ALTERNATIVE FUELS

Methanol Gas Detection



Consilium

Methanol is a versatile chemical widely employed in various industrial sectors, including chemicals, fuel, automotive, manufacturing, laboratories, wastewater treatment, wood processing, agriculture, and energy production.

In marine industry methanol is a growing fuel alternative since it dramatically reduces NOx, SOx and particulate emissions. There are also storage and handling facilities close to most major ports and is easy to store and handle onboard a ship.

However, it's crucial to remain vigilant due to the following characteristics:

- It appears as a colorless, volatile liquid with a faintly sweet, pungent odor.
- Methanol can easily mix with water and has vapors heavier than air, which can travel to potential ignition sources.
- Accumulated vapors in confined spaces may lead to explosive conditions if ignited.
- Exposure to methanol can occur through ambient air or solvent use.

Risks

- Methanol is highly flammable and poses health risks upon inhalation.
- Inhaling or ingesting methanol may result in symptoms such as blurred vision, headache, dizziness, and nausea.

Given these inherent risks, efficient methanol gas detection is vital to ensure safety and prevent potential accidents in these diverse industrial settings.

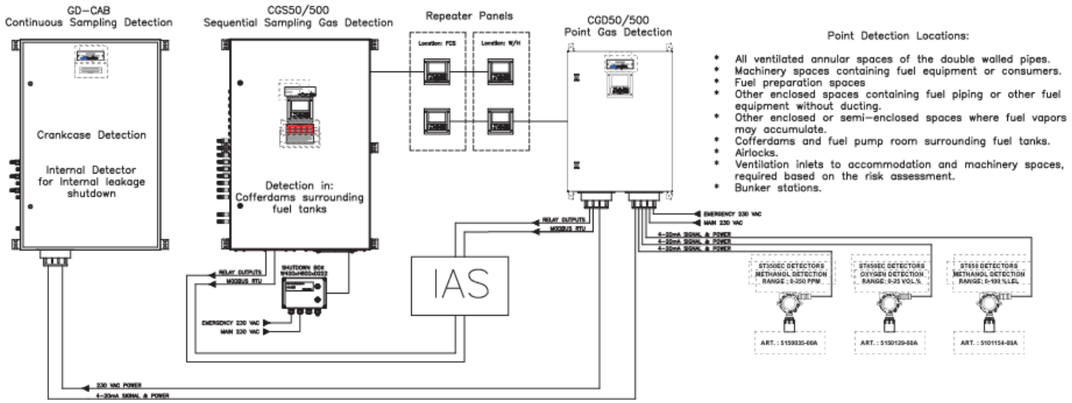


Application

To detect methanol leakage gas detectors shall be used to detect the vapors from the methanol liquid. There are different technologies that can be used and to select the right technology environment parameters needs to be known.

Below is an example on how a gas detection system for a methanol propelled box ship could look like.

To measure and detect flammable gas a %LEL detector shall be used, in the case to protect people from the toxicity a ppm detector is to be used. Since methanol can be diluted in water there might be needed other type of equipment than a gas detector, one application is for example the glycol water expansion tank where there will be challenging to detect methanol gas since it will be diluted in the water. Contact Consilium representative for further information.



Methanol
Gas Detection Installation

We recommend installing detectors that measure methanol in parts per million (ppm) in areas where people might be exposed. Ventilation inlets in accommodation and engine areas should be equipped with ppm detectors. The detector should be installed at a low position, approximately 30-50 cm above the ground, unless the source is at breathing level, and people work nearby. In such cases, it should be placed within the breathing zone.

In areas where people are not normally working typically areas adjacent to the fuel tanks or cargo tanks a sequential sampling system can be used and it is then sufficient to use LEL (lower explosive detectors).

Airlocks and doors leading to areas with a risk of leakage should have indicators at the entrances to notify personnel of the danger. The indication should be based on measurements obtained with a ppm detector.

Methanol Gas Detection - Type of Detectors

ST350 and GD-10



The Consilium ST350EX detector is available with or without a graphic display. The graphic display shows the measured value and various status notifications locally. The capacitive key control gives you an experience similar to a touchscreen and does not require any additional tools, such as magnetic wands for instance.



The fastest detector in the world

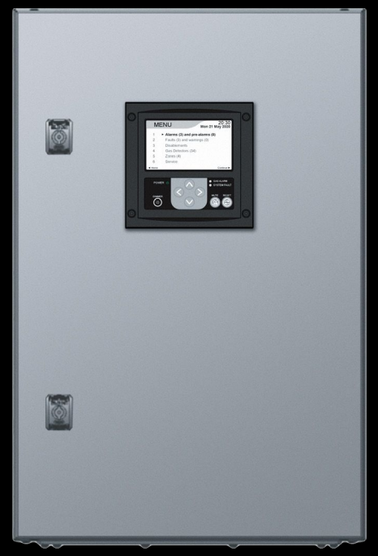
When lives are at stake every second counts. So why not play it safe and get the quickest response time in the world? Add that to the built-in condition monitoring and long maintenance intervals, and you can always count on the GD-10 to deliver on its promises. 15 years lifetime with no consumable reduces the life cycle cost.

Methanol Gas Detection Systems

CGS500 Sequential gas sampling system* that automatically detects explosive and toxic gases. Meets IMO/SOLAS requirements and classification rules and can detect up to 64 sampling points. Perfect selection for detection in cofferdams around the fuel tanks.

** Available for marine applications only*



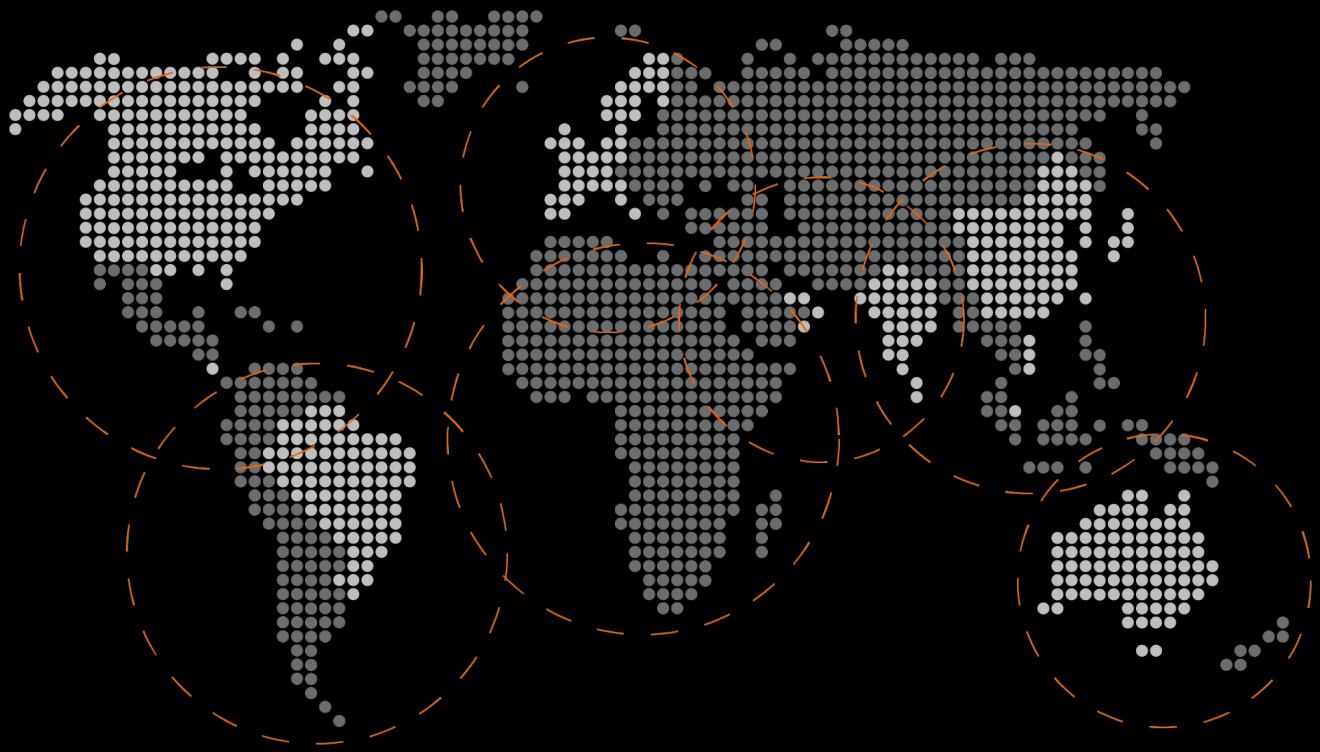


The CGD50/500 gas detection system is a state-of-the-art, control and supervision system designed to meet marine and industrial requirements. It consists of different modules and software together with a number of Gas detectors. The modules from the CCP Platform are used to build supervision systems and the software determines how the system will react in case of a gas indication from gas detectors or from an input that can generate alarms. The software continually supervises the system and will alert in case of any malfunction.

Our products are approved in accordance with ATEX, IECEx, cCSAus (incl UL & FM) and have most marine approvals (IMO/ SOLAS).

Global support with local expertise

Consilium offers fast and accessible support no matter where you are in the world. Nothing beats local expertise in your language. With a global service network and a strong local presence, we ensure accessibility wherever you operate.



As much as we are proud of our success, our commitment is to ensure safety. We have pledged to protect the lives of mothers and fathers, sisters and brothers, colleagues and friends. Our work never ends. That is why we keep innovating.

Connect with your local partner

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