



## testo 300 NEXT LEVEL - flue gas analyzer

Short instructions









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The product registration is valid for 30 days after purchase.

For product registration terms and conditions and participating countries, please go to [www.testo.com/register](http://www.testo.com/register)

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# 1 About this document

- The instruction manual is an integral part of the instrument.
- Keep this documentation to hand so that you can refer to it when necessary.
- Please read this instruction manual through carefully and familiarize yourself with the product before putting it to use.
- Hand this instruction manual on to any subsequent users of the product.
- Pay particular attention to the safety instructions and warning advice in order to prevent injury and damage to the product.

## 2 Safety and disposal

Please observe the **Testo information** document (enclosed with the product).

## 3 Product-specific safety instructions

### CAUTION

**The condensate may be acidic.  
Risk of burns to the hands!**

- Wear acid-resistant safety gloves, glasses and overalls to empty the condensate.

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- Make sure that the condensate has been fully emptied out of the condensate trap before the measuring instrument is stored for a long time.
- Before disposing of the product, the condensate trap must be emptied and the condensate in the crude gas tube disposed of in a suitable container.
- When testing a gas pipe, pay attention to the following:

### WARNING

Dangerous mixture of gases

#### **Danger of explosion!**

- Make sure there are no leaks between the sampling point and the measuring instrument.
  - Do not smoke or use naked flames during the measurement.
-

# 4 Use

The testo 300 NEXT LEVEL is a measuring instrument which enables the professional flue gas analysis of combustion plants, such as

- small combustion plants (oil, gas, wood, coal)
- low-temperature and condensing boilers
- gas heaters.

Using the instrument, these systems can be adjusted and checked for compliance with the applicable limit values.

The instrument has been verified as a short-term measuring instrument and should not be used as a safety (alarm) device.

The following tasks can also be carried out using the instrument:

- Regulating the  $O_2$ , CO and  $CO_2$ , NO,  $NO_x$  values in combustion plants to ensure optimum operation.
- Draught measurement.
- 4 Pa measurement
- Measuring and regulating the gas flow pressure in gas heaters.
- Measuring and optimising the flow and return temperatures of heating systems.
- Measuring the CO concentration in the ambient air.
- The instrument can be used for measurements on CHP plants in accordance with the first German Federal Immission Control Ordinance (BImSchV).
- In principle, the CO sensor can also be used for measurements on CHP plants. If you carry out more than 50 measurements on CHP plants per year, please contact your nearest Testo service centre or send the instrument to Testo Service for checking.

An  $NO_x$  filter for the CO sensor can be ordered as a spare part to replace a used filter.

## 5 Product description

### 5.1 Front view



1	USB interface/ mains connection	4	User interface
2	Gas outlet	5	Condensate container
3	On/Off button	6	Connections

## 5.2 Rear view



### Symbol explanation

	<b>ACHTUNG</b>
	<b>Magnetic field</b> <b>Damage to other devices!</b> - Keep a safe distance from products that can be damaged by magnetism (e.g. monitors, computers, credit cards).



## 5.3 Connections



1	Probe connections for additional probes and testo Bluetooth® Connector	3	Flue gas socket
2	Integrated ambient air probe	4	Differential pressure measurement connection



There must be no more than one extension lead (0554 1201) connected between flue gas socket and flue gas probe.

## 6 Commissioning

### 6.1 Mains unit / energy storage unit

The measuring instrument is supplied with an energy storage unit.



Fully charge the energy storage unit before using the measuring instrument.



If the measuring instrument is completely discharged, charge it for at least 30 minutes before turning the meter on and using it again.



If the mains unit is connected, the measuring instrument is automatically powered via the mains unit.



Only charge the energy storage unit at an ambient temperature of 0 to 35°C.

#### 6.1.1 Charging the energy storage unit

- 1 | Connect the instrument plug of the mains unit to the mains unit socket on the measuring instrument.
- 2 | Plug the mains plug of the mains unit into a mains socket.

- ▶ The charging process will start. LED in the condensate trap will flash.
- ▶ The charging process will stop automatically when the energy storage unit is fully charged.



If the energy storage unit is fully drained, the charging time at room temperature is approx. 5-6 hours. LED in the condensate trap lights up continuously in red.

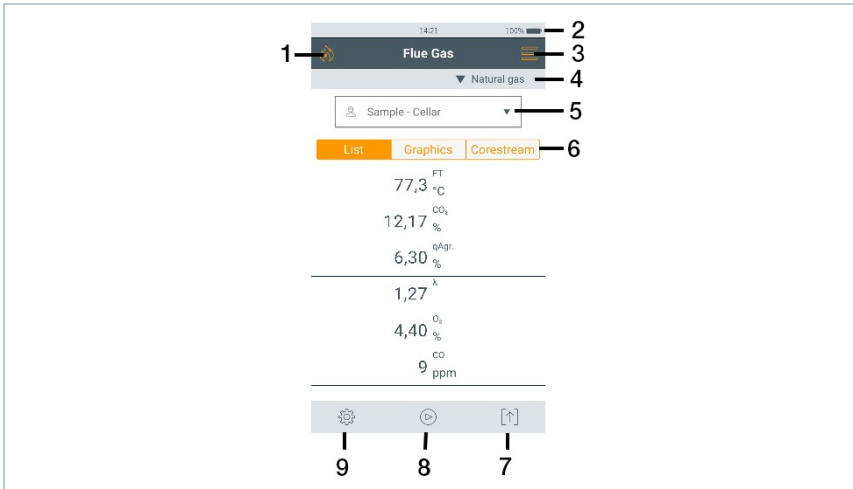
## 6.2 Switching instrument on and off

Current status	Action	Function
Instrument off	Press the button for a long time (> 3 s)	Instrument is switched on.
<div style="display: flex; align-items: flex-start;"> <div style="margin-right: 10px;"> </div> <div> <p>When the measuring instrument is started for the first time, the setup wizard guides you through the following setting parameters step by step:</p> <ul style="list-style-type: none"> <li>- <b>Country version</b></li> <li>- <b>Language</b></li> <li>- <b>Wireless LAN</b></li> <li>- <b>Date and time</b></li> <li>- <b>Own company address</b></li> <li>- <b>E-mail account</b></li> </ul> <p>A tutorial can be started after the setup wizard. The tutorial demonstrates the general operation and the most important functions of the measuring instrument using examples.</p> </div> </div>		
Instrument on	Press the button briefly (< 1 s)	Instrument is switched to standby mode. The instrument is re-activated when the button is pressed again.
Instrument on	Press the button for a long time (> 1 s)	Selection: <b>[OK]</b> Instrument is switched off or cancel the instrument being switched off with <b>[Cancel]</b> .



Unsaved readings are lost when the measuring instrument is switched off.


## 6.3 Display - user interface



1		<b>Measurement types</b>
2		Status bar
3		<b>Menu</b>
4		Open the <b>Fuels</b> selection list
5		Select <b>Customer/measuring site</b>
6		Select reading display type
7		Protocols
8		Start measurement
		Pause measurement
		Stop measurement
9		<b>Options</b>

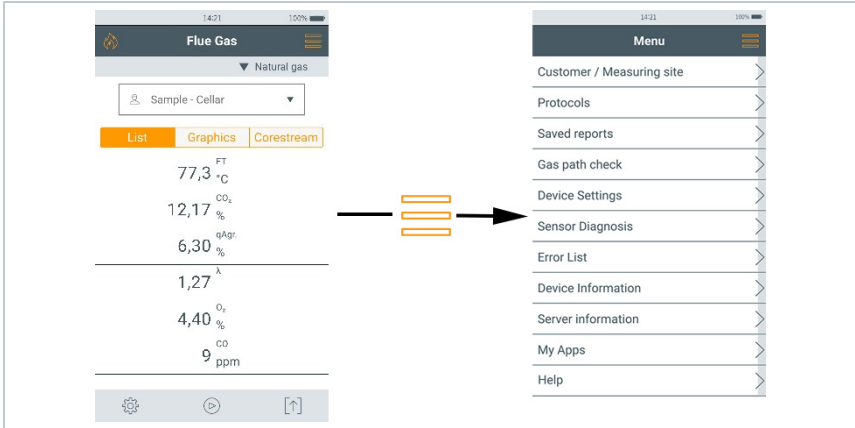
Further symbols on the user interface (without numbering)

	Repeat measurement
	One level back
	One level back
	One level back
	Cancel process
	Print values


	Save report
	Save and send report

## 7 Using the product

### 7.1 Overview of main menu (☰)

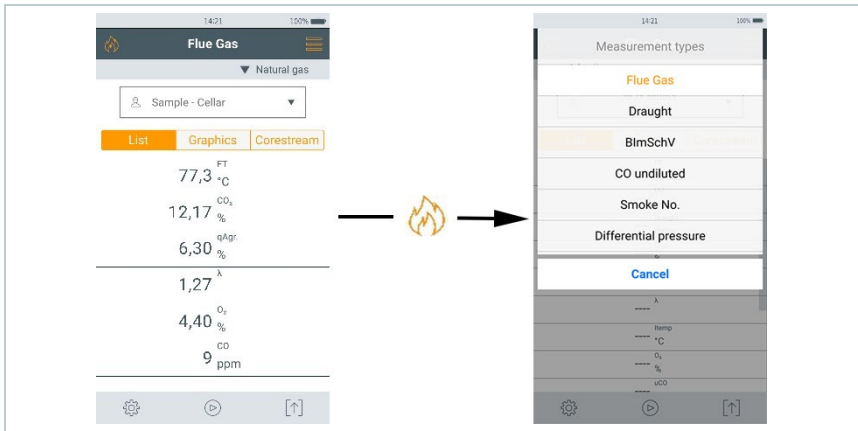


Main menu	Description
<b>Customer / Measuring site</b>	Create, edit and delete customer and system information.
<b>Protocols</b>	Call up, delete and send measurements that have been performed (various formats possible).
<b>Saved reports</b>	Call up and delete measurement report.
<b>Gas path check</b>	For perfect operation of the measuring instrument, regular tightness testing of measurement systems (measuring instrument + flue gas probe) is recommended.

Main menu	Description
<b>Device Settings</b>	Settings <ul style="list-style-type: none"> <li>- Country version and language</li> <li>- WiFi</li> <li>- Date &amp; Time</li> <li>- Own company address</li> <li>- Bluetooth</li> <li>- Sensor protection</li> <li>- NO<sub>2</sub> addition</li> <li>- O<sub>2</sub> ref.</li> <li>- Height compensation</li> <li>- Alarm limits</li> <li>- Display brightness</li> <li>- Hotspot</li> </ul>
<b>Sensor Diagnosis</b>	Overview of the sensors fitted and their condition.
<b>Error List</b>	Call up error reports
<b>Device information</b>	Information <ul style="list-style-type: none"> <li>- Device name</li> <li>- Serial number</li> <li>- MIN</li> <li>- Last service</li> <li>- Free memory</li> <li>- Operating hours</li> <li>- Operating hours since last service</li> <li>- Software version</li> <li>- Firmware version</li> <li>- Firmware date</li> <li>- qA version</li> <li>- qA date</li> </ul>
<b>Server information</b>	Information about the available server
<b>E-mail</b>	Set up an e-mail account and the e-mail account can be called up. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  To set up the e-mail account on the testo 300 NEXT LEVEL, the IMAP setting must be activated in the e-mail account at your account provider. You can find more information in your e-mail account itself, e.g. under FAQs or Settings.           </div>

Main menu	Description
<b>My Apps</b>	Additional applications <ul style="list-style-type: none"> <li>- Alarm clock</li> <li>- Gallery</li> <li>- Browser</li> <li>- Calendar</li> <li>- Pocket calculator</li> <li>- QuickSupport</li> <li>- File manager</li> </ul>
<b>Help</b>	Aids <ul style="list-style-type: none"> <li>- Device registration</li> <li>- Tutorial</li> <li>- Setup wizard</li> <li>- Online help</li> <li>- Testo website</li> <li>- Send error report</li> <li>- Update via USB</li> </ul>

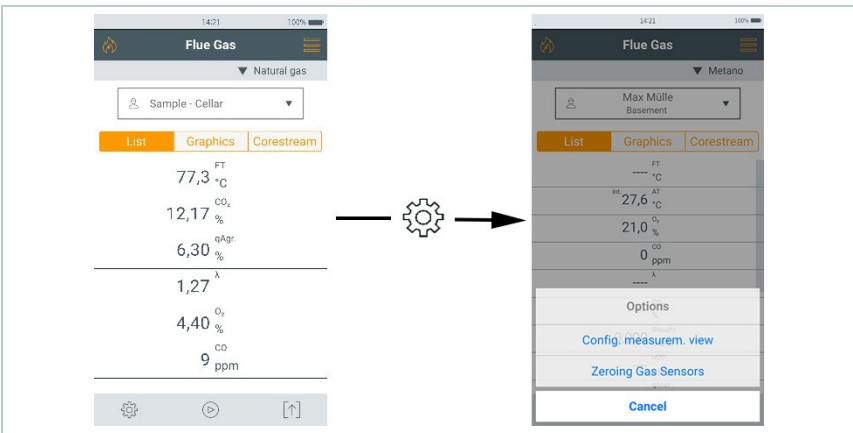
## 7.2 Overview of measurement types ( )





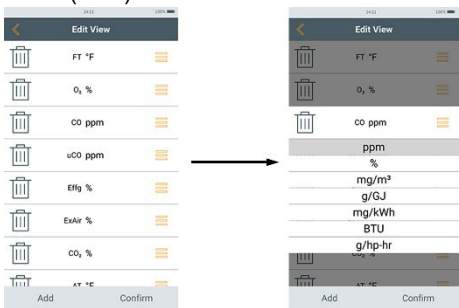
Measurement types
<b>Flue gas</b>
<b>Draught</b>
<b>BlmSchV</b>
<b>CO undiluted</b>
<b>Smoke No.</b>
<b>Differential pressure</b>
<b>Differential temp.</b>


<b>Measurement types</b>
O <sub>2</sub> Air
Gas flow
Oil flow
CO ambient
Tightness test 1
Tightness test 2
Let by test
4 Pa measurement

### 7.3 Overview of options ( )

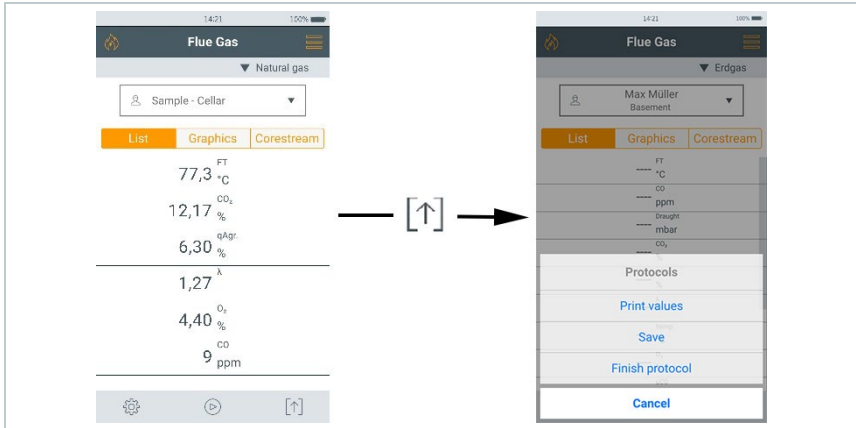


Options	Description
Config. measurement view	Add, delete (  ) measurement parameters, change measurement views (  ) and units (click on <b>(Unit)</b> ).



Options	Description
<b>Zeroing Gas Sensors</b>	Manual sensor zeroing.  Menu is only available for measurements with gas sensors.

## 7.4 Overview of protocols ( [↑] )



Protocols	Feature
<b>Print values</b>	Print out measuring values via Bluetooth®.
<b>Save</b>	Save measuring values, including selected customers / measuring sites. Saved measuring values can be retrieved in the main menu.
<b>Finish protocol</b>	Create, save and send measurement report, including <ul style="list-style-type: none"> <li>- <b>Own company data</b></li> <li>- <b>Format and print</b></li> <li>- <b>Customer data</b></li> <li>- <b>Comments and pictures</b></li> <li>- <b>Select measurements</b></li> <li>- <b>Signature</b></li> </ul> Saved reports can be retrieved in the main menu.



## 7.5 Get the measurement data in 3 steps

- 1 Switch instrument on:  
Press button > 1 s.



- 2 Connect probe and place in flue gas pipe.



- 3 Start measurement and read off measuring values.



You will also find further information about your testo 300 flue gas analyzer in the online instruction manual on the Testo website, [www.testo.com](http://www.testo.com), under the product-specific download.

## 7.6 Connecting Smart Probes and testo Smart App

The testo 300 NEXT LEVEL features the option of establishing a Bluetooth® connection with Smart Probes via the testo Bluetooth® Connector as well as a connection to the testo Smart App at the same time.



If the testo 300 NEXT LEVEL is used with Smart Probes, the Smart Probes must be at least 20 cm apart.

### 7.6.1 Mounting the testo Bluetooth® Connector

- 1 Connect the testo Bluetooth® Connector to the TUC 1 or TUC 2 socket of the 300 NEXT LEVEL.



- ▶ After successful connection, a testo Bluetooth® Connector icon is shown in the testo 300 NEXT LEVEL status display.
- ▶ Now you can connect up to 4 Smart Probes in parallel with the testo 300 NEXT LEVEL.

### 7.6.2 Compatible probes

Order no.	Designation
0560 2115 02	testo 115i - clamp thermometer operated by smartphone
0560 1510	testo 510i - differential pressure measuring instrument operated by smartphone
0563 3915	testo 915i - temperature probe with smartphone operation

### 7.6.3 Establishing a connection to the testo Smart App



To establish a connection via Bluetooth®, you need a tablet or smartphone with the testo Smart App installed on it.

You can get the App for iOS instruments in the App Store or for Android instruments in the Play Store.

Compatibility:

Requires iOS 12.0 or newer/Android 6.0 or newer, requires Bluetooth® 4.0.



After successfully establishing a connection between the app and the testo 300 NEXT LEVEL, the app is in second screen mode. This is represented by a yellow frame in the app.

This means that all measurement data from the testo 300 NEXT LEVEL is mirrored on the app. The measurement can now be controlled by both devices.

The following actions are possible:

- Start measurement
- Stop measurement
- Save measurement from app to device
- After the measurement, generate a quick report on the app for further documentation on the smartphone

## 8 Technical data

Feature	Value
Temperature measuring instrument	-40 to +1200°C
Draught measurement	-9.99 to +40 hPa
Pressure measurement	-100 to 200 hPa
O <sub>2</sub> measurement	0 to 21 vol. %
CO measurement	0 to 4000 ppm
Option: CO measurement (H <sub>2</sub> -compensated)	0 to 8000 ppm
Option: CO measurement with activated fresh air dilution/measuring range extension	0 to 15000 ppm
Option: CO measurement (H <sub>2</sub> -compensated) with activated fresh air dilution/measuring range extension	0 to 30000 ppm
NO measurement	0 to 3000 ppm

## 8 Technical data

Feature	Value
Efficiency testing (Eta)	0 to 120%
Flue gas losses	0 to 99.9%
CO <sub>2</sub> determination (calculation from O <sub>2</sub> )	Display range 0 to CO <sub>2</sub> max.
Ambient CO measurement (internal/flue gas probe)	0 to 2000 ppm
Ambient CO measurement (external with CO probe)	0 to 500 ppm
Lifetime O <sub>2</sub> -sensor	up to 72 months, depending on the load
Lifetime CO-sensor	up to 72 months, depending on the load
Lifetime NO-sensor	up to 72 months, depending on the load

### General technical data

Feature	Value
Storage temperature	-20 to +50°C
Operating temperature	-5 to +45°C
Charging temperature	-0 to +45°C
Energy storage unit	3.6 V/3.5 Ah
Mains unit	5 V / 1 A
Humidity application range	15 to 90% RH, non-condensing
Power supply	Energy storage unit, USB mains unit
Energy storage unit service life	10 hrs
Lifetime energy storage	> 1000 charging cycles / approx. 5 years
Protection class	IP 40
Memory	1 million measuring values
Display	5.0" touch display, HD 1280x720 pixels
Weight	Approx. 800 g
Dimensions	L: 244 mm (including probe connection) H: 59 mm W: 98 mm.
Certification	TÜV-tested according to 1st German Federal Immission Control Ordinance (BImSchV) EN 50379, Parts 1-3

## 8.1 Product-specific approvals

As declared in the certificate of conformity, this product complies with Directive 2014/30/EU.

The testo 300 NEXT LEVEL with O<sub>2</sub>/CO, H<sub>2</sub>-compensated/NO gas sensors, combustion air temperature sensor, flue gas temperature sensor and differential pressure sensor (draught) is TÜV-tested in accordance with VDI 4206.

The CO sensor, H<sub>2</sub>-compensated, is TÜV-tested in accordance with EN 50379 part 2.

The CO sensor, not H<sub>2</sub>-compensated, is TÜV-tested in accordance with EN 50379 part 3.

For official measurements in accordance with the first German Federal Immission Control Ordinance (BImSchV) (chimney sweeps), the measuring instrument must be checked every six months by a technical testing body of the Guild of Master Chimney Sweeps or another testing body recognised by the authorities.

Please find the current country approvals in the attached **Approval and Certification** document.

## 9 Contact and support

If you have any questions or need further information, please contact your dealer or Testo Customer Service. For contact details, please visit [www.testo.com/service-contact](http://www.testo.com/service-contact).



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