

**Products**

- ▶ Instruments by Compound
- ▶ Instruments by Application
- ▶ Instruments by Technology
- ▶ Product Overview
- ▶ Applications
- ▶ Software

**Customer Support**

- ▶ Sales Distributors
- ▶ Return Authorization
- ▶ Training
- ▶ Application Notes
- ▶ Secure Support

**Product Support**

- ▶ Technical Support Forms
- ▶ Product Manuals
- ▶ Spare Parts Lists
- ▶ Spare Parts Finder

**Model 101E/102E**

**H<sub>2</sub>S & TRS Analyzers  
 for Ambient Air Quality Monitoring**

The Models 101E/102E provide a dependable, accurate and convenient method of measuring hydrogen sulfide or Total Reduced Sulfur (TRS) in levels commonly required for Ambient Air monitoring, offering ranges from 0-50 ppb to 0-10 ppm. Both analyzers convert sulfur gases to sulfur dioxide and measure concentrations using fluorescence technology.

The M101E is equipped with an internally mounted low temperature converter which converts H<sub>2</sub>S at a closely controlled

temperature setting of 315 °C, leaving other gases unaffected. The M102E uses a high temperature converter, mounted externally to the analyzer, and operates at a temperature of 850°C. TRS components (typically, H<sub>2</sub>S, methyl mercaptan, dimethyldisulfide and methyl-disulfide) are all converted to SO<sub>2</sub> at this temperature, with efficiency greater than 98%.

Sample gas drawn into the analyzer first passes through a scrubber which removes all traces of sulfur dioxide. The converter then converts the components of interest to SO<sub>2</sub>. The resulting concentration for SO<sub>2</sub> is then measured by fluorescence. In the basic configuration, the analyzer may be programmed to read H<sub>2</sub>S concentration (101E) or TRS (102E) only. However, a switching option, showing H<sub>2</sub>S/TRS and SO<sub>2</sub> readings alternately, is available. Cycle times may be adjusted, and each reading is truly independent, having its own calibration slope and offset. A sample and hold circuit provides continual analog outputs for each channel. Calibration is simplified by the optional zero and span valves, which allow direct entry of calibration gases, or the optional permeation tube may be used to provide span checks. The analyzers feature auto zero which provides excellent zero stability.



**Features**

- Standard two year warranty
- 0-50 ppb to 10 ppm (**101E**), 0-50 ppb to 10 ppm (**102E**) ranges, user selectable
- Microprocessor controlled for versatility
- Multi-tasking software allows viewing of test variables during operation
- Auto ranging, dual range and remote range selection
- Built in self checks and diagnostic capabilities
- Bi-directional RS232 allows remote reading or operation (optional RS-485 or Ethernet)
- Digital status outputs provide instrument condition
- Optional H<sub>2</sub>S/SO<sub>2</sub> or TRS/SO<sub>2</sub> switching capability
- Auto Zero System
- Adaptive signal filtering optimizes response time
- Temperature & pressure compensation
- Optional Calibration valves or permeation oven
- User friendly operation and set up
- Internal Zero Span
- Internal Datalogger
- Critical Orifices provide flow stability

<b>Specifications</b>	
Ranges:	<b>101E:</b> 0 – 50 ppb to 0 – 10 ppm H <sub>2</sub> S or up to 20 ppm SO <sub>2</sub> ; <b>102E:</b> 0 – 50 ppb to 0 – 10 ppm TRS or 20 ppm SO <sub>2</sub> (Note: For ranges higher than 0-10 ppm, please consult Teledyne API)
Units:	ppb, ppm, mg/m <sup>3</sup>
Zero noise:	0.2 ppb (RMS)
Zero drift:	< 0.5 ppb / 24 hrs, 1 ppb / 7 days
Span drift:	< 0.5 % full scale / 24 hrs, 1% full scale / 7 days
Lower Detectable Limit (LDL):	< 0.4 ppb

Rise and Fall Time:	< 120 seconds
Sample flow rate:	650 cc/min ±10 %
Linearity:	1% of full scale
Converter Temperature:	<b>101E:</b> 315°C; <b>102E:</b> 850°C
Dimensions (HxWxD):	7" (178 mm) x 17" (432 mm) x 23.5" (597 mm) for analyzer. Model 102E requires same size for converter
Weight:	<b>101E:</b> 41 lbs (18.3 kg); <b>102E:</b> 53 lbs (24 kg)
Power:	100v, 50/60 Hz (3.25A); 115V, 60 Hz (3.0A); 220-240V, 50/60 Hz (2.5A)
Analog Outputs:	10V, 5V, 1V, 0.1V, selectable
Current Output:	Optional 4-20 mA isolated outputs (select up to 3 channels)
RS-232:	Standard, DB-9 connector
Status (Digital):	8 outputs, 6 inputs (opto-isolated), 4 alarm outputs (optional)
Approvals:	CE

---

[Home](#) | [Terms of Use](#)  
[Terms and Conditions](#) - (PDF)  
e-mail us: [api-sales@teledyne.com](mailto:api-sales@teledyne.com)

Copyright © 2008 Teledyne Technologies Incorporated. All rights reserved.  
Teledyne API • 9480 Carroll Park Drive • San Diego, California 92121-5201 • USA