Be sure. testo

testo 340

Speed, power & precision in industrial combustion analysis.

Bluetooth®

The testo 340 Portable Combustion Analyzer

Speed, power & precision in combustion & emissions analysis.

Optimizing the combustion process and increasing fuel efficiency are necessary to compete in today's market. The testo 340 is the ideal tool to confirm proper set-up and to identify emission problems before they get serious.

The Ultimate Portable Combustion Tuner

- 4-gas flexibility in a rugged, compact handheld design
- Multi sensor capability, equipped to handle extreme concentrations
- Automatic CO-dilution sensor protections keep your analyzer working longer
- Designed for simple, fast operation and constructed for daily rugged use!

Built to Last

Testo analyzers are known for their reliability and staying power in the industry. The testo 340 is no exception with its simple to use interface, and durability that can withstand the most rugged field environments. All testo 340s are equipped with:

- Widest testing range in its class
- Easy to read, back-lit displays
- User-defined option to see only the parameters that matter
- Simple function keys to navigate throughout the menu
- Rubberized shock-resistant housing
- Integrated magnets for hands-free operation
- Durable transport case

Replaceable Sensors and Filters

Plug and play sensor technology lets you change or add sensors within seconds in the field, eliminating costly down-time and giving you maximum tuning flexibility. Replaceable sensor filters on the CO and NO sensors eliminate the interferences.

To assure filter readiness, advanced analyzer diagnostics show filter lifetime in PPM hours. This lets you know when to change out the filter. This simple change-out increases accuracy and extends sensor lifetime.

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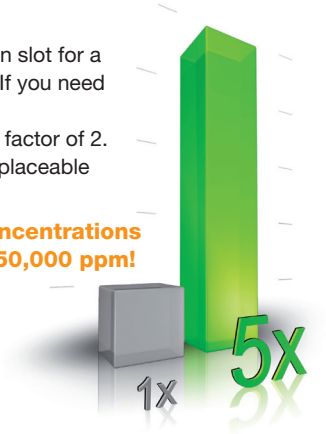
Get the job done right...

Unique Feature - Dilution System Option

The testo 340 is built to measure high concentration with its unique, automatic 5X dilution system. When the concentration set-point is reached, precise amounts of dilution air are added thereby lowering the concentration applied to the sensor. The analyzer automatically computes and displays the correct values.

Simply install the sensors in the dilution slot for a range 5 times greater. It's that simple. If you need more flexibility select "dilution overall" to extend the range of all sensors by a factor of 2. The dilution system, combined with replaceable filters will maximize your tuning capabilities and reduce the cost of ownership.

CO concentrations up to 50,000 ppm!



Combustion Analysis that you can count on

Oxygen comes standard, then simply add one, or up to three, sensors for your job.

Select from:

- CO or CO_{low}
- NO or NO_{low}
- NO_2
- SO_2 (For the lower concentrations, select CO_{low} or NO_{low} instead)

Bluetooth® (Optional)

Onboard Diagnostics

The information button is knowledge at your fingertips.

Simply push the ***"i"*** button and scroll to the diagnostics screen to see instrument status.

For example:

- Perform an automated quick leak check before your test
- See the rechargeable lithium battery status (lasts approximately 6 hours with pump on)
- Review the pump flow rate (liters/min)
- Show error status with description and diagnosis and last service/maintenance date
- Display graphic representation of sensor calibration data
- Shows status of water in condensate trap

Simply push the ***"information"*** button and scroll to the diagnostics screen.

More features

Integrated pressure sensor

- Measure draft or differential pressure
- Simultaneously measure exhaust gas and flow velocity

18 fuels to choose from, plus...

10 – custom fuel options for better measurement accuracy (input from easyEmission)

Infrared printing

- Display and print calibration record with sensor graphics
- Print records to infrared printer (10 year thermal paper)

Data Management

Internal data logging – automatic programs

Take your testo 340 to a new level of efficiency with on-board logging programs. Select from 5 user-defined measurement data logging programs. Log every second for up to 2 hours!

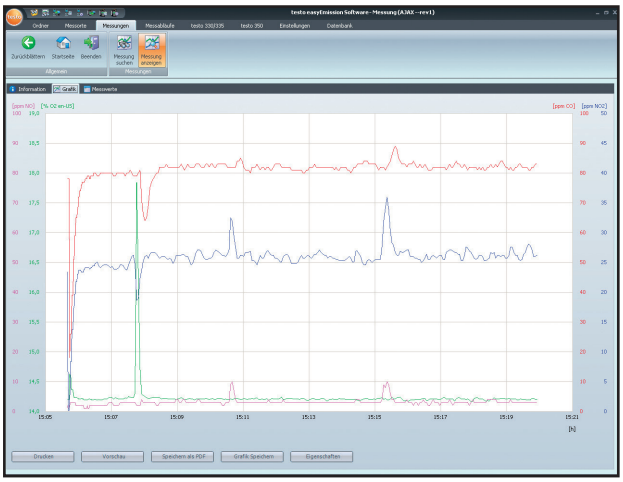
Internal Memory Management

- Up to 100 folders (customers/systems) can be saved
- Up to 10 sites can be saved in every folder
- USB Interface
- Transmit data via infrared or optional Bluetooth

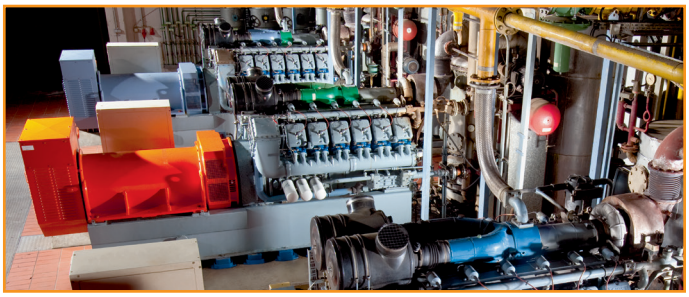
easyEmission

Have total control of your 340 with the easyEmission software package. Display screens can be customized to match commonly used functions. Prepare custom reports. With dynamic graphing features, it provides trending analysis like no other instrument in its class.

- Real-time analyzer control with a PC, showing tabular, graphical and picture box results
- Logging intervals from 1/sec to 1/hr
- Custom report generation
- Import/export data into a variety of formats

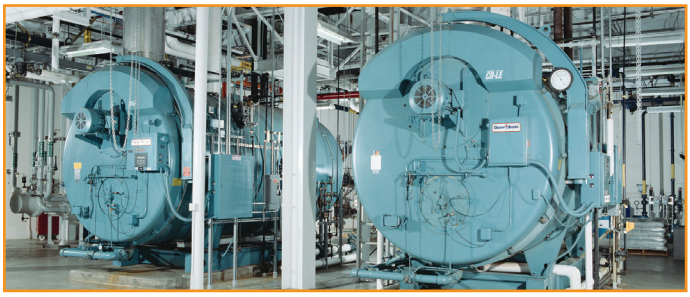


The Ultimate Combustion Tuner



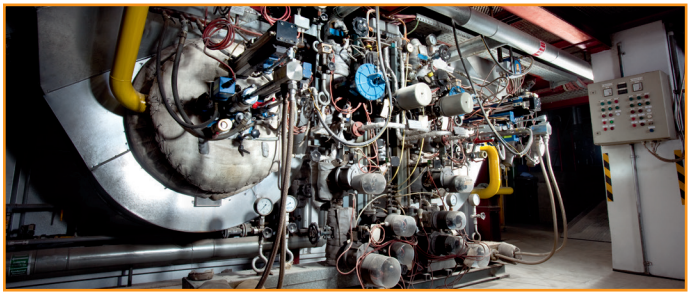
Better engine tuning

Stationary engine exhaust, when uncontrolled, can have very wide concentration ranges. As a result both CO and NO_2 can fluctuate significantly. For rich burn testing, the on-board dilution system and the replaceable interference filters keep the sensors secure and your readings accurate. The analyzer can measure both NO and NO_2 for perfect lean burn testing. Use the 340 for setup, commissioning, pre-compliance, and tuning.



Better boiler and burner tuning

The automatic dilution feature will reduce the CO concentrations when your system spikes and CO goes through the roof. The analyzer will automatically adjust to the situation. Don't worry about climbing and removing the probe from the stack, just hit the fresh air button. Automatic calculations (CO_2, efficiency, excess air) provide fast tuning data. The standard differential pressure measurement is ideal to monitor or set up draft or draft induction or velocity for the calculation of mass emissions.



Better combustion analysis for industrial processes

Combustion analyses in industrial processes vary widely. With the optional dilution system, the measurement of extreme concentration (i.e. SO_2 or NO_x) is easily measured. High temperature sampling or with long industrial probes can easily be added. The testo 340 is truly an analyzer designed as your industrial workhorse.

Probes for every application

The probe and hose assemblies are made from the highest quality materials. The standard hoses (Teflon lines) are heat-resistant. The cam-lock securely attaches the sample line to the analyzer. Probe length vary from 12 inches to 28 inches with temperatures to 1800 ºF and hoses that can extend to 25 feet.

- Standard probes are specially designed for either engine or burner/ boiler applications
- Industrial probes with lengths to 9 feet and temperatures to 3200 ºF give you extreme tuning flexibility

Testo External sample gas conditioner

Some applications have overly wet flue gas. Use the external sample gas conditoner to remove the excess moisture. Powered by AC adapter or use your own powerbank.

- Reduction of flue gas moisture resulting in improved accuracy & sensor life
- Rugged and designed for long life by using high quality acid resistant materials
- Small, lightweight & efficient with sophisticated gas path
- Fast operation thanks to easy connection and start-up

Technical data

Measurement	Measurement range	Accuracy
O_2	0 to 25 Vol.%	±0.2 Vol.%
CO (H_2 compensated)	0 to 10,000 ppm	±10 ppm or ±10% of mv (0 to 200 ppm) ±20 ppm or ±5% of mv (201 to 2,000 ppm) ±10% of mv (2,001 to 10,000 ppm)
CO_{low} (H_2 compensated)	0 to 500 ppm	±3 ppm (0 to 39.9 ppm) ±5% of mv (remaining range)
NO	0 to 3,000 ppm	±5 ppm (0 to 99 ppm) ±5% of mv (100 to 1,999 ppm) ±10% of mv (2,000 to 3,000 ppm)
NO_{low}	0 to 300 ppm	±3 ppm (0 to 39.9 ppm) ±5% of mv (remaining range)
NO_2*	0 to 500 ppm	±10 ppm (0 to 199 ppm) ±5% of mv (remaining range)
SO_2*	0 to 5,000 ppm	±10 ppm (0 to 99 ppm) ±10% of mv (remaining range)
Temperature Probe Type K (NiCr-Ni)	-40° to 2,192 °F	±0.9 °F (32 to 210.2 °F) ±0.5 % of mv (remaining range)
Draft	-16" to 16" H_2O	0.0004 psi (-0.043 to 0.043 hPa) ±1.5 % of mv (remaining range)
Differential pressure	-80" to 80" H_2O	0.007 psi (-0.724 to 0.724 psi) ±1.5 % of mv (remaining range)
Absolute pressure	-240" to 461.5" H_2O	±3.87" H_2O
Calculated parameters: Efficiency Flue gas loss Flue gas dewpoint	 0 to 120% 0 to 99.9% 0° to 211 °F	
CO_2 measurement (calculation from O_2)	0 to CO_2 max.	±0.2 Vol. %

Data Logging Note: *To avoid drift, a maximum measurement duration of 2 hours should not be exceeded.

General technical data

Memory	Maximum: 100 folders, Per folder: Max. 10 sites, Per site: Max. 200 logs, The max. number of logs is determined by the numberof folders or sites
Sample pump	Pump flow: 1.0 l/min Hose length: max. 25 feet (2 hose extensions and 1 probe hose) Max. pos. pressure/flue gas: 20" H_2O Max. neg. pressure/flue gas: -80" H_2O
Weight	2.12 lbs
Dimensions	11.14 x 4.05 x 2.56"
Storage temp.	-4° to 122 °F
Oper. temp.	23° to 122 °F
Power supply	Battery 3.7 V/2.4 Ah, AC Power Supply 6.3 V/2 A
Protection class	IP40
Warranty	Analyzer: 2 years (excluding working parts, e.g. sensors, sensor replacement filter) Rech. batt.: 1 year Sensors: CO, NO, CO_{low}, NO_{low}, NO_2, SO_2: 1 year, O_2: 1.5 years

Measuring range extension		
Single dilution, factor 5 (standard)		
CO (H_2 compensated)	Meas. range Accuracy	700 ppm to 50,000 ppm ±10 % of mv (additional error)
CO_{low} (H_2 compensated)	Meas. range Accuracy Resolution	300 ppm to 2,500 ppm ±10 % of mv (additional error) 0.1 ppm
NO	Meas. range Accuracy	500 ppm to 15,000 ppm ±10 % of mv (additional error)
NO_2	Meas. range Accuracy	150 ppm to 1,500 ppm ±10 % of mv (additional error)
NO_{low}	Meas. range Accuracy Resolution	150 ppm to 1,500 ppm ±10 % of mv (additional error) 0.1 ppm
SO_2	Meas. range Accuracy	500 ppm to 25,000 ppm ±10 % of mv (additional error)
Dilution of all sensors, factor 2 (Option - Part no. 0440 3350)		
O_2 (With dilution 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 (H_2 compensated)	Meas. range Accuracy	700 ppm to 20,000 ppm ±10 % of mv (additional error)
CO_{low} (H_2 compensated)	Meas. range Accuracy	300 ppm to 1,000 ppm ±10 % of mv (additional error)
NO	Meas. range Accuracy	500 ppm to 6,000 ppm ±10 % of mv (additional error)
NO_{low}	Meas. range Accuracy	150 ppm to 600 ppm ±10 % of mv (additional error)
NO_2	Meas. range Accuracy	200 ppm to 1,000 ppm ±10 % of mv (additional error)
SO_2	Meas. range Accuracy	500 ppm to 10,000 ppm ±10 % of mv (additional error)

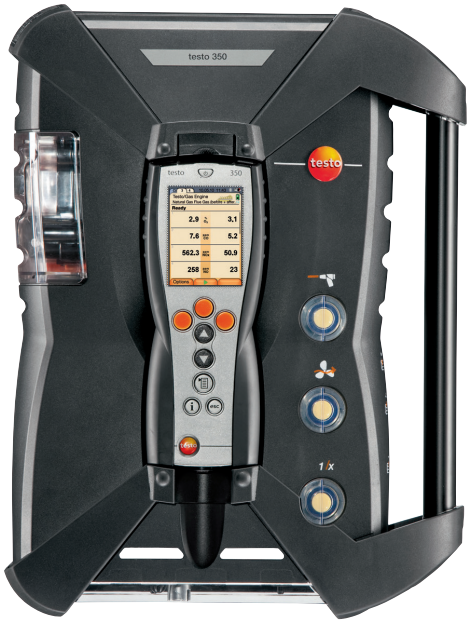
mv = measured value

Other combustion solutions from Testo

testo 350

Multi-Gas Portable Emission Analyzer

The testo 350 multi-gas emission analyzer provides the high performance and rugged portability for emission monitoring and regulatory compliance.



testo 330-2 LX

Three-Gas Analyzer

The 330-2 LX measures O2, CO, optional NO, temperature, pressure, and other combustion parameters. Proper set up and maintenance are critical to safe and efficient equipment operation.

testo 320

Single-Gas O2 Analyzer

The 320 is perfect for basic tuning. Use it to set up and commission combustion systems.

Find out more at:
www.testo.com

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