We measure it.

testo

Miles Ahead of the Competition!

testo data loggers 174, 175 & 176
for temperature, humidity and pressure

Logger series
testo 174

Logger series
testo 175

Logger series
testo 176

Choice of three software packages for data collection and analysis

Depending on your needs we have three software versions that offer various levels of programming, read out and data analysis. The **ComSoft Basic 5,** with new graphic user interface, offers all the basic functions of a standard logger software for clear and easy programming and read out. Do you need data correlation with readings at different locations? Then **ComSoft Professional 4** is right for you. Testo even provides **ComSoft CFR 21 Part 11** software for the unique demands of the pharmaceutical industry. Whatever testo data logger you use, there is a testo software package just right for your particular application!

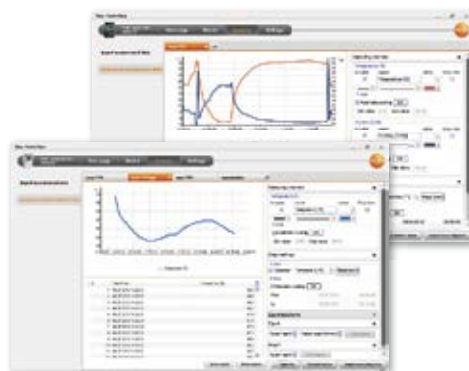## ComSoft Basic 5 – FREE downloadable starter software!

- Data retrieval in table or graph format
- Easy configuration of loggers for each measuring application
- Easy export of data to Microsoft Excel for further analysis
- Easy PDF report geneartion for data archiving and sharing
- Works with older generation testo loggers too (174, 175, 177)

For **FREE** download
visit **www.testo.com**

ComSoft Basic 5 is also available on CD for users who want a hard copy of the sofware

Part no.: 0572 0580

ComSoft Professional 4 – with advanced data analysis and display features

- Copy-paste, equation entry, and advanced analysis and presentation capabilities beyond ComSoft Basic 5
- Multiple measurement sites and data loggers can be organized in a clear tree structure

Part no.: 0554 1704

ComSoft CFR 21 Part 11 – designed for the pharmaceutical industry - independent 3rd party validated (with certificate) for compliance assurance with all 21 CFR requirements

- Validates and fulfills all of the requirements of the FDA, closed system
- Certificate of Conformity is enclosed with each software copy

Part no.: 0554 1705

Miles ahead of the competition in features and value!
Offering a higher level of performance for multiple applications.

Testo offers the right solution for your particular need...from cold chain monitoring to data collection in demanding critical applications of temperature, humidty and pressure.

- **- testo 174** compact and economical for humidity and/ or temperature

- **- testo 175** versatility and value with four different models and numerous probe choices

- **- testo 176** highest accuracy available and super rugged

One-button control

5-pin mini-B USB port

convenient SD card

Outstanding features:

Easy data collection, dual mode readout, USB interface and SD card

- **One button operation** - click and "GO" button instantly starts logging and recording

- **TWO standard interfaces** - mini USB and SD card for easiest direct communication with your PC - no added interface required

- **Large display w/ one button backlight** - for easily viewing data in poorly lit areas

- **Longer battery life** - designed to conserve energy for data recording without interruption

- **Larger memory** - collect up to 2 million measurements

FREE Programming and Analysis Software

- **FREE software** - download free ComSoft Basic 5 software at www.testo.com Download Center to get the basic operating and data handling functions

- **Data display and analysis** - convenient table and graph formats. All you need is ComSoft Basic 5 and a mini USB cable or SD card reader, so multiple locations can both generate and download data anytime

Your Data is Fully Protected

- **Data security** - the integrity of your data is secure even if batteries are drained

- **Password protection** - each logger can be individually password protected to guard against data tampering

Rugged Design for Everyday Use

- **Solidly built** - metal housing for increased protection and durability

All testo data loggers can be NIST or ISO Certified.
See page 8 for ordering information

![testo logo]

testo 174 Series
Compact and Economical

testo 175 Series
Versatility and Value

testo 174T

1-channel temperature logger with internal sensor (NTC)

· Reliable temperature monitoring of foods in cold chains and sensitive products in storage and transport

· Easy readout of the data, and transfer to a PC via Testo USB interface desktop cradle

testo 174H

2-channel temperature and humidity data logger with internal sensor (NTC/capacitive humidity sensor)

· Economical temperature and humidity monitoring for residential, work, and storage rooms

· Easy readout of the data, and transfer to a PC via Testo USB interface desktop cradle

testo 175 T1

1-channel temperature logger with internal sensor (NTC)

· Dependable temperature monitoring for refrigerated and deep-freeze rooms

· Compact data logger for long-term monitoring of products in transit and cold chain monitoring

testo 175 T2

2-channel temperature data logger with internal (NTC), and external sensor connection (NTC)

· Simultaneous monitoring of ambient air and product temperature

· External probe input for easy connection

· Easy readout of the data, and transfer to a PC via USB or SD card

Technical data	testo 174T	testo 174H	testo 175 T1	testo 175 T2
Sensor	NTC	NTC/ capacitive humidity sensor	NTC	NTC
Channels	1 x internal	2 x internal	1 x internal	1 x internal, 1 x external
Measuring Units	°C, °F	°C, °F, %rF, %RH	°C, °F	°C, °F
Measuring Range	-22 to 158°F (-22 to +70°C)	-4 to158°F , (-20 to +70°C) internal 0 to 100 %RH	-31 to 13°F, (-35 to +55°C) internal	-31 to 131°F, (-35 to +55°C) internal -40 to 248°F (-40 to +120°C) external
Accuracy ± 1 digit	±0.9°F (-22 to +158 °F)	±0.9°F, -4 to158°F (-20 to +70°C) ±3 %RH (2 to 98 %RH) +0.03 %RH/K	±0.9°F (-31 to +131°F)	±0.7°F (-13 to +131°F) ±1.4°F (-40 to -13°F)
Resolution	0.1°F	0.1°F, 0.1 %RH	0.1°F	0.1°F
Battery life (at +25 °C)	500 days at 15 min. meas. rate	1 year at 15 min. meas. rate	3 years at 15 min. meas. rate	3 years at 15 min. meas. rate
Operating temperature	-22 to +158°F, (-30 to 70°C)	-4 to 158°F, (-20 to +70°C)	-31 to 131°F, (-35 to +55 °C)	-31 to 131°F, (-35 to +55 °C)
Storage temperature	-40 to +158°F, (-40 to 70°C)	-40 to 158°F, (-40 to +70°C)	-31 to 131°F, (-35 to +55 °C)	-31 to 131°F, (-35 to +55°C)
Dimensions	2.3 x 1.5 x 0.8 in	2.3 x 1.5 x 0.8 in	3.5 x 2.0 x 1.0 in.	3.5 x 2.0 x 1.0 in
Battery type	2 x CR 2032 Lithium	2 x CR 2032 Lithium	3 x AlMn Type AAA or Energizer	3 x AlMn Type AAA or Energizer
Protection class	IP 65	IP 20	IP 65	IP 65
Meas. cycle	1 min - 24 h	1 min - 24 h	10 sec - 24 h	10 sec - 24 h
Memory	16,000 readings	16,000 readings	1 million measurement values	1 million measurement values
Software	ComSoft Basic 5 ComSoft Professional 4	ComSoft Basic 5 ComSoft Professional 4	ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11

testo 174T
Order no.: 0572 1560

testo 174H
Order no.: 0572 6560

testo 175 T1
Order no.: 0572 1751

testo 175 T2
Order no.: 0572 1752

testo 175 T3
2-channel temperature data logger with external thermocouple connections (Type T and Type K)

· Parallel monitoring and recording of two temperature measurement points or locations

· Easy monitoring and documentation of differential temperature measuremetns, such as flow/return temps in a heating system

testo 175 H1
2-channel temperature and humidity data logger with external humidity sensor (NTC/capacitive humidity sensor)

· Accurate long term monitoring of temperature and humidity

· External humiidty probe for quickest reaction

· Easy readout of data and transfer to a PC

testo 176 T1
1-channel temperature logger in metal housing with highly accurate internal sensor (RTD)

· Highly accurate temperature measurementt under extreme conditions

· Robust metal housing protects the logger against impact, dirt and moisture

testo 176 T2
2-channel temperature logger with connections for highly accurate external sensor (RTD)

· Highly accurate temperature measurement in the food sector and in laboratories

· Temperature monitoring i.e. in refrigerators with highly accurate RTD probes

testo 176 T3
4-channel temperature data logger in metal housing with external thermocouple connections (Type T, Type K and Type J)

· Parallel temperature measurement up to four measurement sites using thermocouple probes

· Rugged metal housing protects the logger against impact, dirt and moisture

testo 175 T3	testo 175 H1	testo 176 T1	testo 176 T2	testo 176 T3
TC (Types T and K)	NTC/ capacitive humidity sensor	RTD class A	RTD class A	TC (Types T , K and J)
2 x external	2 x internal (stump)	1 x internal	2 x external	4 x external
°C, °F	°C, °F, %RH, td, g/m³	°C, °F	°C, °F	°C, °F
-58 to +752°F (Type T) -58 to +1832°F (Type K)	-4 to 131°F, (-20 to 55°C) -40 to +122 °F$_{td}$ 0 to 100 %RH	-31 to 158°F (-35 to +70°C)	-58 to 752°F, (-50 to +400 °C)	-328 to +752°F (Type T) -319 to +1832°F (Type K) -148 to +1382°F (Type J)
±0.9°F (-58 to +158°F) ±0.7 % of rdg (+158 to +1832 °F)	±2 %RH (2 to 98 %RH) +0.03 %RH/K ±0.7 °F (-4 to +131°F)	±0.4 °F (-31 to +158°F)	±0.4°F (-58 to +392°F) ±0.5°F (392 to +752°F)	±1% of rdg (-328 to -148°F) ±0.5°F (-148 to +158°F) ±0.5% of rdg (+158 to +1832°F)
0.1 °F	0.1 °F, 1 %RH	0.01°F	0.01 °F	0.1 °F
3 years at 15 min. meas. rate	3 years at 15 min. meas. rate	8 years at 15 min. meas. rate	8 years at 15 min. meas. rate	8 years at 15 min. meas. rate
-4 to 131°F, (-20 to +55 °C)	-4 to 131°F, (-35 to +55 °C)	-31 to 158°F, (-35 to +70°C)	-31 to 158°F, (-35 to +70°C)	-4 to 158°F, (-20 to +70°C)
-4 to 131°F, (-35 to +55 °C)	-4 to 131°F, (-35 to +55 °C)	-40 to 195°F, (-40 to +85 °C)	-40 to 195°F, (-40 to +85 °C)	-40 to 195°F, (-40 to +85 °C)
3.5 x 2.0 x 1.0 in.	3.5 x 2.0 x 1.0 in.	4.0 x 2.5 x 1.3 in.	4.0 x 2.5 x 1.3 in.	4.0 x 2.5 x 1.3 in.
3 x AlMn Type AAA or Energizer	3 x AlMn Type AAA or Energizer	1 x Lithium (TLH-5903)	1 x Lithium (TLH-5903)	1 x Lithium (TLH-5903)
IP 65	IP 54	IP 68	IP 65	IP 54
10 sec - 24 h	10 sec - 24 h	1 sec - 24 h	1 sec - 24 h	1 sec - 24 h
1 million measurement values	1 mllion measurement values	2 million measurement values	2 million measurement values	2 million measurement values
ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11
testo 175 T3	**testo 175 H1**	**testo 176 T1**	**testo 176 T2**	**testo 176 T3**
Order no.: 0572 1753	Order no.: 0572 1754	Order no.: 0572 1761	Order no.: 0572 1762	Order no.: 0572 1763

testo 176 T4

4-channel temperature data logger with external connections (Type T, K and J thermocouple)

- Parallel temperature measurement at up to four measurement sites using thermocouple probes
- Easy monitoring and documentation, i.e. of the flow and return temperature of an underfloor heating system at up to four measurement sites simultaneously

testo 176 H1

4-channel temperature and humidity data logger with external sensor connections (NTC/capacitive humidity sensor)

- Parallel temperature and humidity measurement
- External humidity and temperature probes, i.e. for monitoring enviro chambers, storage rooms, etc.
- Easy readout of the data, and transfer to a PC via USB or SD card

testo 176 H2

4-channel temperature and humidity data logger in metal housing with external sensor connections (NTC/capacitive humidity sensor)

- Parallel temperature and humidity measurement with external temperature and humidity probes
- Rugged metal housing protects the logger agains impact, dirt and moisture
- Easy readout of the data, and transfer to a PC via USB or SD card

testo 176 P1

5-channel pressure, temperature and humidity data logger with internal sensor (absolute pressure) and external sensor connections (NTC/capacitive humidity sensor)

- Highly accurate and secure documentation of ambient conditions in a laboratory, enviro chamber, clean room, hospital control areas, etc.
- Internal absolute pressure sensor and connection possibilities for two external humidity probes
- Easy readout of the data, and transfer to a PC via USB or SD card

---

testo 176 T4

TC (Types T , K and J)	
4 x external	
°C, °F	
-328 to 752°F (Type T) -310 to 1832°F (Type K) -148 to +1382°F (Type J)	
±1% of reading (-328 to 212 °F) ±0.5 °F (-148 to +158°F) ±0.5% of rdg. (+158 to +1832 °F)	
0.1 °F	
8 years at 15 min. meas. rate	
-4s to 158°F, (-20 to +70°C)	
-40 to 195°F, (-40 to +85 °C)	
4.0 x 2.5 x 1.3 in.	
1 x Lithium (TLH-5903)	
IP 54	
1 sec - 24 h	
2 million measurement values	
ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	

testo 176 T4

Order no.: 0572 1764

testo 176 H1

NTC/ capacitive humidity sensor	
2 probes, 4 external channels	
°C, °F, %RH, td, g/m³, WB	
-4 to 158°F / -20 to +70 °C -40 to 158°F / -40 to +70 °C$_{td}$ 0 to 100 %RH	
±0.4°F (-4 to +158°F) ±0.7°F (rest of measuring range)	
0.1 °F, 0.1 %RH	
8 years at 15 min. meas. rate	
-4 to 158°F, (-20 to +70°C)	
-40 to 195°F, (-40 to +85°C)	
4.0 x 2.5 x 1.3 in.	
1 x Lithium (TLH-5903)	
IP 65	
1 sec - 24 h	
2 million measurement values	
ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	

testo 176 H1

Order no.: 0572 1765

testo 176 H2

NTC/ capacitive humidity sensor	
2 probes, 4 external channels	
°C, °F, %rF, %RH, td, g/m³, WB	
-4 to 158°F / -20 to +70°C -40 to 158°F / -40 to +70°C$_{td}$ 0 to 100 %RH	
±0.4°F (-4 to +158°F) ±0.7°F (remaining meas. range)	
0.1 °F, 0.1 %RH	
8 years at 15 min. meas. rate	
-4 to 158°F, (-20 to +70°C)	
-40 to 195°F, (-40 to +85 °C)	
4.0 x 2.5 x 1.3 in.	
1 x Lithium (TLH-5903)	
IP 65	
1 sec - 24 h	
2 million measurement values	
ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	

testo 176 H2

Order no.: 0572 1766

testo 176 P1

NTC/ capacitive humidity sensor/ absolute pressure sensor	
1 x internal, 2 probes, 4 external channels	
°C , °F, %rF, %RH, td, g/m³, hPa, mbar, in Hg, in H20, psi	
-4 to 158°F / -20 to +70°C -40 to 158°F / -40 to +70°C$_{td}$ 0 to 100 %RH / 8.7 psi to 15.9 psi / 600mbar to 1100 mbar	
±0.4°F (-4 to +158°F ±0.7°F (remaining measuring range) ±3 mbar (32 to 122°F)	
0.1°F, 0.1 %RH, 1 mbar	
8 years at 15 min. meas. rate	
-4 to 158°F, (-20 to +70°C)	
-40 to 195°F, (-40 to +85 °C)	
4.0 x 2.5 x 1.3 in.	
1 x Lithium (TLH-5903)	
IP 54	
1 sec - 24 h	
2 million measurement values	
ComSoft Basic 5 ComSoft Professional 4 ComSoft CFR 21 Part 11	

testo 176 P2

Order no.: 0572 1767

External probes –
for 175 and 176 Series Loggers

NTC (175 T1, 175 T2)	Probe	Meas. range	Accuracy	Probe resp. time	Part no.
Stub probe, IP 54		-4 to 158°F -20 to 70°C	±0.4°F (-4 to +104 °F) ±0.7°F (+104 to +158°F)	15 sec	0628 7510
Stationary probe with aluminum sleeve, IP 65		-22 to 194°F -22 to 90°C	±0.4 °F (32 to +158°F) ±0.9°F (remaining meas. range)	190 sec	0628 7503*
Stainless steel NTC food probe (IP 65) with PUR cable		-58 to 194 °F 50 to +150°C***	±0.5% of rdg (+212 to +302°F) ±0.4°F (-13 to +167°F) ±0.7°F (rem. meas. range)	8 sec	0613 2211*
Accurate immersion/penetration probe Cable length 15 ft. /1.5 m, IP 67		-31 to 176°F -35 to +80°C	±0.4°F (-13 to +167°F) ±0.7°F (remaining meas. range)	5 sec	0628 0006*
💧 Waterproof NTC immersion/penetration probe		-58 to 302°F -50 to +150°C	±0.5% of reading (+212 to +302°F) ±0.4°F (-13 to +167°F) ±0.7°F (rem. meas. range)	10 sec	0613 1212

Thermocouple (175 T3, 176 T3/T4)

	Probe	Meas. range	Accuracy	Probe resp. time	Part no.
Stationary probe with stainless steel sleeve, TC Type K		-58 to 401°F -50 to +205°C	Class 2 ****	20 sec	0628 7533
Pipe wrap probe with Velcro tape for temperature measurements on pipes diameter to max. 44.7 in., Tmax. +248°F, TC Type K		-58 to 248°F -50 to +120°C	Class 1****	90 sec	0628 0020
Pipe wrap probe for pipe diameters 0.2 to 2.5 in. , with interchangeable measuring head, measuring range briefly up to +536 °F, TC type K		-76 to 266°F -60 to +130°C	Class 2****	5 sec	0602 4592
Magnet probe, adhesion approx. 10 N, with magnets, for higher temperatures, for measurements on metal surfaces, TC type K		-58 to 752°F -50 to +400°C	Class 2****		0602 4892
Thermocouple with TC plug flexible, length 59 in./1500 mm fiberglass, TC Type K		-58 to 752°F -50 to +400°C	Class 2****	5 sec	0602 0645
Superfast needle probe for monitoring cooking times in ovens, TC Type T		-58 to 482°F -50 to +250°C	± 0.4°F (-4 to +70 °C) Class 1 (remaining measuring range)****	2 sec	0628 0030

RTD

	Probe	Meas. range	Accuracy	Probe resp. time	Part no.
💧 Rugged RTD Stainless steel food probe (IP 65)		-58 to 752°F -50 to +400°C	Class A (-58 to +572 °F), Class B (rem. meas. range)	10 sec	0609 2272*
💧 Rugged, waterproof RTD immersion/penetration probe		-58 to 752°F -50 to +400°C	Class A (-58 to +572 °F), Class B (rem. meas. range)	12 sec	0609 1273*
Laboratory probe RTD, glass-coated, Glass tube (Duran 50) interchangeable, resistant to corrosive media		-58 to 752°F -50 to +400°C	Class A (-58 to +572 °F), Class B (rem. meas. range)	45 sec 12 sec **	0609 7072*

Humidity

	Probe	Meas. range	Accuracy	Probe resp. time	Part no.
💧 Humidity / temperature probe 0.47 in		-4 to 158°F -20 to +70 °C, 0 to +100 %RH	±0.5°F, ±2 %RH (2 to 98 %RH)		0572 6172
💧 Humidity / temperature probe 0.16 in		32 to 104°F 0 to +40°C, 0 to +100 %RH	±0.5°F, ±2 %RH (2 to 98 %RH)		0572 6174

Complete overview of probes:
www.testo.com/dataloggers

💧 The specified protection class for data loggers is fulfilled with these probes
* Probe tested according to EN 12830 for suitability for the areas of transport and storage
** without protective glass
*** Long-term measuring range to +257°F, briefly to +302°F or +284°F (2 minutes)
**** Acc. to norm 60584-2, the accuracy of Class 1 refers to -40 to +1832°F (Type K), Class 2 to -40 to +2192°F (Type K), Class 3 to -328 to +104 °F (Type K)

Ordering information

Description		Part no.
Data loggers		
testo 174T	1-channel temperature logger with internal sensor (NTC)	0572 1560
testo 174H	2-channel temperature and humidity data logger with internal sensor (NTC/capacitive humidity sensor)	0572 6560
testo 175 T1	1-channel temperature logger with internal sensor (NTC)	0572 1751
testo 175 T2	2-channel temperature data logger with internal (NTC), and external sensor connection (NTC)	0572 1752
testo 175 T3	2-channel temperature data logger with external sensor connection (TC Type T and Type K)	0572 1753
testo 175 H1	2-channel temperature and humidity data logger with external sensor (NTC/capacitive humidity sensor)	0572 1754
testo 176 T1	1-channel temperature logger in metal housing with highly accurate internal sensor (RTD)	0572 1761
testo 176 T2	2-channel temperature logger with connections for highly accurate external sensor (RTD)	0572 1762
testo 176 T3	4-channel temperature data logger in metal housing with external sensor connection (TC Type T, Type K and Type J)	0572 1763
testo 176 T4	4-channel temperature data logger with external sensor connections (TC Type T, Type K and Type J)	0572 1764
testo 176 H1	4-channel temperature and humidity data logger with external sensor connections (NTC/capacitive humidity sensor)	0572 1765
testo 176 H2	4-channel temperature and humidity data logger in metal housing with external sensor connections (NTC/capacitive humidity sensor)	0572 1766
testo 176 P1	5-channel pressure, temperature and humidity data logger with internal sensor (absolute pressure) and external sensor connections (NTC/capacitive humidity sensor)	0572 1767
Accessories		
testo 174D	USB interface for programming and reading out the loggers testo 174T and testo 174H	0572 0500
USB cable	Cable for connecting the data loggers testo 175 and testo 176 with a PC, mini USB to USB	0449 0047
SD card	SD card for collecting the measurement data from the data loggers testo 175 and testo 176, application range to -4 °F	0554 1700
Wall holder	Wall holder (black) with padlock for testo 175	0554 1702
Wall holder	Wall holder (black) with padlock for testo 176	0554 1703
Battery for testo 174	Lithium button battery CR 2032 for testo 174T and testo 174H (please order two batteries per logger)	0515 0009
Batteries for testo 175	Application range to -14 °F (3 x Energizer L92 microcells AAA)	0554 0042
Battery for testo 176	1 x TLH-5903 AA cell	0515 1760
.		
Software		
ComSoft Basic 5	CD ComSoft Basic 5	0572 0580
ComSoft Professional 4	Pro software incl. data archiving	0554 1704
ComSoft CFR 21 Part 11	Software for requirements according to CFR 21 Part 11 for testo data loggers	0554 1705
Calibration certificates		
ISO temperature calibration certificate; temperature probe; calibration points: -0.4 °F, 32 °F, +104 °F; per channel/instrument		0520 0153
NIST temperature calibration certificate; temperature probe; calibration points: -0.4 °F, 32 °F, +140 °F; per channel/instrument		400520 1901
ISO humidity calibration certificate; humidity probe; calibration points: 11.3 %RH and 75.3 %RH at +25 °C/+77 °F; per channel/instrument		0520 0076
NIST humidity calibration certificate; humidity probe; calibration points: 11.3 %RH and 75.3 %RH at +25 °C/+77 °F; per channel/instrument		400520 2601
ISO calibration certificate absolute pressure, pressure sensor, 5 calibration points over measuring range		0520 0125
NIST calibration certificate absolute pressure, pressure sensor, 11 calibration points over measuring range		400520 7501