



## HC900 Process and Safety System

A Solution for Process Control  
and Safety Related Applications



# A solid and secure investment for the future

**High performance**—enhances quality

**Easiest to use and engineer**—improves productivity

**Low total cost of ownership**—maximizes profitability

The Honeywell HC900 Process and Safety System has a modular, scalable design that meets the control and safety requirements of a wide range of applications ranging from process PLCs to DCS.

## Wide-ranging applications

The HC900 Process and Safety System reduces hardware, software, training and support requirements, and is ideal for diverse industries such as:

- Chemicals, including specialty and fine chemicals, plastics & rubber
- Pharmaceuticals & cosmetics
- Power (excluding nuclear)
- Cement & glass
- Pulp & paper
- Mining & metals
- Water & waste water
- Food & beverage
- Heat treatment

## Applications in which HC900 is proving invaluable include the following:

### Safety:

- 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

### Critical control:

- Electronics and semiconductors
- Cement
- Glass
- Textiles

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.



The modular, scalable HC900 Controller is available in three rack sizes and three CPU performance levels to handle a wide range of automation requirements. Analog and digital modules support up to 1,920 I/O points.

## Easiest to use and engineer—improves productivity

### HC900 allows you to perform easy engineering

- Process-specific function blocks reduce configuration time and your operational costs
- Powerful Accutune III auto-tuning algorithms enable control loops to be quickly and easily tuned
- Simple intuitive tools, advanced monitoring and debugging tools which are easy to use and engineer
- Product enhancements made easy with free web-based downloads at zero annual maintenance fee
- Easily integrated by Honeywell trained local channel partners with global product support
- Universal analog inputs reduce inventory cost
- Modular and scalable

### Experion HS

Experion HS is a powerful software platform that incorporates innovative applications for human machine interface (HMI) applications and supervisory control and data acquisition (SCADA). Built upon the proven technologies of the Experion platform, Experion HS is an integrated and affordable solution for smaller unit operations. Experion HS enables seamless integration, configuration and data exchange with the HC900 system.



## Integrated solution with other Honeywell products

### HC900 OPC Server from MatrikonOPC

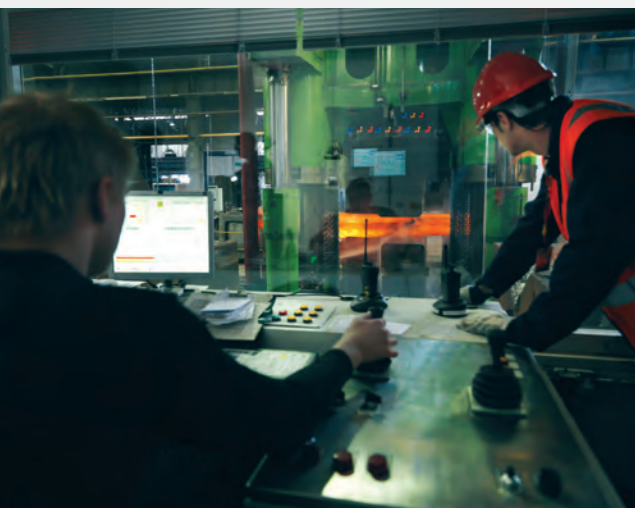
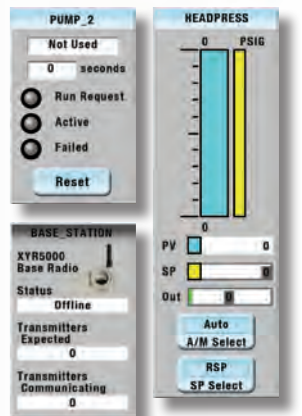
The HC900 OPC Server from MatrikonOPC provides secure and reliable real-time data access between all HC900 Controller series and any OPC-enabled applications such as Historians, HMIs, SCADA etc. It enables 3rd party connectivity—which is key to successful phased migration and integration. It enables the easy and cost-efficient management of openly connected systems—crucial in today's highly competitive industrial environment. And by using standardized MatrikonOPC components you can build stronger, more secure architectures.

Furthermore, the Honeywell HC900 OPC Server is OPC certified. OPC certification is the process of ensuring that applications meet the standards specified by the OPC Foundation. OPC certification requires extensive testing to ensure true interoperability. OPC certification means multi-vendor system interoperability is guaranteed.

### Integrated HC900 control station with global database

The 900 Control Station operator interface provides a large assortment of standard preformatted displays for controller monitoring and servicing. Their use shortens design time, reduces engineering costs, and facilitates standardization of operator interaction with the process—all while enhancing the ability to customize easy-to-understand graphic displays that look like the process the operator is monitoring.

Station Designer software is a robust yet user-friendly PC tool that integrates with the HC900 Controller's Designer software to streamline the task of configuring a custom operator interface. It is an intuitive development environment that offers more than 4,000 pre-built process graphic symbols (for pumps, valves, tanks, buttons, switches), widgets, animation, hide object, if-then-else scripting, and more.



Diverse HC900 connectivity and communications options adapt to existing process-line infrastructure, satisfy specific control requirements, and accommodate specialty applications.

## High performance—enhances quality

### HC900 provides tighter control

- The standard fuzzy logic of the HC900 prevents process overshoot, provides accurate control, increases throughput and efficiency and minimizes energy costs

### Accurate Diagnostics

- Advanced diagnostics at module and channel level add reliability to system

### Fault Tolerant and reliable

- Keeps your system running continuously with redundancy

### Flexible connectivity to suit your process environment

- Open Ethernet connectivity
- Serial Modbus connectivity
- Peer-to-peer communications
- Wireless connectivity
- E-mailed alarm/event reporting



The HC900 process and safety system integrates easily and smoothly with the Honeywell Experion HS (SCADA) solution, and with Matrikon OPC third-party solutions.

## Low total cost of ownership—maximizes profitability

### Lowest product lifecycle cost

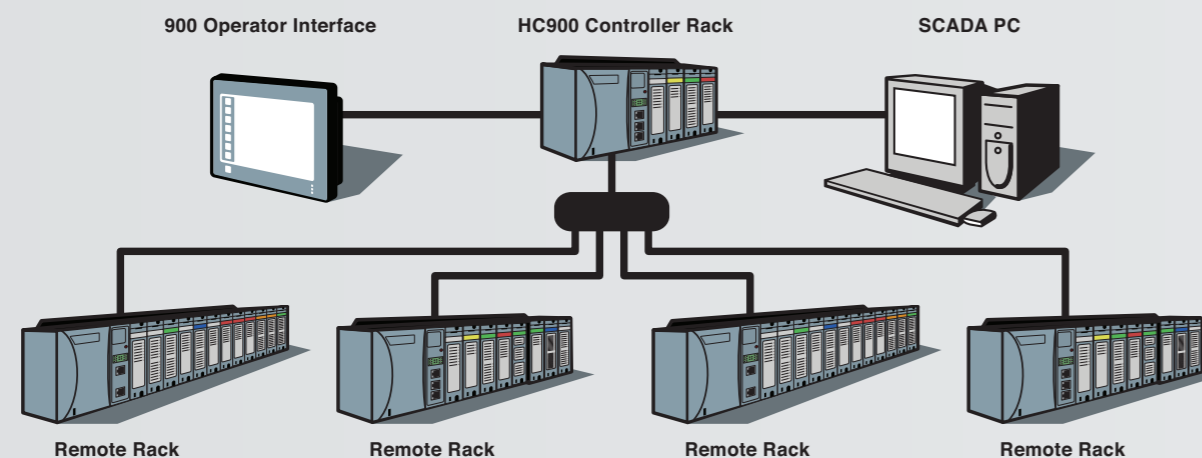
- Free Matrikon OPC license with every purchase
- No annual software license fee (HC Designer)
- Free software WEB downloads for product enhancements
- World-wide free global phone product support

### Common software tools for process and safety

- Reduced training costs
- Reduces engineering time and cost

### Same I/O modules for process & safety

- Reduced inventory costs
- Quick replacement of modules maximizes plant uptime



## Controller

**Function Blocks:** C70, C75 CPU-5000, C50 CPU-2000, C30 CPU-400.

**Analog Inputs:** Up to 480 universal analog inputs, 960 high level.

**Accuracy:** 0.1% of span (field calibration to  $\pm 0.05\%$  of span).

**Analog Outputs:** Up to 200 with internal power, 960 with external power 0 to 20 mA maximum, 12 bits, 0.1% accuracy.

**Digital Inputs/Outputs:** Up to 1920, contact DI, 24Vdc DI/DO, 120Vac DI/DO, 240Vac DI/DO.

**Total I/O:** Up to 1920.

**I/O Racks per System:** One controller and up to four remote I/O racks.

**Control Loops:** PID, on/off, cascade, ratio, %C, three-position step.

**Control Output Types:** Current, time-proportioning, position-proportioning, three-position steps.

**Setpoint Programmers:** 50 segments each, 16 event outputs, multiple stored profiles.

**Setpoint Scheduler:** 50 segments, 8 ramp/soak outputs, eight auxiliary outputs, 16 events, multiple schedules.

**Comm:** Ethernet 10/100/base T, Modbus/TCP protocol, up to 10 Ethernet hosts on C50, C70, C75 up to 32 peer-to-peer controllers, Serial Modbus RTU, RS485 or, slave or master operation (up to 32 slaves).

**Operating Temp:** Rated 0° to 140°F (0° to 60°C).

**Humidity:** Rated 10% RH to 90% RH, non-condensing.

## Control Station Operator Interface

**Display:** 10.4in (264mm), TFT active matrix color LCD.

**Touch Screen:** Resistive analog.

**Distance from Controller:** Ethernet—328ft (100m), RS485—2000ft (600m).

**Power Supply:** 24Vdc, 1.4A.

**Size (WxHxD):** 12.83in x 9.5in x 2.2in (325.8m x 241.3m x 55m).

**Operating Temperature:** 32° to 122°F, (0° to 50°C).

**Humidity:** Rated 10 to 90%, non-condensing.

**Panel Rating:** Type 4X.

**Memory:** 16MB onboard non-volatile flash, optional memory card (compact flash 2GB).  
Comm. Ports: Ethernet 10/100 base T, 1xRS-485, 2xRS232 Serial.

**USB Ports:** 2 x USB specification 2.0 host port, type A, 1 x USB specification 2.0 device port type B.

### 900 Station Designer Software

**Configuration:** 900 control station CS interface—offline.

**Operating Environment:** Windows 2000, XP, Vista.

**PC:** Pentium class processor and RAM as required by the chosen operating system plus 50MB for software installation. 800 by 600 pixels minimum, 256 or more colors. RS-232 or USB port.

**Cable:** USB Host, RS232 Serial, Ethernet 10/100 base T.

**Multilingual:** English, French, Italian, German, Spanish

Setpoint Programmer Pre-plot Display

Concurrent Batch Reports  
Bar Code/Keyboard Input  
GSM/GPRS, SMS Available

NEMA Type 4X operator interface screen withstands harsh operating environments.

Function block widgets accelerate configuration development.

Recipe selection makes product/process changeovers simple and accurate.

Multi-level log-on security feature prevents unauthorized access.

Alarm/event logging with e-mail notification  
Embedded web server feature allows access to your application from anywhere.

Multiple interfaces on each controller enable process management from up to three locations.

## HC900 Designer Software

**Configuration:** HC900 Controller—offline with run-mode editing.

**Operating System:** Windows™ XP onwards

**CPU:** 1 GHz (2.5 GHz preferred)

**RAM:** > 1GB (512MB preferred)

**DrivePorts:** USB (2.0 & 3.0)/ Ethernet

**Cable:** RS485—three-wire, Ethernet 10/100 base T.

**Modem Support:** Monitor, upload, download configuration.

## For More Information

To learn more about Honeywell's HC900, visit [www.honeywellprocess.com](http://www.honeywellprocess.com) or contact your Honeywell account manager.

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