Industrial HVAC Solutions

Reduce operating costs with seamless communication across your process – and integrated safety, monitoring and data reporting

Benefits

- Enhance safety
- Improve process control
- Achieve standardization plant-wide
- Decrease installation costs
- Reduce equipment downtime
- Lower maintenance costs

Rockwell Automation
Industrial HVAC Solutions
For your most difficult process control challenges in industrial HVAC, choose plant-wide solutions from Rockwell Automation. Increase safety integrity across your plant – while improving your capability to monitor, control and optimize your processes.

We apply our industry expertise to deliver products that provide greater control and conform to stringent HVAC requirements so you can demonstrate payback and minimize your risk. Since reliability is paramount, we also provide comprehensive services that help you predict, prevent and react to operation problems – before downtime occurs.

The Challenges

In many large industrial plants, HVAC systems are an integral part of the process. HVAC systems have a direct impact on motor control centers, variable frequency drives, steam generation equipment and electrical rooms. Therefore, if the HVAC system is compromised, generally the process is too.

HVAC systems can also impact safety. Specifically, how the HVAC system responds to a fire or gas event can affect the performance of the plant’s fire and gas safety system. In addition, HVAC system controls often must meet regulatory requirements for plant-wide safety.

Until recently, traditional HVAC equipment could not communicate seamlessly with a plant’s process and/or safety systems. As a result, many plants use a patchwork of equipment, programming packages, networks and visualization systems to achieve communication. Manufacturers incur significant ongoing expense for the additional engineering, programming, wiring, training and maintenance these disparate systems require.
Real-Time Control and Visibility
Our Allen-Bradley® controllers are fully integrated into your system and deliver key benefits. To help protect critical processes from unscheduled downtime, the controllers offer real-time visibility into monitoring air quality, temperature and humidity; trending; detailed alarming; data collection; and automated reporting.

What’s more, HMI software and hardware from Rockwell Automation provides a consistent view into your HVAC system and process control.

Integrated Safety Solutions
You can improve process control — and enhance safety, too. With our controllers rated Class 1, Division 2, you can apply a SIL-compliant solution for hazardous locations — without having to add air purged panels or NEMA 7/9 enclosures.

In addition, with ICS Triplex AAdvance™ process safety distributed control, you can achieve an integrated SIL-rated fire and gas solution for your building automation system very cost-effectively.

The scalable AAdvance solution integrates seamlessly with the PlantPAx system and includes both a hardware controller and a software environment. It allows you to apply different levels of module redundancy as appropriate for various parts of your system — including non-safety, SIL 3, fail-safe and fault-tolerant.

Turnkey Services
From design to commissioning, you can count on Rockwell Automation for comprehensive turnkey HVAC solutions. We can also provide global coordination of OEMs and skid and e-house manufacturers to help standardize components and programming software throughout your plant — and enable complete integration across multiple vendors.

Seamless integration of industrial HVAC and plant-wide process control helps save time and money — and improves plant safety

Open, Scalable Architecture
The Rockwell Automation industrial HVAC solution features open architecture and can be integrated with your existing plant-wide control system.

Our scalable approach enables you to build an integrated system to meet your requirements. Systems range from stand-alone basic control with micro controllers to full-scale, plant-wide automation solutions, incorporating condition monitoring and heat trace systems as needed.

Single Vendor Plant-Wide Control Systems
With the PlantPAx™ Process Automation System from Rockwell Automation, you can get the information you need, when you need it, to help configure, control and optimize your operations. Integrated monitoring, alarms and detailed diagnostic and historical data help reduce engineering time — and installation and maintenance costs.

When you integrate your HVAC system with programmable automation controllers (PACs), motor control centers (MCCs), variable frequency drives (VFDs) and industrial controls from a single vendor, you are ensured compatibility. As a result, you can expect less training, easier maintenance and reduced spare parts.
The Rockwell Automation Solution

The key benefits of the Rockwell Automation Industrial HVAC Solution are achieved through seamless integration and real-time visibility.

The Rockwell Automation Industrial PlantPAx HVAC Solution

Integrating Your System

In this Rockwell Automation solution, a safety-rated industrial building automation system is seamlessly integrated with the fire and gas system — and the plant-wide PlantPAx Process Automation System. While each building management system centrally controls a bank of air handling units, each unit can run independently if the building automation system is compromised. The solution is integrated with the plant’s fire and gas system, which is based on an ICS Triplex AAdvance controller. This controller can achieve SIL 3-rated, triple modular redundant applications. The entire solution reports into the DCS Process Control layer (Layer 1) — and on to the Supervisory Control layer (Layer 2).
Delivering Real-Time Information

The Rockwell Automation solution delivers real-time information throughout your enterprise. This display screen was generated using FactoryTalk® View Site Edition (SE). In this example, the screen provides the operator with access to extensive information including a wide range of position and control set points for the damper, preheat and cooling valves, fan speed, and temperature, pressure and humidity. In addition, the operator has access to override all inputs and outputs — and can view and adjust tuning parameters, alarms and many other control module attributes.

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