



Energy Controls
company



The ecWizard

Pneumatic Energy Savings Control

Energy Savings with an

How does the ecWizard provide an approximate 1 year payback in energy savings?

The ecWizard utilizes the VAV and Zone control energy-saving strategies that have passed the test of time since the mid-80s. Established energy savings for DDC zone retrofits are from 3 to 6 years depending upon the buildings activities and occupancy. The ecWizard uses the most important sequence of operations for energy savings in the industry today, it's called, turn it off. Individual zone scheduling, holidays, optimize start/stop, dead band setpoints, demand response and set point limitations. When used with motion detectors, zone setpoints can raise and then be lowered when occupied. When used with wireless sub metering the ecWizard can provide calculated HVAC costs. This provides for total accountability of energy usage of the tenants or occupants.

In the early 80s energy conservation started to blossom and we saw one-year paybacks. Buildings owners eagerly grabbed every opportunity to purchase items and systems that provided such an excellent financial savings. Banking institutions would aggressively purchase anything that would provide them with a three year payback, let alone a one year.

The ecWizard brings back an average one year payback opportunity that was first realized in the 1980s. The utilities, state and national governmental incentives and rebate programs increase the financial incentives to purchase the ecWizard.

About the Control

The ecWizard is an alternative to costly digital control system (DDC) retrofits of pneumatic systems which can cost \$2000 or more per thermostatic zone. It provides the existing pneumatic system with a simple off-auto switching valve and the brains to provide all the energy-saving attributes of the proven DDC control systems that are popular today. We leave the existing thermostats and control system intact and simply turn it off like a light switch.

The ecWizard uses wireless communications to operate on-off/auto switching valves. These are two proven technologies that make up the bulk of the control.

It can also be installed by an apprentice technician in 15 to 20 minutes.

The control can integrate with the ecHost/Tridium JACE or as a stand alone control. It also works with both BACnet and Lonworks interfaces.

Estimated installation cost for the owner of the facility is \$500 per thermostatic zone with an average payback of only **1 year**. Additional savings from reduced maintenance diagnostics and monitoring capabilities and utility rebates and tax incentives.

The ecWizard can reduce electrical consumption in demand response programs which provide additional funding for installation

Tridium's Sedona framework and the Jennic send/receive radio combined with ZigBee and 6loWPAN protocol, provide the highest quality for this unique control.

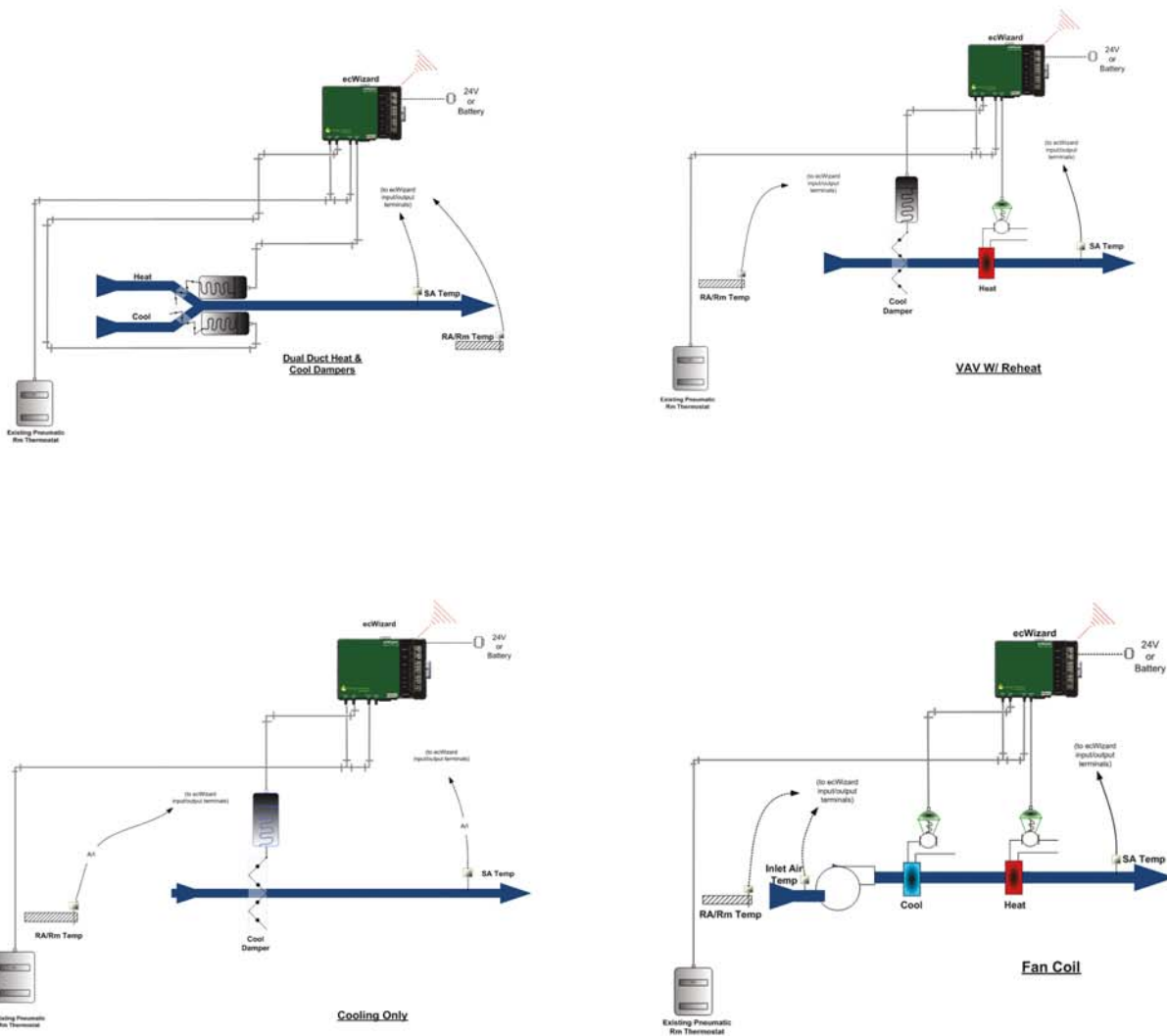
Solidyne's top engineers are working with Energy Controls Co. along with Tridium and Jennic in the development and manufacturing of the ecWizard.

Features

- Individual schedules for each ecWizard. Unoccupied/occupied/holiday settings with push button or computer generated time to override for after hour occupancy.
- Setpoint limitations which prevent the pneumatic thermostat from extreme setpoint conditions. Motion and/or light detection setpoint limitations.
- Override data logging for tenant billing opportunities. Alarms from multiple input opportunities.
- Fail safe places the ecWizard to the auto position allowing the thermostat control as normal.
- Enable Demand Response strategies

approximate 1 year payback

Typical Applications

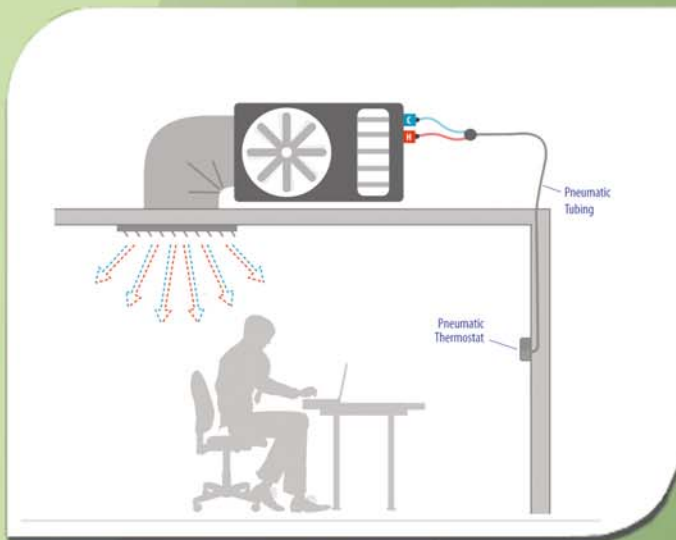
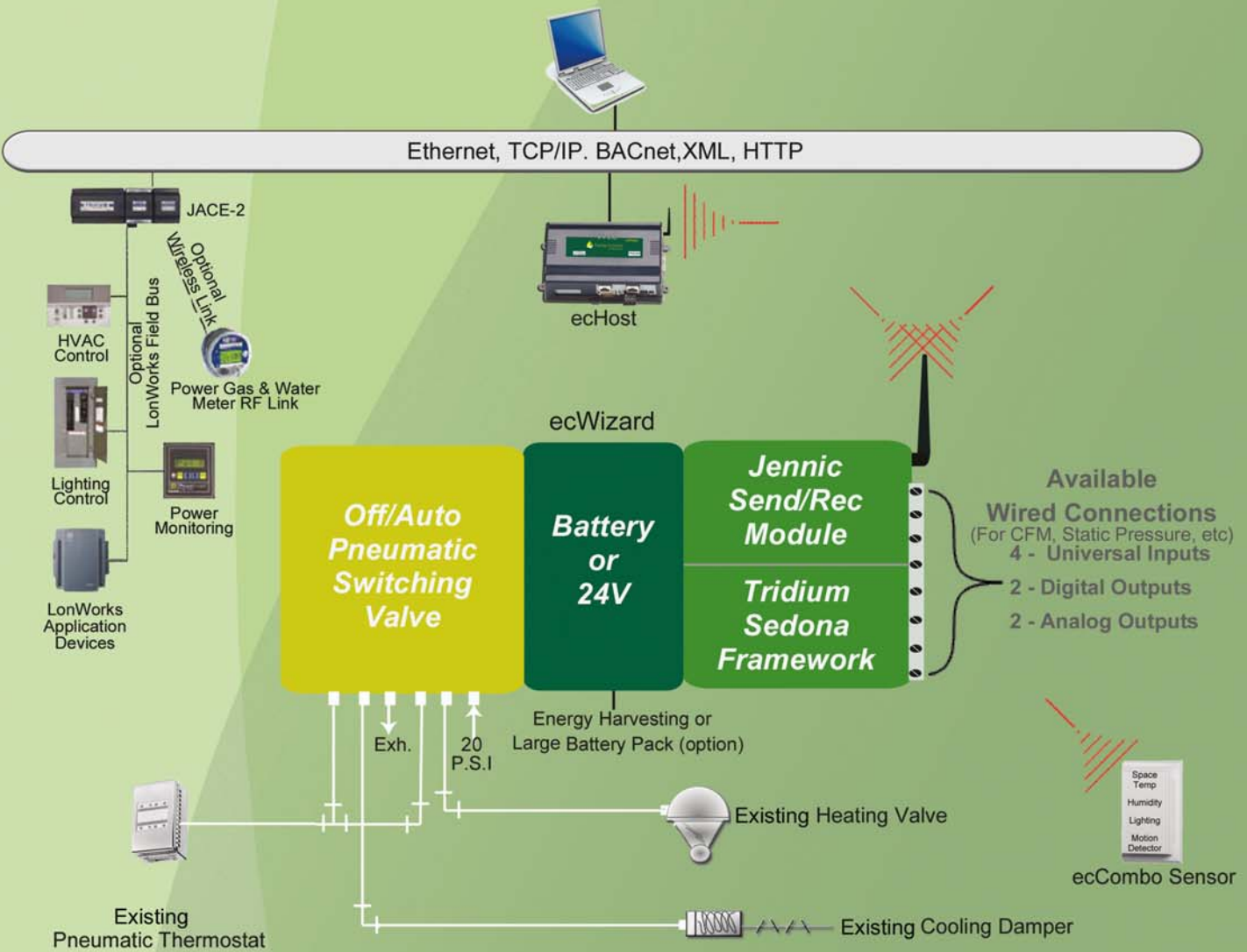


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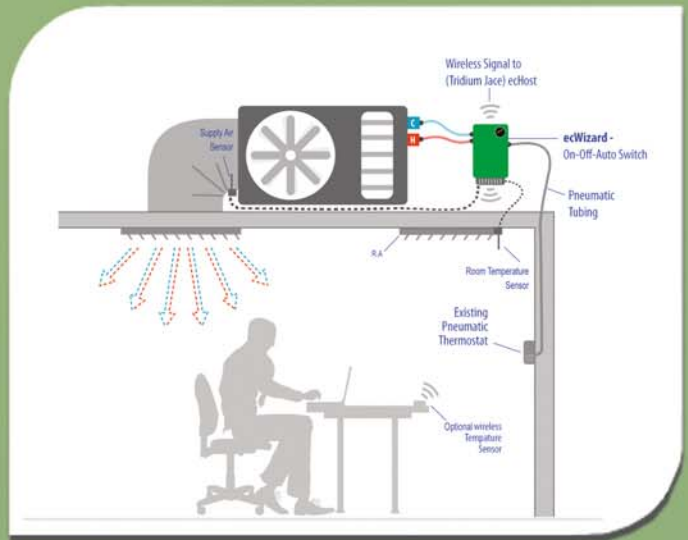
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The above is a drawing of a typical pneumatically controlled VAV zone.



As you can see in the above, all that we have done is cut the existing pneumatic tubing, attached the ends to the ecWizard, added supply and return sensors, and an optional wireless wall sensor. Now this particular zone can utilize all the existing energy savings attributes as all the other time tested electric DDC zone retrofits. But, since there is no demolition of the existing pneumatics, the installed price is approximately 75% less than DDC.