

## testo 340

## Hand-held analyzer for industrial flue gas analysis

Rising fuel costs for thermal systems highlight more and more the need for efficiency monitoring using emission measurements. A practical, easy-to-use emission analyzer for a variety of applications is therefore ideal.

testo 340 flue gas analyzer incl. rechargeable battery, calibration protocol and carry strap, equipped with O<sub>2</sub> sensor and built-in flow/differential pressure measurement

Part no.  
**0632 3340**

- The unique measuring range extension feature facilitates unlimited measurements even at high gas concentrations.
- testo 340 is equipped with an O<sub>2</sub> sensor as standard. 3 additional gas sensors can be individually configured at any time so your analyzer is optimally adapted to your measurement job.
- Compact design combined with reliable engineering makes testo 340 the ideal analyzer for commissioning, service and maintenance work as well as measurements for monitoring purposes.
  - Industrial burners
  - Stationary industrial engines
  - Gas turbines
  - Thermal processes
- TÜV approval / EN standard
  - Accuracy approved for O<sub>2</sub>, CO<sub>2</sub>, CO, NO, NO<sub>low</sub>, °C, hPa to EN 50379 standard, Part 2
  - Approved sensor change (adjustment without test gas)



Options	Part no.
<i>testo 340 must be equipped with a second gas sensor otherwise the analyzer cannot function. Max. 3 additional sensors can be fitted.</i>	
Option: CO (H <sub>2</sub> compensated) measurement module, 0 to 10,000 ppm	0440 3988
Option CO <sub>low</sub> (H <sub>2</sub> compensated) measurement module, 0 to 500 ppm	0440 3936
Option: NO measurement module, 0 to 3,000 ppm	0440 3935
Option: NO <sub>low</sub> measurement module, 0 to 300 ppm	0440 3928
Option: NO <sub>2</sub> measurement module, 0 to 500 ppm	0440 3926
Option: SO <sub>2</sub> measurement module, 0 to 5,000 ppm	0440 3927
Option: BLUETOOTH® module	0440 3350
Option: dilution of all sensors	0440 3351

**Standard probes, 335 mm long**

Flue gas probe, modular, 335 mm immersion depth, incl. probe stop, thermocouple NiCr-Ni (Ti) Tmax 500°C and hose 2.2 m

**Part no.**  
0600 9766

Flue gas probe, modular, 335 mm immersion depth, incl. probe stop, thermocouple NiCr-Ni (Ti) Tmax 1000°C and hose 2.2 m

0600 8764

Flue gas probe, modular, with preliminary filter, 335 mm immersion depth, incl. probe stop, thermocouple NiCr-Ni (Ti) Tmax 1000°C and hose 2.2 m

0600 8766


**Standard probes, 700 mm long**

Flue gas probe, modular, 700 mm immersion depth, incl. probe stop, thermocouple NiCr-Ni (Ti) Tmax 500°C and hose 2.2 m

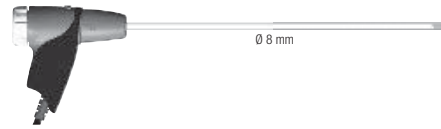
**Part no.**  
0600 9767

Flue gas probe, modular, 700 mm immersion depth, incl. probe stop, thermocouple NiCr-Ni Tmax 1000°C and hose 2.2 m

0600 8765

Flue gas probe, modular, with preliminary filter, 700 mm immersion depth, incl. probe stop, thermocouple NiCr-Ni (Ti) Tmax 1000°C and hose 2.2 m

0600 8767


**Accessories**

Hose extension, 2.8 m, extension cable for probe and analyser

**Part no.**  
0554 1202

Probe shaft with preliminary filter, 335 mm long, with probe stop, Ø 8 mm, Tmax 1000 °C

0554 8766

Probe shaft with preliminary filter, 700 mm long, with probe stop, Ø 8 mm, Tmax 1000 °C

0554 8767

Spare sintered filter (2 off)

0554 3372

Spare particle filter (10 off) for probe handle

0554 3385

Probe shaft, 700 mm long, with probe stop, Ø 8 mm, Tmax 500 °C

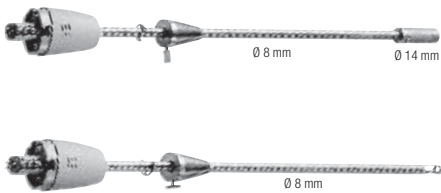
0554 9767

Probe shaft, 335 mm long, with probe stop, Ø 8 mm, Tmax 1000 °C

0554 8764

Probe shaft, 700 mm long, with probe stop, Ø 8 mm, Tmax 1000 °C

0554 8765


**Motor probes**

Flue gas probe for industrial motors, 335 mm immersion depth, with probe stop, built-in condensate trap and heat protection plate, Tmax 1000 °C, special hose for NO<sub>2</sub>/SO<sub>2</sub> measurements, 2.2 m long

**Part no.**  
0600 7560

Flue gas probe for industrial motors with probe shaft prefilter, 335 mm immersion depth, with probe stop, built-in condensate trap and heat protection plate, Tmax 1000 °C, special hose for NO<sub>2</sub>/SO<sub>2</sub> measurements, 2.2 m long

0600 7561

Thermocouple for exhaust gas temperature measurement (NiCr-Ni, length 400 mm, Tmax. +1000 °C), with 2.4 m connection cable and additional temperature protection

0600 8894

Spare particle filter (10 off) for condensate trap in gas sampling hose

0554 3371

Spare sintered filter (2 off)

0554 3372


**Industrial probes**

Adapter, non-heated

**Part no.**  
0600 7911

Extension pipe to +600 °C, stainless steel 1.4571

Extension pipe to +1200 °C, Inconel 625

0600 7802

0600 7804

Non-heated sampling pipe to +600 °C, stainless steel 1.4571

Non-heated sampling pipe to +1200 °C, Inconel 625

0600 7801

0600 7803

Non-heated sampling pipe to +1800 °C, Al<sub>2</sub>O<sub>3</sub>

0600 7805

Preliminary filter for dusty flue gases, ceramic

0554 0710

Preliminary filter can only be mounted on extension pipe 0600 7802 or 0600 7804.

Gas sampling hose for accurate NO<sub>x</sub>/SO<sub>2</sub> measurements with built-in condensate trap, 2.2 m long

0554 3352

Thermocouple, NiCr-Ni, -200 to +1200 °C, Inconel 625, 1.2 m long

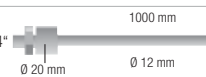
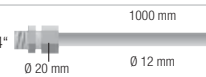
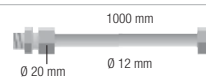
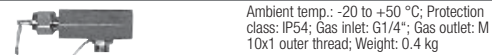
Thermocouple, NiCr-Ni, -200 to +1200 °C, Inconel 625, 2.2 m long

Thermocouple, NiCr-Ni, -200 to +1200 °C, Inconel 625, 3.2 m long

0430 0065

0430 0066

0430 0067





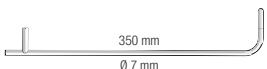

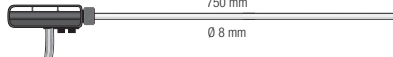
Mounting flange, stainless steel 1.4571, adjustable quick-action fitting suitable for all sampling/extension pipes

0554 0760

Spare particle filter (10 off) for condensate trap in gas sampling hose

0554 3371

For testo 300 M-I/XL-I	Illustration	Meas. range	Accuracy	t99	Part no.
Mini ambient air probe, Tmax +80°C, for separate ambient air temperature measurement		0 to +80 °C			0600 3692
Pipe wrap probe for pipes with diameter of up to 2", for flow/return temp. meas. in hydronic systems	 Conn.: Fixed cable	-60 to +130 °C	Class 2	5 s	0600 4593
Mini ambient air probe, 60 mm immersion depth, w. probe stop, magnetic clip, Tmax +100°C, for dual wall clearance temp. meas. in systems w. outside primary air intakes					0600 9797

Pitot tubes for flow measurement	Illustration	Meas. range	Part no.
Pitot tube, 350 mm long, stainless steel, measures velocity speed	 350 mm Ø 7 mm	Oper. temp. 0 to +600 °C	0635 2145
Pitot tube, 1000 mm long, stainless steel, measures velocity speed	 1000 mm Ø 7 mm	Oper. temp. 0 to +600 °C	0635 2345
Pitot tube, stainless steel, 750 mm long, measures flow speed with temperature, 3x hoses (5 m long) and heat protection plate	 750 mm Ø 8 mm	-40 to +1000 °C	0635 2042
Connection hose, silicone, 5m long, max. load 700 hPa (mbar)			0554 0440

Calibration Certificates	Part no.
ISO calibration certificate velocity, hot wire, vane anemometer, Pitot tube; calibration points 1; 2; 5; 10 m/s	0520 0004
ISO calibration certificate/Velocity, hot wire, vane anemometer, Pitot tube; calibration points 5; 10; 15; 20 m/s	0520 0034

Accessories	Part no.
Transport case for analyzer and probes	0516 3400
100-240 V AC / 6.3 V DC international mains unit, for mains operation or battery charging in instrument	0554 1096
"easyEmission" software with USB cable to connect instrument to PC	0554 3334
Multiple license/"easyEmission" software	0554 3338
Testo fast printer with wireless infrared interface, 1 roll thermal paper and 4 AA batteries	0554 0549
BLUETOOTH® printer set with wireless Bluetooth interface, incl. 1 roll thermal paper, rechargeable battery and mains unit	0554 0553
Spare thermal paper for printer (6 rolls), permanent ink	0554 0568
Spare thermal paper for printer (6 rolls)	0554 0569
Spare battery with charger	0554 1087
Instrument cleaner (100 ml)	0554 1207
NO replacement filter, 1 off	0554 4150
CO replacement filter, 1 off	0554 4100
ISO calibration certificate/flue gas, calibration points 2.5% O2; 100 and 1000 ppm CO; 800 ppm NO; 80 ppm NO2; 1000 ppm SO2	0520 0003

**Information about instrument upgrades and prices available on request.**

	Meas. range	Accuracy	Resolution	Response time
O <sub>2</sub> measurement	0 to 25 Vol. %	±0.2 Vol. %	0.01 Vol. %	t <sub>90</sub> < 20 s
CO measurement (H <sub>2</sub> compensated)	0 to 10000 ppm	±10 ppm or ±10% of mv (0 to 200 ppm) ±20 ppm or ±5% of mv (201 to 2000 ppm) ±10% of mv (2001 to 10000 ppm)	1 ppm	t <sub>90</sub> < 40 s
CO <sub>low</sub> measurement (H <sub>2</sub> compensated)	0 to 500 ppm	±2 ppm (0 to 39.9 ppm) ±5% of mv (remaining range) <sup>X</sup>  <small><sup>X</sup>Data correspond to 20°C ambient temperature. Additional temperature coefficient 0.25% of mv/K.</small>	0.1 ppm	t <sub>90</sub> < 40 s
NO measurement	0 to 3000 ppm	±5 ppm (0 to 99 ppm) ±5% of mv (100 to 1999 ppm) ±10% of mv (2000 to 3000 ppm)	1 ppm	t <sub>90</sub> < 30 s
NO <sub>low</sub> measurement Probe type Type K (NiCr-Ni)	0 to 300 ppm	±2 ppm (0 to 39.9 ppm) ±5% of mv (remaining range)	0.1 ppm	t <sub>90</sub> < 30 s
NO <sub>2</sub> measurement*	0 to 500 ppm	±10 ppm (0 to 199 ppm) ±5% of mv (remaining range)	0.1 ppm	t <sub>90</sub> < 40 s
SO <sub>2</sub> measurement*	0 to 5000 ppm	±10 ppm (0 to 99 ppm) ±10% of mv (remaining range)	1 ppm	t <sub>90</sub> < 40 s
Temperature meas. Probe type	-40 to +1200 °C	±0.5 °C (0 to +99 °C) ±0.5 % of mv (remaining range)	0.1 °C	
Draught measurement	-40 to +40 hPa	±0.03 hPa (-2.99 to +2.99 hPa) ±1.5 % of mv (remaining range)	0.01 hPa	
Differential pressure measurement	-200 to 200 hPa	±0.5 hPa (-49.9 to 49.9 hPa) ±1.5 % of mv (remaining range)	0.1 hPa	
Absolute pressure measurement	600 to +1150 hPa	±10 hPa	1 hPa	
Derived parameters				
Efficiency	0 to 120 %		0.1 %	
Flue gas loss	0 to 99.9 %		0.1 %	
Flue gas dewpoint	0 to 99.9 °C		0.1 °C	
CO <sub>2</sub> measurement (calculation from O <sub>2</sub> )	0 to CO <sub>2</sub> max.	±0.2 Vol. %	0.1 Vol. %	Response time t <sub>90</sub> = < 40 s

\*Max. measurement duration of 2 hours should not be exceeded in order to avoid absorption.

**Country permits BLUETOOTH® wireless transmission for testo 340**

The BLUETOOTH® radio module used by Testo is permitted for the following countries and may only be used in those countries, i.e. the BLUETOOTH® wireless transmission may not be used in any other country!

**Europe including all EU member states**

Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and Turkey

**European countries (EFTA)**

Iceland, Liechtenstein, Norway, Switzerland

**Non-European countries**

Canada, USA, Japan, Ukraine, Australia, Colombia and El Salvador

Measurement range extension		
Single dilution factor 5 (standard)		
CO measurement (H <sub>2</sub> compensated)	Meas. range Accuracy Resolution	700 ppm to 50000 ppm ±10 % of mv (additional error) 1 ppm
CO <sub>low</sub> measurement (H <sub>2</sub> compensated)	Meas. range Accuracy Resolution	300 ppm to 2.500 ppm ±10 % of mv (additional error) 0.1 ppm
NO <sub>low</sub> measurement	Meas. range Accuracy Resolution	150 ppm to 1.500 ppm ±10 % of mv (additional error) 0.1 ppm
NO measurement	Meas. range Accuracy Resolution	500 ppm to 15.000 ppm ±10 % of mv (additional error) 0.1 ppm
SO <sub>2</sub> measurement	Meas. range Accuracy Resolution	500 ppm to 25000 ppm ±10 % of mv (additional error) 1 ppm
Dilution of all sensors, Factor 2 (option, Part no. 0440 3350)		
O <sub>2</sub> measurement	With measuring range extension switched on over all sensors: Meas. range: Accuracy: Resolution:	0 to 25 vol.% ±1 vol.% additional error (0 to 4.99 vol.%) ±0.5 vol.% additional error (5 to 25 vol.%) 0.01 vol.%
CO measurement (H <sub>2</sub> compensated)	Meas. range Accuracy Resolution	700 ppm to 20000 ppm ±10 % of mv (additional error) 1 ppm
CO <sub>low</sub> measurement (H <sub>2</sub> compensated)	Meas. range Accuracy Resolution	500 ppm to 1000 ppm ±10 % of mv (additional error) 0.1 ppm
NO measurement	Meas. range Accuracy Resolution	500 ppm to 6000 ppm ±10 % of mv (additional error) 1 ppm
NO <sub>low</sub> measurement	Meas. range Accuracy Resolution	150 ppm to 600 ppm ±10 % of mv (additional error) 0.1 ppm
NO <sub>2</sub> measurement	Meas. range Accuracy Resolution	200 ppm to 1000 ppm ±10 % of mv (additional error) 0.1 ppm
SO <sub>2</sub> measurement	Meas. range Accuracy Resolution	500 ppm to 10000 ppm ±10 % of mv (additional error) 1 ppm

General technical data		
Memory	Maximum Per folder Per site Max. number of protocols is determined by the number of folders or sites	100 folders max. 10 sites max. 200 protocols
Controlled diaphragm pump:	Pump flow Hose length Max positive pressure/Flue gas Max negative pressure/Flue gas	0.6l/min (controlled) max. 7.8 m (corresponds to two probe hose extensions) +50 mbar -200 mbar
User-defineable fuels	10 user-defineable fuels incl. test gas as fuel	
Weight	960 g	
Dimensions	283 x 103 x 65 mm	
Storage temp.	-20 to +50 °C	
Oper. temp.	-5 to +50 °C	
Display	Graphics display: 160 x 240 pixels	
Power supply	Rech. block: 3.7V/2.4Ah Power: 6.3 V/2A	
Material/Housing	TPE PC	
Protection class	IP40	
Warranty	Analyzer 2 years (excluding wearing parts, e.g. gas sensors) Rech. batt. 1 year Gas sensors CO, NO, CO <sub>low</sub> , NO <sub>low</sub> , NO <sub>2</sub> , SO <sub>2</sub> : 1 year O <sub>2</sub> : 1.5 years	

Wireless readout, transmission and printing of readings



**Bluetooth®**  
Wireless transmission\*

\*Country permits/BLUETOOTH® wireless transmission, see Technical Data on page 7.

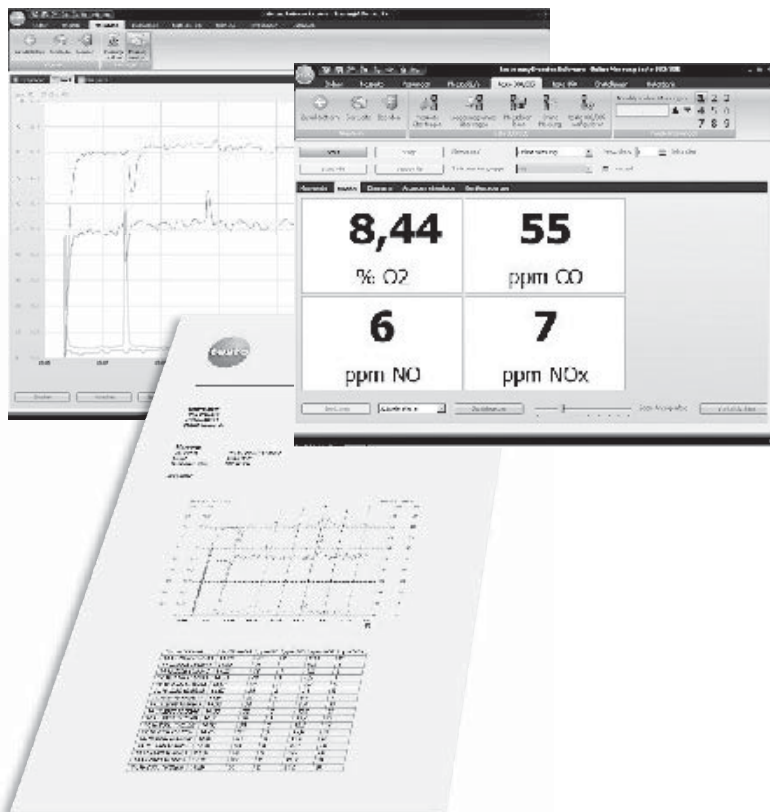
The new communication interface: Bluetooth® 2.0  
Wireless connection via Bluetooth® 2.0 to testo BLUETOOTH® printers and direct communication to Notebook/PC over a distance of up to 10m (free field) are features of the new testo 340 option. Readings and configurations are transmitted wirelessly to your Notebook/PC for storage and analysis.

**testo printers**

Print data is transmitted wirelessly to the printer by infrared interface (visual contact required) or by new BLUETOOTH® wireless transmission. This saves time since the analyzer is ready for use again immediately following data transmission.



Convenient measurement data management with "easyEmission"



Data can be read out, easily edited, filed and managed using "easyEmission" software:

**Benefits of easyEmission:**

- Readings are shown in table or graph form
- User-defined measurement spacing (from one measurement / second to one measurement / hour)
- Online measurements via BLUETOOTH® wireless transmission or USB connection
- Customer and application-specific measurement logs
- Data structure and measurement information can be transmitted from computer to analyzer
- All instrument configurations and settings can be easily carried out with easyEmission
- Direct transmission to Excel and pdf formats
- Easy implementation of individual formulae for your own calculations
- Calculation of fuel factors when using customer-specific fuels