Measurement data monitoring system **testo Saveris.**

Automated and uninterrupted measurement data recording with comprehensive alarm management.

testo Saveris:
Easy, secure and efficient measurement
data montoring

The data monitoring system testo Saveris measures temperature and humdity values in sensitive goods and products, in the surroundings, in processes and during transport. The easily operated measurement system provides security as well as savings of time and costs thanks to automated measurement data recording. In stationary operation, measurement data transfer takes place by wireless and/or Ethernet connection to a Base station. This documents and monitors all measurement data. If limit values are exceeded, a number of alarm options such as SMS/e-mail alarm or alarm relay are available. Remote alarms can also be triggered even when the system is not connected to a running PC.

If measurement parameters are documented during transport, the driver receives all necessary information and alarms via a Cockpit Unit in the driver's cabin. The documentation and monitoring takes place via wireless probes, and a complicated installation of wired sensors in the truck is unnecessary. At the same time, there is the possibility of printing out the measurement data using an infrared printer on site during the handover of goods. All recorded data, whether they are recorded stationary or in transport, are centrally stored in a software. The testo Saveris software also allows a comprehensive analysis and evaluation of all recorded measurement data.
With testo Saveris, all measurement data are under control – stationary and in transport.

| Production | Transport | Storage |

designed for 21 CFR 11

+15 °C

+16 °C

testo Saveris system overview

Data monitoring for uninterrupted control

testo Saveris wireless probes

Probe versions with internal as well as external temperature and humidity sensors allow the adaptation to any application. The wireless probes are available optionally with or without display. The current measurement data, the battery status and the quality of the wireless connection are shown.

testo Saveris Router

The use of a Router can improve or extend the wireless connection in difficult constructional circumstances. Several Routers in the testo Saveris system are of course possible. At the same time, the serial switching of up to 3 Routers V 2.0 provides the highest level of flexibility regarding wireless range.

testo Saveris Converter/Extender

By connecting a testo Saveris Converter to an Ethernet socket, the signal from a wireless probe can be converted into an Ethernet signal. This combines the flexible installation of a wireless probe with the exploitation of the existing Ethernet even over long transmission distances.
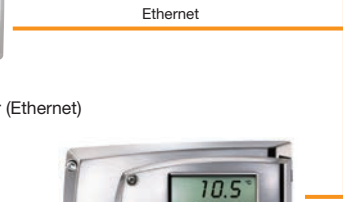
testo Saveris Router

testo Saveris wireless probes

testo Saveris Converter V 2.0
testo Saveris Extender

Ethernet

testo Saveris Analog Coupler (Ethernet)

testo Saveris Analog Coupler (wireless)

Humidity transmitter

testo Saveris Analog Coupler

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

Humidity and differential pressure transmitters
testo 6651/6681/6351/6381/6383

The integration of the humidity and differential pressure transmitters allows control parallel to the measurement data monitoring. This offers the solution for highest accuracy as well as for special applications, (high humidity, trace humidity etc.) in compressed air, drying and air conditioning technology.

testo Saveris Base

The Base is the heart of testo Saveris, and can store 40,000 measurement values per measurement channel independently of a PC. This corresponds to a storage capacity of approximately a year at a measurement rate of 15 minutes. System data and alarms are visible via the testo Saveris Base display.

testo Saveris software

All temperature and humidity values are collated and documented without interruption here. Depending on requirements, the software is available in three versions: as a basic version SBE (Small Business Edition), as an extended version PROF (Professional), or as a validatable CFR version. Operation is easy thanks to an intuitive user interface. And to round it all off, you can view the measurement data flexibly on various mobile end devices.

Ethernet

USB or Ethernet

testo Saveris software

testo Saveris Base

Ethernet

testo Saveris Cockpit Unit

testo Saveris Ethernet probes

testo Saveris Extender

testo Saveris Ethernet probes

In addition to the wireless probes, probes can be used which can be directly connected to the Ethernet. This means that an existing LAN structure to be used, allowing the data transfer from probe to Base even over large distances.

testo Saveris Extender

By connecting a testo Saveris Extender, the wireless signal of a transport probe (mobile probe) is converted into an Ethernet signal. The data transfer from wireless probe to Extender takes place automatically when sufficient wireless connection is present.

testo Saveris Cockpit Unit

The testo Saveris Cockpit Unit displays all measurement values to the driver uninterruptedly during transport. If limit values are violated, the driver is immediately warned. Alternatively, the complete data recording can be printed out at the handover site of the goods using the Testo printer on the Cockpit Unit.

Overview of application areas for testo Saveris

Monitoring processes in the pharmaceutical industry

In the pharmaceutical industry, the recording and monitoring of quality parameters is subject to strict requirements. Constant documentation during the production, transport and storage of temperature-sensitive products such as medicines, blood products or cell cultures has long been considered a „must".

testo Saveris automates central documentation as well as safe monitoring in refrigerated or deep-freeze rooms, incubators and climate cabinets. At the same time, the system allows uninterrupted measurement data recording during the transport of temperature- or humidity-critical products such as medicaments or vaccines. testo Saveris thus offers optimum control, from production and storage, via transport, to delivery.

The comprehensive alarm management allows fast alarms if limit values are exceeded. Thanks to the combination of wireless and/or Ethernet probes, the system concept is ideal for many different applications in the pharmaceutical industry. The data monitoring system testo Saveris of course complies with the requirements of 21 CFR Part 11.

Monitoring building climate

Especially in museums and archives, stable ambient conditions are indispensable in the monitoring of building climate, in order to protect sensitive and valuable objects. And during transport too, precious goods must be constantly monitored. testo Saveris automates the central recording of all ambient data, not only stationary, but also during transport.

Thanks to the alarms when limit values are exceeded, testo Saveris protects valuable inventory at all times from undesired temperature or humidity influences. The wireless probes can be flexibly installed at the measurement sites without complicated wiring.

Monitoring of processes in research and development, laboratories and hospitals

Research and development areas as well as laboratories and hospitals are responsible for the recording of ambient and process data, in order to monitor sensitive products or machines. However, the monitoring of temperature- and humidity-critical goods during transport too, is indispensable for a high standard of quality. testo Saveris takes over the central documentation of the measurement series, not only for stationary, but also for transport applications.

testo Saveris thus guarantees the easy and safe monitoring of ambient and process data in climate cabinets, refrigerators, incubators, test benches or blood banks. If critical values are to be monitored during transport, testo Saveris offers the optimum solution.

Overview of application areas for testo Saveris

Monitoring the food cold chain

The maintenance of pre-defined temperature values is crucial for quality in food production, and important for the fulfilment of legal hygiene standards. The deciding factor is the uninterrupted maintenance of the cold chain during production, storage and above all transport. In the final analysis, only this uninterrupted monitoring guarantees an evaluation of the quality and freshness of the products. testo Saveris automates not only the monitoring of the ambient and product temperatures during production and storage, but also the maintenance of defined temperature limit values during transport. The installation of wireless probes in the truck makes the troublesome wiring of the driver's cabin unnecessary. Alarms are of course immediately triggered when limit values are exceeded.

The measurement data from stationary and transport applications are stored centrally in a database, and are available at any time. All measurement values are thus under control! It goes without saying that testo Saveris complies with the EN12830 standard.

Monitoring in production, storage and transport in industry

A number of quality data must be recorded and monitored in production, storage and transport in industry. testo Saveris automates the documentation of these data and provides alarms when upper or lower limit values are exceeded. The quality of the products and processes is thus guaranteed at a stable level.

testo Saveris is ideally applicable for the monitoring and documentation of ambient and temperature data in production areas, in storerooms, refrigerators and climate cabinets. At the same time, testo Saveris allows the uninterrupted recording of measurement parameters during the transport of sensitive goods.
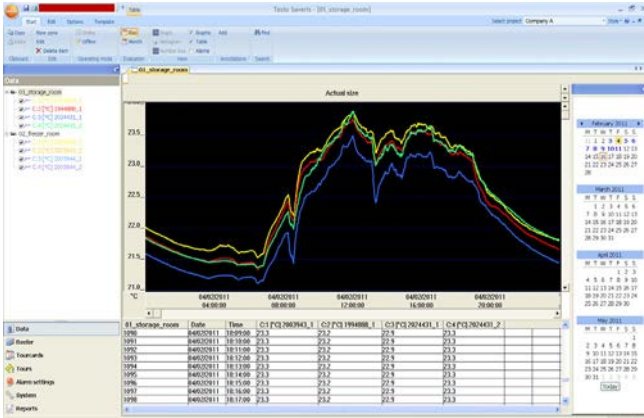
Various applications, stationary as well as in transport, are optimally covered by testo Saveris wireless and/or Ethernet probes.
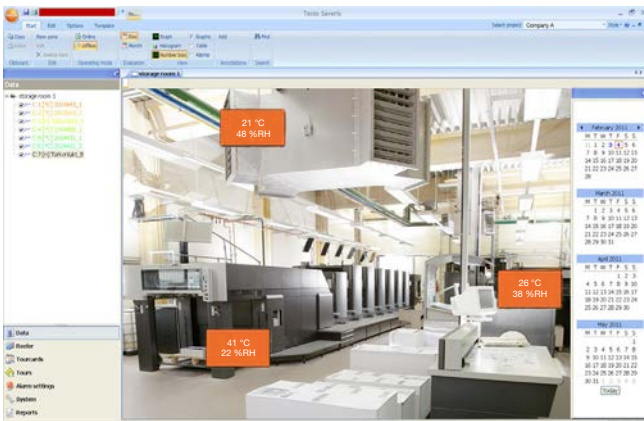
testo Saveris software

testo Saveris software SBE (Small Business Edition): Clear information, always up to date, and automatically documented

- The measurement data can be shown as a graph or table at any time.

- Various probes can be compiled into groups. Logical units by measurement task are thus formed.

- The measurement data view over days, weeks or months is freely definable. The integrated calendar offers practical assistance here.

- Form and time of the reporting are predefined once.

- The creation and saving of reports as a PDF file now takes place automatically in accordance with the set conditions. The files are therefore ready to be printed at any time.

testo Saveris software PROF (Professional): Even more flexible with interesting additional functions

- Client-server concept: The measurement data can be monitored by various PCs integrated into the network.

- Photographs of machines or rooms can be saved as images. The respective measurement values are shown directly at the position of the probe in the room or at the machine in these. The link between the location and the measurement value is thus very easily visualized.

- A comprehensive alarm management offers the option of alarming more than two people at the same time or in succession. Depending on the day of the week and/or the time, it is possible to choose whether an alarm is given as an e-mail or an SMS.

- Tour planning with calendar management allows a clear presentation of planned and completed transports.
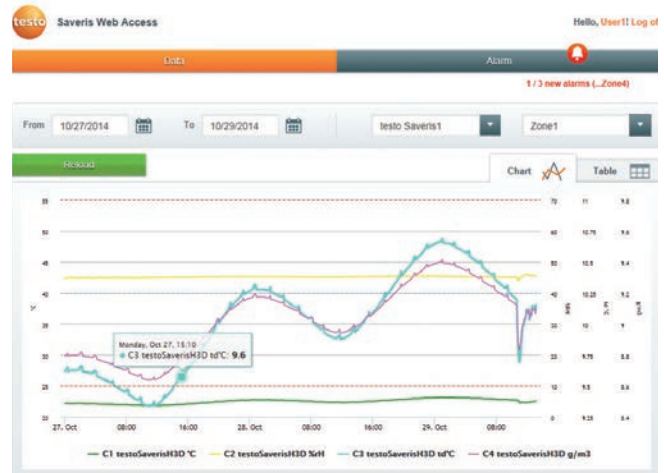

testo Saveris software CFR:
Validatable due to compliance with the requirements of the FDA's 21 CFR Part 11.

- Highest level of data security is guaranteed at all times.

- PDF reports cannot be manipulated.

- User activities are traceable.

- Electronic signatures can render user actions binding.

- Independent certificate of the Fraunhofer IESE is included in the package.

testo Saveris Web Access:
Flexible measurement data viewing via browser

- Measurement data can be viewed via the browser of any PC, Smartphone or tablet – without software installation

- Intuitive user interface.

- Easy acknowledgement of alarms.

Installation made easy

- Connect testo Saveris Base to mains. The probes can now be logged on at the Base: They are switched on in series and automatically identified by the Base.

- The testo Saveris Base is connected to the PC via USB or Ethernet.
  The software is installed on the PC with help from the installation wizard.

- The system is ready for configuration: Probe name, limit values, measuring cycles and alarms can be adapted to the individual measuring tasks.

Overview of software functions

	SBE	PROF	CFR
Diagrams/tables/alarm overview/PDF reports	•	•	•
Calendar management	•	•	•
Presentation of probe groups	•	•	•
Alarm dispatch (e-mail, SMS, relay)	•	•	•
Comprehensive alarm management in stationary operation		•	•
Automatic measurement data update		•	•
"Online mode" in stationary operation		•	•
Measurement data on background photo of measurement sites		•	•
Integration in network (client-server)		•	•
Tour planning with calendar management		•	•
Allocation of access rights for stationary and		•	•
mobile probe groups		•	•
Search function for routes		•	•
Configuration of print text		•	•
Diagrams/tables with identification of start and stop of route		•	•
Audit trail for the traceability of user activities		•	•
21 CFR Part 11 compliant (validatable)			•
Electronic signature			•
Allocation of access rights on three user levels			•

Overview of application areas of testo Saveris software

	SBE	PROF	CFR
Stationary operation	•	•	•
Mobile operation		•	•
Stationary and mobile operation		•	•

Software versions

testo Saveris SBE software licence 1 user
Part no.: 0572 0180

testo Saveris PROF software licence 1-5 users incl. Web Access
Part no.: 0572 0181

testo Saveris PROF software licence 1-5 users Classic
Part no.: 0572 0192

testo Saveris PROF software licence +1 user (only in connection with the testo Saveris PROF software (order no. 0572 0181 or 0572 0192))
Part no.: 0572 0190

testo Saveris PROF software licence + unlimited number of users (only in connection with the testo Saveris PROF software (order no. 0572 0181 or 0572 0192))
Part no.: 0572 9999

testo Saveris CFR software licence 1-5 users incl. Web Access
Part no.: 0572 0182

testo Saveris CFR software licence +1 user (only in connection with the testo Saveris CFR software (order no. 0572 0182))
Part no.: 0572 0193

testo Saveris CFR software licence + unlimited number of users (only in connection with the testo Saveris CFR software (order no. 0572 0182))
Part no.: 0572 9999

testo Saveris Web Access
Part no.: 0572 0001

testo Saveris adjustment software incl. connection cable to wireless and Ethernet probes
Part no.: 0572 0183

11

testo Saveris Base

The Base is the heart of testo Saveris and can save 40,000 readings per measurement channel independently of the PC. The system data and alarms are visible via the display of the testo Saveris Base.

	Display for showing alarms and system data
	Large data memory
	Issue of alarms via LED/relay
	SMS alarm (optional)
	Emergency battery integrated
	Up to 150 probes can be connected
	Connection option via USB or Ethernet

Technical data

Memory	40,000 values per channel (total max. 18,000,000 values)
Dimensions	225 x 150 x 49 mm
Weight	Approx. 1510 g
Protection class	IP42
Material/Housing	Diecast zinc/plastic
Radio frequency	868 MHz
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.	+5 to +45 °C
Storage temp.	-25 to +60 °C
Display	graphical display, 4 control keys
Interfaces	USB, radio, Ethernet
Connectable radio probe	max. 15 probes can be directly connected via wireless interface, max. 150 total via wireless/Router/Converter/Ethernet/Extender, max. 450 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
Firmware version	2.X

*Wearing part

Ordering data

868 MHz	testo Saveris Base, radio frequency 868 MHz Part no. 0572 0220	868 MHz	testo Saveris Base, radio frequency 868 MHz, GSM module integrated (for SMS alarm) Part no. 0572 0221

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

Note on the radio frequencies

868 MHz: EU countries and certain other countries (e.g. CH, CN, NOR) Country list at www.testo.com/saveris

testo Saveris Cockpit Unit

The testo Saveris Cockpit Unit displays all measurement values to the driver without interruption during transport. If limit values are violated, the driver is immediately warned. Alternatively, the complete data recording can be printed out at the handover site of the goods using an infrared printer on the Cockpit Unit.

- Display for showing alarms and system data
- Large data memory
- Alarms via LED
- Printout of readings using infrared printer
- Emergency battery integrated
- Up to 8 probes can be connected
- Wireless, USB and infrared interfaces

Technical data

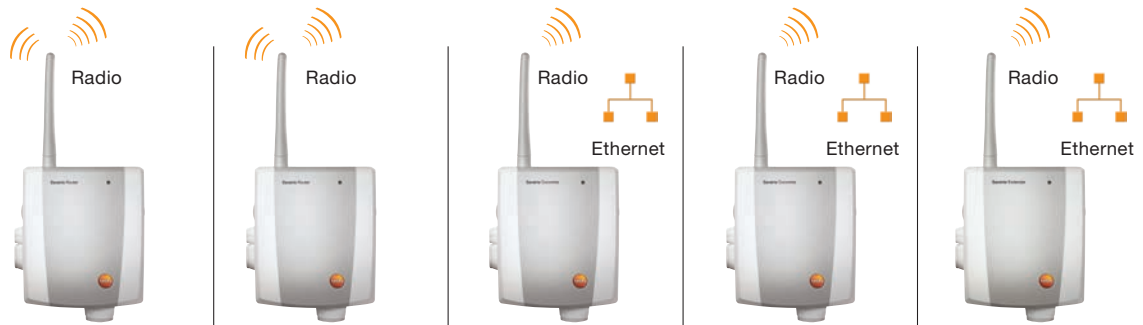|	
Memory	max. 20,000 measurement values
Dimensions	Approx. 150 x 90 x 40 mm
Weight	Approx. 210 g
Protection class	IP30
Material/Housing	Plastic
Radio frequency	868 MHz
Power supply (absolutely necessary)	Mini-USB cable incl. adapter 12/24 V DC
Rech. battery*	NiMH rechargeable battery (for securing data in case of power failure)
Oper. temp.	-30 to +65 °C
Storage temp.	-40 to +85 °C
Display	graphical display, 4 control keys
Interfaces	Wireless, USB, infrared
Connectable radio probe	up to 2 zones with 4 wireless probes each, max. 32 channels
Attachment	Sucker pad with telescope function

*Wearing part

Ordering data

868 MHz	testo Saveris Cockpit Unit incl. mini-USB-cable and adapter 12/24 V DC
	Part no. 0572 0222

testo Saveris components:
Router, Converter and Extender

The radio link can be improved or lengthened in poor structural conditions by using a Router. Several Routers can of course be used in the testo Saveris system. At the same time, the serial switching of up to 3 Routers V 2.0 offers highest flexibility in the wireless range.

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.

By connecting an Extender, the wireless signal of a transport probe is converted into an Ethernet signal. The data transfer from probe to Extender takes place automatically when sufficient wireless connection is present.

	testo Saveris Router V 1.0	testo Saveris Router V 2.0	testo Saveris Converter V 1.0	testo Saveris Converter V 2.0	testo Saveris Extender
Application	• for testo Saveris Base Firmware Version V 1.X	• for testo Saveris Base Firmware Version V 2.X	• for testo Saveris Base Firmware Version V 1.X • only for wireless probes Firmware Version 1.X	• for all testo Saveris Base Firmware versions • only for wireless probes with Firmware versions 2.X	• for testo Saveris Base Firmware Version V 2.X • only for wireless probes with Firmware versions 2.X
Dimensions			Approx. 85 x 100 x 38 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		
Storage temp.			-40 to +60 °C		
Material/Housing			Plastic		
Protection class			IP54		
Interfaces	Radio		Radio, Ethernet		
Connectable radio probe	max. 5		max. 15		max. 15 stationary max. 100 mobile
Router cascading	no	yes	-	-	-
Wall bracket			included		

Versions					
868 MHz	testo Saveris Router V 1.0, 868 MHz, radio transmission medium Part no. 0572 0119	testo Saveris Router V 2.0, 868 MHz, radio transmission medium Part no. 0572 0219	testo Saveris Converter V 1.0, 868 MHz, converts the radio transmission medium to Ethernet Part no. 0572 0118	testo Saveris Converter V 2.0, 868 MHz, converts the radio transmission medium to Ethernet Part no. 0572 0218	testo Saveris Extender 868 MHz, converts the radio transmission medium to Ethernet Part no. 0572 0217

No mains units are contained in this ordering data.

testo Saveris: Accessories

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 x Energizer L91 Photo lithium)	0515 0572
Li-ion rechargeable battery for testo Saveris Base, Ethernet probe and testo Saveris Analog Coupler U1E	0515 5021
Mains unit international 100-240 V AC/6.3V DC for mains operation or battery charging in instrument	0554 1096
Power supply (top-hat rail mounting) 90 to 264 VAC/24VDC (2.5 A)	0554 1749
Power supply (desktop) 110 to 240 VAC/ 24VDC (350 mA)	0554 1748

Other features		Part no.
1	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
2	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
3	testo Saveris protective housing for protection from high-pressure cleaning and impact, IP69 K suitable for wireless probes T1/T1D/T2/ T2D/Pt/PtD/H4D	0572 0200
4	Testo fast printer with wireless infrared interface, 1 roll of thermal paper and 4 AAA batteries, for printout of measurement values from testo Saveris Cockpit Unit, operating temperature 0 to +50 °C	0554 0549
	Programming adapter (from mini-DIN to USB) for Base, Ethernet probe, Converter and Extender for the configuration of IP addresses, as well as for the adjustment of testo Saveris probes via testo Saveris adjustment software	0440 6723

Software	Part no.
testo Saveris SBE software licence 1 user	0572 0180
testo Saveris PROF software licence 1-5 users incl. Web Access	0572 0181
testo Saveris PROF software licence 1-5 users Classic	0572 0192
testo Saveris PROF software licence +1 user (only in connection with the testo Saveris PROF software (order no. 0572 0181 or 0572 0192))	0572 0190
testo Saveris PROF software licence + unlimited number of users (only in connection with the testo Saveris PROF software (order no. 0572 0181 or 0572 0192))	0572 9999
testo Saveris CFR software licence 1-5 users incl. Web Access	0572 0182
testo Saveris CFR software licence +1 user (only in connection with the testo Saveris CFR software (order no. 0572 0182))	0572 0193
testo Saveris CFR software licence + unlimited number of users (only in connection with the testo Saveris CFR software (order no. 0572 0182))	0572 9999
testo Saveris Web Access	0572 0001
testo Saveris adjustment software incl. connection cable to 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 testo 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 testo Saveris T1/T2)	0520 0151
DAkkS calibration certificate temperature; temperature probes; calibration points -20 °C; 0 °C; +60 °C; per channel/instrument (not suitable for testo 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
DAkkS calibration certificate humidity; humidity probe, calibration points 11.3 %RH and 75.3 %RH at +25 °C; per channel/instrument	0520 0246

1

Magnetic foot aerial (dualband)

2

Alarm module (visual + acoustic), can be connected to Base alarm relay

3

testo Saveris protective housing

4

Testo fast printer

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.

		testo Saveris T1	testo Saveris T2	testo Saveris T3	testo Saveris Pt
		NTC internal	NTC internal	NTC external	TC external / Pt 100 external
		Radio probe with internal NTC	Radio probe with external probe connection and internal NTC, door contact	2-channel radio probe with 2 external TC probe connections (Choice of TC characteristics)	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 T**	**TC type J** / **TC type S**	**Pt100**
	Meas. range (Instrument)	–	-50 to +150 °C	-195 to +1350 °C / -200 to +400 °C	-100 to +750 °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
Connection		–	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
Measuring rate	Standard 15 min, 1 min to 24 h can be set
Memory	6,000 measurement values per channel
Conformity to standards	DIN EN 12830 / –
Oper. temp.	-35 to +50 °C / -20 to +50 °C
Storage temp.	-40 to +55 °C (incl. batteries)
Display (optional)	LCD, 2 lines; 7-segment with symbols
Transmission distance	approx. 300 m without obstruction at a frequency of 868 MHz
Wall bracket	included

Versions					
868 MHz	Version without display	**testo Saveris T1** Part no. 0572 1210 *	**testo Saveris T2** Part no. 0572 1211 *	**testo Saveris T3** Part no. 0572 9212 *	**testo Saveris Pt** Part no. 0572 7211 *
	Version with display	**testo Saveris T1 D** Part no. 0572 1220 *	**testo Saveris T2 D** Part no. 0572 1221 *	**testo Saveris T3 D** Part no. 0572 9222 *	**testo Saveris Pt D** Part no. 0572 7221 *

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

*The testo Saveris Converter V 2.0 (order no. 0572 0218) is required for integration of testo Saveris wireless probes into systems with Base Firmware V 1.X . For more information please contact our customer hotline or your Testo partner.

		°C/°F and %RH			mA and V
Radio	%RH NTC external	%RH NTC internal	%RH NTC external	mA V internal
	testo Saveris H2D Wireless humidity probe	**testo Saveris H3** Humidity radio probe	**testo Saveris H4D** Wireless probe with 1 external humidity probe connection	**testo Saveris U1** Wirelss probe with current/voltage output

Internal sensor		testo Saveris H2D	testo Saveris H3		testo Saveris H4D	testo Saveris U1
	Probe type	–	**NTC**	**Humidity sensor**	–	1 channel: current/voltage input
	Meas. range	–	-20 to +50 °C	0 to 100 %RH[1]	–	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 at +25 °C ±0.03 %RH/K ±1 digit	–	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		testo Saveris H2D		testo Saveris H3	testo Saveris H4D		testo Saveris U1
	Probe type	**NTC**	**Humidity sensor**	–	**NTC**	**Humidity sensor**	–
	Meas. range (Instrument)	-20 to +50 °C	0 to +100 %RH 1)	–	-20 to +70 °C	0 to +100 %RH [1]	–
	Accuracy (Instrument)	±0.5 °C	to 90 %RH: ±2 %RH at +25 °C > 90 %RH: ±3 %RH at +25 °C ±0.03 %RH/K ±1 digit	–	±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	–

	testo Saveris H2D	testo Saveris H3	testo Saveris H4D	testo Saveris U1
Connection	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, 20 to 30 V DC max. 25 V AC
Material/Housing	Plastic			
Protection class	IP54	IP42	IP54	
Radio frequency	868 MHz			
Measuring rate	Standard 15 min, 1 min to 24 h can be set			
Memory	6,000 measurement values per channel			
Oper. temp.	-20 to +50 °C			+5 to +45 °C
Storage temp.	-40 to +55 °C (incl. batteries)			-25 to +60 °C
Display (optional)	LCD, 2 lines; 7-segment with symbols			(no display)
Transmission distance	approx. 300 m without obstruction at a frequency of 868 MHz			
Wall bracket	included			

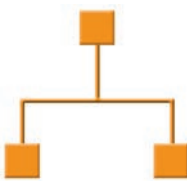| Versions					
868 MHz	**Version without display**	———	**testo Saveris H3** Part no. 0572 6210 *	———	**testo Saveris U1** Part no. 0572 3210 *
	Version with display	**testo Saveris H2 D** Part no. 0572 6222 *	**testo Saveris H3 D** Part no. 0572 6220 *	**testo Saveris H4 D** Part no. 0572 6224 *	———

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

1) Not for condensing atmosphere. For continuous applications in high humidity (>80 %RH at ≤30 °C for >12 h, >60 %RH at >30 °C for >12h), please contact us via www.testo.com.

*The testo Saveris Converter V 2.0 (order no. 0572 0218) is required for integration of testo Saveris wireless probes into systems with Base Firmware V 1.X . For more information please contact our customer hotline or your Testo partner.

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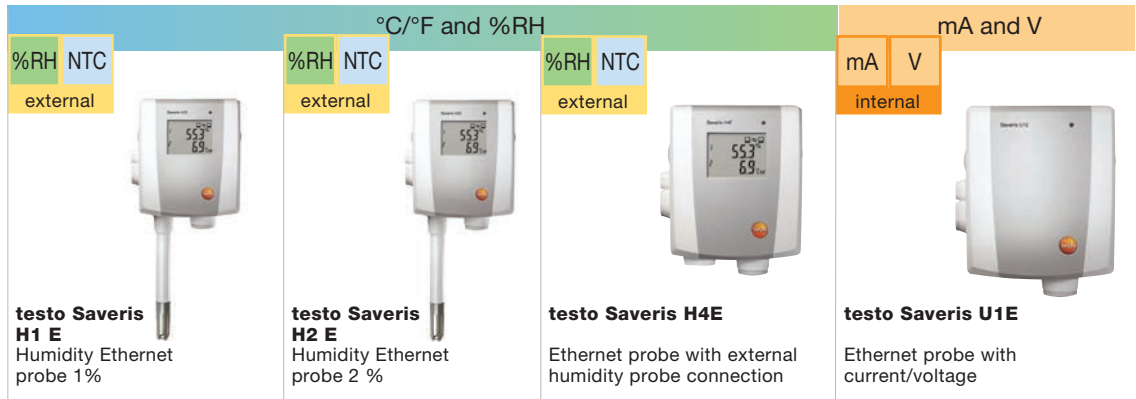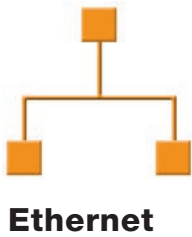# testo Saveris components: Ethernet probes

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 external	**TC** external		**Pt 100** external
	testo Saveris T1E	**testo Saveris T4 E**		**testo Saveris Pt E**
	Ethernet probe with 1 external probe connection NTC	4-channel Ethernet probe with 4 external TC probe connections		Ethernet probe with external Pt100 probe connection
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	-200 to +600 °C
		TC type T	**TC type S**	
		-200 to +400 °C	0 to +1760 °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
Connection	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 (wearing part)			
Material/Housing	Plastic			
Protection class	IP54			
Measuring rate	2 s to 24 h			
Memory	6,000 measurement values per channel			
Oper. temp.	+5 to +45 °C			
Storage temp.	-25 to +60 °C			
Power consumption	PoE Class 0 (typical ≤ 3 W)			
Display (optional)	LCD, 2 lines; 7-segment with symbols			
Wall bracket	included			
Versions	**testo Saveris T1E with display**	**testo Saveris T4 E with display**		**testo Saveris Pt E with display**
	Part no. 0572 1191	Part no. 0572 9194		Part no. 0572 7191

testo 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.
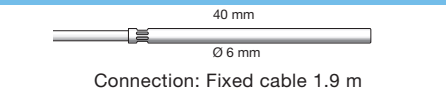
We measure it. testo

Ethernet

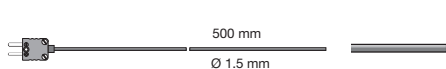|		°C/°F and %RH			mA and V
		%RH NTC external	%RH NTC external	%RH NTC external	mA V internal
		testo Saveris H1 E Humidity Ethernet probe 1%	**testo Saveris H2 E** Humidity Ethernet probe 2 %	**testo Saveris H4E** Ethernet probe with external humidity probe connection	**testo Saveris U1E** Ethernet 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

External probe		NTC	Humidity sensor	NTC	Humidity sensor	NTC	Humidity sensor	
	Probe type	NTC	Humidity sensor	NTC	Humidity sensor	NTC	Humidity sensor	–
	Meas. range (Instrument)	-20 to +70 °C	0 to 100 %RH1)	-20 to +70 °C	0 to 100 %RH1)	-20 to +70 °C	0 to 100 %RH1)	–
	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 ±0.03 %RH/K ± 1 digit	±0,5 °C	to 90 %RH: ±2 %RH at +25 °C > 90 %RH: ±3 %RH at +25 °C ±0.03 %RH/K ± 1 digit	±0,2 °C	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	–

Connection	–	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, PoE		
Buffer battery	Li-ion (wearing part)		
Material/Housing	Plastic		
Protection class	IP54		
Measuring rate	2 s to 24 h		
Memory	6,000 measurement values per channel		
Oper. temp.	+5 to +45 °C		
Storage temp.	-25 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		
Versions	**testo Saveris H1 E with display** Part no. 0572 6191	**testo Saveris H2 E with display** Part no. 0572 6192	**testo Saveris H4 E with display** Part no. 0572 6194	**testo Saveris U1 E no display** Part no. 0572 3190

testo 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.
1) Not for condensing atmosphere. For continuous applications in high humidity (>80 %RH at ≤30 °C for >12 h, >60 %RH at >30 °C for >12h), please contact us via www.testo.com.

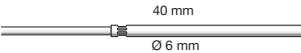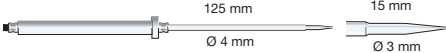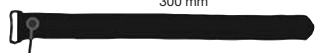| Sintered caps for testo Saveris H1 E, H2 E and H2 D probes	Part no.
Metal protection cage, Ø 12 mm for humidity probes, for measurement in flow velocities of less than 10 m/s	0554 0755
Stainless steel sintered filter, pore size 100 µm, sensor protection in dusty atmospheres or higher flow velocities, for measurements at higher flow velocities or in contaminated air	0554 0641
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
Testo saline pots for testing and humidity calibration of humidity sensors, 11.3 %RH and 75.3 %RH, incl. adapter for humidity probes, fast testing or calibration of humidity probe	0554 0660

testo Saveris accessories:
External temperature and humidity probes

Pt 100 Plug-in probes	Illustration	Measuring range	Accuracy	t_{99}	Part no.
Robust, Pt100 stainless steel food probe (IP65)	125 mm / Ø 4 mm / 15 mm / Ø 3 mm / Connection: Fixed cable	-50 to +400 °C	Class A (-50 to +300 °C), Class B (remaining range)	10 s	0609 2272
Penetration probe Pt100 with ribbon cable, cable length 2 m, IP54	60 mm / Ø 5 mm / 30 mm / Ø 3.6 mm	-85 to +150 °C	Class A	35 s	0572 7001
Connection cable for unlimited Pt100 stationary probes (4-wire technology), Cable length: 3 m possible max. cable length: 20 m					0554 0213

TC Plug-in probes	Illustration	Measuring range	Accuracy	t_{99}	Part no.
Stationary probe with stainless steel sleeve, TC Type K	40 mm / Ø 6 mm / Connection: Fixed cable 1.9 m	-50 to +205 °C	Class 2*	20 s	0628 7533
Penetration probe TC with ribbon cable, Type K, cable length 2 m, IP54	60 mm / Ø 5 mm / 30 mm / Ø 3.6 mm	-40 to + 220 °C	Class 1	7 s	0572 9001
Magnetic probe, adhesive force approx. 20 N, with magnets, for measurements on metal surfaces, TC Type K	35 mm / Ø 20 mm / Fixed cable	-50 to +170 °C	Class 2*	150 s	0602 4792
Magnetic probe, adhesive force approx. 10 N, with magnets, for higher temp., for measurements on metal surfaces, TC Type K	75 mm / Ø 21 mm / Connection: Fixed cable 1.6 m	-50 to +400 °C	Class 2*		0602 4892
Pipe wrap probe for pipe diameter 5 to 65 mm, with exchangeable measuring head. Meas. range short-term up to +280°C, TC Type K	Connection: Fixed cable 1.2 m	-60 to +130 °C	Class 2*	5 s	0602 4592
Pipe wrap probe with velcro strip; for temperature measurement on pipes with diameter up to max. 120 mm; Tmax. +120 °C; TC Type K	395 mm / 20 mm / Connection: Fixed cable 1.5 m	-50 to +120 °C	Class 1*	90 s	0628 0020
Thermocouple with TC adapter, flexible, 800mm long, fibre glass, TC Type K	800 mm / Ø 1.5 mm	-50 to +400 °C	Class 2*	5 s	0602 0644
Thermocouple with TC adapter, flexible, 1500mm long, fibre glass, TC Type K	1500 mm / Ø 1.5 mm	-50 to +400 °C	Class 2*	5 s	0602 0645
Thermocouple with TC adapter, flexible, 1500mm long, PTFE, TC Type K	1500 mm / Ø 1.5 mm	-50 to +250 °C	Class 2*	5 s	0602 0646
Immersion tip, flexible, TC Type K	500 mm / Ø 1.5 mm	-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	1000 mm / Ø 3 mm	-200 to +1300 °C	Class 1*	4 s	0602 5693

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

*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	Measuring range	Accuracy	t$_{99}$	Part no.	
♦	Stub probe, IP54	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, IP65	40 mm / Ø 6 mm Connection: Fixed cable; Cable/length: 2.4 m	-30 to +90 °C	±0.2 °C (0 to +70 °C) ±0.5 °C (remaining range)	190 s	0628 7503*	
♦	Accurate imm./pen. probe, 6m cable, IP67	40 mm / Ø 3 mm / Ø 3 mm Connection: Fixed cable; Cable/length: 6 m	-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	5 s	0610 1725*	
♦	Accurate immersion/penetration probe, cable: 1.5 m long, IP67	40 mm / Ø 3 mm / Ø 3 mm Connection: Fixed cable; Cable/length: 1.5 m	-35 to +80 °C	±0.2 °C (-25 to +74.9 °C) ±0.4 °C (remaining range)	5 s	0628 0006*	
♦	Penetration probe NTC with ribbon cable, cable length 2 m, IP54	60 mm / Ø 5 mm / 30 mm / Ø 3.6 mm	-40 to +125 °C	±0.5 % of mv (+100 to +125 °C) ±0.2 °C (-25 to +80 °C) ±0.4 °C (remaining range)	8 s	0572 1001	
	Wall surface temperature probe, e.g. to prove damage in building material	Connection: Fixed cable; Cable/length: 3 m	-50 to +80 °C	±0.2 °C (0 to +70 °C)	20 s	0628 7507	
♦	Stainless steel NTC food probe (IP65) with PUR cable	125 mm / Ø 4 mm / 15 mm / Ø 3 mm Connection: Fixed cable; Cable/length: 1.6 m	-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*	
	Pipe wrap probe with Velcro for pipe diameter to max. 75 mm, Tmax. +75°C, NTC	300 mm / 30 mm Connection: Fixed cable; Cable/length: 1.5 m	-50 to +70 °C	±0,2 °C (-25 to +70 °C) ±0,4 °C (-50 to -25.1 °C)		0613 4611	

The standard temperature probes from the Testo range can be individually tailored to your application. For more information please contact your Testo partner.

%RH	Plug-in probes	Illustration	Measuring range	Accuracy	Part no.	
♦	Humidity/temperature probe 12 mm	Ø 12 mm	-20 to +70 °C 0 to 100 %RH	±0.3 °C ±2 %RH at +25 °C (2 to 98 %RH) ±0.03 %RH/K ± 1 digit	0572 6172	
♦	Humidity/Temperature Probe 4 mm	Ø 4 mm	0 to +40 °C 0 to 100 %RH	±0.3 °C ±2 %RH at +25 °C (2 to 98 %RH) ±0.08 %RH/K ± 1 digit	0572 6174	

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

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

2) Long-term measurement range +125°C, short-term +150°C or +140°C (2 minutes)

Adjustment

Naturally all testo Saveris probes are adjusted in the factory, which is confirmed by an adjustment report. You can perform further calibrations or adjustments either yourself on site, via a service provider or in a calibration laboratory. The separate testo Saveris adjustment software is available for this. After successful adjustment, the current data is stored in the probe. At the same time, the adjustment software and the testo Saveris software accept this data so that the adjustment histories are available.

Radio and Ethernet probes are connected to a cable via the service interface for adjustment.

If you do not wish to perform your own calibration, Testo is available as a service provider.

testo Saveris adjustment software incl. connection cable for wireless and Ethernet probes

Part no. 0572 0183

Worldwide presence

Testo is a manufacturer of measuring instruments and measuring systems with a global presence, with 31 international subsidiaries and representatives in numerous countries. Naturally, Testo also offers you on-site service. For questions regarding testo Saveris, from installation to retrofitting further system components, please refer to your competent contact in your country.

You can find an overview of the nearest service location at www.testo.com.

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Subject to change without notice.

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