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Ethernet Switch Obtains UL864 Fire Alarm System Recognition
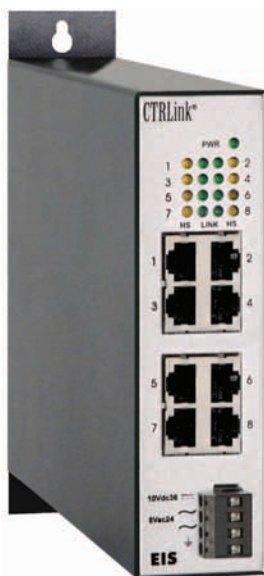
Contemporary Controls recently re-qualified the EIS Ethernet Interconnect Switch series to comply with the requirements of Underwriters Laboratories (UL) 864 *Control Units and Accessories for Fire Alarm Systems* 9th Edition. The EIS series, consisting of an eight-port 10/100 Mbps copper switch along with three six-port copper/fiber switches are now 9th edition Recognized Components. All new fire alarm and smoke control systems being installed claiming UL 864 compliance must comply with this latest edition. The UL recognized component mark is rarely seen by the customer, but is often part of a larger end-product that is UL Listed by the fire alarm system supplier.

For an end-product to be UL Listed, the product is tested by UL to determine if it meets the requirements established by UL's published Standards of Safety. A UL recognized component has already been evaluated and tested in accordance with UL's component safety standards, streamlining the qualification process for the end-product.

"UL's component certification services are designed to help our customers get products into the marketplace that meet their safety goals and the safety requirements of their customers," said Simin Zhou, General Manager, Global Component Services, Underwriters Laboratories. "The UL Recognized Component programs add value by eliminating redundant testing and surveillance for commercially available components. It also adds confidence to supply chain integrity by testing and conducting surveillance where the components are manufactured."

By having the fire alarm system supplier specifying a Contemporary Controls' EIS Ethernet switch to be used within the system, the supplier is not required to perform additional testing on this component. Several fire alarm and security firms have already specified the EIS series as part of their system thereby improving their time-to-market.

Components that bear the UL Recognized Component mark are separately covered under UL's Follow-Up Surveillance program to ensure continued compliance and prevent unpleasant surprises when an end-product is inspected. "If a component changes, even though the change appears minor, the end-product could lose the UL Listing," said George Karones, Operations Manager, Contemporary Controls. "Starting the process over is time-consuming and expensive. Our customers can be confident that as a trusted supplier we won't compromise their UL Listing."

UL 864 compliance is nothing new to Contemporary Controls. The company's MOD-HUB ARCNET repeating hub has for years been approved for use in fire alarm systems. The EIS Ethernet switch was previously approved for 8th edition but 9th edition required additional testing. In order to comply with the newer off-premise signaling requirements, the EIS was subjected to high transient voltages across its Ethernet data pairs requiring additional protection. The system had to continue to perform even after the Ethernet data line pairs were subjected to 2400 V

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pulses of 80 μs in duration followed by successively lower potentials with longer durations. Other requirements included large safety-factors on component selection. The result is a more robust product, according to George Karones.

UL is an independent, not-for-profit safety certification company that has tested products and published safety standards for more than 115 years. UL has a global network of facilities that develop product standards and test products against those standards. Most major insurance companies require their clients to use UL listed or recognized products.

In addition, many local, state and national governments incorporate UL standards into law.

The EIS series consists of the EIS8-100T eight-port copper switch, the EIS6-100T/FC copper/ multimode fiber switch with SC connectors, the EIS6-100T/FT copper/multimode fiber switch with ST connectors, and the EIS6-100T/FCS copper/single mode fiber switch with SC connectors. All are available for shipping in one business day.

For more information, please visit http://www.ccontrols.com/ul864.htm.

Technology UPDATE

BACnet MS/TP MAC Addresses — Any Significance to the Addresses?

By Bill Greer, Senior Product Specialist

There are 256 possible BACnet MS/TP addresses ranging from 0-255, however, you cannot assign a device to 255 since it is reserved as a broadcast address. No device is allowed to have a source address of 255. There is another restriction on addressing. Master devices, those who participate in the token-passing protocol, must be addressed from 0 to 127. Addresses from 128 to 254 are reserved for slaves who do not participate in the token-passing — however, they can occupy lower addresses as well. Each MS/TP master must be assigned a unique address in the valid range, but is there any significance to the value of the address? Actually, there is.

If you study Johnson Controls' (JCI) *MS/TP Communications Bus Technical Bulletin*, JCI states that MAC address 0 is reserved for bus controllers and cannot be changed. Addresses 1–3 are also reserved. Therefore, field controllers should begin being addressed from 4 on up with no empty assignments. This allows the best possible performance since no time is wasted passing tokens to non-existent devices. Another parameter comes into play and that is *Max. Master*. This parameter does not mean the maximum number of devices but the highest address used by any master in the network. We know you can only address up to 127 masters — so this is the default value for almost all devices. However, this is not the most efficient setting since the device with the highest address will periodically poll-for-master (PFM) up to the Max Master limit. This is a waste of time if you only have 20 devices addressed from 0-19. Ideally, you would like all devices to have their Max Master set to the address of the highest master address on the network. However, seldom do you see this parameter changed.

There is significance to being the MAC 0 "guy". By having the lowest possible address, you are the first in line to begin PFM in case there is a network disruption. If you have *Max Info Frames* set high, and you receive the token, you can quickly flush your queue before the other devices get the token and begin polling for non-existent devices. So if you are a bus controller or a BACnet/IP to MS/TP router like the BASRT-B, assign yourself MAC 0 for the best performance.

The Americas NEWS

Contemporary Controls Showcases Sedona at the 2009 Niagara Mini Summit

Joe Stasiek demonstrates different Sedona applications running on multiple BAS Remotes at the Niagara Mini Summit.

Contemporary Controls demonstrated the BAS Remote web appliance operating with Tridium's anticipated new Sedona Framework at Cochrane Supply & Engineering's bi-annual Niagara Mini Summit in Mt. Pleasant, Michigan, June 18-19.

The mini summit is an invitation-only event for Cochrane customers, many of whom are extremely knowledgeable about Tridium's Niagara Framework. The Sedona Framework, according to Tridium, "is an open source software development framework that provides a complete platform for developing, integrating, connecting and managing pervasive device applications at the lowest level." It is expected to be released this August, but as an early adopter, Contemporary Controls has been cooperating with Tridium pre-release.

The Sedona Framework retains the drag-and-drop programming approach that was made popular with the Niagara Framework. The same Niagara Workbench programming tool can be used to create Sedona control schemes that execute on the BAS Remote.

With the Sedona Framework, the BAS Remote gains controller capability and can communicate seamlessly to a Tridium JACE supervisory controller using the SOX protocol over IP/Ethernet. Tridium's vision is to put "all devices up on IP" which is a vision Contemporary Controls' supports.

In addition to the BAS Remote, Contemporary Controls' demonstrated their BACnet/IP to MS/TP BAS Router and their CTRLink line of Ethernet infrastructure products. Because Cochrane's select audience is familiar with both Tridium's products and Contemporary Controls' Ethernet products, Contemporary Controls gained valuable insight and feedback about their implementation of Sedona.

Cochrane allows ample time for attendees to discuss applications and industry issues with building automation integrators. But it was not all work and no fun…a golf outing culminated the event.

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