

Be sure. **testo**



**All measurement data.
Always available.
On any device.**

Monitoring humidity and temperature with testo Saveris 2.

Climate monitoring for a smart world.

Monitoring and documentation, now **easy and secure.**

Climate monitoring is becoming more and more important in many sectors. However, although we now live in a world of unlimited digital possibilities, we usually still monitor temperature and humidity values using obsolete and very complex methods. For example, by spot measurements with a thermometer, in which the measurement values then have to be carried over into lists by hand. A very unreliable and error-prone method. Or with data loggers which on the one hand record reliably, but on the other hand do not actively provide alarms in cases of limit value violations. This creates the risks of not reacting promptly. In summary, we simply waste far too much time generating, documenting and analyzing measurement data. But it can be done differently: with testo Saveris 2, the smart climate monitoring system which uses the advantages of the digital world – giving us more time for the important things.

The wireless LAN-based testo Saveris 2 helps you to monitor all relevant control points automatically, and to document them without interruption.

→ In the food sector, this is a central building block for ensuring the desired quality and marketability of foods, as well as for the protection of the consumer from negative health effects. The sale of qualitatively compromised foods can result in serious damage to the image of the affected companies.

→ In pharmacies and hospitals, it supports adherence to the manufacturers' prescribed temperature limits for the storage of drugs. If excessive storage temperatures lead to a loss of effectiveness or even to the formation of damaging degeneration products, the consequences can be devastating for the health of the patients as well as the reputation of the facility.

testo Saveris 2 is also unbeatable with regard to its versatility of applications and cost-savings. Whether in Facility Management, in museums or in industry: the system's data loggers are extremely flexible, and can be used almost anywhere where temperature and humidity need to be measured over longer periods. With penetration, surface and air temperature probes, the external probe portfolio offers a solution for almost every application case. And thanks to the integration into your local WLAN network, you save enormous costs. Since software installation or database backups are things of the past, you have no running IT costs.

With testo Saveris 2, you securely adhere to norms and regulations, optimize processes, ensure quality and increase your efficiency. Climate monitoring today's way.



With the wireless LAN data logger system testo Saveris 2, you can:

- **Monitor temperature and humidity automatically**
- **Receive immediate alarms when problems occur**
- **Access measurement data from everywhere and at any time**
- **Have the quality of your products and processes even better under control**

System overview	p. 2/3
Applications	p. 4-13
Hard and software components	p. 14-17
Alternative systems	p. 18/19
Services	p. 20



System overview



Applications



Hard and software



Services



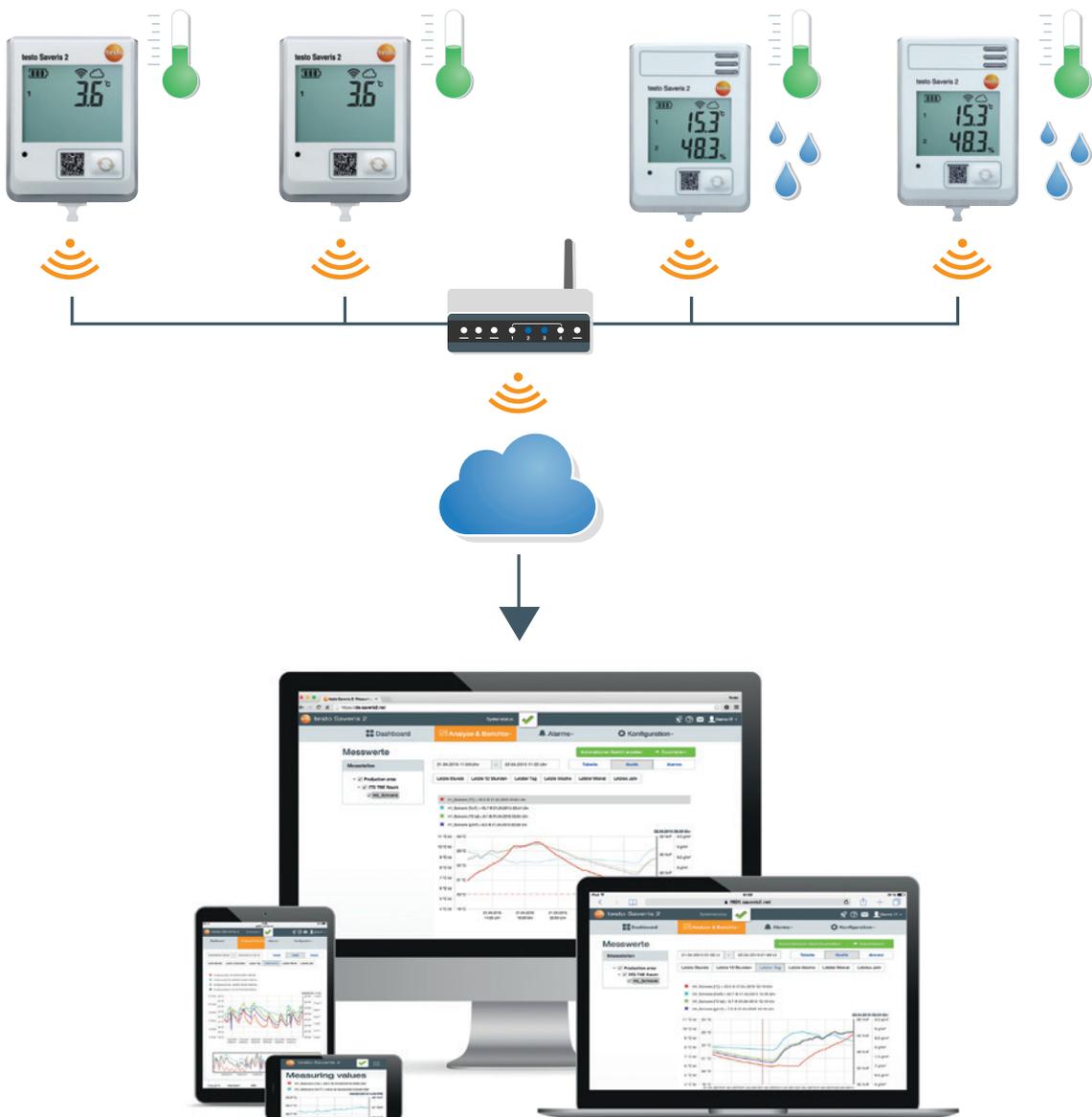
Alternative systems

How testo Saveris 2 works.

The system **at a glance.**

testo Saveris 2 is a very flexible wireless LAN data logger system which you assemble according to your needs, and simply integrate into your existing network. You can select from a range of temperature and humidity loggers and an even larger probe portfolio – depending on where and what you wish to measure. All data loggers transmit

the measurement values to the Testo Cloud, where they are automatically stored and documented. Via the Cloud access, you have your measurement values in view on a smartphone, tablet or PC at all times, and receive alarms when critical values are reached. Anytime, anywhere.



Less stress. **More security.**

These advantages make your life easier.



All data in view.

You can view, call up and evaluate all measurement values from anywhere in the world using an internet-capable smartphone, tablet or PC.



Save time and walking distance.

The measurement values are automatically transmitted to the Testo Cloud by wireless LAN. You save considerable walking distances and the manual readout of loggers.



Simply start.

No software needs to be installed in order to use testo Saveris 2. All you need is an internet connection, wireless LAN and a normal web browser.



Effortless documentation.

No more tedious paperwork, missing values and long lists: With testo Saveris 2, you can present, analyze and document your measurement values automatically. Measurement data and reports are exportable, and can be automatically sent by e-mail.



Prompt response.

In cases of limit value violations, testo Saveris 2 provides you with immediate alarms by e-mail, SMS or push notification. This allows you to respond quickly to malfunctions.



Flexible extension.

The system can be adapted to your requirements, and extended without limitation by additional data loggers. In addition to this, loggers can be combined with probes for the most versatile applications. Customization is also possible.



Know that your data are safe.

Your measurement values are stored in the Testo Cloud. They are subject to strict security standards. In addition to this, the data logger has a wrap-around memory for up to 10,000 measurement values, so that no data are lost even if there is a power cut or loss of wireless LAN.



Effortless connection.

testo Saveris 2 uses various wireless LAN standards: (Standard-) IEEE 802.11 b/g/n networks as well as IEEE 802.1x networks with WPA2 Enterprise encryption. Thanks to the use of your existing wireless LAN infrastructure, no costs for a separate wireless base station occur.

Because only **safe foods** really taste good.

Uninterrupted temperature monitoring and easy documentation.



When dealing with fresh, easily perishable foods, it is indispensable that optimum ambient climatic conditions are guaranteed at all times, in order to prevent inferior goods coming into circulation. The use of testo Saveris 2 ensures that the temperature at all relevant refrigeration units exactly corresponds to the stipulations. That secures the quality of your goods and makes sure your customers are satisfied.

In food and supermarkets

Fresh foods present a daily challenge to those responsible for quality in food retail. Fruit, vegetables, meat, fish or dairy products must not only look appetizing, they must also be hygienically faultless and therefore safe. In both cases, the temperature is crucial. In order for you to have these quality parameters under control even more efficiently, testo Saveris 2 was developed. The automatic wireless LAN data logger system enables all relevant refrigeration units to be monitored and documented without manual effort. This secures food quality, your good reputation and turnover. Simple, anytime and anywhere.

In butcheries, bakeries and food-processing businesses.

Bakeries, butcheries and smaller food-processing businesses such as delis or snack bars face the special challenge of often having to deal with food production, storage and sales all under one roof. In large kitchens such as canteens and catering operations too, a high level of care, diligence and expertise is required. In this regard, testo Saveris 2 take s a lot of work off your hands by ensuring that all temperatures are monitored at all critical points. And reliable alarms in case of a limit value violation provide added security. Knowing this, you can concentrate on what's important – making your customers happy with quality.



"The quality of our meat and sausage products has top priority on a day-to-day basis. The data logger system testo Saveris 2 meets our tough requirements, provides a top price/performance ratio, and gives me the security I want at all times. We absolutely recommend it."

Ralf Spindler, Germany
 Master butcher and proprietor of the Metzgerei Spindler butchers

Ordering suggestion food safety



In order to protect sensitive goods in a refrigerator, we recommend the testo Saveris 2-T1 with an internal temperature probe, or the testo Saveris 2-T2 with an external NTC probe. A door contact can also be connected to these loggers, so that you can receive alarms, e.g. when a refrigerator door is left open too long.

Exclusive in the Advanced licence: time-controlled alarms

We developed the time-controlled alarm function specially for monitoring the temperature of foods. It enables you to adapt testo Saveris 2 even more flexibly to the different requirements of your working day. For instance this function lets you defrost refrigerators without alarms: defined temperature limits can be simply deactivated during the defrosting cycle.



Paper-free & transparent.

Keep an overview of Quality Management in supermarkets, restaurants or production businesses in the digital age. Get to know our testo Saveris Solutions.

At www.testo.com

So your drugs stay **healthy** too.

Secure monitoring and easy documentation of temperatures in **pharmacies and hospitals**.

Pharmacies

Drugs can only make people healthy if they are of impeccable quality. For this reason, in retail pharmacies the highest value is placed on the maintenance of the cold chain and the correct storage of drugs. In the EU, the EU-GDP Guidelines prescribe the adherence to temperature limit values including uninterrupted documentation. However, over and above this, in retail pharmacies ambient climate values are monitored as standard in storage and in drug refrigerators, since it can have serious consequences for the company if a drug refrigerator breaks down. Apart from the financial losses caused by damaged pharmaceuticals, the pharmacy's good reputation is also at stake. So there are many good reasons for monitoring indoor climate in a pharmacy – and with testo Saveris 2, there is now also a way to do it without manual readout of loggers and tedious paperwork.

Hospitals

In order for patients to get well quickly, the ambient conditions in the hospital have to be right too. Among these conditions are, for example, the availability of technical plants, the right ambient climate in the patients' wards, treatment and storage rooms as well as the legally prescribed temperatures in drug and blood product refrigerators. However, this also means many different measurement sites which need to be monitored. Some of these measurement locations are inaccessible or situated far apart, making the continuous monitoring of all critical areas of responsibility more difficult. testo Saveris 2 helps you to keep control over the many measurement locations easily. The alarm function allows round-the-clock fast reactions to undesired changes in the ambient conditions. For example, the life-threatening breakdown of the emergency power plant due to overheating, or the degradation of life-saving blood products, can be prevented.

Developed specially for pharmacies and hospitals:



The testo Saveris 2 refrigerator set

The testo Saveris 2 refrigerator set (order no. 0572 2103) uses a reference liquid to determine the actual temperature of the stored drugs, and only triggers an alarm in cases of critical temperature deviations. Our pro tip for pharmacies and hospitals: the Advanced licence for the Testo Cloud

- Effortless documentation thanks to automatically created reports.
- Full control of all temperature values – even in different branch outlets.
- Sleep peacefully thanks to SMS alarm.



“testo Saveris 2 is optimally tailored to our daily needs in the storage of temperature-sensitive drugs. We're immediately informed when temperatures in the refrigerated cabinets exceed the critical threshold between 2 and 8 °C. This is crucial for maintaining the cold chain,

and for certain medicines, it is indispensable. It means we can react quickly enough to prevent damage to stored products.”

François-Xavier Crozet
France
Director, RUBEX Pharma

For high **availability**. And highest product quality.

Climate monitoring in **industry**.



"Thanks to testo Saveris 2 wireless data loggers, we have a thorough and effective control over the temperatures of all refrigerated rooms; and, thanks to the alarm function, we have managed to avoid breaking the cold chain throughout all our production processes."

Julio Gámez, Spain
Maintenance Responsible DSV Spain (Rubí)

Before the **server** goes up in smoke.

Prevent downtimes and ensure constant **IT availability**.

The right indoor climate must be maintained everywhere where there are servers running. If it becomes too warm or too humid in a server room, the risk of a breakdown increases drastically. And in spite of a working air conditioning system, unexpected performance peaks can sometimes lead to unanticipated increases in temperature. With the wireless LAN data logger system testo Saveris 2, you can monitor the temperature and humidity in server rooms automatically and with a minimum of effort, thus increasing the availability of your systems. testo Saveris 2 warns you by mail, SMS or push notification in time, before an emergency switch-off of the server happens. You can determine the corresponding limit value yourself. Thanks to the Advanced functionality, the monitoring of several server rooms is also possible, as you can clearly compare the different measurement locations, and even set up several user accounts. With the automatic documentation and report function, you are also ideally prepared for ISO audits.



Our ordering suggestion for monitoring server rooms



For monitoring climate in server rooms, we recommend the two wireless data loggers testo Saveris 2-H1 and testo Saveris 2-T1 for monitoring temperature and humidity, and the Advanced licence for the Testo Cloud for full flexibility:

- Comparative graphic overview of various measurement locations
- Several user accounts
- Convenient automatic report function
- API interface

"With testo Saveris 2, we have more security. The system is an excellent investment; a simple solution, which allows us to react immediately to any changes in our data centre's status – from anywhere, at any time. I recommend it."

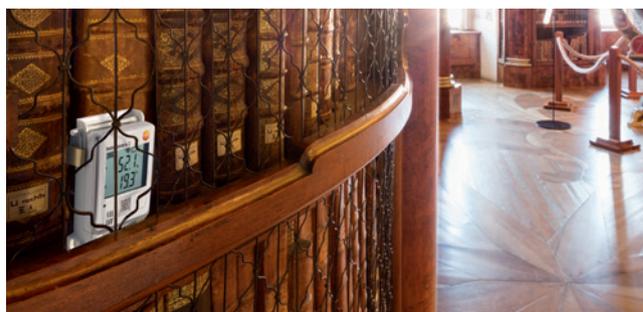
Leonardo Machado, Portugal
IT Director CICCOPN

So that **Old Masters** stay forever young.

Climate monitoring in **museums and archives.**

The monitoring of climate values is especially complex in museums, because the indoor climate is not only dependent on the structure of the building and the outside temperature, but also from the number of visitors, which is difficult to calculate. If the temperature or air humidity suddenly increases, the museum must quickly initiate counter-measures in order to prevent damage to the exhibits. Apart from this, the lenders and insurance companies often expect proof that the agreed climatic conditions have been adhered to.

With testo Saveris 2, museums have a system which monitors and documents ambient climate conditions in different rooms reliably and without excessive effort – and can furthermore be flexibly adapted to changing exhibition concepts.



“The system testo Saveris 2 allows us to ensure the continuous monitoring of the 3 museums in Saint-Nazaire, but also of the museums’ stores. In addition to the alarms and the data history, the system gives us the opportunity, together with our providers, of achieving the climate stability which is essential for our works of art.”

Saint-Nazaire Tourisme et Patrimoine, operator of the museums Escal’Atlantic, Sous-Marin Espadon and Ecomusée.



testo 160.

The monitoring system testo 160 monitors ambient conditions in display cases, exhibition rooms and depots.

At www.testo.com

testo 160 minimalistic design and maximum control.

The monitoring system testo 160, which is a further development on the basis of testo Saveris 2, was specially developed for use in exhibition rooms and glass cases. It measures and documents all relevant parameters such as temperature, humidity, light intensity, UV radiation, CO₂ concentration and atmospheric pressure – precisely, automatically and without interruption. The data logger presents itself inconspicuously and unobtrusively. Thanks to the deco-cover which can be painted, sprayed or decorated, they also blend in with any surroundings. The loggers have internal and/or external sensors. The latter are, thanks to their design and size, ideal for monitoring in small glass cases, in which otherwise a data logger cannot be placed.

Comfort zone for man, material and machine.

Save time and distances in **Facility Management**.



"We use testo Saveris 2 because it saves us time every day. Being able to download automatic reports from the web, I don't lose time downloading data manually from all the data loggers in our plant.

Tuğrul Gökтуg, Turkey
Quality Manager Flammaerotec

With the wireless data logger system testo Saveris 2, you ensure automatically and with a minimum of effort that optimum climatic conditions are always present in the rooms under your responsibility.

If you are responsible for a large company building or several sites, testo Saveris 2 with the Advanced licence for the Cloud takes an especially large amount of work off your hands. This is because it enables the data loggers to be grouped in 3 levels. This allows you to make a clear comparison of several measurement locations, and check the performance of the air conditioning system in different parts of the building, for example. You are immediately warned of incorrect climate values by SMS and push notification. This gives you a full overview at all times, and you save walking distances and tedious, manual readout of loggers.

Ordering suggestion Facility Management



For the monitoring of temperature and humidity in industrial surroundings, we recommend the two data loggers testo Saveris 2-H1 and testo Saveris 2-T1, combined with the Advanced licence for the Cloud.

Save costs and prevent mould in **building drying**.



The humidity data loggers testo Saveris 2-H1 and testo Saveris 2-H2 are ideal tools for building assessors. The automatic remote monitoring via the Cloud allows humidity and mould problems in buildings to be detected.

Ordering suggestion building drying



For the determination and prevention of damage caused to buildings by damp, we recommend the wireless data logger testo Saveris 2-H2 with the digital, external humidity probe 0572 2154.

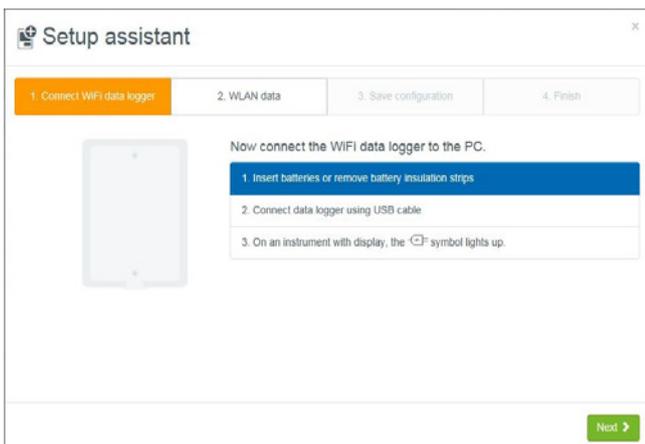
The combination with a wall surface probe provides a constant overview of the ambient climate values in your buildings – and you are immediately alarmed when the dewpoint is exceeded.

Everything under control. Anytime, anywhere.

With the Cloud-based **testo Saveris 2 software**, you deal with the documentation and analysis of your measurement values quickly and easily.

Your testo Saveris 2 software is available to you anytime and anywhere: Simply call up www.saveris.net on your browser, and get going. A software installation is not necessary. The commissioning of the data loggers is child's play, and can be carried out via the browser. After the data loggers have been connected to your wireless LAN, they send the measurement data automatically to the Cloud database, where they can be easily analyzed. The configurable limit values and alarms ensure that you never overlook climatic

conditions in the critical range. The automatic report function always keeps you up to date. And if you wish to use the data recorded by testo Saveris 2 in another system, we offer an API interface (subject to charge), which facilitates the data integration.



Commissioning data loggers



Analyzing data

Status	Date	Type	Location	Action
✓	31/05/2017 20:15	Alarm	H2_54800537 / Room 1 / First Floor	Back to normal (27°C ↔ 24°C)
⚠	31/05/2017 19:15	Alarm	H2_54800537 / Room 1 / First Floor	Overloading (23.1°C ↔ 24°C)
✓	30/05/2017 20:00	Alarm	H2_54800537 / Room 1 / First Floor	Back to normal (23.8°C ↔ 24°C)
⚠	30/05/2017 16:00	Alarm	H2_54800537 / Room 1 / First Floor	Overloading (23.9°C ↔ 24°C)
✓	30/05/2017 15:15	Alarm	H2_54800537 / Room 1 / First Floor	Back to normal (23.8°C ↔ 24°C)
⚠	30/05/2017 15:00	Alarm	H2_54800537 / Room 1 / First Floor	Overloading (23.1°C ↔ 24°C)
✓	29/05/2017 15:45	Alarm	H2_54800537 / Room 1 / First Floor	Back to normal (63.9%RH ↔ 70%RH)
⚠	29/05/2017 15:15	Alarm	H2_54800537 / Room 1 / First Floor	Overloading (71.1%RH ↔ 70%RH)
✓	26/05/2017 20:45	Alarm	H2_54800537 / Room 1 / First Floor	Back to normal (23.7°C ↔ 24°C)
⚠	26/05/2017 17:30	Alarm	H2_54800537 / Room 1 / First Floor	Overloading (23°C ↔ 24°C)

Alarm overview

Name of the WiFi data logger	WiFi data logger model	Battery	WiFi	Measuring points	Serial number	Firmware version	Values	Last values of	
T2_54800229	T2	🔋	📶	T2_54800229_1, T2_54800229_2	54800229	v01.22	22.8 °C	03/06/17 14:30:00	Details
T1_54800597	T1	🔋	📶	T1_54800597	54800597	v01.22	22.7 °C	03/06/17 13:45:00	Details
H2_54800537	H2	🔋	📶	H2_54800537	54800537	v01.22	23.5 °C, 45.5 % RH	03/06/17 13:30:00	Details

Automatic reports

The Cloud packages

Specially developed so you can solve any measurement task.



	Cloud licence Basic	Cloud licence Advanced
Measuring cycle	15 min to 24 h	1 min to 24 h
Data storage	Max. 3 months	Max. 2 years
Reports	Manual	Automatic
Number of users per account	1	10
Alarms	E-mail	E-mail, SMS
Price	free of charge	From 12.00 EUR per logger/year*

*depending on duration of licence

The testo Saveris 2 wireless data loggers.

In your application on site – for precise measurement, secure storage and wireless transfer.

In order to be able to work with testo Saveris 2, you require one or more WiFi data loggers. These either have integrated

sensors for temperature and humidity measurement, or external probes can be connected.



testo Saveris 2-T1 with integrated temperature probe.

- Measuring range: -30 to +50 °C
- Internal data memory for 10,000 measurement values
- Dust-proof and protected from water-jets according to IP65
- EN 12830-compliant



testo Saveris 2-H1 with integrated temperature and humidity probe

- Measuring range: -30 to +50 °C / 0 to 100 %RH
- Internal data memory for 2 x10,000 measurement values
- 12 months' battery life
- Protection class IP30



testo Saveris 2-T2 for connectible temperature and door contact probes

- For two connectible NTC probes (optionally available)
- Measuring range: -50 to +150 °C
- Internal data memory for 2 x10,000 measurement values
- 12 months' battery life
- Dust-proof and protected from water-jets according to IP65
- EN 12830-compliant



testo Saveris 2-H2 for connectible temperature and humidity probes

- Measuring range according to probe
- Internal data memory for 2 x10,000 measurement values
- Dust and splash protected according to IP54



testo Saveris 2-T3 for connectible temperature probes

- For two connectible TC probes (optionally available)
- Measuring range: -195 to +1350 °C (with optional Type K probe)
- Internal data memory for 2 x10,000 measurement values
- 12 months' battery life
- Dust and splash protected according to IP54

Find more on the wireless data loggers and temperature and humidity probes here: www.testo.com

The testo Saveris 2 temperature and humidity probes.

Specially developed so you can **solve any measurement task.**

Two of the five testo Saveris 2 WiFi data loggers have integrated probes. The other three require one or two external probes from the comprehensive probe range in order to be able to measure temperature and humidity.

These allow you to meet every challenge – even when the measurement site is difficult to access, or when there are extreme climatic conditions present.



Air temperature probes

Air temperature is among the most frequently measured parameters. Our selection of suitable probes is accordingly large.



Ribbon cable probes

These probes' cables are very flat making them ideal for inserting through a refrigerator door, for example, in order to measure temperature in the interior.



Surface temperature probes

The surface temperature probes are available in different designs which fulfil almost all requirements, covering a broad measuring range.



Magnetic probes

Particularly useful: These probes measure the surface temperature of magnetic surfaces without the need for additional attachment.



Humidity probes

In many industrial processes, highly accurate and reliable measurement of humidity is required to ensure consistent quality. With the testo Saveris 2 humidity probes, you measure relative humidity to an accuracy of ± 2 %RH.



Pipe wrap probes

Measure the temperature of water and heating pipes with diameters from 5 to 75 mm, in order to check the flow and return temperatures or to prevent the risk of legionella.



Thermocouple probes

You can even measure temperatures up to 1350 °C with testo Saveris 2, thanks to the special thermocouple probes.



Immersion/penetration probes

These allow fast temperature measurements in fluids or semi-solid media to be conducted.



Very long probes

In order to be able to measure without any problems even in difficult-to-access sites, Testo offers probes with a length of up to 30 m.



Customized probes

If, against all expectations, your measurement requirement cannot be solved with one of the existing testo Saveris 2 probes, we are happy to provide customized probes according to your wishes.

Find your suitable probes here: www.testo.com

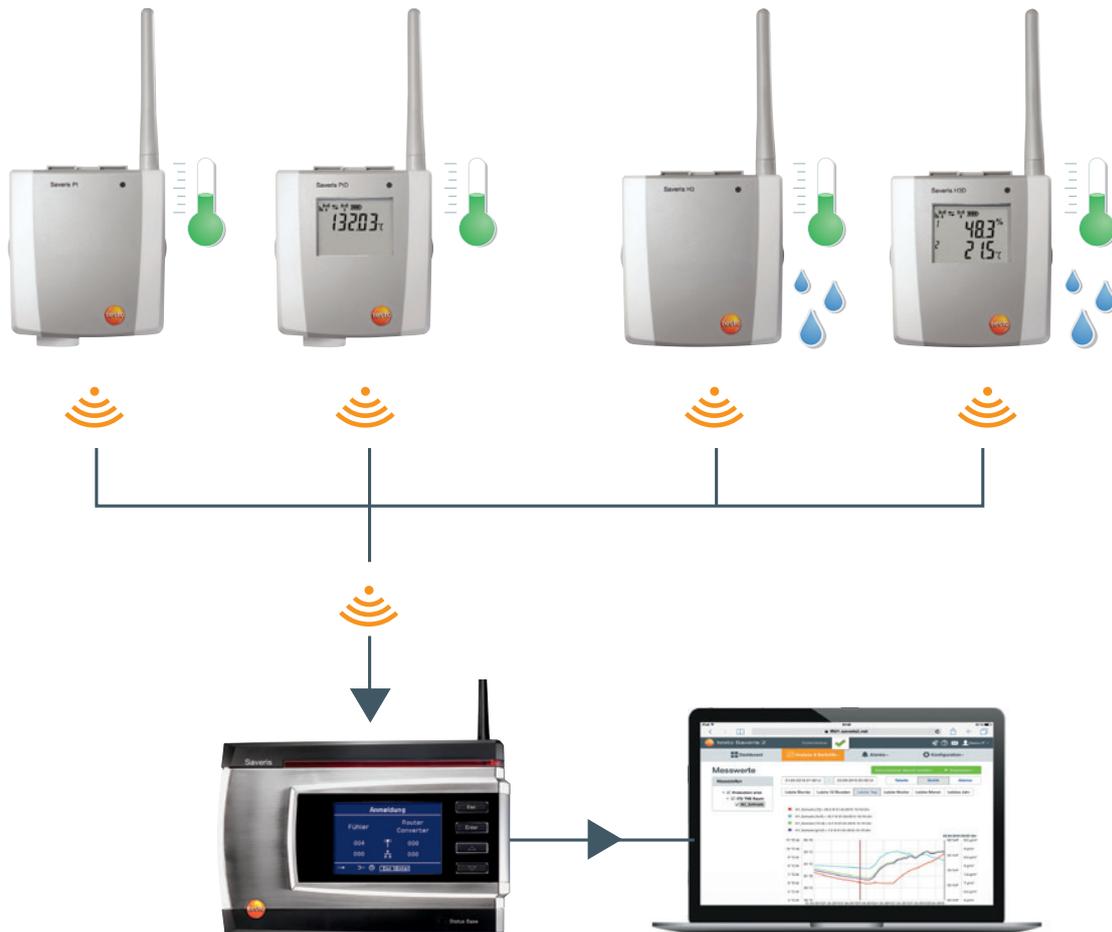
Climate monitoring solutions without wireless LAN and Cloud.

More **Testo measurement systems and data loggers** for every requirement.

Do you have no possibility of using an existing wireless connection or of setting up a wireless LAN network? Or would you simply prefer to measure offline? No problem: at Testo you will find the appropriate measuring technology for every requirement. Our stand-alone monitoring system **testo Saveris**, for example, works in a similar way to **testo Saveris 2**, however it uses an integrated wireless technology and saves the data locally instead of in the Cloud.

And with our versatile data loggers, you can also record your data automatically, and then conveniently transfer them to your computer. At the same time, the **testo Saveris** software allows the comprehensive analysis and evaluation of all recorded measurement data.

testo Saveris: The monitoring system with integrated wireless technology.



Measurement with traditional (offline) data loggers without alarm function?



testo 174T Mini temperature data logger

- Measuring range: -30 to +70 °C
- Internal data memory for 16,000 measurement values
- Dust-proof and protected from water-jets according to IP65
- EN 12830-compliant



testo 175T temperature data logger

- With internal NTC sensor
- Probe connection for NTC probe (optionally available)
- Measuring range internal: -35 to +55 °C
Measuring range external: -40 to +120 °C
- Lateral connection for MiniUSB cable and SD card 2 x 10,000 measurement values
- 24 months' battery life
- Dust-proof and protected from water-jets according to IP65
- EN 12830-compliant



testo 176T1 Temperature data logger temperature and humidity probes

- With internal Pt100 sensor
- Probe connection for Pt100 probe (optionally available)
- Measuring range internal: -35 to +70 °C
- Measuring range external: -100 to +400 °C
- Lateral connection for MiniUSB cable and SD card



testo 184 H1 USB data logger for humidity and temperature

- Measuring range: -20 to +70 °C
- Internal data memory for 64,000 measurement values
- Protection class IP 30

Service overview

The **testo bonus**: Full service with expert support, training and practical know-how.



Consultation

Competent consultation offered by our experts.



Project planning

Definition of the scope of your system on site.



Qualification

Qualification/validation of your system.



Product solution

We have the right product solution for your requirement.



Support

If you have any questions, our experts are available to help.



(Re)calibration

(Re)calibration of your sensors – also on site.



Training

Training and instruction in using the system.



Mapping

Determination of measurement locations for your sensors.



Commissioning

Optional commissioning of your system.