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Industrial Ethernet now on Raspberry Pi2

Kalycito implements
POWERLINK on newest
single-board computer

POWERLINK is the first industrial Ethernet protocol to work on the new Raspberry Pi2. Kalycito has implemented openPOWERLINK master and slave with Linux on the 2nd generation of the single-board computer. Raspberry Pi2 was introduced in the spring of 2015 and offers a new dimension of performance on this well-known platform.



Kalycito has implemented POWERLINK on a Raspberry Pi2 with Linux.

Kalycito has come up with a demo that showcases how POWERLINK on Raspberry Pi2 can be an interesting platform for networked industrial and home automation projects to be applied using devices like PLCs and distributed I/O. It should be noted that the demo was created using the unmodified official open source release package. The quick start guide and prebuilt demo binaries can be used to get started before proceeding to modify the C programs for transmitting and receiving data via the I/O pins.

This demo shows how easy it is for anyone to set up and run openPOWERLINK on the Raspberry Pi2 to build their own distributed automation platform and control the signals of motors, sensors, actuators, relays and more.

More information regarding this demo can be found at <http://www.ethernet-powerlink.org/EN/raspberrypi2>.

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POWERLINK – The next step in mobile automation

ESPG presents open source protocol at Agritechnica

The search for a powerful backbone bus system for mobile automation will keep many visitors and exhibitors very busy at the Agritechnica from November 8 -14 in Hanover. At Booth H05 in Hall 15, the Ethernet POWERLINK Standardization Group (ESPG) will present the POWERLINK protocol as the real-time bus system for a new generation of mobile automation.



At the Agritechnica trade show, the ESPG will present POWERLINK as the real-time bus system for a new generation of mobile automation.

Today's mobile commercial equipment continues to push the limits of conventional bus technology. These systems can't offer the performance or bandwidth that state-of-the-art automation solutions demand. That's why the industry is on the search for a new backbone bus system that complements the traditional CAN bus.

POWERLINK offers the required performance and bandwidth and is based on the CANopen mechanisms. In addition, it conforms to the Ethernet specifications. That's how POWERLINK is able to support cross-communication and hot-plugging and offer free selection of network topology. The protocol is widely used in industrial automation and has been applied in numerous national and international standards, including IEC 61784, IEC 61158, GB/T 27960-2011 (highest Chinese standard), Korean Standard KS C IEC 61158 and 61784.

Smooth transition to industrial Ethernet

POWERLINK is a real-time capable and hardware-independent open source protocol. It provides construction and agricultural technology the ability to transition smoothly to an industrial Ethernet solution. With openSAFETY, the ESPG also offers an open source safety protocol with SIL 3 / PL e precertification. Because openSAFETY can be put on all current protocols, a personal safety network is not required.

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Networking made easy

**KUNBUS for effortless
POWERLINK integration**

KUNBUS simplifies the integration of sensors and actuators into a POWERLINK network. The new KUNBUS-COM module for POWERLINK enables Ethernet-based interface connections without affecting the design of the circuit board. This makes it easy to retrofit a POWERLINK interface with minimal added development.



With the compact KUNBUS-COM module, integrating sensors and actuators into a POWERLINK network is now easier than ever.

With its compact dimensions of 85 x 65 millimeters, the module can easily be plugged into the control card of existing sensors and actuators or connected by a cable. In terms of software, the module features a Modbus RTU, a shift register interface, a dual port RAM interface and an easy-to-program script interpreter. The interface for the electrically isolated POWERLINK network is formed by two RJ45 connectors. The module also has two rotary switches for setting the node address and integrated LED indicators for diagnostics.

Compact performance

The POWERLINK module is able to process 512 bytes of input and output data and is designed for cycle times of 250 microseconds. The KUNBUS-COM platform has a standardized pinout, so the module can also assume the function of a cost-effective option card for a range of fieldbus or network protocols.

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The open source future of deterministic automation

Real Time Ethernet Conference in Bangalore

The Real Time Ethernet Conference brought industry experts from Accenture, Bharat Electronics Limited, ABB, Robert Bosch Engineering Services, Barry Wehmiller International and more to Bangalore, India, to discuss how real-time determinism can be achieved over standard Ethernet using a vendor-independent, open



Real Time Ethernet Conference held in partnership between Altera, Kalycito and B&R in association with the Ethernet POWERLINK Standardization Group.

source approach – a crucial requirement for Industry 4.0 automation. Event partners Kalycito, Altera, B&R and the Ethernet POWERLINK Standardization Group presented on topics ranging from the basics of POWERLINK implementation to its usage in high-performance automation applications.

Easy implementation of POWERLINK communication

Srinivasan Subramani, project manager for embedded systems at Barry Wehmiller International, reported on his experience with the open source POWERLINK stack: "The protocol was very easy to implement, and it took us just two days of training to establish POWERLINK communication with a completely real-time deterministic response."

Free choice of hardware and software

Open technologies specialist Ninad Deshpande adds: "The reign of proprietary systems for industrial electronics is over. Openness and real vendor-independence make it easy for device manufacturers to integrate POWERLINK cheaply and easily. They enjoy completely flexible implementation with a free choice of hardware and software at their disposal." In less than a decade, Ethernet POWERLINK has created a strong foothold in the Indian market with more than 100,000 installed nodes.

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