

# CONTROL SYSTEMS

## WHAT ARE CONTROLS?

Controls consist of a very complex network of devices that understand how HVAC equipment operates. Control systems measure, react, communicate, and decide how your HVAC equipment should respond to your indoor environment. These systems are used to regulate how devices operate in real time.



## What If You Could Have An Intelligent Building?

### DIRECT DIGITAL CONTROL

What if you could have an intelligent building? What if your building could be equipped with the technology needed to understand the real-time needs of your spaces and automatically make the decisions for you? This is where Direct Digital Control (DDC) and Building Automation Systems (BAS) step in. Upgrading to DDC means that your building is equipped with digital sensors that feed information to a controller while a BAS can then act as a master controller, networking all your HVAC systems together.

Direct Digital Controls and Building Automation Systems can truly optimize the operation of your building, saving you time, and reducing your energy bills. With the built-in monitoring features of the BAS, building operators can be proactive instead of reactive. Pneumatic controls lack the ability to effectively communicate all needs of each space and the building as a whole, forcing HVAC equipment to work overtime or inefficiently. The technology exists to have intelligent buildings – let your building start talking!



Lower Utility Cost



Improved Building Operation and Maintenance



Reduced Energy Waste

## OPTIMIZING YOUR SYSTEMS

There are many reasons why control systems become under-utilized and consequently, the energy use associated with HVAC operations may not be realized. However, there are solutions to improve and update these systems. These include: new equipment, reusing equipment components, merging multiple DDC systems, and retro-commissioning. As product offerings associated with DDC expand, building owners and operators have more options to manage and maintain their facilities' infrastructure with additional energy cost savings.



## STRANG'S CONTROLS SERVICES

### ON-SITE ASSESSMENT OF EXISTING HVAC SYSTEMS

- » Inventory existing equipment and working condition
- » Understand building needs: temperature, humidity, and air quality requirements
- » Understand occupancy requirements: occupied/unoccupied schedules, space function and utilization

### DDC BUILDING DESIGN

- » Customized control drawing schematics of your HVAC systems
- » DDC point tables, indicating each sensor and controlled device required for system conversion to DDC
- » Full specifications for all control devices, including sensors, relays and switches, control valves, control dampers, and motorized actuators
- » Full specifications for DDC controllers and Building Automation Systems
- » Full specifications for installation standards

### OPERATIONS DESIGN

- » Customized sequence of operations for all your HVAC systems
- » Optimization strategies to save energy
- » Code compliance with the International Energy Conservation Code and standards published by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE).

### BUILDING RETRO-COMMISSIONING

- » Full audit of existing HVAC operations
- » Identify deficiencies in current operations and provide specific solutions and recommendations for repair
- » Enrollment in qualifying utility incentive programs for building owner



**Increase Safety, Efficiency, and Savings With Intelligent Building Automation and Controls**