



MINESIC700 GHG

Minimize your greenhouse gas liability
with continuous monitoring

MINESIC700 GHG

The latest in flow and analyzing for coal mines

Measuring greenhouse gas emissions in coal mines is a challenging task and demands accurate measuring technology. SICK's greenhouse gas analyzer system MINESIC700 GHG continuously measures carbon emissions to minimize tax liability.

Monitoring greenhouse gas emissions in underground coal mines

In Australian underground coal mines greenhouse gas monitoring systems have to comply with government regulations. In order to minimize tax liability and uncertainty the emissions of methane (CH₄) and carbon dioxide (CO₂) have to be measured continuously (24/7) and reported accordingly.

Carbon emissions can be measured at the ventilation duct, at the collar or at multiple fans. Precise greenhouse gas measurement leads to process improvement, correct tax liability and avoidance of potentially high tax payments.

The Australian legislation requires continuously recording, determining and reporting Carbon Emission Tax Liabilities.

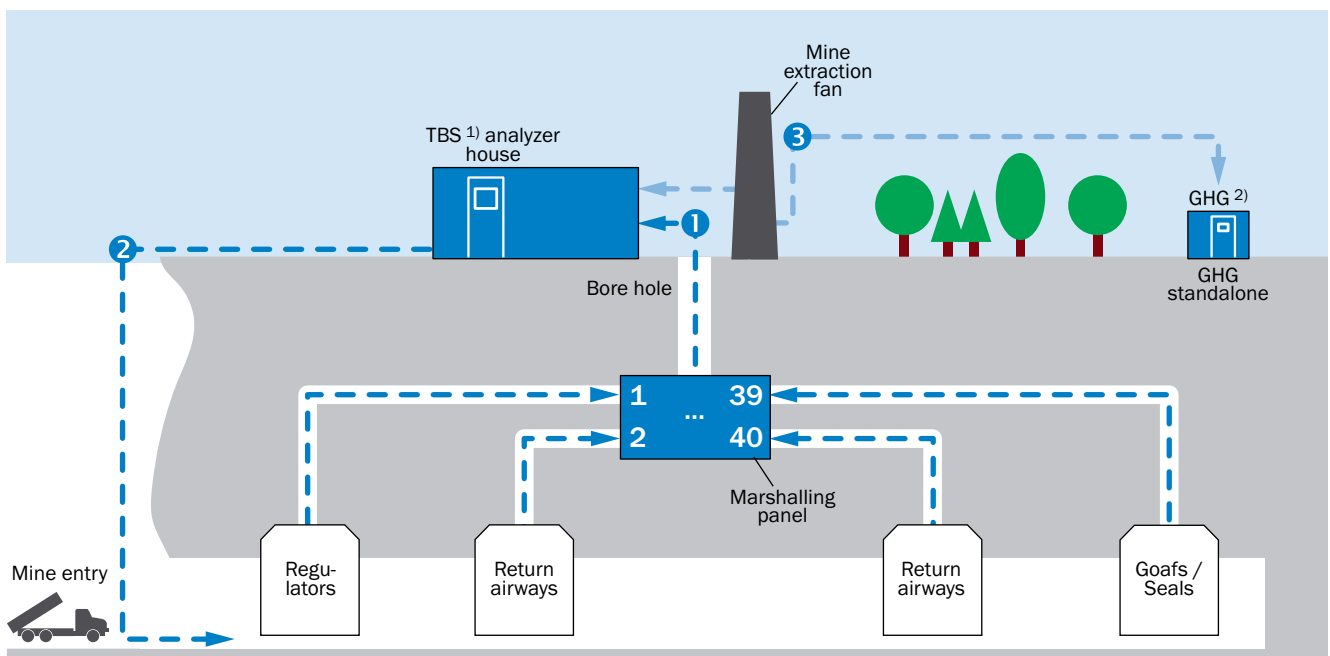
SICK's solution MINESIC700 GHG greenhouse gas system

The MINESIC700 GHG is a continuous measurement system using proven SICK technology. It is typically installed at a ventilation duct. The system comprises the infrared and paramagnetic cell extractive gas analyzer S715, the ultrasonic flow meter FLOWSIC100, the high accuracy transmitters measuring temperature and pressure, a custom designed reporting software and humidity measurement as an option.

The reporting software package developed by SICK calculates and provides reports on total Greenhouse tonnage emitted at the site. Ranges for the components can be set to give the tightest tolerances for the normal measuring concentrations so as to minimize errors in the reporting (low uncertainty).

The MINESIC700 GHG can be supplied in a stand-alone cabinet or integrated into the MINESIC700 TBS tube bundle system.

Tube bundle through: 1 bore hole, 2 mine entry, 3 mine extraction fan.



¹⁾ TBS = MINESIC700 TBS; ²⁾ GHG = MINESIC700 GHG (GHG system can be installed in TBS).

Reliable air quality measurement

Reliable measurement technology and calculation software

SICK's MINESIC700 GHG sets high standards for measuring greenhouse gas emissions in underground coal mines. The system technology is based on proven SICK ultrasonic flow and extractive gas analyzing technologies, as well as its specially designed recording and reporting software.

The modular system is known for its reliable measurement with low measuring uncertainty and its high flexibility through an automated switchover for up to five measuring points.

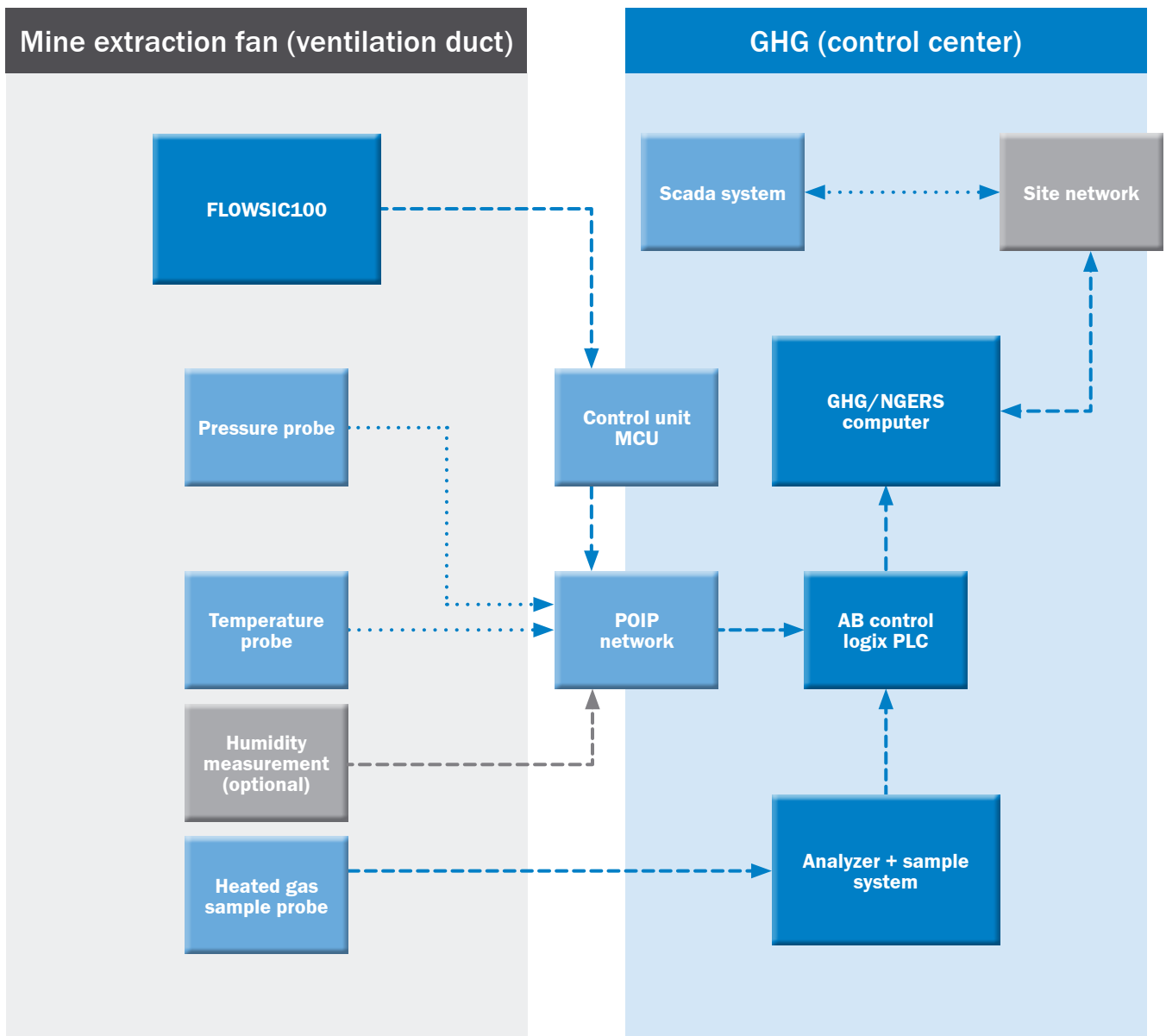
IECEX Zone 1 requirements

The flow, pressure and temperature sensors are IECEX rated. The in-situ measurement takes place at the ventilation duct.

SICK LifeTime Services option

To ensure reliable and continuous, repeatable monitoring the MINESIC700 GHG requires a maintenance program which includes analyzer calibration and six month linearization calibration. SICK Service Engineers are qualified to perform this service maintenance.

System overview



Minimize the greenhouse gas liability with continuous monitoring



Product description

The MINESIC700 GHG analyzer system measures and continuously calculates greenhouse gas emissions from underground coal mines. It extracts a gas sample and determines the concentration of the greenhouse gas components by means of NDIR spectroscopy. It also measures the gas flow rate using ultrasonic technology, as well as the

temperature, pressure, and humidity. In accordance with binding legislation, the results are then measured and reported with a special software package for recording and classifying data. By using the MINESIC700 GHG analyzer system for monitoring purposes, the exact costs can be calculated thus reducing tax liability.

At a glance

- Accurate measurement of greenhouse gas emissions
- Reliable measurement with minimal measurement uncertainties
- Automated switchover for up to five measuring points
- Software package to calculate and record all of the greenhouse gas emissions
- Flow rate, pressure, and temperature are measured with devices for IECEx Zone 1
- Available as a self-contained cabinet or integrated in MINESIC700 TBS

Your benefits

- Approved greenhouse gas measurement with reliable ultrasonic flow rate and gas measuring technology
- Up to five measuring points including a modular expandable system
- Accurate measurement and reporting in line with legal requirements
- Reduced tax contributions as exact costs are calculated with low measurement uncertainty
- Continuous measurements
- System is simple to operate and easy to maintain
- Full service package including various support options provided by SICK LifeTime Services
- In depth product knowledge with comprehensive user training

Additional information

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For more information, just enter the link and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Application

- Underground coal mines

Detailed technical data

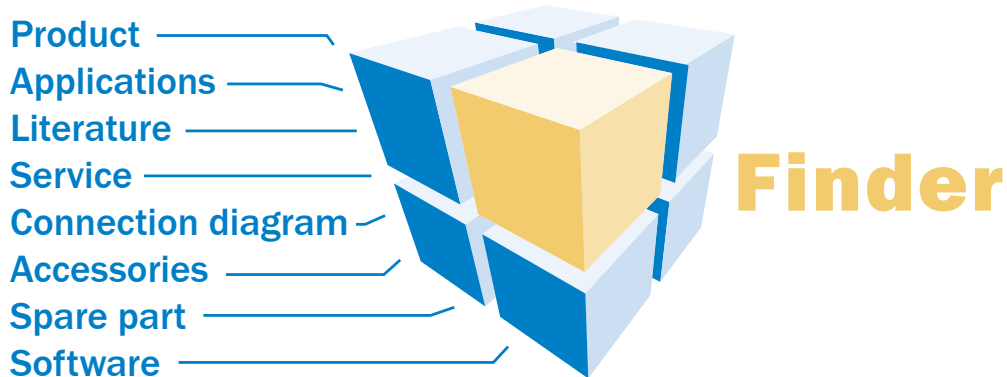
System

Measured value	CO ₂ , CH ₄ , gas velocity, temperature, pressure, humidity (option)						
Sample quantity	Analyzer: ≤ 60 l/h via automatic flow control						
Uncertainty of measurement	Depending on system configuration and calculated per measuring unit						
Sample temperature	+5 °C ... +50 °C						
Process pressure	10 kPa						
Process gas humidity	0 % ... 100 % relative humidity						
Ambient temperature	+5 °C ... +50 °C						
Storage temperature	+5 °C ... +55 °C						
Conformities	Analyzer NATA certified						
Interfaces	Ethernet						
Bus protocol	MODBUS (analyzer)						
Operation	Via Allen-Bradley PLC						
Model	Analyzer cabinet Mounting plate						
Dimensions (W x H x D)	1,200 mm x 2,000 mm x 600 mm (analyzer cabinet) 1,200 mm x 1,800 mm x 400 mm (mounting plate)						
Weight	Depending on system configuration						
Electrical connection	<table border="0"> <tr> <td style="padding-right: 20px;">Voltage</td> <td>240 V AC</td> </tr> <tr> <td>Frequency</td> <td>50 Hz</td> </tr> <tr> <td>Power consumption</td> <td>≤ 1,500 W</td> </tr> </table>	Voltage	240 V AC	Frequency	50 Hz	Power consumption	≤ 1,500 W
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Frequency	50 Hz						
Power consumption	≤ 1,500 W						
Auxiliary materials	<table border="0"> <tr> <td style="padding-right: 20px;">Compressed air:</td> <td>Instrument air; dust, oil and water free</td> </tr> </table>	Compressed air:	Instrument air; dust, oil and water free				
Compressed air:	Instrument air; dust, oil and water free						
Correction functions	Manual adjustment with test gases						
Integrated components	Sampling probe, heated, with automatic blow back system Sample gas line Sample gas cooler Sample gas pump Sample point switching (max. 5 sample points)						
Items supplied	The scope of delivery depends on application and customer specifications.						

Ordering information

Our regional sales organization will help you to select the best fitting device configuration.

Search online quickly and safely with the SICK “Finders”



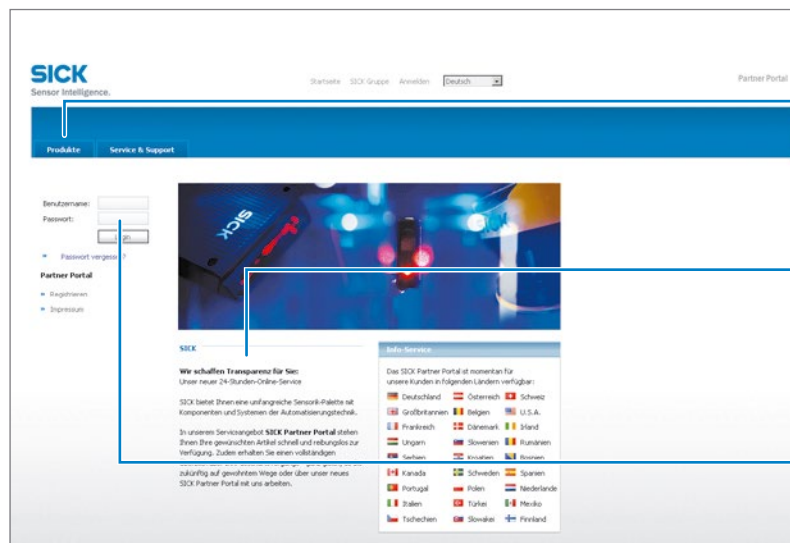
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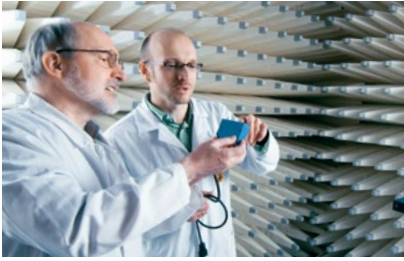
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Request or view a quote

You can have a quote generated online here. Every quote is confirmed to you via e-mail.

SICK at a glance



Leading technologies

With a staff of more than 5,000 and over 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



Unique product range

- Non-contact detecting, counting, classifying, positioning and measuring of any type of object or media
- Accident and operator protection with sensors, safety software and services
- Automatic identification with bar code and RFID readers
- Laser measurement technology for detecting the volume, position and contour of people and objects
- Complete system solutions for analysis and flow measurement of gases and liquids



Comprehensive services

- SICK LifeTime Services – for safety and productivity
- Application centers in Europe, Asia and North America for the development of system solutions under real-world conditions
- E-Business Partner Portal www.mysick.com – price and availability of products, requests for quotation and online orders

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