

# SS2100a gas analyzer

## Exceptionally reliable for measuring trace gas components



More information and current pricing:

[www.us.endress.com/SS2100A](http://www.us.endress.com/SS2100A)

### Benefits:

- Accurate, real-time measurements
- Low cost of ownership; no consumables; virtually maintenance free and reliable in harsh environments
- Measurements not hampered by wet-up (absorption) or dry-down (desorption)
- Dependable with greater repeatability than surface-based sensors
- Analog and serial outputs for remote monitoring
- Available for the following measurements: H<sub>2</sub>O, CO<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, C<sub>2</sub>H<sub>2</sub>
- ATEX Zone 2 certified

### Specs at a glance

- **Measured Variables** Concentration Cell Pressure Cell  
Temperature
- **Hazardous area approvals** ATEX Zone 2

**Field of application:** The SS2100a gas analyzer measures accurate trace gas components (H<sub>2</sub>O, CO<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, and C<sub>2</sub>H<sub>2</sub>) in natural gas and hydrocarbon processing applications using tunable diode laser absorption spectroscopy (TDLAS) technology. It requires little maintenance and does not need recalibration or periodic replacement parts. The SS2100a is certified for ATEX Zone 2.

## Features and specifications

H2S

Measuring principle

TDLAS

## H2S

**Product Headline**

An advanced gas analyzer for hydrogen sulfide (H2S) measurement. The SS2100a uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

**Channels**

1

**Analyte and Measurement ranges**

H2S (Hydrogen Sulfide): 0-10 to 0-1000 ppmv; 0-5000 ppmv to 0-5%

**Measured Variables**

Concentration

Cell Pressure

Cell Temperature

**Ambient Temperature range**

-20 to 50°C (-4 to 122°F)

Optional: -10 to 60°C (14 to 140°F)

**Operating Pressure range**

Inlet Pressure: 140-350 kPa (20-50 psig)

Sample Cell: 800-1200 mbara or 950-1700 mbara (optional)

**Analyzer Wetted materials**

316L Stainless Steel

FKM O-Rings

Glass

**Power supply**

120 or 240 VAC  $\pm$ 10%, 50-60 Hz; 60W max (with 2 solenoids) - electronics enclosure

120 or 240 VAC, 50-60 Hz - standard; 100W or 200W max for heated systems - sample cabinet

## H2S

**Communication**

Analog Output: Two 4-20mA Isolated, 1200 ohms @ 24 VDC max load (measurement value)

Analog Input: One 4-20mA Isolated, 1200 ohms @ 24 VDC max load (process pressure)

Serial: RS232C and Ethernet

Protocol: Modbus Gould RTU or Daniel RTU or ASCII

Digital Outputs: 5, Concentration Alarm, General Fault, Validation Fail, Validation 1 Active, Validation 2 Active

Digital Inputs: 2, Flow Alarm, Validation Request

**Housing materials**

Electronics: Copper-free Aluminum

Sample System Enclosure: 304 or 316 Stainless Steel

**Hazardous area approvals**

ATEX Zone 2

**Degree of protection**

IP66

**Product safety**

CE

## H2O

**Measuring principle**

TDLAS

**Product Headline**

An advanced gas analyzer for moisture (H2O) measurement. The SS2100a uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

**Channels**

1

## H2O

**Analyte and Measurement ranges**

H2O (Moisture): 0-10 to 0-100 ppmv; 0-50 to 0-5000 ppmv

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**Measured Variables**

Concentration  
Moisture Dew Point  
Cell Pressure  
Cell Temperature

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**Ambient Temperature range**

-20 to 50°C (-4 to 122°F)  
Optional: -10 to 60°C (14 to 140°F)

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**Operating Pressure range**

Inlet Pressure: 140-350 kPa (20-50 psig)  
Sample Cell: 800-1200 mbara or 950-1700 mbara (optional)

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**Analyzer Wetted materials**

316L Stainless Steel  
FKM O-Rings  
Glass

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**Power supply**

120 or 240 VAC  $\pm$ 10%, 50-60 Hz; 60W max (with 2 solenoids) -  
electronics enclosure  
120 or 240 VAC, 50-60 Hz - standard; 100W or 200W max for heated  
systems - sample cabinet

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**Communication**

Analog Output: Two 4-20mA Isolated, 1200 ohms @ 24 VDC max load  
(measurement value)  
Analog Input: One 4-20mA Isolated, 1200 ohms @ 24 VDC max load  
(process pressure)  
Serial: RS232C and Ethernet  
Protocol: Modbus Gould RTU or Daniel RTU or ASCII  
Digital Outputs: 5, Concentration Alarm, General Fault, Validation Fail,  
Validation 1 Active, Validation 2 Active  
Digital Inputs: 2, Flow Alarm, Validation Request

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H2O

**Housing materials**

Electronics: Copper-free Aluminum

Sample System Enclosure: 304 or 316 Stainless Steel

**Hazardous area approvals**

ATEX Zone 2

**Degree of protection**

IP66

**Product safety**

CE

CO2

**Measuring principle**

TDLAS

**Product Headline**

An advanced gas analyzer for carbon dioxide (CO<sub>2</sub>) measurement. The SS2100a uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

**Channels**

1

**Analyte and Measurement ranges**CO<sub>2</sub> (Carbon Dioxide): 0-10 to 0-1000 ppmv; 0-5000 ppmv to 0-5%**Measured Variables**

Concentration

Cell Pressure

Cell Temperature

**Ambient Temperature range**

-20 to 50°C (-4 to 122°F)

Optional: -10 to 60°C (14 to 140°F)

CO2

**Operating Pressure range**

Inlet Pressure: 140-350 kPa (20-50 psig)

Sample Cell: 800-1200 mbara or 950-1700 mbara (optional)

**Analyzer Wetted materials**

316L Stainless Steel

FKM O-Rings

Glass

**Power supply**120 or 240 VAC  $\pm 10\%$ , 50-60 Hz; 60W max (with 2 solenoids) - electronics enclosure

120 or 240 VAC, 50-60 Hz - standard; 100W or 200W max for heated systems - sample cabinet

**Communication**

Analog Output: Two 4-20mA Isolated, 1200 ohms @ 24 VDC max load (measurement value)

Analog Input: One 4-20mA Isolated, 1200 ohms @ 24 VDC max load (process pressure)

Serial: RS232C and Ethernet

Protocol: Modbus Gould RTU or Daniel RTU or ASCII

Digital Outputs: 5, Concentration Alarm, General Fault, Validation Fail, Validation 1 Active, Validation 2 Active

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**Housing materials**

Electronics: Copper-free Aluminum

Sample System Enclosure: 304 or 316 Stainless Steel

**Hazardous area approvals**

ATEX Zone 2

**Degree of protection**

IP66

**Product safety**

CE

NH3

**Measuring principle**

TDLAS

**Product Headline**

An advanced gas analyzer for ammonia (NH3) measurement. The SS2100a uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

**Channels**

1

**Analyte and Measurement ranges**

NH3 (Ammonia): 0-5 ppmv

**Measured Variables**

Concentration

Cell Pressure

Cell Temperature

**Ambient Temperature range**

-20 to 50°C (-4 to 122°F)

Optional: -10 to 60°C (14 to 140°F)

**Operating Pressure range**

Inlet Pressure: 140-350 kPa (20-50 psig)

Sample Cell: 800-1200 mbara or 950-1700 mbara (optional)

**Analyzer Wetted materials**

316L Stainless Steel

FKM O-Rings

Glass

**Power supply**

120 or 240 VAC  $\pm$ 10%, 50-60 Hz; 60W max (with 2 solenoids) - electronics enclosure

120 or 240 VAC, 50-60 Hz - standard; 100W or 200W max for heated systems - sample cabinet

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NH3	<p><b>Communication</b></p> <p>Analog Output: Two 4-20mA Isolated, 1200 ohms @ 24 VDC max load (measurement value)</p> <p>Analog Input: One 4-20mA Isolated, 1200 ohms @ 24 VDC max load (process pressure)</p> <p>Serial: RS232C and Ethernet</p> <p>Protocol: Modbus Gould RTU or Daniel RTU or ASCII</p> <p>Digital Outputs: 5, Concentration Alarm, General Fault, Validation Fail, Validation 1 Active, Validation 2 Active</p> <p>Digital Inputs: 2, Flow Alarm, Validation Request</p> <hr/> <p><b>Housing materials</b></p> <p>Electronics: Copper-free Aluminum</p> <p>Sample System Enclosure: 304 or 316 Stainless Steel</p> <hr/> <p><b>Hazardous area approvals</b></p> <p>ATEX Zone 2</p> <hr/> <p><b>Degree of protection</b></p> <p>IP66</p> <hr/> <p><b>Product safety</b></p> <p>CE</p> <hr/>
C2H2	<p><b>Measuring principle</b></p> <p>TDLAS</p> <hr/> <p><b>Product Headline</b></p> <p>An advanced gas analyzer for acetylene (C2H2) measurement. The SS2100a uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.</p> <hr/> <p><b>Channels</b></p> <p>1</p> <hr/>

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## C2H2

**Analyte and Measurement ranges**

C2H2 (Acetylene): 0-5; 0-3000 ppmv

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**Measured Variables**

Concentration

Cell Pressure

Cell Temperature

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**Ambient Temperature range**

-20 to 50°C (-4 to 122°F)

Optional: -10 to 60°C (14 to 140°F)

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**Operating Pressure range**

Inlet Pressure: 140-350 kPa (20-50 psig)

Sample Cell: 800-1200 mbara or 950-1700 mbara (optional)

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**Analyzer Wetted materials**

316L Stainless Steel

FKM O-Rings

Glass

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**Power supply**

120 or 240 VAC  $\pm$ 10%, 50-60 Hz; 60W max (with 2 solenoids) - electronics enclosure

120 or 240 VAC, 50-60 Hz - standard; 100W or 200W max for heated systems - sample cabinet

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**Communication**

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Serial: RS232C and Ethernet

Protocol: Modbus Gould RTU or Daniel RTU or ASCII

Digital Outputs: 5, Concentration Alarm, General Fault, Validation Fail, Validation 1 Active, Validation 2 Active

Digital Inputs: 2, Flow Alarm, Validation Request

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C2H2

**Housing materials**

Electronics: Copper-free Aluminum

Sample System Enclosure: 304 or 316 Stainless Steel

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**Hazardous area approvals**ATEX Zone 2

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**Degree of protection**IP66

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**Product safety**CE

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