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News Release

From:

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Hirschmann[™] once again demonstrates its market leadership in Industrial Ethernet *Hirschmann[™] switches support seamless redundancy*

The new PRP (Parallel Redundancy Protocol) and HSR (High-availability Seamless Redundancy) protocols are two newly developed redundancy methods that significantly increase the availability and reliability of network connections. Hirschmann[™] was intensively involved in the specification of this promising technology. Its collaborative effort together with the Zurich University of Applied Sciences (ZHAW) and other partners from industry has now resulted in a successful demonstration of the functionality of both methods. At the end of November, Hirschmann[™] will be introducing the first series products with PRP support at the SPS/IPC/DRIVES exhibition. "These first exhibits will include Industrial Ethernet switches and an Embedded Switch module for integration into end devices," explains Strategic Technology Manager Andreas Dreher. The second stage will follow in 2012 with devices offering HSR support.

The increasing use of Ethernet in new fields of application, such as power automation, motion control technology and safety systems, is changing the requirements for communication networks. "Certain applications cannot tolerate any interruptions, not even for a few milliseconds, because this can be enough to adversely affect their processes," underlines Mr. Dreher.

With PRP and HSR, two protocols are now available for the first time to address this problem – and they are both specified in an international standard, hence ensuring technical maturity and interoperability.

All previously existing redundancy methods are associated with specific switchover times: in the event of a network failure, communication is interrupted while the switchover is taking place. As the network expert points out, this is unavoidable with these redundancy methods, because the failure first needs to be detected before communications can be redirected to an alternative path. For many fields of application this is acceptable, and these frequently used techniques have proven themselves in many applications.

Networks that have two independent active paths between two devices adopt a quite different approach. "Here, the sender has two independent network interfaces that transmit the same data simultaneously," explains Mr. Dreher, adding "The redundancy control protocol has to guarantee that the destination uses only the first data packet and discards the second one, and it must also make sure that frames do not circulate." PRP and HSR, which are both specified in the standard IEC 62439-3 (Industrial Communication Networks / High Availability Automation Networks, Part 3), are based on this principle. PRP uses two physically independent networks of any topology, while HSR operates only on rings. Andreas Dreher summarizes the advantages of the two new redundancy protocols: "The primary benefit of PRP and HSR is that in the event of a fault they still provide uninterrupted communications, requiring absolutely no switchover time and thus delivering maximum availability."

About Belden

Belden[®]: Sending All the Right Signals[™]

Belden designs, manufactures and markets signal transmission solutions, including cables, connectors and I/O modules, wireless network systems as well as network devices and control, load sensing and load moment limitation systems designed for safety-critical applications ranging from industrial automation to data centers, broadcast studios and the aviation and aerospace industry. The company focuses on segments of the worldwide cable and automation markets that require both highly specialized and readily available products. With manufacturing facilities in North America, Europe and Asia, Belden has recorded a total revenue of USD 1.62 billion for the fiscal year 2010.

Together with its brands HirschmannTM and Lumberg AutomationTM, Belden offers an extensive and highly specialized product portfolio covering the full range of data communications – from the information and control levels down to the field level. The company has more than 15 offices throughout Europe, the Middle East and Africa, with manufacturing facilities in Czech Republic, Germany, the Netherlands, UK, Denmark, Italy and Hungary.

For more information about Belden, please visit <u>www.hirschmann.com</u> or e-mail <u>inet-sales@belden.com</u> for product inquiries.

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(Photo: Belden, PR214)

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Alternatively for very high resolution pictures please contact Nancy van Heesewijk (<u>nvanheesewijk@emg-pr.com</u>, +31 164 317 018)