

SS2100a gas analyzer

Exceptionally reliable for measuring trace gas components



More information and current pricing:

www.casc.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: H₂O, CO₂, H₂S, NH₃, C₂H₂
- 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 (H₂O, CO₂, H₂S, NH₃, and C₂H₂) 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

Measured Variables

Concentration
Moisture Dew Point
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

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

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 (CO₂) 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 rangesCO₂ (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 supply120 or 240 VAC $\pm 10\%$, 50-60 Hz; 60W max (with 2 solenoids) -
electronics enclosure120 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

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

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

NH3	<p>Communication</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>Housing materials</p> <p>Electronics: Copper-free Aluminum</p> <p>Sample System Enclosure: 304 or 316 Stainless Steel</p> <hr/> <p>Hazardous area approvals</p> <p>ATEX Zone 2</p> <hr/> <p>Degree of protection</p> <p>IP66</p> <hr/> <p>Product safety</p> <p>CE</p> <hr/>
C2H2	<p>Measuring principle</p> <p>TDLAS</p> <hr/> <p>Product Headline</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>Channels</p> <p>1</p> <hr/>

C2H2

Analyte and Measurement ranges

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

Communication

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

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

Digital Inputs: 2, Flow Alarm, Validation Request

C2H2

Housing materials

Electronics: Copper-free Aluminum

Sample System Enclosure: 304 or 316 Stainless Steel

Hazardous area approvalsATEX Zone 2

Degree of protectionIP66

Product safetyCE

More information www.casc.endress.com/SS2100A