Fire and Gas Solutions

Improving Safety and Business Performance
Industrial Fire & Gas (F&G) systems play a critical role in protecting people, processes and the environment. They continuously monitor heat, smoke and toxic or combustible gas levels within plants, and provide early warning of an abnormal situation before it becomes a hazard.
Challenges in the Process Industry

For any industrial organization, the goal is to optimize key business performance parameters. These include safety and security, reliability, efficiency, sustainability and production startup. Firms must preserve operations and avoid costly process incidents. They are also challenged to increase uptime by maximizing asset availability, reduce energy and operational costs while improving throughput, and maintain performance benefits throughout the asset lifecycle. Finally, they must achieve flawless startup—on time and with low risk—and recover capital investments faster.

Safety and loss prevention initiatives require reliable data from F&G systems in order for personnel to take the right actions for early detection and response. Plant maintenance efforts are typically focused on the testing, calibration and availability of safety devices. This includes identifying the real causes of failures, which are related to instrument asset management. Maintenance and troubleshooting have to be done as quickly as possible to reduce plant downtime and increase productivity.

Because of these demands, supervisory systems must provide faster and more reliable information on all areas of the plant without the communication and complexity barriers often present in separate legacy systems.
Layered Approach to Safety

Honeywell offers best-in-class technology and expertise for industrial fire and gas. Our F&G solutions are based on a layered approach to safety, encompassing both process and system technology, and the people who interact with that technology. We provide systems enabling you to monitor areas where hazardous levels of explosive or toxic gas may become present, and provide early warning of the build-up of gas or fire before it becomes a hazard. An integrated approach to safety and security based on “defense-in-depth” with independent layers of protection is fundamental to industry best practices.

Prevention and Mitigation Layers
Honeywell has a proven ability to help plants prevent and mitigate threats to their safety, and ensure a secure operating environment. Safety Manager, our innovative safety system platform, is a reliable solution for integrating your process control assets while maintaining separate databases and redundant networks. It provides a unified platform for emergency shutdown and F&G detection, as well as burner management systems, compressor control and protection, and critical control.

Honeywell also offers a broad portfolio of fire alarm, detection and evacuation equipment to customers worldwide. We have developed the industry’s most advanced fire, smoke, heat and gas detection solutions. Our detection technology can minimize hazardous conditions and improve the operation of all parts of an industrial F&G solution.

Unified Operational View
At the core of the layered architecture, Honeywell’s Experion® Process Knowledge System (PKS) extends across plant and business applications to control the process. Experion manages plant assets and ensures the process design continues to function as intended, while protecting your operations from pending incidents with an early indication of failing assets.

Using the latest Experion PKS technology, plant personnel have access to a single dashboard across the entire site. Operator effectiveness afforded by a common and consistent Human-Machine Interface (HMI), knowledge capture through automation of procedural operations, and advanced alarming capability allow you to better prevent and respond to abnormal situations.

Abnormal Situation Management® (ASM®) Consortium guidelines embedded in Experion and Safety Manager result in better overall collaboration and performance of staff, thus improving safety, efficiency and agility.

Safety Layers
- Community Emergency Response
- Plant Emergency Response
- Mitigation e.g. Fire & Gas Safety System - Mechanical Mitigation Systems
- Safety Instrumented Control Systems
- Safety Instrumented Mitigation Systems
- Prevention e.g. ESD Safety System - Mechanical Protection System
- Process Alarms
- Operator Supervision
- Safety Instrumented Control Systems
- Safety Instrumented Mitigation Systems
- Basic Process Control Systems - Basic Process Control Systems
- Monitoring Systems (process alarms)
- Operator Supervision
- Process Design
Value of Integration

Integration of F&G systems into the overall control system is a very important factor in running modern process plants. Integration of data, sequence of events, alarms, time synchronization and diagnostic messages is mandatory for safe operations. By implementing a unified fire & gas strategy employing the latest automation technology, plants can meet their critical infrastructure protection requirements while ensuring operational and business readiness at project start-up.

The Value of this Approach Includes:

- Single HMI for process control, fire and safety operations, and maintenance to improve operator efficiency
- Distributed Control System (DCS), Emergency Shutdown (ESD), wireless, video surveillance and F&G technology seamlessly integrated in the overall safety strategy of the plant — providing a safe landing in case of emergencies
- Complete, facility-wide overview on centralized or remote visualization stations with information down to the sensor level to enable operators to be more proactive to avoid or mitigate potential incidents
- Reduced total cost of ownership by mitigating/reducing risks faster; simplifying engineering, maintenance and troubleshooting; and enabling quicker response time for services

In addition to providing the only truly integrated safety and security solution for the process automation industry, Honeywell’s solution improves business performance by reducing the risk of incidents, faults and failures that cost money by disrupting normal operations.

The Right Solution for the Customer

Honeywell’s extensive portfolio of F&G solutions includes Safety Manager, a best-in-class, SIL3-certified safety system; toxic gas, flame and smoke detectors; fire alarm panels; camera systems, sounders and beacons; and other critical components seamlessly integrated with Experion PKS in the overall control and safety concept of a plant.

Honeywell offers a true “One-Stop Shop” F&G capability to meet demanding plant automation and safety requirements, whether an integrated yet independent solution via a common platform, or through standalone applications.

Honeywell provides a complete portfolio of Fire & Gas solutions, with the interface and networking to support them.
Why Choose Honeywell?

Honeywell is a recognized leader in control, safety and security technologies. We have comprehensive experience in the oil & gas, refining, petrochemical and metals/minerals/mining industries, along with worldwide project engineering capabilities backed up by skilled lifecycle services teams for continued support.

**Improved Process Monitoring:** Integrated with Experion, Digital Video Manager (DVM) utilizes video as the next-generation process sensor, saving time and money by automating the detection of events, and improving the speed and accuracy of operator responses to process upsets. This solution enables the use of video anywhere in the control system HMI. It provides an integrated workflow for the navigation of alarms and events, allowing personnel to access process information and recorded/live video instantly on the same screen to investigate and support critical site issues. Collaboration between field staff and the control room further improves coordination between various teams and assists with corrective actions.

**Enhanced Regulatory Compliance:** By partnering with Honeywell, industrial operations can develop an IEC 61508-, IEC 61511- and ISA S84-compliant F&G detection and suppression capability, and meet desired international standards such as NFPA or EN. Our customer assistance can extend to implementing Safety Instrumented System (SIS) solutions; implementation and execution of revamps; and installation, commissioning and safety validation.

**Easier System Deployment:** With Honeywell’s integrated strategy for process and non-process F&G projects, the coordination of different safety equipment suppliers is a thing of the past. A single point of contact minimizes interface and implementation tasks throughout the life of the project. Remote engineering, operations and maintenance tools help ensure greater productivity. And customers have the assurance of world-class products that are pre-tested and seamlessly integrated.

**Fewer Design Complications:** Honeywell’s standard designs and solutions are intended to improve overall system performance, enhance system diagnostics and reduce engineering and maintenance costs. Seamless integration with ESD and DCS platforms eliminates the need for additional equipment or engineering. It also drives engineering, execution and operation efficiencies, and helps provide a safe landing in case of emergencies. In addition, customers benefit from Honeywell’s unique ability to unify Experion Supervisory Control and Data Acquisition (SCADA) with other state-of-the-art applications. We ensure seamless integration of Safety Manager, gas & flame devices, fire alarm panels, wireless detectors and video surveillance technology with Experion without incurring interface or communication problems between different systems.
**World-class Project Execution:** Honeywell provides global project execution and support from Front-end Engineering Design (FEED) to start-up. We draw on our position as an Integrated Main Automation Contractor (I-MAC) to optimize F&G project results. With more than 2,700 engineers and designers working worldwide through a globally-linked network of more than 50 design centers, the Honeywell team utilizes proven methodologies and tools to consistently deliver on time and on budget, even under the most demanding project requirements.

**Better End-user Support:** Honeywell can offer unsurpassed project execution and service capabilities due to our highly trained professionals across the globe. Thanks to Honeywell’s Global Technical Assistance Center (TAC), customers gain greater confidence in their automation, safety and security solutions. Global TAC provides faster problem resolution, with remote diagnostics to help proactively manage networks and systems.

**Lower Total Cost of Ownership:** To sustain F&G system performance, Honeywell also provides lifecycle support services that include periodic proof testing; system maintenance; training programs on safety, code and standard compliance; and spare parts management.
For More Information
To learn more about Honeywell’s Fire and Gas Solutions, visit www.honeywellprocess.com or contact your Honeywell account manager.

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