Safety-rated rotary encoder with openSAFETY

The CD75M safety rotary encoder from TR-Electronic is a perfect example of how safe drives can respond to external movements at very high speed more easily and cost-efficiently than ever before. This encoder delivers safe position and speed values in openSAFETY format and can be directly connected to POWERLINK networks. It is available with SIL 3 / PLe certification and does not require external safety modules or any of their associated programming. The result? Safe monitoring of movement axes without time-consuming hardware setup.

Safety through cross-checking

The CD75M is able to determine safe values for position and speed by cross-checking redundant pairs of scanning sensors and processors. These values are then output via the openSAFETY protocol. During configuration, parameters such as the differential and standstill windows, direction of rotation or integration time are set up directly over the safe configuration channels of openSAFETY.

Since openSAFETY uses the “black channel” principle, safe data can be bundled into openSAFETY packets and transferred over the same medium as the process data. The openSAFETY rotary encoder from TR-Electronic reduces overall complexity as well as hardware and wiring costs. In addition, innovative features such as automatic configuration of the direction of rotation or differential and standstill windows can be loaded over the network. The rotary encoder from TR-Electronic also provides preset electronic adjustment, which allows the current position value to be applied as the new actual value.

Innovative safety concept

The use of a single communication medium means that it couldn’t be easier for the user to access and implement every bit of safe and non-safe data in the application. This not only greatly simplifies and maximizes diagnostics with the CD75M, it also allows the use of innovative functions without requiring extra work. The rotary encoder from TR-Electronic featuring openSAFETY integration truly opens up entirely new safety concepts.
openPOWERLINK 2.0 now available

Version 2.0 of the popular open source POWERLINK stack is now available. This backward compatible new version has been refactored and reorganized with a simplified architecture and improved modularity. It greatly simplifies application development with a much cleaner separation between the application-oriented stack library and the time-critical stack driver, allowing the real-time application to be moved to a dedicated communication processor or Linux kernel module and thereby delivering enhanced performance while keeping the stack API in user space. The fully reworked documentation provides an even smoother introduction to POWERLINK technology for new developers.

Since the openPOWERLINK stack was first published in 2008 as BSD-licensed software to bring 100% open POWERLINK technology to the automation market, more than 23,000 downloads have been registered by the open source platform SourceForge. Today, the openPOWERLINK stack forms the basis of countless products and has been a key factor in establishing POWERLINK as a leading real-time industrial Ethernet network.

Faster response times and increased asynchronous bandwidth

The new stack implements all the key features required by today’s POWERLINK devices. In addition to standard and multiplexed modes, it also supports Poll-Response Chaining, substantially accelerating the average response time across large-scale networks. The virtual Ethernet interface for asynchronous communication supports Multi-ASnd, which fills the asynchronous phase of the POWERLINK cycle with multiple telegrams to boost asynchronous communication bandwidth. The stack is able to operate as either a POWERLINK master or slave.

openPOWERLINK is platform-independent, highly portable and conveniently modular. In addition to the previously supported platforms, including Linux, Windows, VxWorks and FPGA slaves, version 2.0 adds native support for FPGA-based masters on Altera and Xilinx platforms as well as implementations on TI’s Sitara chip.

More information: http://openpowerlink.sourceforge.net/
POWERRLINK at the SPS IPC Drives Italia show

First held in 2011, this trade show in Parma, Italy, has become the premier event for Italy’s automation industry. Following the theme of “Innovation”, the exhibition as well as panel discussions will be dominated by one single topic, Industry 4.0.

More than 580 exhibitors will offer answers to the question how Automation 4.0 can make the Italian industry more innovative and competitive. This event has a strong focus on the food and beverage industry as well as pharmaceuticals and cosmetics, another central segment of Italy’s economy. In addition to automobiles and machinery, similarly important for Italy’s economy, these are industries in which the boundaries of production are permanently stretched using advanced automation. This requires ultrafast response times with reliable synchronization of large numbers of axes as well as uncompromising functional safety.

It therefore comes as no surprise that the number of products with POWERLINK and openSAFETY compatibility showcased at numerous booths across the exhibition halls – an impressive 48,000 square meters – has grown even faster than the number of exhibitors. The EPSG will also be returning again this year to their booth located at E026 in Hall 3.

June 04 & 05: POWERLINK Certification/Plugfest

The next POWERLINK certification/plugfest will be hosted by Festo in Esslingen-Berkheim, Germany, on June 4-5. During this event, the functionality of new products will be tested against the POWERLINK specification. Only if a product passes in all test scenarios and test cases, a product is awarded the EPSG certificate. The high requirements the products must fulfill ensure optimal functionality in operation. During the Plugfest following this testing, all components will confirm their interoperability in a large, heterogeneous network with mixed topologies and various master systems.

On June 3-4, the EPSG workgroups will meet at Festo’s. The Safety group will engage in topics such as safety redundancy and openSAFETY profiles on June 3; the next day, the technology group will discuss the further development of the POWERLINK specification.