

## Model 5100/5100HD Gas Analyzers for Measuring H<sub>2</sub>S in Process Gas

Based on Tunable Diode Laser Absorption Spectroscopy (TDLAS)



Model 5100



Model 5100HD, GP, Class I, Div 2  
ATEX/IEC Ex Zone 2

*Model 5100 and 5100HD use sealed reference cells for continuous on-line analyzer verification and offers high specificity, sensitivity and extremely fast response speeds.*

*The Model 5100HD has a horizontally orientated cell and may be configured to include multiple lasers and cells in an oven which can be run at temperatures up to 150°C (302°F).*

### Features and Benefits

- || **Noncontact Measurement**  
Noncontact measurement offers low maintenance
- || **All Digital Signal Processing**  
32-bit microcontroller capable of sophisticated signal processing
- || **Web-Based Interface**  
To interrogate the analyzer remotely, all you need is the IP address of the analyzer
- || **Connectivity**  
Modbus, Ethernet, dry contacts and analog
- || **Real-Time Performance Monitoring**  
Laser line-lock verification using internal reference cell
- || **NEMA 4X Enclosure houses the electronic components**  
Designed for outdoor installation
- || **Fully-Integrated Sample Handling**  
Standard feature
- || **Resistant to Contamination**  
No interference from gas phase amines, glycol, methanol, and mercaptans
- || **Hazardous Area Options**  
ATEX/IEC Ex Zone 2  
(Pending) NEC/CEC: Class I, Div 2, Groups A,B,C,D; ATEX/IEC Ex Zone 1, IIB+H<sub>2</sub>, T3

# Model 5100/5100HD Gas Analyzers

## Specifications

**Laser Specification:** Class 1m or 3b depending on application

**Typical Operating Range:** 0-300 ppm Min / 0 to 50% Max; Other ranges available subject to application, consult AMETEK  
CO<sub>2</sub>: 0-100ppmv up to % ranges  
H<sub>2</sub>O: 0-100ppmv up to % ranges

**Accuracy:** Application dependant. Typical H<sub>2</sub>S accuracy in hydrocarbon streams is 3% of reading

**Repeatability:** Application dependant. Typical H<sub>2</sub>S accuracy in hydrocarbon streams is ±50ppm or 2% of reading, whichever is greater

### Environment:

**Ambient Temperature:** -20°C to +50°C (-4°F to 122°F). Max. temp for 5100HD is 100°C

### Electrical Classification:

ATEX/IEC Ex Zone 2  
(Pending) NEC/CEC: Class I, Div 2, Groups A,B,C,D; ATEX/IEC Ex Zone 1, IIB+H<sub>2</sub>, T3

**Relative Humidity:** 0% to 90%, non-condensing

**Sample Flow Rate:** 1 to 10 SLPM recommended (2 - 20 SCFH)

**Sample Cell Pressure:** 70 to 170 kPa absolute (10-25 psia)

**Speed of Response:** < 1 second photometric response. Total system response is dependent on sample flowrate.

**Outputs:** 4-line x 20-character alphanumeric VF display.

**Fast Ethernet** (IEEE802.3)

**RS-485** serial port, isolated (supports Modicon Modbus RTU)

(1) isolated 4-20 mA loop-powered analog output

(4) dry relay contacts. Contact rating 30 VAC, 60 VDC, 100 VA resistive

### Electrical Requirements:

120 VAC (108-132V); 47-63 Hz, or 240 VAC (216-264V), 47-63 Hz  
24 VDC (no oven or cell heater option)

### Power Requirements:

Model 5100: < 25W; with optional heater 105W  
Model 5100HD: 450W with optional heater

### Physical:

Model 5100 (HxWxD): 86.88 cm x 43.42 cm x 21.17 cm (34.2" x 17.1" x 8.34")

Model 5100 HD (HxWxD): 64.23 cm x 83.03 cm x 29.53 cm (25.29" x 32.69" x 11.63")

### Weight:

Model 5100-25 Kg (55 lb)  
Model 5100HD-58.97 Kg (130 lb)

**Enclosure:** IP-65, NEMA 4X



NEW ENGLAND  
**ETA PROCESS INSTRUMENTATION**  
since 1971  
www.etapii.com  
sales@etapii.com  
tel: 978.532.1330



UPSTATE NEW YORK  
**MARTECH CONTROLS**  
since 1997  
www.martechcontrols.com  
sales@martechcontrols.com  
tel: 315.876.9120

**AMETEK**<sup>®</sup>  
PROCESS INSTRUMENTS



© 2011, by AMETEK, Inc.  
All rights reserved. Printed in the U.S.A.  
F-0292 Rev. 3 (1013)

One of a family of innovative process analyzer solutions from AMETEK Process Instruments.  
Specifications subject to change without notice.

TDLAS