

Autoclave & Industrial Controls Reduces Power Waste and Improves Process Security With Honeywell Control System



“Honeywell’s HC900 controller helps us reduce the power wasted by the autoclave and provides additional process security to the customers who require it. Honeywell’s product was the only one that combined proven analog process control with PLC functions in one complete package.”

Ian Jenner, Managing Director, Autoclave & Industrial Controls

Benefits

Based in the UK, Autoclave & Industrial Controls (AIC) is a service provider for the advanced materials and process engineering industries. The company serves a diverse set of customers, helping to meet their needs for composite curing autoclaves. With a decade-old system in place the company knew it was time for an advanced solution from a worldwide recognized manufacturer.

AIC turned to Honeywell and selected its HC900 Controller, an advanced loop and logic control system providing a modular and cost-effective design to complement their in-house developed SCADA package. By combining proven analog process control with PLC functions in one complete package, the HC900 was the perfect match to AIC’s needs.

With Honeywell’s system installed, AIC was able to implement some long desired features in the control system, which was not possible using its obsolete hardware. Benefits realized from using the new controller included:

- Significantly less power wasted by the autoclave – by more than 200kW for several hours in some instances – due to an “active power management” feature
- Increased process security thanks to a redundant platform providing redundant CPUs, power supplies and network communications
- Developed and improved function block to enhance product
- Implemented hardware control of the process
- Accelerated development and started rolling out the system quickly to demanding customers thanks to trial system review

- More stable plant operations and reduction in plant idle time due to unwanted trips
- Cost savings with reduced engineering and maximized process startup time
- Secure and digital sensor data processing and capture for NADCAP compliance.



Honeywell HC900 controller replaced obsolete technology, reducing wasted power and providing additional process security.

Background

Autoclave & Industrial Controls provides worldwide support services to the advanced materials and process engineering industries. With over 40 years combined experience in the design, manufacture and service of major plant equipment, the company provides unrivalled expertise in its field. Based in Poole, United Kingdom, AIC includes 30 staff that support customers as diverse as McLaren F1, Red Bull F1, Airbus, EADS, Lockheed Martin, GE Aviation, GlaxoSmithKline and Pilkington Automotive.

Challenge

Having served the advanced materials and process engineering industries for more than 20 years, AIC was still supporting its original control system that was based on a niche supplier of discrete temperature controls. Because the system was obsolete and instruments discontinued, the company found that it needed to develop a new control system – one preferably based around hardware from a worldwide recognized manufacturer.

“We knew what we wanted, but to be honest, we weren’t sure that it was even available in the marketplace,” said Ian Jenner, Managing Director, AIC. “We met with several suppliers who had elements of expertise, but we still weren’t sure if any of the solutions could fulfill our hardware requirements in one complete package – a must for us moving forward with this project.”

Solution

AIC chose to work with Honeywell and found that its HC900 controller provided the best match to its requirements by combining proven analog process control with PLC functions in a single solution.

“We were thrilled to see that a global and well-respected firm like Honeywell not only had the experience in the controls industry, but really took the time to understand the additional features that would allow us to further enhance our product offering and direct us on how these could be tightly integrated into our product cycle,” continued Jenner.

Honeywell’s HC900 control system is a cost-effective automation platform for equipment and small-to-medium processes. HC900 controllers combine loop and logic control for unit process applications requiring analog measurements with discrete actions.

The HC900 controller offers a blend of analog process, logic and sequencing control algorithms. There are no preset limits on the number of times a function block type may be instantiated in a controller (limit based on memory availability and required scan rate). Features include:

- 1,920 I/O points
- Compact 4, 8 or 12 I/O slot rack sizes
- Open Ethernet network connectivity
- Peer-to-peer data exchange
- Automated loop tuning
- Setpoint programmers
- Setpoint schedulers with multiple ramp/soak outputs and multiple 64-step sequencers

“We still had a huge concern that the hardware could not control the process, and regardless of how smart and user-friendly our software interface is, if the hardware can’t control the process as well as our old obsolete system it isn’t worth doing it,” said Jenner. “Once we developed and installed a trial system from Honeywell we were happy to see how well it worked and accelerated development, and started rolling out the system to our very demanding customers.”

With Honeywell’s HC900 Controller, AIC implemented several long-awaited features that weren’t possible with its previous hardware. Honeywell’s solution enabled “active power management,” which greatly reduced the amount of wasted power by the autoclave having to work harder than necessary in various points of the cycle. On a large machine this could be a reduction of over 200kW for several hours.

“Working together with Honeywell product engineers to develop and improve function blocks that enhance our product is the sort of collaboration someone expects from a small, specialized company,” added Jenner. “It is so refreshing to see that a company of Honeywell’s scale is able to work with us and remain dedicated and focused on our requirements to make this a success.”

More Information

For more information on Honeywell solutions, visit www.honeywell.com/ps or contact your Honeywell account manager.

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