

Solution Note

Enhance Safety and Process Efficiency with the HC900 Process and Safety System



Challenge

Whatever the process and application, the process industry faces a number of major challenges. These include the need to keep processes up and running with maximum uptime. At the same time, the performance and profitability of processes need to be maximized. And ultimately, processes need to produce products that are of a higher quality than those of their competitors.

Plant reliability, employee safety and environmental compliance are also crucial to a smoothly operating process. Accidents must be reduced to as few as possible, with zero being the goal. Emissions need to be controlled. And should an emergency scenario occur, the plant or specific process needs to be shut down in a timely and safe manner.

Solution

To keep your assets safe, Honeywell presents the HC900 Process and Safety System. HC900 is fully compliant with the performance-based standards IEC 61508 and IEC 61511 as well as the prescriptive-based standards NFPA 85 and NFPA 86. The system also complies with other standards and regulations such as CSA/FM CL1/DV2, ATEX, ABS, UL, and CE Conformity. Moreover, the Honeywell HC900 Process and Safety System is certified by TÜV for use in a SIL-2 environment. Process industries currently using the SIL-2 certified HC900 system include:

- Chemicals, including specialty and fine chemicals, plastics and rubber
- Pharmaceuticals and cosmetics
- Power (excluding nuclear which requires SIL-3 compliant systems)
- Cement and glass
- Pulp and paper
- Mining and metals
- Water and wastewater
- Food and beverage
- Heat treatment

Applications

Applications in which the HC900 system is proving invaluable to keep assets safe include the following:

- Burner Management Systems (e.g. furnaces, boilers, pre-heaters, kilns, ovens, reactors, calciners, dryers, thermal oxidizers, melters, incinerators, process heaters, vaporizers).
- Combustion control
- Pipeline monitoring
- Spill prevention
- Road transportation
- Waste water treatment
- Terminal automation
- Emergency shutdown
- Fire & gas monitoring

The Honeywell Advantage

The Honeywell SIL-2 certified HC900 system offers unique benefits:

Proven reliability maximizes uptime

HC900 SIL-2 is proven in the field with over 13,000 installations globally across process control and critical applications. The system is ideal for a process/safety software environment. Its non-interfering software environment means that the HC900 system is capable of hosting process control and safety applications, providing control, monitoring, password protection for configuration, alarm processing and data acquisition for process applications.

High reliability and availability is ensured by redundant CPU, rack power supply, communications and networking, as well as by features such as removal and insertion under power, online monitoring, edits and hardware maintenance during running operation. Its hardware, communications and sensor level diagnostics are robust, and the system provides early warning notification of pending sensor failure.

Easy to use and engineer lowers operating costs

Process specific function blocks including I/O validation safety function blocks suited to individual application needs reduce configuration time. The system is quick to start up thanks to its HC Designer intuitive software. Powerful Accutune III auto-tuning algorithms enable control loops to be quickly and easily tuned to reduce start-up time as well as the impact of process upsets.

Advanced monitoring and debugging tools are easy to use and engineer, and the system provides an integrated operator interface and open Ethernet communications as well as central and remote I/O capability. The system is also fully scalable, allowing a customer to purchase only what the process currently needs, while enabling future expansion as the process expands.

High performance increases efficiency and profitability

HC900 enables accurate process control which translates into benefits such as increased throughput, reduced scrap, reduces energy utilization, and minimized energy costs. The SIL-2 certified CPU displays a digital throughput of only 10 ms. Its External Watchdog Timer with independent clock helps detect failures and bring process to safe state. The system provides RAM and Flash memory enhancements, while its ECC memory circuitry corrects single faults and detects double faults, thus correcting memory corruption conditions. This ensures robustness, performance and reliability of data transmission.

Enhanced safety with SIL2 certification

HC900 provides similar hardware/software for process control and safety related applications. An option is to have a separate or a common logic solver for process control and safety applications. The system integrates easily and smoothly with the HMI (HC900 Control Station), Experion HS (SCADA solution), and MatrikonOPC (third-party solutions).

A low total cost of ownership is ensured by:

- Universal analog inputs, which minimize hardware to buy and reduce inventory
- No annual software license fee
- Free software web-based downloads for product enhancements
- Worldwide product support with a toll-free support team
- Reduced training costs with common tools for process and safety applications
- One supplier for an integrated BMS solution

Conclusion

The SIL-2 certified HC900 is a single flexible system for process control and safety with faster start-up time, common engineering tools, reduced training, simplified maintenance and lowest cost of ownership. Its engineering tools and hardware can easily integrate with Honeywell system and other third-party applications. This leads to increased throughput, less rework, secure accurate process records, improved safety, and reliability, reduced human error, and loss prevention through a TÜV certified SIL-2 system.



It Matters. [Learn how](#) Honeywell solutions help solve what matters.

For More Information

To learn more about Honeywell's HC900 Control Systems, visit our website www.honeywellprocess.com or contact your Honeywell account manager.

Honeywell Process Solutions

Honeywell
1250 West Sam Houston Parkway South
Houston, TX 77042

Honeywell Control Systems Ltd
Honeywell House Skimped Hill Lane Bracknell
RG12 1EB

Shanghai City Centre, 100 Junyi Road
Shanghai, China 20051

www.honeywellprocess.com