

Focusing on News & Information  
for Contemporary Controls'  
Valued Customers

# NETWORK

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## TRADE SHOWS

**Bolster your knowledge of the industry  
by attending these trade shows.**

### AHR EXPO 2007

**January 29–31**  
Dallas Convention Center  
Booth #1616  
Dallas, Texas USA

### MTEC 2007

**February 14–15**  
NEC Birmingham  
Hall 11, Stand B148  
Birmingham, UK

### Building Automation Conference 2007

**March 21–22**  
Hyatt Regency Baltimore  
Baltimore, MD USA



## Prescription for a Healthier Network ...Add Fiber

It's a well-known fact that in order to maintain your health and boost your immune system, adding fiber to your diet does the trick. Contemporary Controls Operations Manager George Karones says the same can be said for your network.

"Adding fiber optic links between stations will boost your link distance and provide galvanic isolation increasing immunity to electrical noise and lightning strikes," he explains. "Besides, we all know how fast fiber makes your go!"

Karones says the compact Skorpion fiber series can boost your network performance and span up to 2 km multimode and 15 km single-mode. "In addition, this series will give you peace of mind knowing that your exposed connections be they outdoor, underground, or installed in a hostile environment are immune to their surroundings," he says. "Take 2, and you won't have to call me in the morning..."

The rugged Skorpion 5- and 8-port fiber series provides reliable connectivity for industrial and building automation systems in a cost-effective manner, backed by a 5-year warranty. Fiber ports are used when distances exceed the 100 meter limit of copper, when immunity to EMI/RFI is important or for additional communication security. ST or SC connectors are available for use with (1300 nm) multimode fiber cable or SC connectors with single-mode (1300 nm) fiber cable. All fiber ports operate at 100 Mbps full-duplex.



The Skorpion fiber series also includes the EISK5-100T/FC and the EISK8-100T/FC, which support single-mode cable.

Convenient mounting is available with the attached DIN-rail clip. There is no need to worry about using duct tape or Velcro®. You can use your existing AC or DC low-voltage power and no more wallwart or mains receptacle. Skorpion switches will operate in 0° to +60°C environments, and the good news is this series, as is their copper cousins, are easy to design into your project year after year.

Diagnostics include LED indicators that show link, data rate (green for 100 Mbps, yellow for 10 Mbps), activity (flashing), duplex, and power. A connection-list label is provided to document the cable connections.

All fiber models meet regulatory approvals including UL 508 Listed, C-UL Listed, CSA C22.2 No. 14-M9, CE Mark and RoHS compliance.

## Wireless Technology Gaining Ground at ISA Expo 2006

“True, the wireless movement is on the rise, and this topic was popular at ISA Expo in Houston, TX in October,” said Joe Stasiak, Sales Manager for Contemporary Controls. “ISA is trying to develop a wireless standard, SP100.”

The ISA-SP100 Committee will establish standards, recommended practices, technical reports, and related information that will define procedures for implementing wireless systems in the automation and control environment with a focus on the field level.

The first draft of the SP100 industrial wireless standard is due out next year with completion in 2008. Committee members say manufacturers will start building to that draft standard in 2007.

Nearly 54 companies from the show said they had wireless products. All the Contemporary Controls staff agreed that the big shift is in the number of end-user products incorporating wireless technology. “Wireless is finding its applications.”

Bill Lydon, Applied Marketing Concepts, said the Automation Federation was featured prominently at ISA. Bruno Kisala, new Managing Director of the organization described this as a “venture” funded initially by ISA to create a new non-profit group in the industry. Lydon views it as a way to broaden the scope of ISA which has been trying to go beyond process control.

Lydon said the Automation Federation is described as an umbrella organization under which associations and societies engaged in manufacturing and process automation activities can work more effectively to fulfill their missions. It will coordinate the work of member organizations engaged in advancement of the science and engineering of automation technologies and applications.

On the first day of the show, Operations Manager George Karones made a presentation on the many functions of the company’s managed switches titled, “Keep Your Ethernet Control Network Flowing Smoothly by Using Managed Switches.” (You may get more information on this subject by visiting [www.ctrlink.com/managed\\_features.htm](http://www.ctrlink.com/managed_features.htm).) Contemporary Controls focused its exhibit on their Plug-and-Play and managed Ethernet switches. Since most of the attendees were in the process control industries, attendees questioned our staff about UL 1604 Recognition on our switches. UL 1604 is necessary for operation in dangerous industries such as petrochemical. Our EIS Series switches are recognized by the Class I Division 2 Hazardous Location rating—meaning that an abnormal condition such as a flammable gas or vapor in the air won’t cause danger to the environment. Stasiak said users should recognize the importance of working with manufacturers like Contemporary Controls that comply with UL 1604.

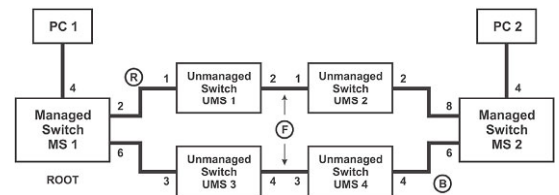
He concluded by saying this about the show. “Traffic was reasonably good with more than 12,000 attendees. Shows in general have a tough time. Traditionally, customers relied on attending shows to find out what was exciting from their suppliers. Now, these same customers surf the Internet and secure the information very quickly. “Stasiak feels it’s important that customers come and talk to the vendors and the vendors talk to the customers. “We learn from each other what the needs are, what solutions we should be striving for and what’s going to happen in the years to come.”

## TECH UPDATE

### An RSTP No-No

by Bill Greer, Senior Product Specialist

A customer complained of a long recovery time (one to four minutes) for an RSTP network. He connected two **managed** switches (with no fiber ports) via four **unmanaged** switches (RSTP-unaware) used as media converters for a fiber backbone. The diagram shows the six-switch network with pertinent switch ports numbered. The RSTP protocol forced link B inactive (thus, the backup link). Then, as a test, the customer interrupted link R—causing link B to activate. The fiber backbone is indicated by the F links. The unmanaged switch address tables were the problem.



RSTP protocol had elected MS 1 as root, placing its ports 2 and 6 in forwarding state. On MS 2, port 6 was assumed the discarding state to stop message looping via link B.

Broadcasts affect the address tables of **all** switches even if a switch is not in a message path—as with UMS 3 and UMS 4 **while link B is inactive**. Thus, UMS 3 and UMS 4 each register PC 1 and PC 2 connected via port 3.

When network topology reconfigures due to a break in link R, UMS 3 and UMS 4 become part of the data path, but they are ignorant of the reconfiguration. Thus, UMS 3 and UMS 4 still try to forward **all messages to the left** via port 3 of each switch—although the reconfiguration sends data from PC 1 to PC 2 through UMS 3 and UMS 4 **to the right** via ports 4 of each switch. This means once link B activates, messages sent to PC 2 are lost until the address tables of UMS 3 and UMS 4 are updated.

Switches “filter, forward or flood” received messages. They **flood** when the destination MAC address is not in their table. They **forward** when the destination address is in their table. They **filter** messages (throw them away) when the destination address **is on the same port** where data arrives.

The filtering problem solution was to use media converters (with no address tables) to pass link status between the managed switches.

It is unwise for an RSTP network to mix RSTP-aware switches with RSTP-unaware switches. As seen in this example, the effects of such mixing can be impaired network performance.

## Skorpion Switch Solves Communication in HVAC System's Controllers

A school that has a properly commissioned and maintained HVAC system significantly eliminates any problems with indoor air quality. This is the case for Berkeley Community College in California with an enrollment of more than 4,000 students. School officials contacted Emcor Service, Mesa Energy Systems (Hayward) headquartered in Irvine, California to install the new HVAC Delta Control system in this six-floor structure. Jonathan Garcia, Project Coordinator with Mesa, said the Delta system is highly reliable and would meet the college's energy conservation requirements and keep maintenance and operating expenses within the budget. In addition, the comfort zones of the college would be at optimal levels—meaning there are no indoor air quality complaints.

Mesa selected BACnet®/IP to integrate the HVAC system with other building systems. The HVAC system is controlled through DSCs (Delta System Controllers) located on the building's floors. The System Workstation, located on the ground floor, is connected to the network through the Contemporary Controls five-port, industrial-grade Ethernet Skorpion switch.

Garcia said the EISK5-100T serves as one of the main doors to communicating with other devices in the network. The switch allows us to tie into our control network at higher speeds than point-to-point with system controllers. Our technicians are able to connect through the switch to do tasks such as system commissioning or to troubleshoot the control network. This will enable our staff to effectively diagnose and remedy equipment malfunctions before catastrophic failure occurs.

On each floor of the building, the Skorpion is DIN-rail mounted in a control panel next to the HVAC system controller. Garcia said he values the product's small size (only 1 1/2" W x 3.9" H) and design. "The Skorpion, unlike other industrial switches, has easy access ports as well as a thin body that allows more panel space for other equipment," he explained. "According to our electricians, this product's mechanical structure is an advantage as well. The ports are designed better allowing for easier connection with the CAT-5 cable; a better grip is used for the wire. Each panel containing a switch is daisy-chained via CAT-5 cable from the roof down to the first floor connecting all the HVAC equipment to the network.

Garcia said the well-engineered system exceeded the expectations of the school officials; a system that was designed with the Contemporary Controls product backed by excellent technical assistance.



The photo shows the Skorpion 5 positioned in one angle in the control panel of a fan system. The switch is mounted among the other components such as the System Controller.

## Opening New Trade Routes to Eastern Europe



Contemporary Controls GmbH and Contemporary Controls Ltd, the two European offices within the CC Group (based in Germany and England respectively), recently took part in their first trade show in Russia.

This was the fifth year that the show, "Hi-Tech House 2006," had been staged in Moscow (just across the road from the Kremlin), and took place from the 9th to the 12th of November. The show addresses the rapidly-growing market for Building Automation products in Russia, specifically in the area of domestic dwellings. The three main networking technologies for this sector—BACnet®, LON, and KNX—were each represented by their respective local Groups. Exhibiting companies included such well-known names as Johnson Controls/York, Honeywell, Automated Logic, TAC, Trend, Siemens, ABB, Wago and many others.



Hi-Tech House is an international exhibition of the advanced technologies' achievements applied in commercial and residential markets.

Jan Thriene and Peter Jefferson, the Sales Managers from the two CC companies taking part, manned the stand during the four days of the event. They were assisted by Marina Stepina, a local with excellent English, who provided invaluable help translating documents beforehand and with interpretation during the exhibition.

At the close of the show, Jan Thriene said: "We came to Russia with the intent of finding a Distributor who can help us penetrate this newly-emerging marketplace. Judging by the number and quality of leads we received, and the genuine interest shown in our products, we feel confident that we will be able to achieve this aim."

Contemporary Control Systems, Inc.  
2431 Curtiss Street  
Downers Grove, IL 60515 USA

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## **A Look Inside:**

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US fax back and e-mail:  
1-630-963-0109  
info@ccontrols.com

UK fax back and e-mail:  
+44 (0)24 7641 3923  
info@ccontrols.co.uk

Germany fax back and e-mail:  
+49 (0)341 520359-16  
info@ccontrols.de

China fax back and e-mail:  
+86 512 68095966  
info@ccontrols.com.cn



*May  
the Holiday Season bring  
you its treasures in abundance:  
lasting friendships, family joys,  
health and prosperity.*