+50°C; autom. measurement range switchover (conductivity); Auto OFF function; switch between °C/°F

Description	Illustration	Meas. range	Other features	Part no.
Universal conductivity measuring cell, type 07 mS, highest accuracy up to 200 mS/cm, stainless steel		+0.001 to +200 mS/cm 0 to +60 °C	4 electrode engineering with built-in temperature sensor	0650 3023 **Conn.:** Fixed cable
Precision conductivity measuring cell, type 10 mS, long-term stable, highest accuracy up to 300 mS/cm, graphite		+0.001 to +300 mS/cm 0 to +60 °C	4 electrode engineering with built-in temperature sensor	0650 3024 **Conn.:** Fixed cable

Description	Illustration	Meas. range	Accuracy	t99	Part no.
Waterproof NTC immersion/penetration probe		-50 to +150 °C Long-term meas. range +125 °C, short-term +150 °C (2 minutes)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	10 s	0613 1212 **Conn.:** Fixed cable
Laboratory probe, glass-coated, resistant to corrosive substances, glass stem can be replaced		-50 to +150 °C Long-term meas. range +125 °C, short-term +150 °C (2 minutes)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	40 s 10 s*	0613 7011 **Conn.:** Fixed cable
Stainless steel NTC food probe (IP65) with PUR cable		-50 to +150 °C Long-term meas. range +125°C, short-term +150°C (2 minutes)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	8 s	0613 2211 **Conn.:** Fixed cable
Waterproof NTC surface probe for flat surfaces		-50 to +150 °C Long-term meas. range +125 °C, short-term +150 °C (2 minutes)	±0.5% of mv (+100 to +150 °C) ±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)		0613 1912 **Conn.:** Fixed cable

See testo 110 for more temperature probes (except wireless probes)

* without protective glass

Stationary measurement engineering

Experts are our favorite customers!

Detlef Higgelke, head of the Testo Academy

... because they know what they are doing. We offer you our support with our field-oriented trainings on measurement procedures, stipulations and on physical cohesions.

Even more important is the exchange with other specialists from your branch. After all, we are dealing with your competence and your professional routine when using our instruments.

By the way: 98% of our training participants fully recommend our seminars and training.

Humidity transmitter testo 6681

Trace humidity measurement in compressed air or dry air, with the dewpoint transmitter testo 6781

Differential pressure measurement with the new transmitter testo 6351

Determination of compressed air costs and leakage, with the compressed air counter testo 6440

Humidity transmitter for air conditioning and drying

- Application: Cleanroom and drying technology, trace humidity, compressed air processes and demanding air conditioning technology, building climate
- Accuracy up to ±1 %RH
- Self-monitoring and early warning system – preventive maintenance
- Exchangeable digital probes for different applications
- A number of humidity parameters
- Optimum adjustment concept
- Field bus connection via Profibus-DP (optional)
- Ethernet module (optional)

Order the brochure "Stationary Measurement Solutions for Air Conditioning, Drying, Cleanrooms and Compressed Air"

testo 6781– measures trace humidity in compressed/dry air

- Optimum monitoring of humidity in compressed air to -90 °C_{td}
- Automatic self-adjustment ensures high accuracy and long-term stability
- Selection of different analog output signals
- Optionally with display and multi-language operating menu
- Selectable humidity parameter: dewpoint, absolute humidity, ppm etc.

Order the brochure "Stationary Measurement Solutions for Air Conditioning, Drying, Cleanrooms and Compressed Air"

Testo differential pressure transmitter for drying and filling processes

- Automatic zero-point adjustment ensures high accuracy and long-term stability
- Differential pressure monitoring with simultaneous measurement of temperature and humidity
- Optimum integration of the transmitter into individual automation systems thanks to Ethernet and selectable analog output signals

Order the brochure "Stationary Measurement Solutions for Air Conditioning, Drying, Cleanrooms and Compressed Air"

testo 6440 – the compressed air counter for compressed air consumption measurement

- Detect and eliminate leakages
- Cost allocation by consumer
- Integrated totaliser (sum function)
- Superior design, from the sensor via the measurement pipe to the operating menu

Order the brochure "Stationary Measurement Solutions for Air Conditioning, Drying, Cleanrooms and Compressed Air"

Humidity transmitter testo 6681

The industrial humidity transmitter

- Highest accuracy and very good long-term stability
- Exchangeable, adjusted probes from the testo 6610 series
- Probe versions specially for trace humidity, H2O2 and contaminated environments
- Robust metal housing
- Option for interface Profibus DP
- Optimum adjustment possibilities even on site
- Option for Ethernet interface
- Early warning reports/self-diagnosis
- Operation via P2A software Testo or directly via 4 buttons
- Traceability of all settings/reports via internal record
- All common variants of design and signal output can be ordered customer-specifically

Humidity transmitter testo 6651

The humidity transmitter for critical climate

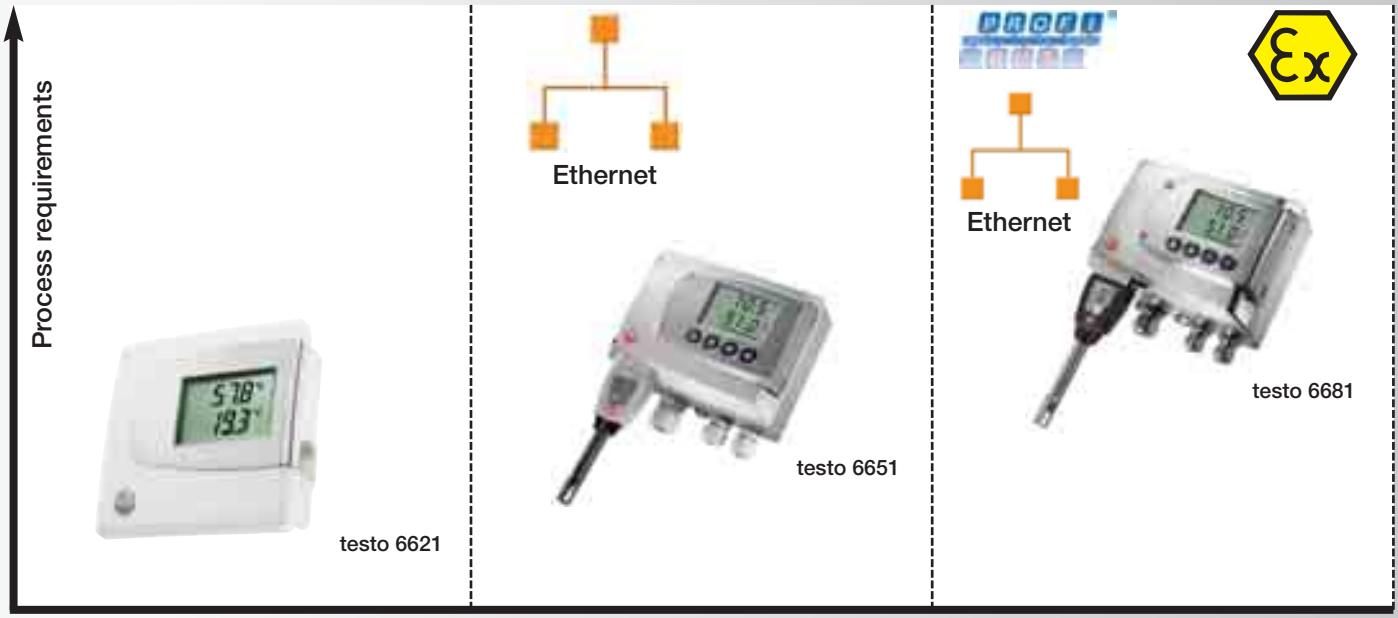
- High accuracy and very good long-term stability
- Exchangeable, adjustable probes from the series testo 6600
- Optimum adjustment possibilities, also on-site
- Early warning reports
- Operation via the parameterization/adjustment/analysis software P2A from Testo or directly via 4 buttons
- Traceablility of all settings/reports via internal record
- All common designs and signal outputs can be ordered customer-specifically
- Option for Ethernet interface

Humidity transmitter testo 6621

The humidity transmitter for building climate:

- Highly accurate and long-term stable humidity sensor (±2.5 %RH)
- Optional 2-line LCD display
- Time-saving commissioning and maintenance thanks to external interface and Testo P2A software
- Parameterization, adjustment and analysis software (P2A) for setting, adjusting and analyzing the transmitter
- Optimum calibration concept thanks to adjustment of the entire signal chain
- Adjustment without de-installation of the transmitter
- 2 analog outputs (humidity/temperature), optionally 1 analog output humidity and temperature passive

Technical data Testo transmitters



		testo 6621	testo 6651	testo 6681
Measuring range	Humidity	0 to 100 %RH (no high humidity processes)	0 to 100 %RH (no high humidity processes)	0 to 100 %RH
	Temperature (dependent on probe)	0 to 100 %RH (not for high humidity processes), duct: -20 to +70 °C (-4 to +158 °F)	-20 to +120 °C (-4 to 248 °F)	-40 to +180 °C (-40 to 356 °F)
Accuracy at +25 °C (+77 °F)	Humidity**	±2.5 %RH (0 to 90 %RH) ±4 %RH (90 to 100 %RH)	±1,7 %RH (0 to 90%RH) ±1,9 %RH (90 to 100 %RH)	up to ±1,0 %RH (0 to 90 %RH) ±1,4 %RH (90 to 100 %RH), Depends on probe
	Temperature	±0.5 °C / 0.9 °F	Pt1000 Class A**** ±0.2 °C / 0.38 °F *	Pt1000 1/3 Class B*** ±0.2 °C / 0.27 °F *
Parameters		°C, °F, %RH	°C/°F, %rF/%RH, $°C_{td}$/$°F_{td}$	°C, °F, %rF, %RH, $°C_{td}$, $°F_{td}$, g/m^3, gr/ft^3, g/kg, gr/lb, enthalpy, °Ctw, °Ftw, inch H_2O, ppm(vol), % Vol for H_2O_2applications: °Ctm/ °Ftm
Signal outputs		4 to 20 mA, 2-wire 0 to 1 Volt, 4-wire 0 to 5/10 Volt, 4-wire	4 ... to 20 mA, 2-wire 0/4 to 20 mA, 4-wire 0/4 to 1/5/10 Volt, 4-wire	4 ... to 20 mA, 2-wire (not for testo 6614/6615) 0/4 to 20 mA, 4-wire 0/4 to 1/5/10 Volt, 4-wire
Mounting variants		Wall or duct installation	Wall probe testo 6601 Duct probe testo 6602/6603 Cable probe testo 6604/6605	Wall probe testo 6611 Duct probe testo 6612 Cable probe testo 6613/6614/6615/6617
max. cable length		–	5 m	10 m
Housing		ABS and nickel-plated ABS	ABS, plastic, IP65	Metal, IP65
Interfaces		digital (for 2PA software or testo 400/650)	digital (for P2A software or testo 400/650), Ethernet (optional intermediary layer)	digital Testo (cf. testo 6651), Profibus (optional intermediary layer), Ethernet (optional intermediary layer)
Special features		External interface for P2A software, adjustability	4 relays (optional), Early warning system (via display or relay collective alarm)	Special probe versions for • Temperature ranges up to +180 °C (+324 °F) • Trace humiditytesto 6615 • High humiditytesto 6614 • Self-diagnosis testo 6617 4 relays (optional), early warning system (via display, relay collective alarm or Profibus)

*Other accuracies apply for the wall probe with 70 mm length in combination with a current output (P07):
Operation: with 2 channels at 12 mA, without display illumination, relay off, additional measurement inaccuracy to above data at +25 °C (+77 °F), humidity ±2.5 %RH, temperature ±1 °C (1.8 °F)

**More detailed explanation of the determination of measurement uncertainty according to GUM

***Except testo 6615: Pt100 1/3 class B

****Excepting testo 6605: PT100 1/3 Class B

More information in the brochure
"Stationary Measurement Solutions for Air Conditioning, Drying, Cleanrooms and Compressed Air"

testo 6781: reliable trace humidity measurement to -90 °Ctd (e. g. in compressed air)

The transmitter testo 6781 was developed specially for trace humidity measurement in compressed air and in dry air (e. g. in granulate dryers). The international norm ISO 8573 categorizes seven classes of compressed air. High-performance adsorption dryers are required in order to meet the highest quality classes 1 and 2. They can be monitored by the testo 6781 down to very low dewpoints of -90 °C_{td}.

The newly developed sensor with sol-gel technology is characterized by its condensation-proofness and fast response time, thus guaranteeing highest process security.

- Measurement of dewpoints in the measuring range -90 to +30 °Ctd, with main applications under -40 °Ctd
- New, very condensation-proof sensor with sol-gel technology guarantees highest process security and fast response
- Automatic self-adjustment ensures high accuracy and long reliability
- Optional display with multi-language user menu
- Self-monitoring of the transmitter guarantees high system availability
- The P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance

Technical data testo 6781

Parameters

Humidity/trace humidity	
Units	°C_{td}, °F_{td}, %rF, %RH
Calculated variables	°C_{tdA}, °F_{tdA} (normed atmosph. dewpoint), ppmV, g/m³, g/ft³, g/kg, g/lb
Measuring range	-90 to 30 °Ctd / -130 to 86 °Ftd
Measurement uncertainty*	-20 °C_{td} to -40 °C_{td}: ±1,5K -40 °C_{td} to -60 °C_{td}: ±2K -60 °C_{td} to -75 °C_{td}: ±2,5K
Response time	t63 ≤ 3s for switch from -75 °C_{td} to -30 °C_{td} t90 ≤ 9s for switch from -75 °C_{td} to -30 °C_{td} t63 ≤ 300s for switch from -30 °C_{td} to -75 °C_{td} t90 ≤ 1080s for switch from -30 °C_{td} to -75 °C_{td}
Autom. self-adjustment	Cycle adjustable: 1 h / 6 h / 12 h / 24 h

* Determination measurement inaccuracy according to GUM
GUM (**G**uide to the Expression of **U**ncertainty in **M**easurement): ISO guideline for the determination of measurement inaccuracy, in order to make measurements comparable worldwide. The following inaccuracies are used for the determination:

- Hysteresis
- Linearity
- Reproducibility
- Adjustment site/factory calibration
- Test site

This total view results in an additional dewpoint-dependent and process-dependent inaccuracy contribution of ±0.03 K x measurement value (in °Ctd) + 0.2 K x (25 °C - process temperature in °C).
Outside the stated measuring range, a measurement inaccuracy of ±5 K applies (typically).

Operating conditions

	Process temperature	-40 to +70 °C / -40 to +158 °F
	Process pressure	max. 50 bar
Without display	Operation temperature	-40 to +70 °C / -40 to +158 °F
	Storage temperature	-40 to +80 °C / -40 to +176 °F
With display	Operation temperature	-20 to +80 °C / -4 to +176 °F
	Storage temperature	0 to +50 °C / +32 to +122 °F

General technical data

Model	
Material	Metal housing
Dimensions	208 x 60 x 35 mm
Weight	0.5 kg
Display	
Display	optional: 2-line LCD with multi-language operating menu

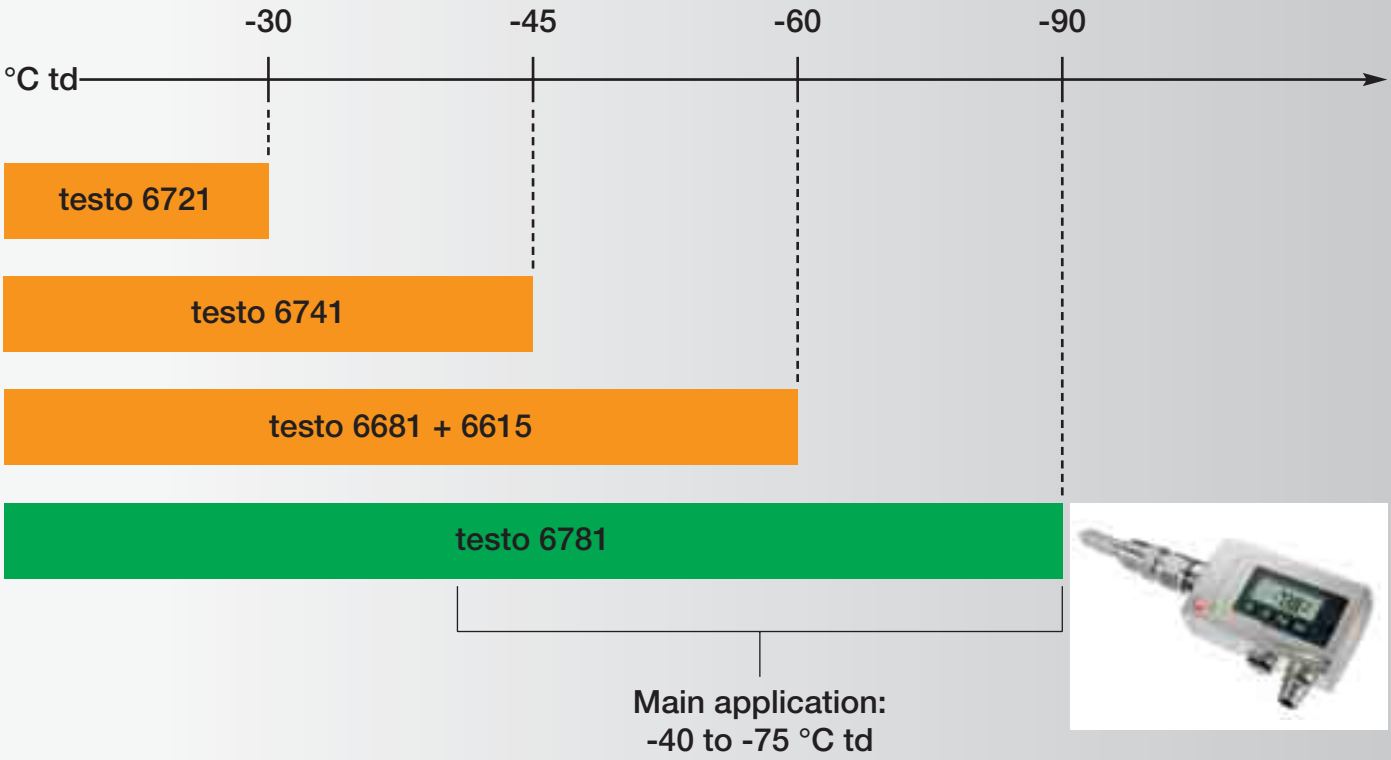
Resolution	Measuring range	Resolution
	0 to +100 %RH	0,001
	0,001 to 28 g/kg	0,001
	0,01 to 194 g/lb	0,01
	0 to 31 g/m3	0,001
	0,001 to 14 g/ft3	0,001
	1 to 42500 ppm(V)	1
	-90 to +30 °Ctd	0,1
	-130 to +86 °Ftd	0,1
	-110 to +30 °CtdA	0,1
	-165 to +86 °FtdA	0,1
	-40 to +70 °C	0,01
	-40 to +158 °F	0,01

Miscellaneous	
Protection class	IP 65
EMC	EU guideline 2004/108/EC

Inputs/outputs

Analog outputs	
Current/accuracy	0 to 20 mA ±0.03 mA (4-wire) 4 to 20 mA ± 0.03 mA (4-wire)
Output type	0 to 1 V ±1.5 mV (4-wire) 0 to 5 V ± 7.5 mV (4-wire) 0 to 10 V ±15 mV (4-wire)
Meas. cycle	1/sec
Resolution	12 bit
Load	max. 500 Ω
Other outputs	
Digital	Mini-DIN for P2A software
Supply	
Voltage supply	20 to 30 VAC/DC, 300 mA current consumption, galvanically separate signal and supply line

More Testo transmitters for trace humidity monitoring



More information in the brochure
"Stationary Measurement Solutions for Air Conditioning, Drying, Cleanrooms and Compressed Air" or at www.testosites.de/trace-humidity/de

Differential pressure transmitter testo 6381

The differential pressure transmitter for drying processes

- Measurement of differential pressure, flow velocity and volume flow; optional: humidity and temperature
- Automatic zero-point adjustment guarantees high, temperature-independent accuracy and long-term stability
- Low measuring range to 10 Pa ensures very high precision at lowest pressures
- The robust metal housing protects from tough ambient conditions
- Display with multi-langauge operating menu and optical alarm display
- Ethernet, relay and analog outputs allow optimum integration into individual automation systems
- Self-monitoring of transmitter guarantees high system availability
- The P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance

Differential pressure transmitter testo 6351

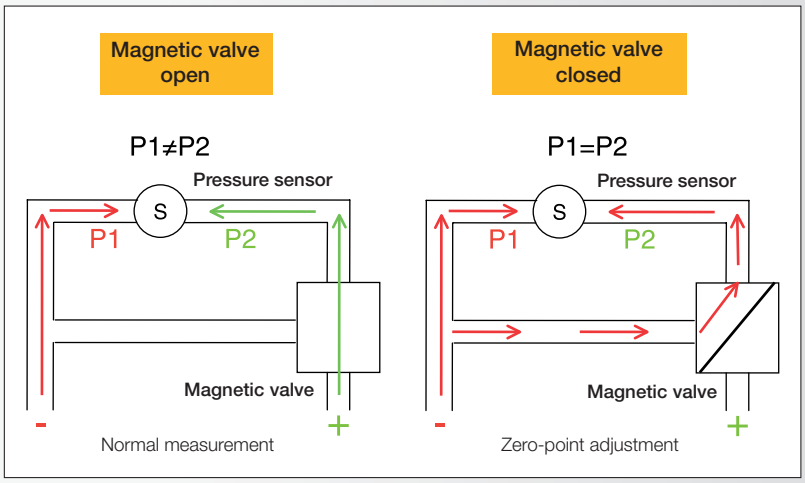
The differential pressure transmitter for filling processes

- Measurement of differential pressure, flow velocity and volume flow
- Automatic zero-point adjustment guarantees high, temperature-independent accuracy and long-term stability
- Plastic housing
- Display with multi-langauge operating menu and optical alarm display
- Ethernet, relay and analog outputs allow optimum integration into individual automation systems
- Self-monitoring of transmitter guarantees high system availability
- The P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance

Differential pressure transmitter testo 6321

The differential pressure transmitter for building climate

- Measurement of differential pressure
- Automatic zero-point adjustment guarantees high, temperature-independent accuracy and long-term stability
- The P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance
- Various analog outputs allow optimum integration into individual automation systems
- Optionally with display



Functional principle of the automatic zero-point adjustment of the Testo differential pressure transmitter

Automatic zero-point adjustment for high accuracy and long-term stability

The zero-point stability of differential pressure transmitters plays a particularly crucial role at lowest pressures (10 Pa or 50 Pa measurement range). Whereas conventional differential pressure transmitters require manual re-adjustment of the zero point, the new transmitter series from Testo is equipped with an automatic microprocessor-controlled zero-point adjustment. It ensures a low level of temperature-dependency of the pressure sensor, guaranteeing the user high accuracy and long-term stability. In the automatic zero-point adjustment, a magnetic valve causes both sides of the pressure sensor to be exposed to the same pressure a cyclic intervals. This guarantees highest accuracy in cleanroom processes!

	testo 6381	testo 6351	testo 6321
			
Measurement parameters	Differential pressure Flow velocity Volume flow Optional: Humidity/temperature	Differential pressure Flow velocity Volume flow	Differential pressure
Selectable measuring ranges	10 Pa to 1000 hPa	50 Pa to 2000 hPa	100 Pa to 2 bar
Housing	Metal housing	Plastic housing	Plastic housing
Networking for Ethernet	– Integration of the transmitter into customer's own Ethernet network – Integration of the transmitter into measurement data monitoring systems such as testo Saveris™ *		Networking via Ethernet not possible
Application area	Differential pressure monitoring **between cleanrooms** (optional: simultaneous measurement of temperature and humidity) Differential pressure monitoring in filling processes and spray-painting systems Monitoring drying processes	Differential pressure monitoring **between cleanrooms** Differential pressure monitoring in filling processes Critical air conditioning technology (VAC systems)	Building climate: Industrial and commercial buildings, e.g. in production and storage Offices and administrational buildings Sales areas and exhibition halls Museums and libraries School buildings, hotels, clinics etc.
Usual installation site in a cleanroom	**Normal zone or outside zone**	**Normal zone or outside zone**	**Not for use in cleanrooms**

More information in the brochure
"Stationary Measurement Solutions for Air Conditioning, Drying, Cleanrooms and Compressed Air"

Testo: At Your Service

Please send for more information:

- Monitoring Instruments for Food Production, Transport and Storage
- Measurement Engineering for Restaurants, Catering and Supermarkets
- Measurement Engineering for Air Conditioning and Ventilation
- Measurement Engineering for Heating and Installation
- Measurement Solutions for Emissions, Service and Thermal Processes
- Measurement Solutions for Refrigeration Technology
- Stationary Measurement Solutions for Air Conditioning, Drying, Cleanrooms and Compressed Air
- Measurement Solutions for Production, Quality Control and Maintenance
- Measurement Solutions for Climate Applications in Industry
- Reference Measurement Technology for Industry
- Measuring Instruments For Temperature
- Measuring Instruments for Humidity
- Measuring Instruments For Velocity
- Measuring Instruments for Pressure and Refrigeration
- Multi-Function Measuring Instruments
- Measuring Instruments for Flue Gas and Emissions
- Measuring Instruments for RPM, Analysis, Current/Voltage
- Measuring Instruments For Indoor Air Quality, Light And Sound
- Stationary Measurement Technology Humidity / Differential Pressure / Temperature / Process Displays
- Stationary Measurement Technology Compressed Air Humidity / Compressed Air Consumption

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Contents

Please send for more information.

Icons

Backlit display

User-friendly operation based on menu-driven operations

Radio probes for wireless applications

SoftCase or TopSafe to protect instrument, or instrument has protection from water

Shock-proof

Infrared printer

Efficient paper documentation of measured results on site

RS 232/USB interface

For easy connection to analysis software

Battery and rechargeable battery operation possible

Battery can be recharged in instrument