

## SS2100i gas analyzers

### Exceptionally reliable for measuring trace gas components



More information and current pricing:

[www.casc.endress.com/SS2100I](http://www.casc.endress.com/SS2100I)

#### Benefits:

- Accurate, real-time measurements not hampered by wet-up (absorption) or dry-down (desorption)
- Virtually maintenance free and reliable in harsh environments
- Dependable with greater repeatability than surface-based sensors with NIST-traceable calibration
- Analog and serial outputs for remote monitoring
- Low cost of ownership, no consumables
- 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/IECEX Zone 1 certified

#### Specs at a glance

- **Measured Variables** Concentration Cell Pressure Cell  
Temperature
- **Hazardous area approvals** IECEx / ATEX / CNEEx / KC / CCOE / CML Zone 1

**Field of application:** SS2100i gas analyzers accurately measure 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>) using tunable diode laser absorption spectroscopy (TDLAS) technology. The analyzers require little maintenance and do not need recalibration or periodic replacement parts. SS2100i gas analyzers are certified for ATEX/IECEX Zone 1.

#### Features and specifications

H2S

Measuring principle

TDLAS

## H2S

**Product Headline**

An advanced gas analyzer for hydrogen sulfide (H2S) measurement. The SS2100i 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 (i-2 only): -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

---

**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

Laser/Cell Enclosure: Copper-free Aluminum (i-2 only)

Sample System Enclosure: 304 or 316 Stainless Steel

---

**Hazardous area approvals**

IECEX / ATEX / CNEC / KC / CCOE / CML Zone 1

---

**Degree of protection**

IP66

---

**Product safety**

CE

---

**Metrological approvals**

PAC China, Kazakhstan (i-1 only)

---

**H2O****Measuring principle**

TDLAS

---

**Product Headline**

An advanced gas analyzer for moisture (H2O) measurement. The SS2100i uses Tunable Laser Diode Absorption Spectroscopy (TDLAS) to determine the concentration of the analyte without coming into physical contact with the stream.

---

## H2O

**Channels**

1

**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 (i-2 only): -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**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

Laser/Cell Enclosure: Copper-free Aluminum (i-2 only)

Sample System Enclosure: 304 or 316 Stainless Steel

---

**Hazardous area approvals**

IECEX / ATEX / CNEC / KC / CCOE / CML Zone 1

---

**Degree of protection**

IP66

---

**Product safety**

CE

---

**Metrological approvals**

PAC China, Kazakhstan (i-1 only)

---

## CO2

**Measuring principle**

TDLAS

---

**Product Headline**

An advanced gas analyzer for carbon dioxide (CO2) measurement. The SS2100i 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**

CO2 (Carbon Dioxide): 0-10 to 0-1000 ppmv; 0-5000 ppmv to 0-5%

---

**Measured Variables**

Concentration

Cell Pressure

Cell Temperature

---

## CO2

**Ambient Temperature range**

-20 to 50°C (-4 to 122°F)

Optional (i-2 only): -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

---

**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

Laser/Cell Enclosure: Copper-free Aluminum (i-2 only)

Sample System Enclosure: 304 or 316 Stainless Steel

---

**Hazardous area approvals**

IECEX / ATEX / CNEx / KC / CCOE / CML Zone 1

---

**Degree of protection**

IP66

---

CO<sub>2</sub>**Product safety**

CE

**Metrological approvals**

PAC China, Kazakhstan (i-1 only)

NH<sub>3</sub>**Measuring principle**

TDLAS

**Product Headline**

An advanced gas analyzer for ammonia (NH<sub>3</sub>) measurement. The SS2100i 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**NH<sub>3</sub> (Ammonia): 0-5 ppmv**Measured Variables**

Concentration

Cell Pressure

Cell Temperature

**Ambient Temperature range**

-20 to 50°C (-4 to 122°F)

Optional (i-2 only): -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)

NH3

**Analyzer Wetted materials**

316L Stainless Steel  
FKM O-Rings  
Glass

---

**Power supply**

120 or 240 VAC  $\pm$ 10%, 50-60 Hz; 300W

---

**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  
Laser/Cell Enclosure: Copper-free Aluminum (i-2 only)  
Sample System Enclosure: 304 or 316 Stainless Steel

---

**Hazardous area approvals**

IECEX / ATEX / CNEx / KC / CCOE / CML Zone 1

---

**Degree of protection**

IP66

---

**Product safety**

CE

---

**Metrological approvals**

PAC China, Kazakhstan (i-1 only)

---



**C2H2****Measuring principle**

TDLAS

**Product Headline**

An advanced gas analyzer for acetylene (C2H2) measurement. The SS2100i 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 (i-2 only): -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

**C2H2****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

Laser/Cell Enclosure: Copper-free Aluminum (i-2 only)

Sample System Enclosure: 304 or 316 Stainless Steel

**Hazardous area approvals**

IECEX / ATEX / CNEEx / KC / CCOE / CML Zone 1

**Degree of protection**

IP66

**Product safety**

CE

**Metrological approvals**

PAC China, Kazakhstan (i-1 only)

More information [www.casc.endress.com/SS2100I](http://www.casc.endress.com/SS2100I)