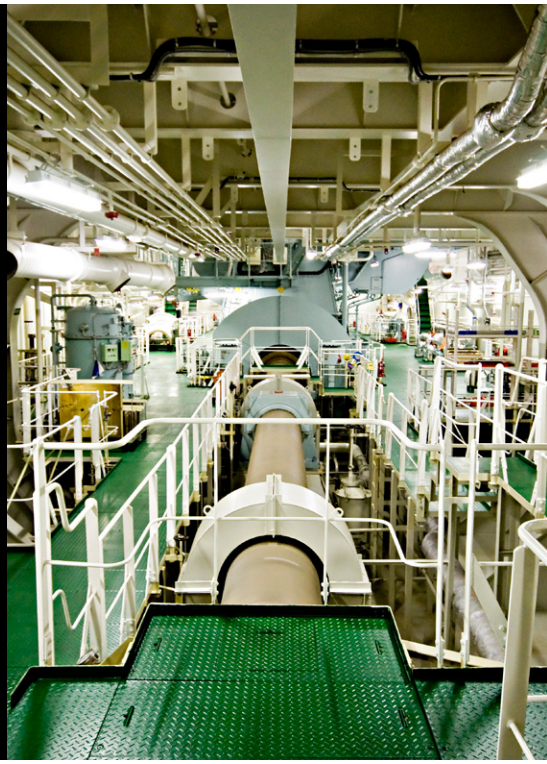
TOP 10 GAS DETECTION CHALLENGES IN MARINE APPLICATIONS

Honeywell

Exposure to toxic and flammable gases is a risk faced by many workers in the marine industry. Portable and fixed gas detection solutions are essential to protect workers during long voyages. Here we look at some of the top gas detection challenges and solutions.

1 CONFINED SPACE ENTRY

Confined spaces are commonplace on vessels. Workers and inspectors regularly enter these enclosed areas, where various toxic or flammable gases could be present. Portable gas detectors test the atmosphere before entry and while the worker is inside. Look for solutions that can detect multiple gases simultaneously and relay real-time readings from the environment.



2 HOLE WATCH MONITORING

Hole watchers stand by to monitor workers in confined spaces. Portable gas detectors with hole watch mode show a trend of gas readings over time, which warns the hole watcher of a gas concentration increase even before alarm limits are met.

3 HARD-TO-DETECT GAS RELEASES

Many gases are invisible to the naked eye, and workers may not become aware of a leak until it is too late. Measuring ultrasonic sound pressure levels can help identify a leak from a pressurized system so that workers can take action before an incident occurs.

4 MONITORING ALL POTENTIAL GASES

Workers on marine vessels could be exposed to several different toxic gases depending on the cargo. For example, petroleum products emit H2S as well as volatile organic compounds. Some vessels also use exhaust gas blankets, which have high levels of carbon monoxide. Having a gas detector that has multiple sensors for all the possible hazardous gases is vital for worker safety.

5

DETECTING GAS IN HARD-TO-ACCESS LOCATIONS

Some sources of toxic gas are difficult to reach. Using a fixed gas detector with a remote transmitter can solve this problem. The sensor and transmitter can be separated for use in areas where the point of detection is not easily accessible.

6

SPEED OF RESPONSE AND ACCURACY

Speed of response is critical when monitoring flammable gases as the atmosphere can quickly become explosive. Infra-red sensors offer a high speed of response and minimal false detection alerts.

7

DUST AND WATER INGRESS

Marine environments are hostile to electronic equipment and ordinary casings may not provide sufficient protection. Casings that meet IP66/68 ratings keep dust and water out of sensitive electronic devices.

8

GAS DETECTOR QUALITY

Marine vessels can be at sea for periods of weeks or even months, with little to no opportunity to obtain spares or get technical support for repairs and maintenance of gas detectors. Yet, these detectors must deliver consistent and reliable performance. Marine companies need a vendor that offers global support and supplies high-quality, robust detectors.

9

CERTIFICATION

Various regulators and standards govern the shipping industry. Ships need to comply with the relevant codes for their application, such as Lloyds Register, Det Norske Veritas, Bureau Veritas, American Bureau of Shipping, and Marine Equipment Directive.

10 EASE OF CALIBRATION

Workers should be able to perform all their functions without access to expert technical resources. Gas detectors should be easy to bump test and calibrate using handheld devices and applications. A user-friendly interface makes it easy for marine workers to change configuration settings like alarm settings if required.

CONCLUSION

The marine environment is hostile to electronic equipment and workers are exposed to hazards associated with diverse cargo, including flammable and toxic gases. Portable and fixed gas detectors are an essential means of keeping workers safe in this challenging environment.

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