

SS2100 gas analyzer

Exceptionally reliable for measuring trace gas components



More information and current pricing:

www.ch.endress.com/SS2100

Benefits:

- Accurate, real-time measurements
- Low cost of ownership, no consumables and virtually maintenance-free and reliable in harsh environments
- Available to measure up to 3 analytes in one unit (2-packs or 3-packs)
- Provides 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 following measurements: H₂O, CO₂, H₂S, NH₃, C₂H₂

Specs at a glance

- **Measured Variables** Concentration Cell Pressure Cell
Temperature
- **Hazardous area approvals** CSA Class I, Division 2 CSA Class I, Zone 2

Field of application: Using patented tunable diode laser absorption spectroscopy (TDLAS) technology, the SS2100 gas analyzer measures specific gases (H₂O, CO₂, H₂S, NH₃, and C₂H₂) with precision while avoiding interferences that are common with traditional infrared analyzers. The SS2100 analyzer requires little maintenance and does not need recalibration or periodic replacement parts.

Features and specifications

H2S

Measuring principle

TDLAS

H2S

Product Headline

An advanced gas analyzer for hydrogen sulfide (H2S) measurement. The SS2100 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 ±10%, 50-60 Hz, 300W
(18-24 VDC - optional for electronics only)
3 Amps max @ 120 VAC , 1.5 Amps max @ 240 VAC Hz

H2S**Communication**

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

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: 304 or 316L Stainless Steel

Sample System Enclosure: 304 or 316L Stainless Steel

Hazardous area approvals

CSA Class I, Division 2

CSA Class I, Zone 2

Degree of protection

IP66, Type 4X

H2O**Measuring principle**

TDLAS

Product Headline

An advanced gas analyzer for moisture (H2O) measurement. The SS2100 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

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

H2O

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, 300W
(18-24 VDC - optional for electronics only)
3 Amps max @ 120 VAC , 1.5 Amps max @ 240 VAC Hz

Communication

Analog Output: Two 4-20mA Isolated, 1200 ohms @ 24 VDC max load
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: 304 or 316L Stainless Steel
Sample System Enclosure: 304 or 316L Stainless Steel

H2O	<p>Hazardous area approvals CSA Class I, Division 2 CSA Class I, Zone 2</p> <hr/> <p>Degree of protection IP66, Type 4X</p> <hr/>
CO2	<p>Measuring principle TDLAS</p> <hr/> <p>Product Headline An advanced gas analyzer for carbon dioxide (CO2) measurement. The SS2100 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 1</p> <hr/> <p>Analyte and Measurement ranges CO2 (Carbon Dioxide): 0-10 to 0-1000 ppmv; 0-5000 ppmv to 0-5%</p> <hr/> <p>Measured Variables Concentration Cell Pressure Cell Temperature</p> <hr/> <p>Ambient Temperature range -20 to 50°C (-4 to 122°F) Optional: -10 to 60°C (14 to 140°F)</p> <hr/> <p>Operating Pressure range Inlet Pressure: 140-350 kPa (20-50 psig) Sample Cell: 800-1200 mbara or 950-1700 mbara (optional)</p> <hr/>

CO2

Analyzer Wetted materials

316L Stainless Steel
FKM O-Rings
Glass

Power supply

120 or 240 VAC $\pm 10\%$, 50-60 Hz, 300W
(18-24 VDC - optional for electronics only)
3 Amps max @ 120 VAC , 1.5 Amps max @ 240 VAC Hz

Communication

Analog Output: Two 4-20mA Isolated, 1200 ohms @ 24 VDC max load
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: 304 or 316L Stainless Steel
Sample System Enclosure: 304 or 316L Stainless Steel

Hazardous area approvals

CSA Class I, Division 2
CSA Class I, Zone 2

Degree of protection

IP66, Type 4X

NH3

Measuring principle

TDLAS

Product Headline

An advanced gas analyzer for ammonia (NH3) measurement. The SS2100 uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

NH3

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 ±10%, 50-60 Hz, 300W

(18-24 VDC - optional for electronics only)

3 Amps max @ 120 VAC , 1.5 Amps max @ 240 VAC Hz

Communication

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

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

NH3

Housing materials

Electronics: 304 or 316L Stainless Steel

Sample System Enclosure: 304 or 316L Stainless Steel

Hazardous area approvals

CSA Class I, Division 2

CSA Class I, Zone 2

Degree of protection

IP66, Type 4X

C2H2

Measuring principle

TDLAS

Product Headline

An advanced gas analyzer for acetylene (C2H2) measurement. The SS2100 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

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)

C2H2**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, 300W

(18-24 VDC - optional for electronics only)

3 Amps max @ 120 VAC , 1.5 Amps max @ 240 VAC Hz

Communication

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

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: 304 or 316L Stainless Steel

Sample System Enclosure: 304 or 316L Stainless Steel

Hazardous area approvals

CSA Class I, Division 2

CSA Class I, Zone 2

Degree of protection

IP66, Type 4X

H2S+H2O**Measuring principle**

TDLAS

H2S+H2O

Product Headline

Advanced multi-channel gas analyzer for hydrogen sulfide (H2S) and moisture (H2O), also known as a 2-Pack. The SS2100 uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

Channels

2

Analyte and Measurement ranges

H2S (Hydrogen Sulfide): 0-10 to 0-1000 ppmv

H2O (Moisture): 0-100 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 ±10%, 50-60 Hz, 300W

(18-24 VDC - optional for electronics only)

3 Amps max @ 120 VAC , 1.5 Amps max @ 240 VAC Hz

H2S+H2O**Communication**

Analog Output: Four 4-20mA Isolated, 1200 ohms @ 24 VDC max load
Serial: RS232C and Ethernet (H2S) and RS232C or Ethernet (H2O)
Protocol: Modbus Gould RTU or Daniel RTU or ASCII
Digital Outputs (H2S): 5, Concentration Alarm, General Fault, Validation Fail, Validation 1 Active, Validation 2 Active
Digital Inputs (H2S): 2, Flow Alarm, Validation Request
Digital Outputs (H2O): 2, Concentration Alarm, General Fault

Housing materials

Electronics: 304 or 316L Stainless Steel
Sample System Enclosure: 304 or 316L Stainless Steel

Hazardous area approvals

CSA Class I, Division 2
CSA Class I, Zone 2

Degree of protection

IP66, Type 4X

H2S+CO2**Measuring principle**

TDLAS

Product Headline

Advanced multi-channel gas analyzer for hydrogen sulfide (H2S) and carbon dioxide (CO2), also known as a 2-Pack. The SS2100 uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

Channels

2

Analyte and Measurement ranges

H2S (Hydrogen Sulfide): 0-10 to 0-1000 ppmv
CO2 (Carbon Dioxide): 0-5000 ppmv to 0-5%

H2S+CO2**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 ±10%, 50-60 Hz, 300W
(18-24 VDC - optional for electronics only)
3 Amps max @ 120 VAC , 1.5 Amps max @ 240 VAC Hz

Communication

Analog Output: Four 4-20mA Isolated, 1200 ohms @ 24 VDC max load
Serial: RS232C and Ethernet (H2S) and RS232C or Ethernet (CO2)
Protocol: Modbus Gould RTU or Daniel RTU or ASCII
Digital Outputs (H2S): 5, Concentration Alarm, General Fault, Validation Fail, Validation 1 Active, Validation 2 Active
Digital Inputs (H2S): 2, Flow Alarm, Validation Request
Digital Outputs (CO2): 2, Concentration Alarm, General Fault

Housing materials

Electronics: 304 or 316L Stainless Steel
Sample System Enclosure: 304 or 316L Stainless Steel

H2S+CO2

Hazardous area approvals

CSA Class I, Division 2

CSA Class I, Zone 2

Degree of protection

IP66, Type 4X

H2S+H2O+CO2

Measuring principle

TDLAS

Product Headline

Advanced multi-channel gas analyzer for hydrogen sulfide (H2S), moisture (H2O), and carbon dioxide (CO2), also known as a 3-Pack. The SS2100 uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

Channels

3

Analyte and Measurement ranges

H2S (Hydrogen Sulfide): 0-10 to 0-1000 ppmv

H2O (Moisture): 0-100 to 0-5000 ppmv

CO2 (Carbon Dioxide): 0-5000 ppmv to 0-5%

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)

H2S+H2O+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, 300W

(18-24 VDC - optional for electronics only)

3 Amps max @ 120 VAC , 1.5 Amps max @ 240 VAC Hz

Communication

Analog Output: Four 4-20mA Isolated, 1200 ohms @ 24 VDC max load

Serial: RS232C and Ethernet (H2S) and RS232C or Ethernet (H2O/CO2)

Protocol: Modbus Gould RTU or Daniel RTU or ASCII

Digital Outputs (H2S): 5, Concentration Alarm, General Fault, Validation Fail, Validation 1 Active, Validation 2 Active

Digital Inputs (H2S): 2, Flow Alarm, Validation Request

Digital Outputs (H2O/CO2): 2, Concentration Alarm, General Fault

Housing materials

Electronics: 304 or 316L Stainless Steel

Sample System Enclosure: 304 or 316L Stainless Steel

Hazardous area approvals

CSA Class I, Division 2

CSA Class I, Zone 2

Degree of protection

IP66, Type 4X

More information www.ch.endress.com/SS2100