Flue Gas

Natural gas

List | Graphics | Corestream

0.0001 Ratio

5.1 O_2 %

10 CO ppm

8.99 CO_2 %

109.9 FT °C

testo 300

testo

Testo for heating engineers

Helping you work quicker and efficiently
with smart technology

Lindab®

Testo: global leader in flue gas analysis

Testo is the global leader in flue gas analysis. The broad range of analysers covers entry level through to domestic and commercial analysers and even up to MCERTS-approved emissions analysers for environmental compliance. This breadth of experience has resulted in a range which is unparalleled in terms of accuracy, durability and usability.

Testo understands that every engineer and every boiler have unique requirements from a flue gas analyser. The information in this brochure should help you to choose the flue gas analyser to fit your needs. Before you choose, here are a few important considerations.

Testo flue gas analysers all conform to the required UK standard, which is EN 50379 (2012).

All Testo flue gas analysers use O_2 and CO sensors to sample combustion gases and then calculate the corresponding level of CO_2 using the CO_2max coefficient of the fuel type. This creates a more reliable measurement, especially in the event of increased CO_2 levels being blended into future gas supplies.

Combined with the measured CO value, the analysers all display a calculated $CO:CO_2$ combustion ratio to four decimal places in accordance with EN 50379.

Furthermore, in accordance with TB157 our flue gas analyser range which uses an 'indirect' calculation of CO2 values are suitable for use with natural gas blended with hydrogen up to 20% volume.

Indispensable instruments for heating engineers

Gas engineers depend on a wide range of instruments to carry out their work. Testo provide a complete range of instruments for all these measurement requirements.

Testo instruments are designed to ensure exceptional ease of use, accuracy and integration with other Testo instruments. Our instruments are built to last and provide years of reliable use, making them excellent value for money.

The Testo instrument range includes:

- Gas leak, ambient CO and CO_2 detection
- Smart Probes: wireless probes operated via Smartphone or tablet
- Thermometers
- Anemometers
- Pressure meters
- Electrical measurement
- Thermal imaging cameras
- Data loggers

Fast, simple and reliable flue gas analyser service

We understand that you need simple and reliable flue gas analyser service, completed as quickly as possible. Our flue gas analyser service plan offers our lowest ever cost of ownership over a 5 year period.

Instruments serviced by Testo are typically turned around in just 2 working days, or you can opt for the optional 24 Hour Express service.

Your advantages with Testo

Largest portfolio:
With Testo, you find all the measuring instruments you need for installation, servicing and maintenance of heating systems.

Worry-free working:
With Testo, you don't just get the right measuring instruments, but also services such as regular maintenance and calibration from one provider.

Innovative technology:
With measurement technology from testo you can leave your competitors behind you – and all at an attractive price.

Testo flue gas analysers overview

	testo 310	testo 327-1	testo 320B
Fuels available	Gas, Heating Oils, solid fuels	Gas, Heating Oils, solid fuels	Gas, Heating Oils, solid fuels
Measurement sensors	O_2, CO	O_2, CO	O_2, CO
Measuring ranges	CO: 0 to 4000 ppm CO_2: 0 to CO_2 max	CO: 0 to 4000 ppm CO_2: 0 to CO_2 max	CO: 0 to 4000 ppm CO_2: 0 to CO_2 max
CO measurement (H_2-compensated)	☐	☐	☐
Long-life CO sensor with up to 6 years' service life	☐	☐	☐
Gas pressure testing	✅	✅	✅
Draught measurement	Separate from flue gas measurement	Parallel to flue gas measurement	Parallel to flue gas measurement
Flow/return temperature measurement	☐	✅	✅
Error and sensor diagnosis	✅	✅	✅
Zeroing of analyser in flue possible	☐	☐	☐
Create digital measurement protocol directly in the App and send via email	☐	☐	☐
Sensor Warranty	2 years	3 years	3 years
Instrument Waranty	2 years	2 years	2 years
Display	2-line LCD display	4-line alphanumeric LCD display	Colour display
Memory	☐	☐	20 measurement protocols
Software/App	☐	☐	Export values to Excel file

	testo 300	testo 300LL
Fuels available	Gas, Heating Oils, solid fuels	Gas, Heating Oils, solid fuels
Measurement sensors	O_2, CO NO optional	O_2, CO H_2-compensated, NO optional
Measuring ranges	CO: 0 to 4,000 ppm CO_2: 0 to CO_2 max	CO H_2-compensated: 0 to 30,000 ppm (via fresh air dilution)
CO measurement (H_2-compensated)	☐	✅
Long-life CO sensor with up to 6 years' service life	☐	✅
Gas pressure testing	✅	✅
Draught measurement	Parallel to flue gas measurement	Parallel to flue gas measurement
Flow/return temperature measurement	✅	✅
Error and sensor diagnosis	✅	✅
Zeroing of analyser in flue possible	☐	✅
Create digital measurement protocol directly in the App and send via email	✅	✅
Sensor Waranty	3 years	4 years
Instrument Waranty	2 years (display only 1 year)	2 years (display only 1 year)
Display	5" HD touchscreen display	5" HD touchscreen display
Memory	1 million measured values	1 million measured values
Software/App	testo EasyHeat PC software	testo EasyHeat PC software

Truly smart:
The testo 300 flue gas analyser.

Providing reliably accurate results is not enough. A contemporary flue gas analyser also makes all work steps as easy as possible for you, both before and after the measurement, as well as in terms of the measurement itself. The user-friendly testo 300 was developed with precisely this objective in mind. It is not just the fruit of decades of experience in measuring technology. With smart-touch operation, robust construction and e-mailing of reports, the testo 300 will quickly become your indispensable companion for all measuring tasks involving heating.

Customers/measuring points

Integrated address book with details of the relevant heating system (e.g. manufacturer, system type, system name, serial no., fuel, etc.).

Intuitive measurement menus

Clearly structured and explicit menus for all applications involving heating systems are already stored in the testo 300. This allows you to do your jobs even more efficiently.

Professional documentation

Create measurement protocols with all the information about readings, customers and heating systems directly on site, add comments to them, have the protocols confirmed by the customer's signature and send the protocols. You can also store your company logo. All PDF reports with all the important information are also saved in the instrument, so that they are always to hand.

Operation via smart-touch
The smart-touch display responds immediately without any delay. That allows intuitive operation – just as easy as on your smartphone

Simple reporting
The testo 300 allows fast reporting via pdf protocol, which can then be sent using Bluetooth transfer* to external device or direct to client via email.
*Bluetooth file transfer not possible with iOS device

Keep an eye on all the measuring values
You can see all the system's parameters straight away on the large 5″ HD display.
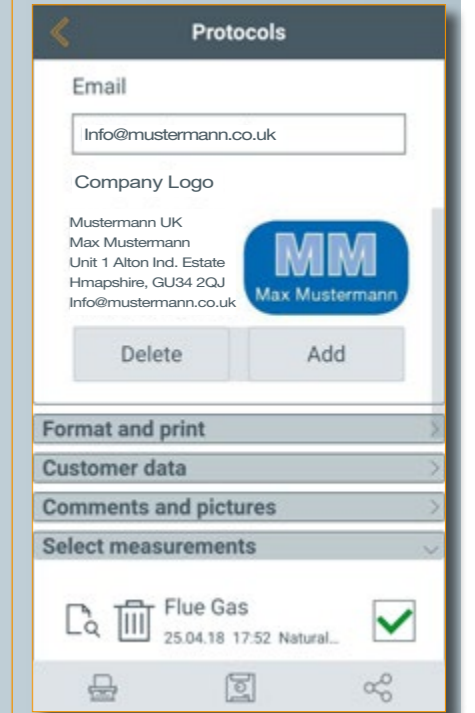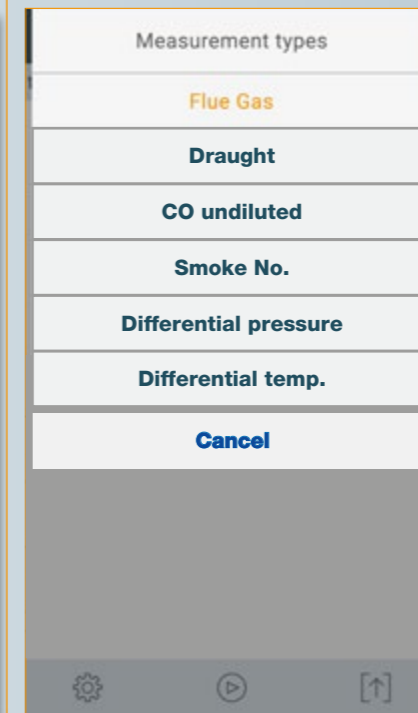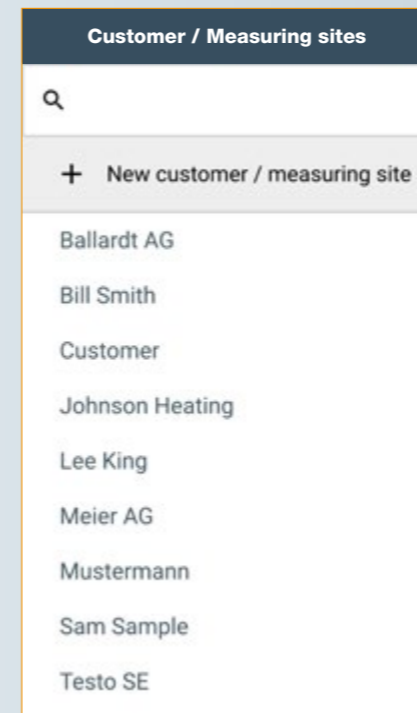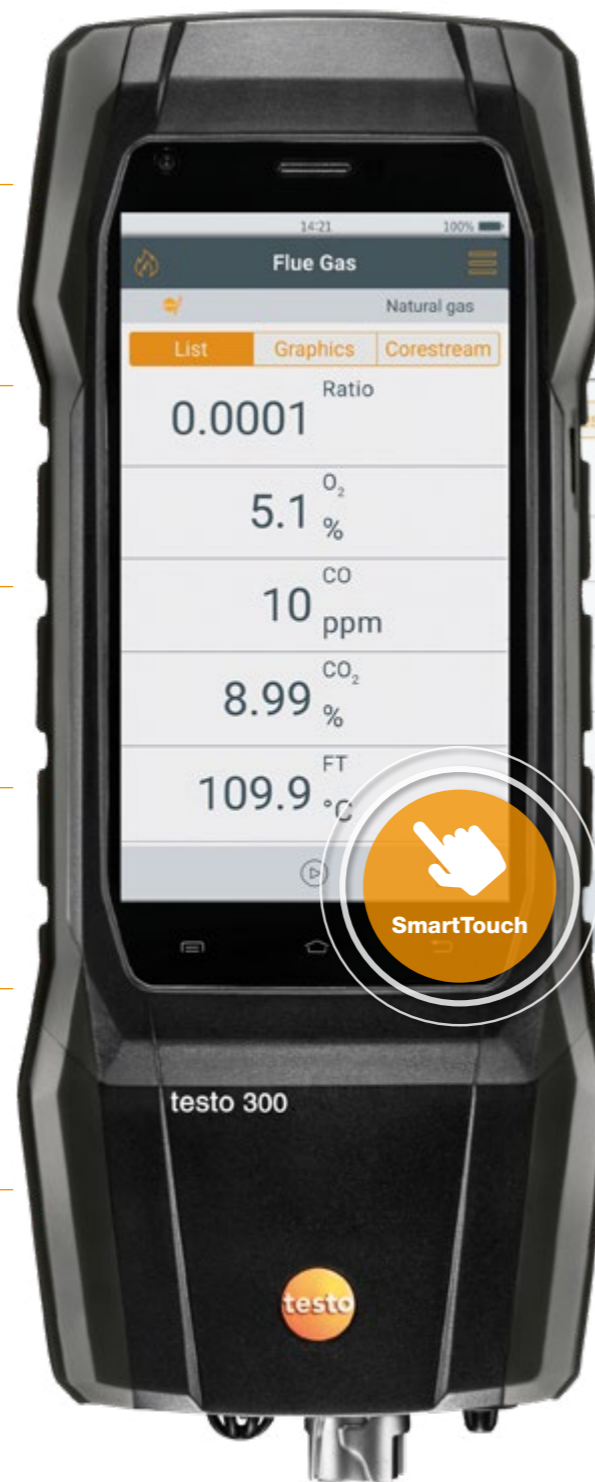
Get the result faster
Clearly structured menus for all relevant measurements are already stored in the measuring instrument and guide you efficiently through the application.

Ready to use straight away
No more waiting time. In standby mode, the testo 300 is ready to measure at the touch of a button.

Completely worry-free
The testo 300 has quality sensor technology with up to 6 years' service life, measures high CO values up to 30,000 ppm and is future-proofed thanks to NO preparation. This model is also ready for 20% H2

testo 300 smart flue gas analyser

The smart testo 300 flue gas analyser is fully operated via the 5" HD smart touch display, so you can see all the measuring values straight away without scrolling. The scratch resistant screen is embedded in a robust plastic housing which remains reliable even in tough day-to-day working conditions. Menus for the most important measurements are already stored in the testo 300

and reliably guide you through the relevant application. The testo 300 flue gas analyser isn't hampered with slow waiting times or start-up phases, it is immediately ready to go at the touch of a button in standby mode. Documentation is handled just as quickly – reports can be created and sent directly on site.

Technical Data

Temperature	-40 to 1,200 °C
Draught	-9.99 to +40 mbar
Pressure	-100 to +200 mbar
O_2	0 to 21 Vol. %
CO	0 to 4,000 ppm
CO_2	0 to CO_2 max.

Large scratch-resistant 5" HD display with smart-touch operation and replaceable protective film

Stored, intuitive menus for all relevant measurements

Ready to measure at the touch of a button in standby mode

4 strong magnets with rubber coating for material friendly mounting

Emailing of reports directly on site, with integrated customer address book

Why not add a printer or NOx Upgrade?

testo Bluetooth IRDA Printer
Fast documentation for the testo 300 and testo 300LL. Includes 1 roll of thermal paper and batteries

NO Sensor Add-on for Handset
Allows testo 300 FGA unit to measure calculated NOx value.

testo 300 Handset Only
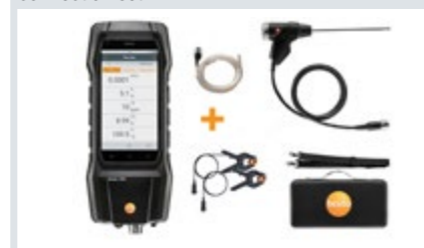testo 300 flue gas analyser O_2, CO 4,000 ppm. Handset only.

testo 300 Standard Kit
testo 300 flue gas analyser O_2, CO 4,000 ppm, compact flue gas probe (180mm, Ø 6 mm) and soft transport case

testo 300 Advanced Kit
testo 300 flue gas analyser O_2, CO 4,000 ppm, compact flue gas probe (180mm, Ø 6 mm), soft transport case, pipe clamp probes for differential temperature and pressure hose connection set

Ratio / O_2 / CO / CO_2 / mbar / °C / CO amb / Δ P / 20% H_2

testo 300LL smart flue gas analyser

Designed for commercial boiler installation and servicing

Fitted with 'longlife' cells and a 4 year warranty

CO sensor with H_2 compensation. 0 to 30,000 ppm with automatic fresh air dilution

Supplied with modular style flue gas probe 8mm diameter x 180mm long

Emailing of reports directly on site, with integrated customer address book

Optional NO sensor can be fitted to allow calculated NOx measurement

Technical Data

Temperature	-40 to 1,200 °C
Draught	-9.99 to +40 mbar
Pressure	0 to +300 mbar
O_2	0 to 21 Vol. %
CO H_2 compensated	0 to 30,000 ppm via automatic dilution
CO_2	0 to CO_2 max.

testo 300LL Standard Kit
testo 300 flue gas analyser O_2, CO H_2, 30,000 ppm, NO sensor - can be retrofitted, compact flue gas probe (180mm, Ø 8 mm), testo EasyHeat PC software and instrument case

testo 300LL Printer Kit
testo 300 flue gas analyser O_2, CO H_2, 30,000 ppm, NO sensor - can be retrofitted, compact flue gas probe (180mm, Ø 8 mm), testo EasyHeat PC software and instrument case, plus testo printer

testo 300LL NOx measurement kit

For engineers who need to measure and record NOx values within the combustion process on domestic or light commercial boilers, Testo have introduced specific measurement kits based around the testo 300 flue gas analyser unit.

This model gives a calculated NOx measurement using the onboard NO sensor, and a preset NO_2 percentage.

testo 300LL NOx Kit
testo 300LL with O_2 sensor, H_2 compensated CO sensor, NO, mains unit, modular flue gas probe (180 mm, Ø 8 mm), spare dirt filters, testo Bluetooth printer, instrument hard case

testo 320B flue gas analyser

The testo 320 is a high-quality measuring instrument for efficient flue gas analysis. Its wide measuring range makes it a reliable partner for eliminating malfunctions and faults, monitoring legal limit values or for daily routine work servicing heating systems.

The numerous measurement menus of the testo 320 are clearly structured. Standardised menu procedures, which are stored in the instrument, simplify operation. The high resolution display allows a detailed presentation of the measurement procedures and is easily legible even under the worst conditions.

Colour display and simple menu operation

Test menus for flue gas, timed CO build up, let by and tightness, differential temperature, draught and pressure

Independently tested to EN50379. Meets the requirements of BS7967 and Gas Safe TB143

Displays ratio, CO, O_2, CO_2, flue & ambient temperature, excess air and gross and net efficiency

For use with all common fuel types

3 year instrument and sensor warranty

Automatic CO sensor protection shuts off pump

Pipe clamp probes for quicker and easier use

Durable soft case with shoulder strap

Ratio

O_2

CO_2

CO

mbar

°C

CO amb

20% H_2

Technical Data

Temperature	-40 to +1,200 °C
Draught	-9.99 to +40 mbar
Pressure	0 to +300 mbar
O_2	0 to 21 Vol. %
CO	0 to 4,000 ppm
CO_2	0 to CO_2 max

testo 320B Standard Kit

testo 320B with O_2 and CO sensors, soft transport case, batteryand USB mains unit, flue gas probe (180 mm, Ø 6 mm)

testo 320B Advanced Kit

testo 320B with O_2 and CO sensors, soft transport case, battery and USB mains unit, flue gas probe (180 mm, Ø 6 mm), plus differential pressure kit, differential temperature kit and testo IR printer

testo 327-1 flue gas analyser

The testo 327 measures combustion efficiency, °C, O_2, CO_2, CO and flue draught. Ambient CO measurement is also possible. The powerful LED backlighting in the 4-line display guarantees good legibility even in unfavourable lighting. The instrument stands out thanks to its ergonomic housing design, as well as its durability.

The single integrated flue gas and thermocouple connector of the testo 327 ensures a fast, gas tight connection to the sample hose every time. The testo 327 also has automatic pump protection as standard to help protect the CO measuring cell from damage due to over-range (4,000ppm range capability).

Fast and robust probe connection

7 selectable fuels

Timed Ambient CO measurement

Tightness and let-by tests

Flow and return temperatures (using additional probes)

Easy IR printout

4,000 ppm CO sensor protected by automatic pump shut-off

Tested to EN50379, conforms to BS7967 & Gas Safe TB143

Pipe clamp probes for quicker and easier use
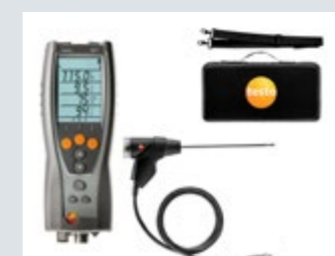
Durable soft case with shoulder strap

Ratio

O_2

CO_2

CO

mbar

°C

CO amb

20% H_2

Technical Data

Temperature	-40 to +600 °C
Draught	±40 mbar
Efficiency measurement (Eta)	0 to 120%
Flue gas loss (qA)	0 to 99.9%
O_2 measurement	0 to 21 Vol. %
CO_2 measurement	0 to CO_2 max
CO measurement	0 to 4000 ppm
Pressure	-200 to +200 mbar

testo 327 Standard Kit

testo 327 flue gas analyser and calibration protocol, rechargeable battery, flue gas probe (180mm x 6mm diameter), soft transport case

testo 327 Advanced Kit

testo 327 flue gas analyser and calibration protocol, rechargeable battery, flue gas pro (180mm x 6mm diameter), pressu hose adapter kit, differential temperature kit, testo infrared prin (0554 0549), soft transport case

testo 310 flue gas analyser

The testo 310 flue gas analyser combines simple functions with a high level of measurement accuracy and is perfectly suited to all basic measurements on a heating system. Long battery lifetime of up to ten hours, guarantees high availability. Its easy handling and compact design make the testo 310 a robust tool for day-to-day work – even when things get rough.

Clear reports can be created as required on site thanks to the infrared interface printer. The current measurement value can be printed out from all measurement menus, either during or after the measurement. The testo 310 offers all advantages of electronic flue gas measurement in high quality at a perfect cost/benefit ratio.

Robust design for daily use	
Battery lifetime up to 10 hours	
Integrated measurement menus: flue gas, draught, ambient CO and pressure	
Fast sensor zeroing in only 30 seconds	
Illuminated display	
Documentation of measurement results via printer with infrared interface	
Integral flue gas probe with fixed cable	

Technical Data

Temperature	0 to +400 °C
Draught	-20 to +20 mbar
Pressure	-40 to +40 mbar
O_2	0 to 21 Vol. %
CO	0 to 4000 ppm
CO_2	0 to CO_2 max
Ambient CO	0 to 4000 ppm

Ratio

O_2

CO_2

CO

mbar

°C

CO amb

20% H_2

testo 310 Standard Kit

testo 310 analyser, hard case, rechargeable battery & USB mains charger, silicone hose for pressure, particle filters x 5, calibration protocol, probe 180mm with cone, spare pressure plugs

testo 310 Printer Kit

testo 310 analyser, hard case, rechargeable battery & USB mains charger, silicone hose for pressure, particle filters x 5, calibration protocol, probe 180mm with cone, spare pressure plugs

testo 340 industrial emissions analyser

The compact, easy-to-operate testo 340 emissions analyser is the right tool for many different emission measurements. The compact design and the reliable technology make it the ideal measuring instrument for commissioning, service and maintenance work and in test measurements on industrial burners, stationary industrial engines, gas turbines and thermal processes.

The unique measuring range extension allows unrestricted measurements to be carried out even at high gas concentrations. The testo 340 is equipped with an O_2 sensor as standard. Three further gas sensors can be configured individually, in order to be able to adapt the instrument optimally to the respective measurement task. The instrument can also be operated remotely from your Android Smartphone or tablet using the free App.

Measuring range extension for unrestricted measurement at high gas concentrations up to 5 x sensor range	
Flue gas analysis with up to 4 gas sensors – freely configurable	
Large selection of probes	
Bluetooth interface	
Convenient measurement data management	
TÜV-tested / EN norm	

Technical Data

O_2 measurement	0 to 25 vol.%
CO measurement (H_2-compensated)	0 to 10,000 ppm
CO_{low} measurement (H_2-compensated)	0 to 500 ppm
NO measurement	0 to 4,000 ppm
NO_{low} measurement	0 to 300 ppm
NO_2 measurement	0 to 500 ppm
SO_2 measurement	0 to 5,000 ppm
Temperature measurement	-40 to +1,200 °C
Draught measurement	-40 to +40 hPa
Differential pressure measurement	-200 to 200 hPa
Absolute pressure measurement	600 to +1,150 hPa
Derived parameters:	
Efficiency	0 to 120%
Flue gas loss	0 to 99.9%
Flue gas dewpoint	0 to 99.9 °C
CO_2 determination (calculation from O_2)	0 to CO_2 max.

O_2

CO

CO_{low}

NO

NO_{low}

NO_2

SO_2

20% H_2

testo Combustion App
Free download for Android

testo 340 Combustion Kit

testo 340 analyser unit with O_2, CO, NO cells and Bluetooth module fitted, testo 340 carry case, switching power supply 6, 3VDC 2A, carry strap

testo 340 NO_2 / NOx Kit

testo 340 analyser unit with O_2, CO, NO, NO_2 cells and Bluetooth module fitted, testo 340 carry case, switching power supply 6, 3VDC 2A, carry strap

testo 340 SO_2 Kit

testo 340 analyser unit with O_2, CO, NO, SO_2 cells and Bluetooth module fitted, testo 340 carry case, switching power supply 6, 3VDC 2A, carry strap

Accessories for flue gas analysers

	Description
	Testo Bluetooth IRDA Printer for testo 300 Fast documentation for the testo 300 and testo 300LL. Includes 1 roll of thermal paper and batteries
	Testo IRDA Printer This printer offers a faster print out of readings via IRDA interface and includes1 roll of thermal paper and batteries.(For use with testo 310, 320B, 327, 330, 340 and 350)
	Testo IR Printer Infrared printer, includes 1 roll of thermal paper and batteries. (For use with testo 310 only)
	Thermal Printer Rolls Pack of six thermal printer rolls with 10 year legibility. (For models: 0554 3100, 0554 0549, 0554 0553)
	Differential Pressure Set Hose connection set for gas pressure measurement. For use with testo 327, testo 320B, testo 300 and testo 330
	Differential Temperature Set 2 x clamp probes and thermocouple adaptor for differential temperature testing. For use with testo 327, 320, 320B & 330.
	CPA1 Set BS7967 probe set - includes 3 x probes and modular handle
	Clamp Probe with NTC temperature sensor - for measurements on pipes (Ø 6-35 mm. For use with testo 300 only
	Clamp Probe with NTC temperature sensor - for use with testo 327 and 320B
	Testo Smoke Pump Smoke tester including smoke paper sheet, smoke chart and cone
	Spare Particle Filters for compact style probe, 10 off
	Spare Particle Filters for compact style probe, 10 off
	Testo Soft Transport Bag Soft bag with shoulder strap suitable for all Testo flue gas analysers
	Testo Hard Transport Case Suitable for all Testo flue gas analysers and accessories

Gas leak detectors

Gas leak detector
testo 317-2

- Shows gas concentration in visual bar display
- Increasing alarm sounds with increasing gas concentration
- Continuous sound if threshold is exceeded

testo 317-2

testo 317-2 gas leak detector, case with belt clip and wrist strap and batteries

Technical Data	Methane (CH$_4$)	Propane (C$_3$H$_8$)
Range	0 to 20000 ppm	0 to 10000 ppm
Lower response threshold	100 ppm	50 ppm
1st alarm limit	10,000 ppm (20% LEL)	5,000 ppm (20% LEL)

Gas leak detector
testo 316-1

- Detects even the smallest leaks. Monitors Methane
- Flexible measurement probe for hard to reach locations
- Optical and audible alarms when limits are exceeded

testo 316-1

testo 316-1 gas leak detector with flexible probe and battery

Technical Data	
Measuring range	0 to 10,000 ppm CH4
1st alarm limit	from 200 ppm CH4 (LED yellow)
2nd alarm limit	from 10,000 ppm CH4 (LED red)

Multi gas leak detector testo 316-2

- Detects propane, methane and hydrogen
- 18-step bar for displaying gas concentration and alarm
- Flexible gooseneck sensor

testo 316-2

testo 316-2 gas leak detector with flexible measurement probe, mains charger, earphones

Technical Data	Methane (CH$_4$)	Propane (C$_3$H$_8$)	Leak detection (H$_2$)
Range	10 ppm to 4.0 Vol.%	10 ppm to 1.9 Vol.%	10 ppm to 4.0 Vol.%
Lower response threshold	10 ppm	10 ppm	10 ppm
1st alarm limit	200 ppm	100 ppm	200 ppm

sales@lindab.co.uk

Ambient CO and CO$_2$ monitoring

Ambient CO monitor
testo 317-3

The compact testo 317-3 CO meter is designed to provide you with a quick and reliable means of testing the surrounding air for carbon monoxide.

- Detects the presence of dangerous levels of ambient CO
- 3 year warranty on CO sensor
- Visual and audible alarm. Adjustable alarm threshold

testo 317-3

testo 317-3 CO monitor, carrying case with belt clip, headphones, wrist strap, sampler and calibration protocol

Technical Data	
Measuring range	0 to +1,999 ppm
Accuracy	±3 ppm (0 to +29 ppm), ±10 ppm (+30 to +99 ppm), ±10 % (+100 ppm)
Resolution	1 ppm

Ambient CO/CO$_2$ measuring instrument testo 315-3

The testo 315-3 offers a highly accurate electrochemical sensor for CO measurement and a shock-resistant infrared CO$_2$ sensor.

- Parallel measurement of CO and CO$_2$ in ambient air according to EN 50543 for testing in commercial kitchens
- Convenient, easy handling
- Data printout on site using optional IR printer unit
- Optional temperature/humidity module

testo 315-3

testo 315-3 ambient CO/CO$_2$ measuring instrument, including USB mains unit and cable

Technical Data	CO sensor	CO$_2$ sensor	Temp/humidity module (optional)
Range	0 to 100 ppm	0 to 10.000 ppm	+5 to +95 %RH, -10 to +60 °C
Accuracy	±3 ppm (0 to 20 ppm) ±5 ppm (>20 ppm)	±300 ppm (0 to 4.000 ppm) ±8% of m.v. (4.000 to 6.000 ppm) ±500 ppm (6.000 to 10.000 ppm)	±2.5 %RH (5 to 95 %RH) ±0.5 °C (±1 Digit)
Resolution	0.5 ppm	10 ppm	0.1 %RH 0.1 °C

Gas pressure

Differential pressure meter
testo 510

The compact testo 510 is suitable for pressure testing on gas pipework (tightness & let-by). Also flow measurements in ventilation ducts using a Pitot tube. The testo 510 comes with a silicone connection hose and other useful accessories.

- Differential pressure measurement from 0 to 100 hPa
- Flow measurement possible with optional Pitot tube
- 10 units to choose from; Pa, hPa, mbar, mmH2O, mmHg, inH2O, inHg, psi, m/s, fpm

Technical Data	
Measuring range	0 to 100 mbar
Accuracy	±0.03 mbar (0 to 0.30 mbar) ±0.05 mbar (0.31 to 1.00 mbar) ±(0.1 mbar + 1.5 % of mv) (1.01 to 100 mbar)
Resolution	0.01 mbar

testo 510

testo 510 differential pressure meter, protection cap, belt holder, 2 x connection hoses, wrist strap, calibration protocol

Bluetooth differential pressure Smart Probe testo 510i

the testo 510i differential pressure measuring instrument with smartphone operation for pressure testing on gas pipework (tightness & let-by). Readings can be viewed conveniently on your smartphone/tablet via the testo Smart Probes App and emailed directly.

- Measurement of gas flow and static pressure
- Measurement menu for pressure drop test
- Simple configuration and determination of volume flow

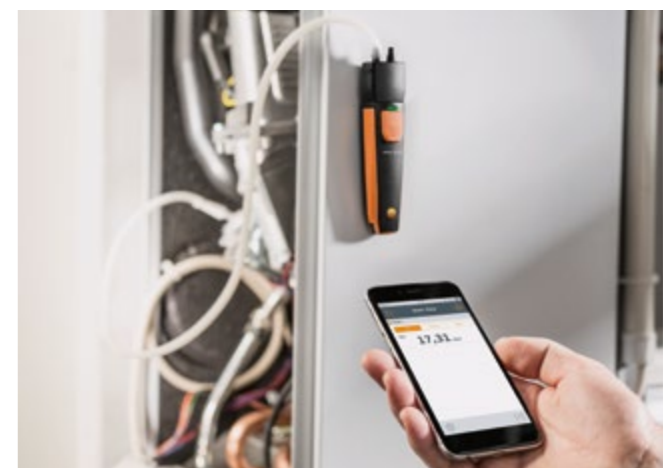| Technical Data	
Measuring range	-150 to +150 mbar
Accuracy	±0.05 mbar (0 to +1 mbar) ±(0.2 mbar + 1.5 % of mv) (+1 to +150 mbar)
Resolution	0.01 mbar

testo 510i

testo 510i differential pressure measuring instrument with smartphone operation, including hose set (Ø 4 mm and 5 mm) with adapter, batteries and calibration protocol

*compatible with testo Smart App, for details refer to p.18 & 19

testo Smart Probes: compact Bluetooth probes for heating systems

Measure temperature, pressure or humidity more easily and more productively than ever before with the testo Smart Probes - handy measuring tools that can be operated by your smartphone/tablet via the testo Smart App.

The Testo Smart Probes transmit readings via Bluetooth to the testo Smart App on your smartphone/tablet. You can then use this to analyse and document the data, and to send them as an email report directly on site.

testo Smart App:
Download now for iOS or Android free of charge:

GET IT ON Google Play
Download on the App Store

testo App to App interface:
For seamless data transfer to numerous industry Apps.

testo App to App Interface

Your benefits:
• More mobility: readings always to hand right where they are needed.
• More reliability: direct digital processing of measurement results.
• More professionalism: clear PDF report with photos, logo and comments.

New: extended range and better handling

Range up to 100 m

The new Smart Probes testo 115i, testo 605i and testo 549i have an extended Bluetooth range of up to 100 metres.

Measurement at a vent is comfortable with the bendable probe of the new testo 605i. Its thinner measurement tip is ideal for smaller measurement apertures, and the stable magnetic holder ensures even more secure attachment.

The connection of the new testo 549i is angled by 45° for easier mounting.

testo Smart Probes heating kits

Measure and check all heating system temperatures and pressures in conjunction with your smartphone.

• Measurement menu for pressure drop test, including alerts via testo Smart Probes App
• Measurement of gas flow and static pressure
• Flow/return/differential temperature on boilers and radiator balancing

Heating kit (0563 0004 10) also offers:
• Rapid image documentation with IR temperature readings and measuring spot marking
• Non-contact temperature measurement on underfloor heating systems and radiators

Smart Probes heating kit

Contains testo 115i surface thermometer, testo 510i differential pressure meter & testo 805i infrared thermometer in testo smart case

Smart Probes differential temperature/pressure kit

Kit contains 2 x testo 115i surface thermometers and testo 510i differential pressure meter in testo smart case

testo 115i clamp thermometer
• Temperature measurement, suitable for pipe temperature measurement on heating systems
• -40 to +150 °C

testo 510i differential pressure measuring instrument
• Measurement menu for pressure drop test
• -150 to +150 hPa

testo 605i humidity measuring instrument
• Air humidity/temperature measurement
• -20 to +60 °C; 0 to 100 %RH

testo 405i thermal anemometer
• Air flow velocity/temperature, volume flow measurement, also for calculating cooling/heating performance
• -20 to +60 °C; 0 to 30 m/s

testo 410i vane anemometer
• Air flow velocity/temperature, volume flow measurement, also for calculating cooling/heating performance
• -20 to +60 °C; 0.4 to 30 m/s

testo 805i infrared thermometer
• Non-contact surface temperature
• Measuring spot marking
• -50 to +150 °C

testo Smart App
• Wireless control of the Testo Smart Probes
• Automatic calculation of evaporation and condensation temperature, as well as superheating and sub-cooling
• Analyse measurement data, create reports, add photos and send them by email

Perfect with the testo Smart App
FREE download
App Store
Google Play

The new testo 915i Smart Probe
For smart temperature measurement

testo 915i Thermometer with plug-in probes, operated by smartphone

NEW

- Wireless temperature measurement in the most diverse applications thanks to large selection of probes and compatibility with common Type K thermocouple probes
- Robust and fast-reaction probes for quick measurements
- Fast identification of temperature change by graph curve
- Individually available with air probe, immersion/penetration probe, surface probe or flexible probe (all TC Type K, Class 1)
- Available as a kit with air, immersion/penetration and surface probes TC Type K, Class 1
- Large measuring range up to -50 to +400 °C
- High measurement accuracy up to ±1.0 °C thanks to system calibration ex-works

Flexible temperature measurement

- Measure ambient temperature and temperature in ducts or at air vents with the testo 915i with air temperature probe
- Measure temperatures in liquid, semi-solid or paste media with the testo 915i with immersion/penetration probe
- Measure surface temperature on uneven surfaces with the testo 915i with surface probe

The testo Smart App offers extra support and functionality in this application:
- Intuitive operation with fast and reliable temperature display
- Versatile use in the most varied temperature measurement applications
- Easy analysis and documentation

testo 915i with flexible probe
Wireless Smart Probe testo 915i with flexible probe (TC Type K), incl. batteries and calibration protocol.

testo 915i with air probe
Wireless Smart Probe testo 915i with air probe (TC Type K), incl. batteries and calibration protocol.

testo 915i with immersion/penetration probe
Wireless Smart Probe testo 915i with immersion/penetration probe (TC Type K), incl. batteries and calibration protocol.

testo 915i with surface probe
Wireless Smart Probe testo 915i with surface probe (TC Type K), incl. batteries and calibration protocol.

testo 915i kit
Universal temperature kit consisting of Smart Probe testo 915i with plug-in immersion/penetration probe, air probe and surface probe in Smart Case, incl. batteries and calibration protocol.

Perfect with the testo Smart App
FREE download
App Store
Google Play

First choice for heating engineers
Smart thermal imagers from Testo

testo 865 thermal imaging camera
Infrared resolution 160 x 120 pixels (with testo SuperResolution Technology 320 x 240 pixels) Automatic detection of hot and cold spots
Measuring range: -20 to +280°C

testo 868 thermal imaging camera
Infrared resolution 160 x 120 pixels (with testo SuperResolution Technology 320 x 240 pixels) Integrated digital camera
With testo Thermography App
Measuring range:-30 to +100°C; 0 to +650°C

testo 871 thermal imaging camera
Infrared resolution 240 x 180 pixels (with testo SuperResolution technology 480 x 360 pixels) Integrated digital camera
Wireless measurement data transfer from testo 770-3 clamp meter for electrical thermography and testo 605i for humidity measuring instrument
With testo Thermography App
Measuring range: -30 to +100°C; 0 to +650°C

testo 872 building inspection kit thermal imaging camera
testo 872 thermal imager
Infrared resolution 320 x 240 pixels (with testo SuperResolution Technology 640 x 480 pixels)
- Integrated digital camera and laser marker
- Wireless measurement data transfer from testo 770-3 clamp meter and testo 605i humidity measuring instrument
With testo Thermography App
Measuring range: -30 to +100°C; 0 to +650°C

testo Thermography App
- Create compact reports quickly, save them online and send them by email
- Contains helpful functions for fast, on-site analysis
- Transmit thermal images live to smartphone/tablet

Download now for iOS or Android free of charge:
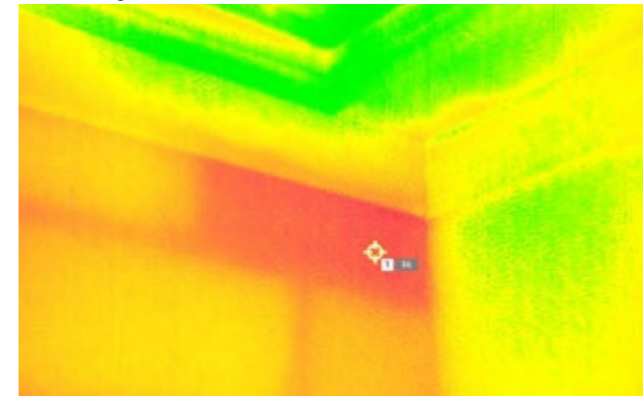Google Play
App Store

Testo thermal imaging cameras for many applications.

Thermal imaging cameras are highly versatile instruments that can be deployed wherever there is a need to visualise temperature, making them an extremely useful tool for many varities of applications; checking heating systems & radiators for build-ups of silt, finding ruptured pipe work, electrical testing, detecting structual defects, detecting mould and much more.
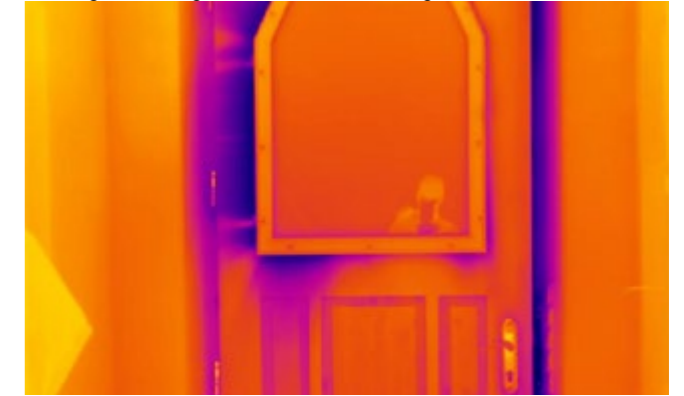
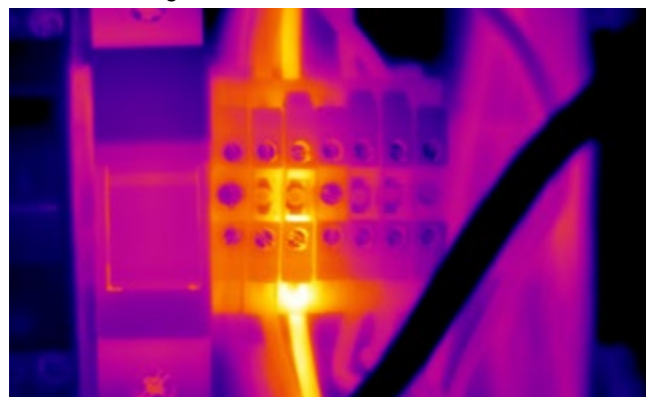Hot on the trail of a ruptured pipe
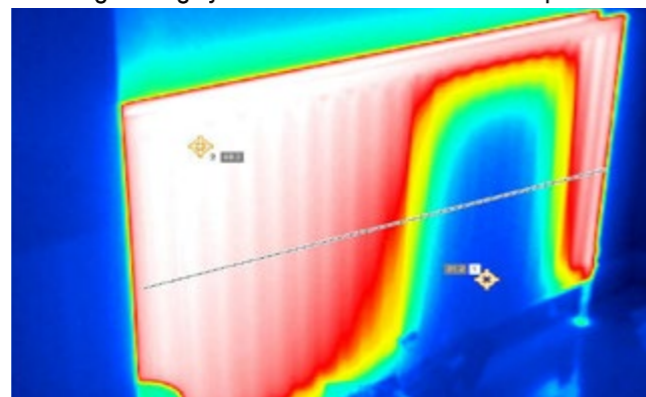

Preventing mould formation
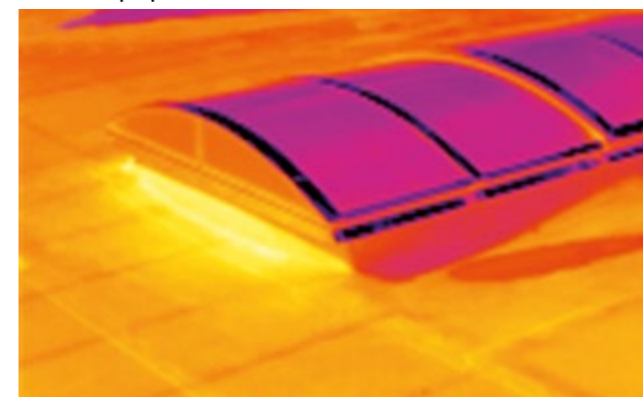

Testing the air tightness of new buildings
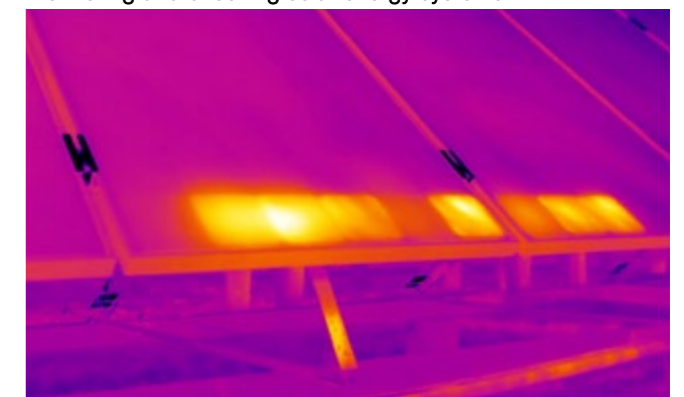

Electrical testing

Checking heating systems & radiators for silt build up
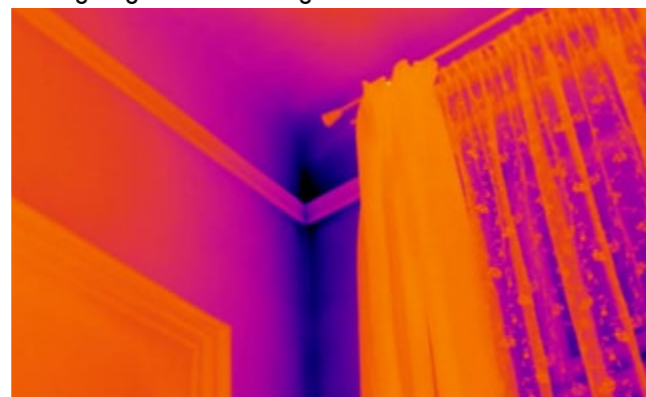

Locate & pinpoint roof leaks
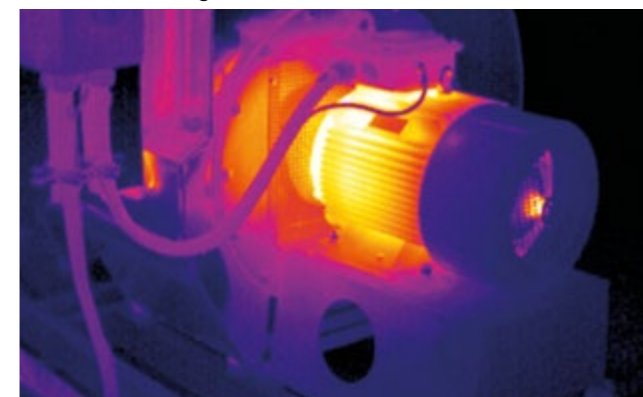

Monitoring and checking solar energy systems

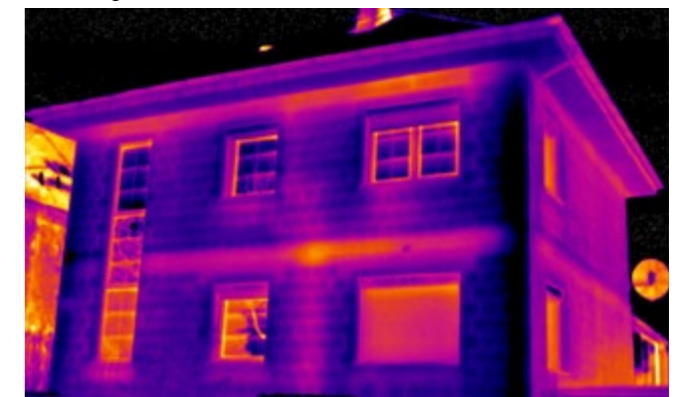Carrying out detailed energy consultancy

Investigating moisture damage

Mechanical testing

Detecting structural defects

Electrical measurement technology Indispensable for heating engineers

testo 760 digital multimeter:

- Automatic recognition of measurement parameter/range Without manual
- rotary knob -prevents incorrect settings and saves on fuses Large, illuminated LCD for optimum
- legibility

Digital multimeter model comparison	testo 760-1	testo 760-2	testo 760-3
Illuminated display	✅	✅	✅
True root mean square measurement - TRMS	❌	✅	✅
µA current measuring range	❌	✅	✅
Low-pass filter	❌	✅	✅
AC/DC voltage measuring range	0.1 mV to 600 V		0.1 mV to 1,000 V
AC/DC current measuring range	1 mA to 10 A	0.1 µA to 10 A	
Temperature measuring range	❌	-20 to +500°C	

testo 770 clamp meter

- Unique grab mechanism makes it easier to work at tight measuring points
- Can be used via Bluetooth with testo Smart Probes App and smartphone/tablet (testo 770-3 only)

Clamp meter model comparison	testo 770-1	testo 770-2	testo 770-3
True root mean square measurement - TRMS	✅	✅	✅
Starting current measurement	✅	✅	✅
µA current measuring range	❌	✅	✅
Bluetooth and testo Smart Probes App	❌	❌	✅
AC/DC voltage measuring range	1 mV to 600 V		
AC/DC current measuring range	0.1 to 400 A		0.1 to 600 A
Power (watts) measurement	❌	❌	✅

testo Smart App:
Download now for iOS or Android free of charge (testo 770-3 only)

GET IT ON Google Play
Download on the App Store

testo 750 voltage tester

- Clear, patented 360° all-round display is legible from all sides
- Ergonomic handle shape
- Checks residual current circuit breakers (testo 750-2/-3 only)

Voltage tester model comparison	testo 750-1	testo 750-2	testo 750-3
Patented all-round LED display	✅	✅	✅
Certified according to voltage tester standard DIN EN 61243-3:2010	✅	✅	✅
Measuring point illumination	❌	✅	✅
Single pole phase testing	❌	✅	✅
Additional LC display	❌	❌	✅
AC/DC voltage measuring range	12 to 690 V		
Continuity testing measuring range	< 500 kΩ		

testo 755 current/voltage tester

- Measurement result without switching on or selection
- Automatic measurement parameter detection
- Voltage range up to 1,000 V
- Current and voltage testing all in one

Current/voltage tester model comparison	testo 755-1	testo 755-2
Certified according to voltage tester standard DIN EN 61243-3:2010	✅	✅
Measuring point illumination	✅	✅
Exchangeable measuring tips	✅	✅
Single pole phase testing	❌	✅
Rotating magnetic field measurement	❌	✅
AC/DC voltage measuring range	6 to 600 V	6 to 1,000 V
Current measuring range	0.1 to 200 A AC	

testo 745 non-contact voltage tester

- Optical and acoustic signal
- 2 sensitivities (12 to 50 V / 50 to 1,000 V)
- Measuring point illumination
- Filter (LPF) for high-frequency interference signals
- Waterproof and dustproof according to IP 67

Non-contact voltage testing on a distributor box for a heating system with the testo 745.

Practical accessories for electrical measuring instruments

Magnetic hook	Transport bag
For testo 760 multimeter	For testo 760 For testo 755/770 For testo 750

Thermocouple adapter	Standard measuring cables
For testo 760 multimeter	(Angled plug) Tip Ø: 2 mm

Thermocouple adapter type K	Standard measuring cables
For testo 770 clamp meter	(Angled plug) Tip Ø: 4 mm

Clamp meter adapter	Set of crocodile clips
For testo 760-2/-3 multimeter	For use with the measuring cable 0590 0011

Contact temperature measurement

Contact thermometers
testo 925/testo 922

- Ideal for applications in heating, air conditioning and ventilation
- With optional radio probes
- Display of differential temperature (testo 922)

Technical Data	
Measuring range	-50 to +1000°C
Accuracy ±1 digit	±(0.5°C +0.3% of m.v.) (-40 to +900°C) ±(0.7°C +0.5% of m.v.) (remaining measuring range)
Resolution	0.1°C (-50 to +199.9°C) 1°C (remaining measuring range)

testo 925

testo 925, 1-channel temperature measuring instrument TC type K, audible alarm, one optional radio probe can be connected, including calibration protocol and batteries

testo 922

testo 922, 2-channel temperature measuring instrument TC type K, one optional radio probe can be connected, including calibration protocol and batteries

Robust air probe, TC type K, fixed cable 1.2 m	
Watertight immersion/penetration probe, TC type K, fixed cable 1.2 m	
Quick-action surface probe with sprung thermocouple strip, measuring range briefly up to +500°C, TC type K, fixed cable 1.2 m	

Pipe wrap probe for pipe diameters of 5 to 65 mm, with replaceable measuring head, measuring range briefly up to +280°C, TC type K, fixed cable	
Clamp probe for measurements on pipes, pipe diameters of 15 to 25 mm (max. 1"), measuring range briefly up to +130°C, TC type K, fixed cable	

Non-contact temperature measurement

Compact infrared thermometer
testo 810

- Simultaneous measurement of surface temperature and air temperature
- Display of the temperature difference
- Adjustable emission level

Technical Data	
Measuring range	-10 to +50 °C
Accuracy	±0.5 °C
Resolution	0.1 °C

testo 810

testo 810 infrared thermometer with integrated NTC temperature sensor, including protective cap, calibration protocol, belt pouch, and batteries

Infrared thermometer Smart Probe testo 810i

- Non-contact infrared measurement of surface temperature
- Easy selection of emission level via stored materials list
- Highly visible marking of the measuring spot thanks to 8-point laser

Technical Data	
Measuring range	-30 to +250 °C
Accuracy	±1.5 °C or ±1.5 % of mv (0 to +250 °C), ±2 °C (-20 to -0.1 °C) ±2.5 °C (-30 to -20.1 °C)
Resolution	0.1 °C

testo 810i

testo 810i infrared thermometer with smartphone operation, including batteries and calibration protocol

*compatible with testo Smart App, for details refer to p.18 & 19

Non-contact temperature measurement

Infrared thermometers for surface temperature measurement testo 830

- testo 830-T1 with 1-point laser measurement spot marking and 10:1 optics.
- testo 830-T2 with 2-point laser measurement spot marking and 12:1 optics. External type-K t/c can be connected.
- testo 830-T4 with 2-point laser measurement spot marking and 30:1 optics. This instrument measures the surface temperature even of smaller objects at a safe distance. External type-K t/c can be connected.

	testo 830-T1	testo 830-T2	testo 830-T4
Measuring range			
Infrared	-30 to +400 °C	-30 to +400 °C	-30 to +400 °C
Type K (NiCr-Ni)	–	-50 to +500 °C	-50 to +500 °C
Accuracy ±1 digit			
Infrared	±1.5 °C or 1.5 % of m.v. (+0.1 to +400 °C) ±2 °C or ±2 % of m.v. (-30 to 0 °C) the higher value applies	±1.5 °C or ±1.5% of m.v. (+0.1 to +400 °C) ±2 °C or ±2% of m.v. (-30 to 0 °C) the higher value applies	±1,5 °C (-20 to 0 °C) ±2 °C (-30 to -20,1 °C) ±1 °C or 1% of m.v. (remaining range)
Type K (NiCr-Ni)	–	±0.5 °C +0.5%	±0.5 °C +0.5% of m.v.
Resolution	0.1 °C	0.1 °C	0.1 °C
Measurement rate			
Infrared	0.5 s	0.5 s	0,5 s
Type K (NiCr-Ni)	–	1.75 s	1.75 s
Meas. spot marking	1-point laser	2-point laser	2-point laser
Distance to measurement spot	10:1	12:1	30:1 (typical at a distance of 0.7 m to the measurement object

testo 830-T1

testo 830-T1 infrared thermometer includes batteries and factory calibration certificate

testo 830-T2

testo 830-T2 infrared thermometer includes batteries and factory calibration certificate

testo 830-T2 Set

testo 830-T2 infrared thermometer with protective leather case, includes cross-band surface probe (0602 0393), batteries and factory calibration certificate

testo 830-T4 Set

testo 830-T4 infrared thermometer with protective leather case, includes cross-band surface probe (0602 0393), batteries and factory calibration certificate

testo 830-T4

testo 830-T4 infrared thermometer includes batteries and factory calibration certificate

Temperature and humidity measurement

Compact humidity/temperature meter testo 610

- Easy temperature and humidity measurement
- Calculation of dew point and wet bulb temperature
- Illuminated display
- Capacitive humidity sensor with long-term stability

testo 610

testo 610 thermohygrometer, protective cap, calibration protocol, belt pouch and batteries

Technical data

	Temperature - NTC	Humidity - Capacitive
Measuring range	-10 to +50 °C	0 to 100 %RH
Accuracy	±0.5 °C	±2.5 %RH (5 to 95 %RH)
Resolution	0.1 °C	0.1 %RH

Humidity/temperature measuring instrument testo 625

- Display of temperature and relative humidity, wet bulb temperature and dew point
- Min/max values
- Display illumination

testo 625

testo 625, humidity/temperature measuring instrument, including plug-in humidity probe head, calibration protocol and batteries

Technical Data

Measuring range	0 to +100% RH / -10 to +60°C
Accuracy ±1 digit	±2.5% RH (+5 to +95% RH) / ±0.5°C
Resolution	0.1% RH/0.1°C

Temperature/humidity data logging

For simple testing and recording of room temperatures and humidity levels. testo 174 loggers record up to 16,000 measurements. Download results to free PC software to review and analyse.

testo 174T

testo 174T mini temperature data logger, 1-channel, includes wall bracket, batteries and calibration protocol

testo 174T mini data logger set, 1-channel, includes USB interface for programming and reading out the logger, wall bracket, batteries and calibration protocol

Technical Data

Sensor type	NTC
Measuring range	-30 to +70 °C
Accuracy ±1 digit	±0,5 °C (-30 to +70 °C)
Resolution	0.1 °C

testo 174H

testo 174H mini temperature and humidity data logger, 2-channel, includes wall bracket, batteries and calibration protocol

testo 174H mini data logger set, 2-channel, includes USB interface for programming and reading out the logger, wall bracket, batteries and calibration protocol

Technical Data

Sensor type	NTC
Measuring range	-20 to +70 °C
Accuracy ±1 digit	±0.5 °C (-20 to +70 °C)
Resolution	0.1 °C
Sensor type	Testo humid. sensor, cap.
Measuring range	0 to 100 %RH*
Accuracy ±1 digit	±3 %RH (2 to 98 %RH) ±0.03 %RH/K
Resolution	0.1 %RH

Airflow measurement

Compact vane anemometer testo 410-1

- Measurement of air velocity and air temperature
- Ideal for spot measurements at ventilation grilles
- Displays m/s, km/h, fpm, mph and kts
- Calculates wind chill and the Beaufort wind force
- Practical: with single-point averaging, max/min and Hold function

Technical Data

	Temperature - NTC	Velocity - Vane
Measuring range	-10 to +50 °C	0.4 to 20 m/s
Accuracy	±0.5 °C	±(0.2 m/s + 2 % of mv)
Resolution	0.1 °C	0.1 m/s

testo 410-1

testo 410-1 vane anemometer including protective cap, wrist strap, calibration protocol and batteries

Vane anemometer Smart Probe testo 410i

- Measurement of air velocity, volume flow and temperature
- Display of the volume flow
- Parametrisation of the outlet (dimension/ geometry)
- Convenient viewing of readings on a smartphone/tablet with the testo Smart Probes App

Technical Data

	Temperature - NTC	Velocity - Vane
Measuring range	-20 to +60 °C	0.4 to 30 m/s
Accuracy	±0.5 °C	±(0.2 m/s + 2 % of mv)
Resolution	0.1 °C	0.1 m/s

testo 410i

testo 410i vane anemometer with smartphone operation, including protective cap, batteries and calibration protocol

*compatible with testo Smart App, for details refer to p.18 & 19

Vane anemometer testo 417

- Ideal for testing Part-F building regs and for testing ventilation and extraction fan systems
- Measurement of flow, volume flow and temperature
- Flow direction detection
- Multi-point and timed mean calculation

Technical Data

	NTC	Vane	Volume flow
Measuring range	0 to +50°C	+0.3 to +20 m/s	0 to +99,999 m³/h
Accuracy ±1 digit	±0.5°C	±(0.1 m/s +1.5% of m.v.)	
Resolution	0.1°C	0.01 m/s	0.1 m³/h (0 to 99.9 m³/h) 1 m³/h (+100 to +99,999 m³/h)

testo 417

testo 417 vane anemometer with integrated 100 mm vane, including temperature measurement, calibration protocol and battery

testo 417 funnel set

Set comprising:
- Vane anemometer testo 417 with integrated 100 mm vane, including temperature measurement, battery and calibration protocol.
- Funnel set (Ø 200 mm for plate outlets and 330 x 330 mm for fans).

Accessories for testo 417

	Order no.	Price
testovent 417, funnel set comprising funnel for plate outlets (Ø 200 mm) and funnel for fans (330 x 330 mm)	0563 4170	£180.00
Volume flow straightener testovent 417	0554 4172	£89.00
Flow straightener and funnel set	0554 4173	£229.00

Heat pump servicing with Testo. The testo 55x range

The new way of installing and servicing refrigeration systems and heat pumps. Our new generation of digital manifolds are faster, more reliable and more flexible than ever before. With all the necessary filling hoses and a robust transport case they are immediately ready for work. The first fully digital manifold on the market, which allows you to display and evaluate all results in real time using the testo Smart App. The results are clear to see, at a glance, in your hand.

- High-precision measurements of pressure and temperature
- Controlled refrigerant service
- Easy tightness testing and evacuation
- Compact and reliable with IP 54 protection
- Larger display with clearer layout
- Improved durability and handling
- Wireless connectivity with Bluetooth® 5.0

Extra functionality with testo Smart App

- Monitor the evaporation and condenser temp/ pressures and superheat/subcool
- Easy refrigerant update
- Create reports, adds photos of the measurement

testo 550s Smart Kit

Smart digital manifold with wireless temperature probes in practical case, incl. calibration certificate

testo 557s Smart vacuum Kit

Smart digital manifold with wireless vacuum and temperature probes in practical case

testo 550i (manifold only)

App-controlled digital manifold with Bluetooth® incl. calibration certificate

testo 550s Basic Kit

Smart digital manifold with cable temperature probes in practical case, incl. calibration certificate

testo 550s Smart Kit with hoses

Smart digital manifold with wireless temperature probes and 3 filling hoses in practical case, incl. calibration certificate

testo 557s Smart vacuum Kit with hoses

Smart digital manifold with wireless vacuum and temperature probes in practical case with hoses

testo 550i Smart Kit

App-controlled digital manifold with Bluetooth® with wireless temperature probes in practical case, incl. calibration certificate

Perfect with the testo Smart App
FREE download

testo SMART

App Store

Google Play

Testo flue gas analyser service fast, simple, reliable

Testo understands that you need simple and reliable flue gas analyser service, completed as quickly as possible. Our flue gas analyser service plan offers our lowest cost of ownership over a 5 year period. Instruments serviced by Testo are typically turned around in just 2 working days, or you can choose our optional 24 Hour Express service.

Testo flue gas analyser service includes:

- Functional check of analyser and probe
- Calibration of gas sensors
- Calibration of NO sensor, if fitted
- Calibration of flue temperature
- Calibration of pressure sensors
- Printer, PSU and case checking
- Calibration certificate to ensure compliance with BS7967 & EN50379
- Device warranty

Making service simple

Domestic flue gas analysers

Model	Year
Testo 310, 320, 320B, 327	1, 2, 4 & 5
Testo 310, 320, 320B, 327	3
Testo 300	1, 2 & 4
Testo 300	3 & 5

Commercial flue gas analysers

Model	Year
Testo 300LL, 330LL	1, 2, 3 & 4
Testo 300LL, 330LL	5
Testo 300LL, 330LL	6
Testo 300LL NO, 330LL NO	1, 2, 3 & 4
Testo 300LL NO, 330LL NO	5
Testo 300LL NO, 330LL NO	6

Additional services

Accidental Damage
For added peace of mind, option to pay £45 up front for 12 months cover on repairs, including accidental damage. Includes parts found to be required during next service.

24 Hour Express Turnaround
Guaranteed 24 hour turnaround from receipt of analyser by Testo to despatch.

i Testo can offer calibration accross all instruments.

Terms apply.

Testo flue gas analyser 'how to' videos

A range of practical videos to help you get the most our of your Testo flue gas analyser. Simply point you smartphone's camera at the QR Code.
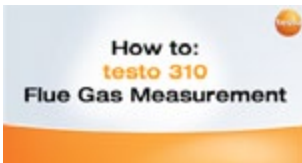
testo 310 - Set Up

testo 320B - Ambient CO

testo 310 - Flue Gas Measurement

testo 300 - Application Video

testo 310 - Draught and Pressure

testo 300 - Carrying out a Measurement
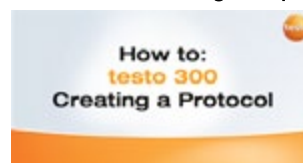
testo 320B - Flue Gas Measurement

testo 300 - Managing Customers

testo 320B - Draught and Let By

testo 300 - Creating a Report

testo 320B - Differential Temperature

Be sure. **testo**

Contact us for further information

Email: sales@lindab.co.uk

Lindab®

www.lindab.co.uk