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PRODUCT GALLERY

Elevator KEYPAD System reduces wait times, complaints

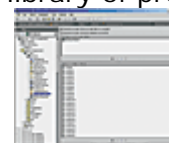


When the New York Marriott Marquis was designed in the late 1970s and opened in 1985, planners didn't foresee just how many visitors and guests would be moving throughout the hotel's 1,946 guest rooms and more than 100,000 square feet of banquet and meeting space.

The architectural design included 12 glass-enclosed guest elevators and four additional

Dimmer for HID lamps provides dimming. A single ESD-7200 H control up to 7,200 watts which standard application with 400 v could dim up to 16 lamps simultaneously. The system consists of a single connected between the lighting lamp ballasts. Energy savings is linear — a lamp dimmed to 50 percent uses half the power of lamp at full output, according to the company. [SINEWAVE](#)

Building automation software expands library of pre-built tools in the Framework. Niagara includes support for access control applications



elevators in the elevator core that were mostly used for the transportation of luggage. However, at peak times, when hotel guests, banquet clients and restaurant patrons converged simultaneously, they faced long waits for elevators.

In the late 1990s, the New York Marriott Marquis began to explore new technology, and learned about Schindler Elevator Corp.'s Miconic 10, a destination-based method of building travel that groups elevator passengers traveling to similar destinations.

The system uses keypads in the hallways where users can input their destination, eliminating traditional pushbuttons in elevator cars. It then assigns the elevator that will transport the passengers to their destinations most efficiently. The system also tracks frequency of input requests on the keypad and factors the capacity of the car based upon its weight, allowing full cars to run in an express mode.

Three weeks after completion, not one elevator complaint has been received, something that has never happened in the hotel's entire history, according to the general manager. It is estimated that efficiency in wait time improved by at least 35 percent. [SCHINDLER](#)

Five Steps

Want to use green power but not sure where to start? A 26-page guide offers five steps on how offices and retail establishments can acquire energy from renewable sources. The guide includes a discussion of the business case for buying renewable energy, an overview of delivery options, energy cost-saving strategies, a breakdown of how to buy renewable energy — including an explanation of how to understand the data needed to sign a contract — and a description of how the carbon emissions benefit of a renewable energy purchase is calculated. The guide includes brief examples of how companies have diversified their energy supply and supported the growth of clean energy

provisioning tool that allows ac to perform management tasks networks of devices, and upgra and LonWorks applications and [TRIDIUM](#)

Flatter autowalk technology platf new pallet return mechanism a of motor to enable walks to be entirely at floor level. On the r InnoTrack system, pallets arriv of the autowalk are lowered to placed just under the walking l



motor is the auto balustrade conventi the mot system and pallet return tracks a pit up to 3 feet below floor le

Blast-protective panel system use high-tensile-strength steel rein ArmorStone uses proprietary c systems and chemistries design matched to specific threats. Al protective. It attaches with fas familiar to the construction industry and provides the opportunity to use the aesthetics of granite when designing facilities. [HARDWARE](#)

Lamp and ballast recycling kits a through a Web site allow facilit to ship spent equipment in pre sent to and picked up from the Recyclepak's operators process documentation, including certif recycling, and ensure complian and local laws. [OSRAM SYLVAN](#)

Recessed CFL downlights are ma percent composite material wh lamp and ballast life, according company. Downlights are corr nonconductive, lightweight anc extinguishing. Units are Energy and UL-, CUL- and UL Marine-li or wet locations. [NUTECH LIGH](#)

Forty-four gallon waste container the force required to remove th when compared to traditional c

technologies by incorporating renewable energy into their operations. [World Resources Institute](#)



Glass door lock slips onto the edge of a glass door, requiring no boring of holes. Locks are equipped with a four-chamber, high security cylinder and 3/8-inch diameter double-locking pin. The locks fit glass doors from 11 mm to 13 mm thick and are available for both single and double glass doors, including Herculite glass doors. [MUL-T-LOCK](#)

Self-contained cooling unit can provide up to 7 kw of cooling capacity and can be placed adjacent to the heat load. The 12-inch-wide (half-rack) InfraStruXure InRow SC cooling unit removes heat at the source that would otherwise require greater fan horsepower over longer distances of ductwork, according to the company. The unit can be controlled with integrated network manageability via Web, SNMP and Telnet. [AMERICAN POWER CONVERSION](#)



Security management system integrates access control, video, alarm monitoring and other critical functions of a facility's security system. The Velocity system supports new technologies, including smart card readers and biometric devices. Interoperability features enable integration with logical security and back-end systems. [HIRSCH](#)

Wireless building automation network connects isolated system components, hard-to-reach panels or other areas where it would be cost-prohibitive to connect systems using Ethernet cables. System uses IEEE 802.11 (WiFi) wireless mesh technology to establish communications for building automation controller and management level networks. [SIEMENS](#)



Passive infrared thermocouples provide 7-by-24 real-time monitoring and alarming of equipment in electrical

according to the manufacturer. container uses venting channel liners from forming a vacuum in container. The product has four inches and soft-grip material handles. [RUBBERMAID](#)



Centrifugal relief valve designed to protect against damage when flow

is flowing. The casing relief system is an engineered kit of all valves, seals, supplies and interconnecting cables for installation. Sensors operate during churn conditions. [OPTI-](#)

Direct-field sound masking system is installed in plenum space, allowing it to be placed behind ceiling panels and in spaces with drop ceilings. Quiet technology is a low-voltage, distributed audio system manufacturer's products and requires no on-site tuning or retuning. To reduce energy consumption, the technology delivers more energy to the lower bands. [CAI SOUND MANAGEMENT](#)

Building management system features tools that allow for point-and-click control of facility systems. The Vista 5.0 is a so-called "smart" graphical control system that allows graphical objects to be created and updated in real-time. The system's data and user side software library contains ready-made system objects. Graphics can be re-used in the system. [TAC](#)

Video surveillance software can support an unlimited number of cameras via multiple servers or located at remote sites. XProtect Enterprise Version 6.0 provides remote access to both live and recorded video. Images from security cameras can be sent on command or based on events such as when a door opens or a button is pressed. Other features include pan, tilt, zoom, audio support, support for multiple cameras with multiple computer monitors and a graphical timeline display for searching. [MILESTONE](#)

cabinets and of pumps, motors, bearings, gearboxes, steam traps and HVAC systems. The permanently mounted thermocouples require no calibration and can provide trend data to be used in predictive maintenance of equipment that increases or decreases in temperature when it malfunctions.

[EXERTHERM](#)

Computer-aided facility management software suite integrates drawing, asset and facility management tools. FMDesktop 7.0 allows for retrieval and editing of selected data, including floor plans, operations and maintenance requests, from any one of multiple drawings. Data queries can be used to display graphical or data-based reports to identify asset relationships and initiate work orders. DWF technology links to the company's Revit Building software for BIM and enables CAD files to be shared more easily. [AUTODESK](#)

'06 Winner

Light-emitting capacitor (LEC) panels are sandwiched into light sources using a series of polymer thick-film compositions. The paper-thin, offer 99 percent uniform illumination, consume little power, produce no heat, according to the comparison. The capacitors, recognized by TIME Magazine as one of the Best Inventions of 2006, are used for backlit signage and interior décor.

CASE STUDIES

Hands-Free Faucets encourage cleanliness

According to the Centers for Disease Control and Prevention (CDC), children who wash their hands four times a day miss significantly fewer school days due to upset stomach and colds. Yet only about two-thirds of children wash their hands after using the restroom, CDC says.



The Julie Billiart School for children with special educational needs in Cleveland wanted to reduce the number of days students missed school due to illness. A recent building addition that added six restrooms and 17 washstations gave the school the opportunity to address the issue by encouraging hand-washing.

In addition to health concerns, water conservation was also a goal for the school. Students often forget to turn the faucet off after washing their hands.

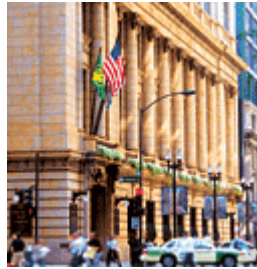
To meet both goals, school staff installed Moen's FreeHand electronic faucets in the restrooms. The hands-free operation encourages students to wash their hands. The 30-second "auto-off" feature prevents faucets from accidentally being left on, reducing water and sewage bills and daily gallon use.

Teachers have found that students now enjoy washing their hands and do so frequently. "The faucets are easy to use and the children caught on to their use quickly," says Sister Agnesmarie, principal of Julie Billiart. "I've even heard a student say 'fun' to wash their hands." [MOEN](#)

VFDs Offer Energy Management Opportunity to Chicago Landmark

For years, the Northern Trust complex in the Chicago Loop has used three alternating current fixed-speed motors to power the flow of air or water through its domestic water system. The systems relied on throttles or dampers to drive to interrupt and control the flow — a process that required a significant amount of energy due to the motor's inability to alter its speed or level of power.

Northern Trust turned to Honeywell for a proposal on integrating variable frequency drive (VFD) into the HVAC system to manage energy usage. By electronically altering the frequency of the supply voltage to control the motor's operating speed, VFDs increase system efficiency, and reduce energy and maintenance costs.



The project, completed in March 2005, involved installing VFDs onto Northern Trust's air handling motors — one on each and exhaust fan per floor. During the summer, the building's air conditioning units typically operated at 750 amps before installation. Now, air conditioning units run at around 500 amps. Energy use has been cut by more than 30 percent.

On average, Northern Trust's energy costs have been cut approximately \$10,000 each month during the summer due to the installed VFDs. [HONEYWELL](#)



[Correctly Done, Audits Lay the Groundwork for an HVAC Upgrade](#)

[Temp-Air](#)

The Topaz line of portable air conditioners consists of six models, offering between 14,000 and 77,500 btu/hr. Current consumption is between 11.7 and 37.8 amps for different models, and all models have mechanical thermostat control.

[Aerco](#)

The Benchmark 3.0 low NOx condensing full modulation boiler offers 15:1 turndown through its stainless steel heat exchanger design. Boiler has an operating range of 200,000 to 3 million btu/hr and achieves 99.1 percent efficiency at its lowest firing rate. It has a footprint of 79-by-28-by-64 inches and is



[MultiStack](#)

Modular centrifugal chiller with centrifugal compressor is available in 720 tons. Compressor has oil injection and a part load efficiency below 100% with on board VFD control. Fits through 32-inch doorways.

[ABB](#)

ACH550 HVAC drives range from 1 to 100 HP and are approved and listed by Testing Laboratories for conforming to UL 508.



Standard BACnet test mode, sensorless speed control, and 0-10Vdc speed reference available. IEC 60321-1 Class B standard, MS/TP, RS485 based, and supports all BACnet defined BACnet standard profile for air conditioning specific controller.

[Mitsubishi](#)

delivered in a single, fully assembled package that fits through a standard doorway.

Data Aire

DX Series cooling units are constructed with heliarc welded tubular steel frames and include 1-inch thick, 1 1/2 pound density insulation. Units use scroll compressors and range from 6 to 30 tons. Units come with 4-inch deep, 30 percent efficient pleated filters.



Steam generator humidifiers and DAP-II microprocessor controls are also standard. DAP-II communicates directly with the company's site management devices or major building management systems using a plug-in chip.

McQuay

The frictionless centrifugal chiller is available from 110 to 300 tons and has a part load efficiency of 0.33 kw/ton. Chiller has magnetic bearings to eliminate noise from metal-to-metal contact for quiet sound levels as low as 77 dba. Oil-free design eliminates oil support system and corresponding maintenance costs. Touch screen operator panel. LonMark, BACnet or Modbus communications modules for interface with BAS.



Sterile-Aire

PTAC UVC kits contain one UVC emitter and power supply, plus all necessary hardware components to retrofit a PTAC coil or other room unit with UVC. Emitters are installed across the indoor coil, emitting high output UVC. Snap-in design fits all major brands of PTAC units, according to company. One kit is required for each unit.



Daikin

With the water-cooled VRV II, water is piped from a cooling tower or boiler to the product (which is the equivalent of the outdoor unit of an air cooled conditioning system) and after heat exchange, refrigerant is piped from the product to each indoor unit. By adding suction gas piping and a BS unit (sold separately), simultaneous heating and cooling operation can be provided by a single system.

The City Multi R2 series is a variable refrigerant flow zoning system inverter technology for simultaneous cooling and heating. The fully integrated system is available in two outdoor mode units: a 100,000 btu/hr unit or a 100,000 btu/hr to 16 connectable indoor units include wall-mounted, ceiling-concealed-ducted types. Both can be ducted or ductless.

Electrostatic

The Aegis SGR conductive microparticle grounding ring mounts on either motor shaft with screw-on mounting brackets and protects bearing from VFD-induced shaft current. Ring is available in standard sizes for any motor with a .311 to 6.020 inch shaft with custom sizes available. Conversion adaptor kit for installation on IEC AC motor with a shaft shoulder bearing cap or end-bell protrusion.

Siemens

The Q-Series relative humidity sensor provides a signal range of 0-10 Volt, 4-20 mA and NTC outputs in 3 to 5 percent accuracy. An embedded microprocessor converts the sensor signal to a continuous 0-10 Volt signal that corresponds to 0 to 100 percent relative humidity. The humidity signal is conditioned and linearized from 0 to 100 percent of the range.

Belimo

Pressure Independent Characteristic Valve is made of non-corroding plated brass with a forged brass stem. There is an isolating adaptor flange and actuator, and perpendicular mounting of the flange and square head is designed to eliminate side loading on the stem. The automatic flange features a blowout-proof stem bearing double O-ring design. The stem with O-rings reduce torque.

Trane

The 15 SEER Precedent packaged air conditioning system range from 1.5 to 5 tons. Units use R-410A. Track controls schedule and controls the



Carrier

The Evergreen 23XRV integrated variable speed water-cooled, screw chiller uses a tri-rotor screw compressor. Available from 300 to 550 tons, the chiller achieves both full- and partial-load efficiencies that exceed ASHRAE 90.1 requirements. Chiller uses HFC-134a. ARI certified to 0.33 kw/ton integrated part load value.

Movin Cool

The CM12 ceiling-mounted packaged air conditioner delivers 10,500 btu/hr of cooling in a compact, self-contained unit that mounts above a standard drop ceiling. Operating range of 65 to 95 degrees F on the evaporator and 65 to 113 degrees F on the condenser. Unit features built-in mounting brackets, automatic safety shut-off from common fire alarm control panel and connection to building control system. System requires no refrigerant piping.

Kimberly-Clark

Intrepid filtration media is made of continuous hydrophobic polyolefin fibers that resist moisture and microbial growth. Thermal bonding allows for a controlled gradient structure that has increasing fiber density from the upstream to the downstream side. The structure density gradient uses an electret charge for sustained efficiency.

Rawal

The APR-410 control provides capacity modulation for direct-expansion AC systems using R-410A refrigerant. The control matches AC system capacity/output to changing load conditions, controlling humidity and eliminating coil icing, liquid slugging, and excessive compressor cycling without overcooling the space, according to the company. Can be installed new or as a retrofit.

Patterson-Kelly

The Modu-Fire modulating boiler has a 5 to 1 turndown and is up to 88 percent efficient. Models offer between 1,000,000 and 2,000,000 btu/hr input and 850,000 and

210/240 certified and UL-approved. Available in gas/electric or coc electric heat. Drain pans are c and removable. Hybrid conder designed for easy cleaning.

Strionair

The company's filtration system ionization, electrostatic and m filtration technology to offer g percent filtration efficiency at level. Airborne particles pass 1 negatively charged ionization charges the particles. When p the polarized filter media, the to the opposite charge, formir all surfaces. Uniform loading a fiber surfaces offers long-term drop and increased dust holdi

Goodway

The 9-pound CoilVac Dry HEP, a four-stage filtration system used as either a vacuum or a 4 HP motor, it produces a ma water lift of 90 inches and a r displacement of 135 CFM. Pro levels of 58 dba at low speed high speed.

Spirotherm

The Spirovent high velocity air eliminator is made of fabricate available from 2- to 36-inch p which can handle flk 30,000 gpm. High v can handle entering up to 10 feet per se eliminators remove entrained air and up percent of dissolved separators remove sediment with a spe greater than water to below 3

Topp Air

The IMAC 2000S portable indu fired heater provides heat dist to 587,000 btu/hr. Heater has a footprint of 54-by-94.5-by-32 inches, a fuel consumption setting of 4 gph, and 10 amp electrical requirement. Equipped with a high efficienc exchanger, a lockable weather casing, and a high-pressure fa

1,700,000 btu/hr output. Category II venting is required.

[TSI Incorporated](#)

The Q-Trak Plus IAQ monitor simultaneously measures carbon dioxide, temperature, humidity and carbon monoxide. Unit measures carbon dioxide in the 0 to 5,000 ppm range, temperature between 32 and 122 degrees F, humidity between 5 and 95 percent RH, and carbon monoxide between 0 and 500 ppm with a 30-second response time. Unit has a menu-driven display and comes with data analysis software. Accessory probes for secondary temperature and velocity are available.

[DriSteam](#)

The Vaporstream electric humidifier provides up to 285 lbs/hr and has the ability to link multiple units together for greater capacity. Humidifier offers RH control to +/- 1 percent and can use tap, softened, deionized or reverse osmosis water. Temperature sensor enables controller to hold water at a preset temperature for faster response time.

[Johnson Controls](#)

York OptiSpeed medium-voltage speed drive for centrifugal chiller applicable on chillers up to 3,000 cooling, at voltage levels up to



The drive has a converter design with an integral phase transformer. It features an LCD screen that displays real-time data as trends and troubleshooting information.

[Yaskawa](#)

The E7 1/2 – 500 horsepower AC drive is a variable torque drive with a capacity is 110 percent for 60 percent peak) and starting torque is 150 percent at 3 Hz. LCD keypad features hand/off/auto functions, several menu choices and five lines of display with 16 characters per line.