





## testo 340 - Step Up to the Next Level in Combustion Analysis

Optimizing the combustion process and increasing fuel efficiency are necessary to compete in today's market. The testo 340 provides you with the information you need to make the best decisions when it comes to combustion analysis. This is the ideal tool to confirm proper set-up and to identify emission problems before they get serious.

### The Ultimate Portable Tuner

4-gas flexibility in a rugged, compact handheld design

- Multi sensor capability, equipped to handle extreme concentrations
- Automatic Sensor Protections keep your analyzer working longer
- Designed for simple, fast operation and constructed for demanding daily rugged use!

### Combustion Analysis that you can count on!

#### 1 Multi-Sensor Flexibility: Swap IN or OUT for any job!

The testo 340 sets the standard for a quality combustion analyzer with its ability to measure accurately, consistently, and for long periods of time. Our pioneering plug n' play sensor technology lets you change or add sensors (within seconds) in the field, eliminating costly down-time and giving you maximum tuning flexibility.

Our exclusive O<sub>2</sub> sensor (standard in the 340) is now made with improved and longer lasting components resulting in better accuracy and longer sensor life. Simply add one (1) or up to three (3) sensors for your job. Select from CO, NO, NO<sub>2</sub> or SO<sub>2</sub>. (For the lower concentrations, select CO<sub>low</sub> or NO<sub>low</sub> instead)

### NEW – Replaceable Interference Filters

Some combustion sources run normally high concentrations while others are high because of inadequate control or incorrect set-up. High concentrations can reduce the normal life span of sensors. Testo's solution is replaceable interference filters on the CO and NO sensors. Analyzer diagnostics will display the filter lifetime in ppm hours to inform you of filter change-out which is easy and quick to replace. This simple process increases accuracy and extends sensor lifetime.





## Set Your Sights on More Features and More Control

### 2 Sensor Protection

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**.

**Simple – Easy – Smart!**

Simply install the sensors in the dilution slot for a range 5 times greater. It's that simple. If you need more flexibility add the **optional "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.



Measurements in the 5X range up to:

- Max 50,000 ppm CO
- Max 15,000 ppm NO
- Max 25,000 ppm SO<sub>2</sub>

...Save time and money

Use dilution and change the filter to extend sensor life!

### 3 Reliable, Simple and Tough

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:

- Easy to read, back-lit displays
- User-defined option to see only the parameters that matter
- Simple function keys to navigate throughout the menu
- Information button to display functions, sensor diagnostics, and more
- Rubberized shock-resistant housing
- Integrated magnets for hands-free operation
- Durable transport case

## Affordable, Portable – Perfect!

### Gas sampling – For Engines, Boilers, Furnaces, Industrial Probes

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 340. Probe lengths are from 12 inches to 28 inches with temperatures to 1800 °F and hoses can extend to 25 feet, giving you the power to tackle any job!

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





## MORE FEATURES – MORE CONTROL

### Automatic – flow controlled sampling pump

Sample flow rate is controlled for constant reading and pulls from longer sample lines

### Infrared printing

Print records (flash Mode) to testo infrared printer (10 year thermal paper)

### Calibration records with sensor output/life graph

Display and print calibration record

### Integrated pressure sensor

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



### 18 fuels to choose from, plus

10 – user defined fuels (input from easyEmissions)

### Onboard Diagnostics

–The information button is knowledge at your fingertips.

Simply go to the diagnostics screen to see instrument status

- 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)
- Display error status with description and diagnosis and last service/maintenance date
- Graphic representation of sensor calibration data
- Shows status of condensate trap

## Data Management – On-board and easyEmissions

### Onboard

#### Internal data logging – automatic programs

Take your testo 340 to a new level of efficiency with on-board logging programs. Simply select from 5 user-defined measurement data logging programs. Select the capture rate you need. Program duration is limited by concentration. At low concentrations, data log up to 2 hours!

### 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 Bluetooth



### easyEmissions

#### A powerful and efficient software tool

Have total control of your 340 with the easyEmission software package. This software provides extraordinary data management and compatibility giving you the power to import/export data from a variety of formats. easyEmission has the intuitive user interface of today's common Windows® based applications. Display screens can be customized to match the most commonly used functions. Prepare custom reports and documents.

- Real Time Analyzer Control with a PC, showing tabular, graphical and picture box results
- Logging intervals 1/sec to 1/hr
- Custom report generation



# “Get tough on emission tuning with the testo 340”

## The Ultimate Tuner: For All Your Combustion Needs



Combustion Analyzer kits specially designed for your specific needs:



### Let's talk better engine tuning

Stationary engine exhaust, when uncontrolled, can have very wide concentration ranges. As a result both CO and NO<sub>2</sub> can fluctuate significantly. The on-board dilution system and the replaceable interference filters both **keep the sensors secure and your readings accurate.**

The unit measures **both NO and NO<sub>2</sub>** for perfect lean burn engine set-up. High exhaust pressures and heavy particulate loading are easily controlled with the **special pressure relief valve** (standard) and **particulate filters** (option) on the Engine Probe kit configuration.



### Let's talk better boiler and burner tuning

Industrial boilers and burners have their own unique tuning requirements. The **dilution feature will put you at ease** 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**. The measurements of O<sub>2</sub>, CO, NO and SO<sub>2</sub> combined with automatic calculations (CO<sub>2</sub>, efficiency, excess air) **provide a multitude of fast tuning solutions.** The **small compact size** of the testo 340 provides better access in the boiler room. The standard **differential pressure measurement** is ideal to monitor or set up draft or draft induction or even velocity and mass.



### Let's talk better combustion analysis for industrial processes

Combustion analyses in industrial processes vary widely. Beyond typical O<sub>2</sub> and CO measurements, which are critical for proper combustion, the measurement of extreme concentration (i.e. SO<sub>2</sub> or NO<sub>x</sub>) can also be essential and is easily measured with the 340. High temperature sampling in kilns or the need for long rugged industrial probes can easily be achieved with the **wide array of probes and hose options.** The easyEmission software, with its **dynamic graphing features**, provides trending analysis like no other instrument in its class. The testo 340 is truly an analyzer designed as your industrial workhorse.

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# Technical Data

|  | Meas. range                            | Accuracy  |
|--|--|---|
| <b>O<sub>2</sub> measurement</b>   | 0 to 25 Vol. %                         | ±0.2 Vol. %   |
| <b>CO measurement (H<sub>2</sub> compensated)</b>                                | 0 to 10,000 ppm                        | ±10 ppm or ±10% of mv (0 to 200 ppm)<br>±20 ppm or ±5% of mv (201 to 2,000 ppm)<br>±10% of mv (2,001 to 10,000 ppm) |
| <b>CO<sub>low</sub> measurement (H<sub>2</sub> compensated)</b>                  | 0 to 500 ppm                           | ±3 ppm (0 to 39.9 ppm)<br>±5% of mv (remaining range)   |
| <b>NO measurement</b>  | 0 to 3,000 ppm                         | ±5 ppm (0 to 99 ppm)<br>±5% of mv (100 to 1,999 ppm)<br>±10% of mv (2,000 to 3,000 ppm)                             |
| <b>NO<sub>low</sub> measurement</b>  | 0 to 300 ppm                           | ±3 ppm (0 to 39.9 ppm)<br>±5% of mv (remaining range)   |
| <b>NO<sub>2</sub> measurement*</b>   | 0 to 500 ppm                           | ±10 ppm (0 to 199 ppm)<br>±5% of mv (remaining range)   |
| <b>SO<sub>2</sub> measurement*</b>   | 0 to 5,000 ppm                         | ±10 ppm (0 to 99 ppm)<br>±10% of mv (remaining range)   |
| <b>Temperature meas. Probe Type K (NiCr-Ni)</b>                                  | -40 to 2,192 °F                        | 32.89 °F (32 to 210.2 °F)<br>±0.5 % of mv (remaining range)   |
| <b>Draft measurement</b>   | -0.58 to 0.58 psi                      | 0.0004 psi (-0.043 to 0.043 hPa)<br>±1.5 % of mv (remaining range)  |
| <b>Differential pressure measurement</b>   | -2.9 to 2.9 psi                        | 0.007 psi (-0.724 to 0.724 psi)<br>±1.5 % of mv (remaining range)   |
| <b>Absolute pressure measurement</b>   | 8.7 to 16.68 psi                       | 0.14 psi  |
| <b>Calculated parameters</b><br>Efficiency<br>Flue gas loss<br>Flue gas dewpoint | 0 to 120 %<br>0 to 99.9 %<br>211.82 °F |   |
| <b>CO<sub>2</sub> measurement (calculation from O<sub>2</sub>)</b>               | 0 to CO <sub>2</sub> max.              | ±0.2 Vol. %   |

\*To avoid drift, a maximum measurement duration of 2 hours should not be exceeded.

| Measuring range extension                                      |  |   |
|--|--|---|
| Single dilution, factor 5 (standard)                           |  |   |
| <b>CO (H<sub>2</sub> compensated)</b>                          | Meas. range<br>Accuracy  | 700 ppm to 50,000 ppm<br>±10 % of mv (additional error)           |
| <b>CO<sub>low</sub> (H<sub>2</sub> compensated)</b>            | Meas. range<br>Accuracy<br>Resolution  | 300 ppm to 2,500 ppm<br>±10 % of mv (additional error)<br>0.1 ppm |
| <b>NO</b>  | Meas. range<br>Accuracy  | 500 ppm to 15,000 ppm<br>±10 % of mv (additional error)           |
| <b>NO<sub>low</sub></b>  | Meas. range<br>Accuracy<br>Resolution  | 150 ppm to 1,500 ppm<br>±10 % of mv (additional error)<br>0.1 ppm |
| <b>SO<sub>2</sub></b>  | Meas. range<br>Accuracy  | 500 ppm to 25,000 ppm<br>±10 % of mv (additional error)           |
| Dilution of all sensors, factor 2 (option, Part no. 0440 3350) |  |   |
| <b>O<sub>2</sub></b>   | With dilution over all sensors:<br>Meas. range 0 to 25 vol.%<br>Accuracy ±1 vol.% additional error (0 to 4.99 vol.%)<br>±0.5 vol.% additional error (5 to 25 vol.%)<br>Resolution 0.01 vol.% |   |
| <b>CO (H<sub>2</sub> compensated)</b>                          | Meas. range<br>Accuracy  | 700 ppm to 20,000 ppm<br>±10 % of mv (additional error)           |
| <b>CO<sub>low</sub> (H<sub>2</sub> compensated)</b>            | Meas. range<br>Accuracy  | 300 ppm to 1,000 ppm<br>±10 % of mv (additional error)            |
| <b>NO</b>  | Meas. range<br>Accuracy  | 500 ppm to 6,000 ppm<br>±10 % of mv (additional error)            |
| <b>NO<sub>low</sub></b>  | Meas. range<br>Accuracy  | 150 ppm to 600 ppm<br>±10 % of mv (additional error)              |
| <b>NO<sub>2</sub></b>  | Meas. range<br>Accuracy  | 200 ppm to 1,000 ppm<br>±10 % of mv (additional error)            |
| <b>SO<sub>2</sub></b>  | Meas. range<br>Accuracy  | 500 ppm to 10,000 ppm<br>±10 % of mv (additional error)           |

| General technical data          |  |
|---------------------------------|--|
| <b>Memory</b>                   | Maximum: 100 folders<br>Per folder: Max. 10 sites<br>Per site: Max. 200 logs<br>The max. number of logs is determined by the number of folders or sites  |
| <b>Regulated diaphragm pump</b> | Pump flow: 1.0 l/min (regulated)<br>Hose length: max. 25 feet (2 hose extensions and 1 probe hose)<br>Max. pos. pressure/flue gas: 0.73 psi<br>Max. neg. pressure/flue gas: -2.9 psi   |
| <b>Weight</b>                   | 2.12 lbs   |
| <b>Dimensions</b>               | 11.14 x 4.05 x 2.56"   |
| <b>Storage temp.</b>            | -4 to 122 °F   |
| <b>Oper. temp.</b>              | 23 to 122 °F   |
| <b>Power supply</b>             | Battery 3.7 V/2.4 Ah, AC Power Supply 6.3 V/2 A  |
| <b>Protection class</b>         | IP40   |
| <b>Warranty</b>                 | Analyzer: 2 years (excluding working parts, e.g. sensors, sensor replacement filter)<br>Rech. batt.: 1 year<br>Sensors: CO, NO, CO <sub>low</sub> , NO <sub>low</sub> , NO <sub>2</sub> , SO <sub>2</sub> : 1 year<br>O <sub>2</sub> : 1.5 years |



Committing to the future

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