

SIL2 Wireless Gas Detection System

ProSafe-RS

YOKOGAWA's Fire and Gas Wireless Solution

In industries such as oil, gas, petrochemicals and chemical, a Safety Instrumented System (SIS) is deployed to safely initiate a controlled shutdown, "trip", when an "out of limit" situation arises. Meanwhile, a Fire and Gas System (FGS) forms part of the Layers of Protection surrounding a process. The effectiveness of the FGS can be easily impacted by factors such as installation location and ambient conditions. Even after installation, ongoing efforts to optimize its overall configuration may necessitate occasional changes in the location and number of detection devices.

YOKOGAWA's ProSafe-RS SIL2 Wireless Gas Detection System (based on proven-in-use ISA100 Wireless technology and IEC 61508 Safety Standards SIL2 specification) provides safety compliance, flexible and reliable solutions.

Benefits brought by the system

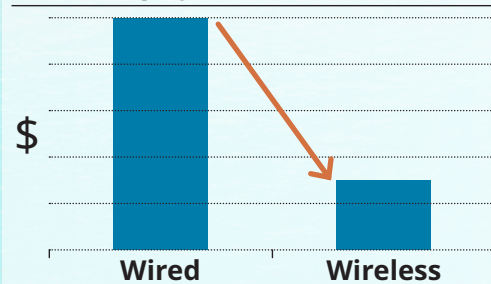
Reduce Capital Expenditure (CAPEX)

- Significant cost saving especially for installation material (eg. field cabling and cable routing infrastructure), deployment of lifting equipment and labors
- Flexibility of moving and/or installation of new/existing gas detectors
- Shorter delivery cycle and fast deployment

Reduce Operational Expenditure (OPEX)

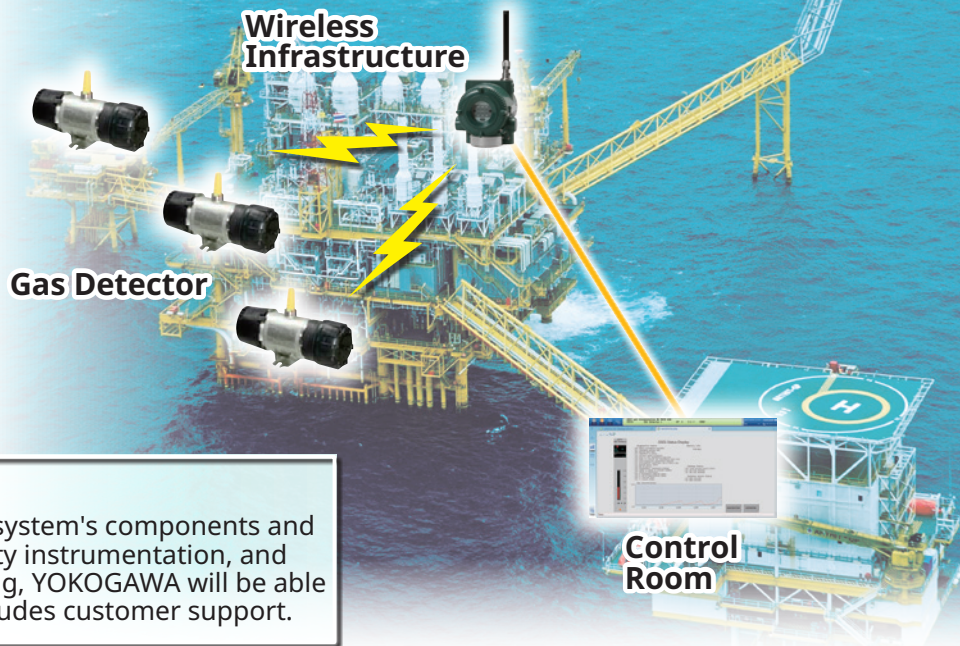
- Reduced materials convert to maintenance saving
- No field calibrations for wireless gas detector (Unique feature from GasSecure GS01)

Cost comparison for physical materials



Proven-in-use Technology

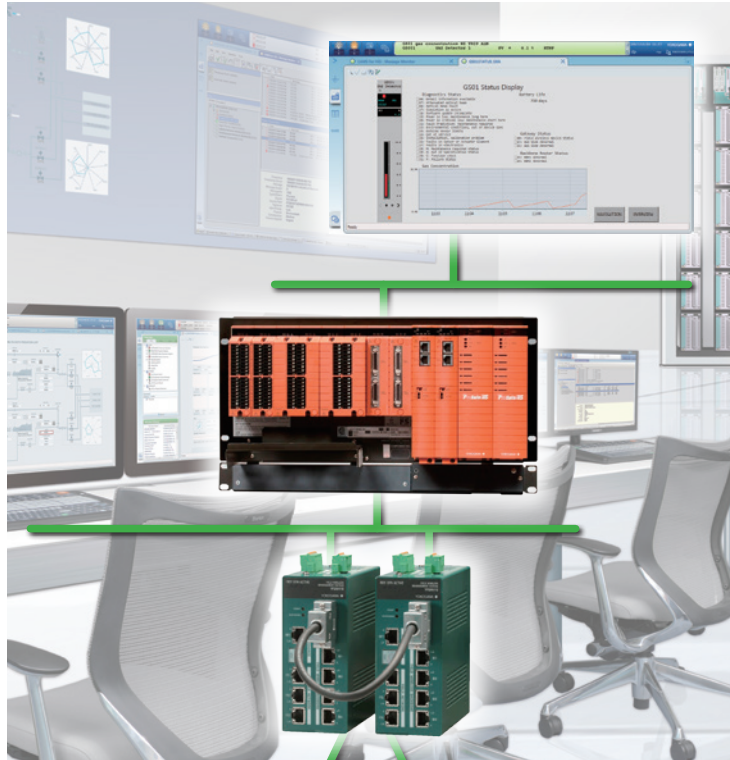
- ISA100 Wireless has over 1 billion operating hours across the globe in a variety of industries such as basic process control, monitoring well heads, tank level monitoring, gas detection and many more.
- Compliance to IEC 61508 Ed 2.0 up to SIL2 for communication between logic solver and wireless gas detector.



Total System Support

Based on its knowledge of each of this system's components and its expertise in production control, safety instrumentation, and field wireless engineering and consulting, YOKOGAWA will be able to offer a total system solution that includes customer support.

Total Solution for Plant Safety Expanded to Wireless



Operator Station: CENTUM VP

Standard faceplate for all F&G sensors, including wireless/wired gas, flame, smoke and heat detectors, to maintain operating consistency thus preventing mis-operation. Further to that gas detector diagnostic information, wireless infrastructure status and network condition are centralized in one display for easy maintenance.

Safety Controller: ProSafe-RS

Safety communication protocols are implemented for the communication with wireless gas detectors. User can utilize both wired and wireless sensors in voting configuration in the same controller to increase reliability of gas detection. Standard function blocks for F&G sensors and Causes & Effects matrix programming enable easy configuration/understanding.

Field Wireless Management Station: YFGW410

This manages the wireless network and security based on ISA100 Wireless and works as a gateway to host applications. A pair of YFGW410 can be configured for increased availability.

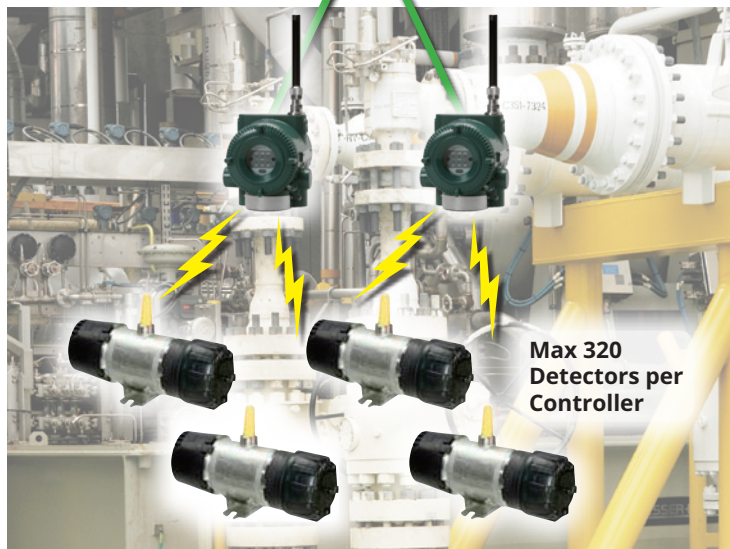
Field Wireless Access Point: YFGW510

This provides a backbone router function specified in ISA100 Wireless and functions as an access point for field wireless devices. With duocast technology, route redundancy can be offered without degrading network latency.

Wireless Gas Detector:

GasSecure GS01, GS01-EA

GS01 detects hydrocarbon gases by using single-beam triple-wavelength infrared (IR) technology for fast gas detection with extremely low power consumption. Thanks to this ultra-low power design, the small integrated battery pack enables two years of continuous operation.



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