



NEWS RELEASE

Atmel, HMT and MESCO Introduce Industry's Smallest IO-Link Reference Design

Partners combine expertise to provide ultra-small, turn-key, IO-Link solution based on Atmel AVR microcontroller family, HMT PHY IC, and MESCO IO-Link software stack

San Jose, CA, November 10, 2009 - Atmel® Corporation (Nasdaq: ATML), HMT Microelectronic, and MESCO Engineering today announced a cooperation to provide turn-key solutions for integrated IO-Link devices. This new solution provides designers overall savings in bill-of-material and board space. The IO-Link reference design combines each company's proven components including Atmel's AVR™ microcontrollers, HMT's PHY IC and MESCO's IO-Link stack to create the industry's smallest IO-Link reference design. IO-Link is the upcoming industrial control communication standard that will introduce several benefits for the end user, including easier cabling, remote diagnostics and configuration.

For many sensor designers, the physical size constraint is the key factor for integrating the IO-Link capability. Atmel, HMT, and MESCO Engineering have placed a strong focus on saving board space throughout the development and can now offer the TM96.0 GENIE Explorer Variant A reference design. Measuring only 6 by 20 mm, this is the smallest reference design available in the industry today.

The TM96.0-A reference design demonstrates the high integration of the Atmel, HMT and MESCO solution. It acts as an IO-Link device and is equipped with a push button, 2 LEDs and a potentiometer to allow developers to add stimuli to the system. The reference design runs the MESCO IO-Link stack on an Atmel ATtiny88 microcontroller and communicates on the IO-Link cable using HMT's HMT7742 PHY IC. The implementation used in the reference design does not require external protection to sustain reverse polarity or to comply to the EMC surge protection defined in the IEC 60255-5 standard.

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AVR microcontrollers and the HMT PHY IC are available in small packages to allow implementations in size-constrained environments. All AVR microcontrollers, including the picoPower[®], high performance XMEGA[™] featuring 12-bit ADC and DAC, can be used to run the MESCO stack and connect to the HMT7742 PHY IC. This makes the solution scalable and allows developers to find the perfect fit for their application and reduce their bill of material.

The MESCO IO-Link device stack firmware provides the developer of an IO-Link device full access to all features and services defined in the IO-Link Specification version 1.0. The firmware also supports features like Service PDU, Interleave Mode and diagnostics handling with event details. Using a modular design which is optimized for the AVR architecture, the library is scalable to and allows a quick implementation of customer specific commands. The TM96.0-A reference design comes with a demo application of the MESCO IO-Link device stack firmware. For IO-Link product development, the TM96.0-B evaluation and debugging board is available. It is equipped with all the required connectors and provided with the MESCO firmware library. Optionally the customer can purchase the related source code. The developer using this solution benefits from an IO-Link tested, proven, interoperable and maintained device stack firmware; reducing significantly the time to market and associated development risks.

Ingar Fredriksen, Atmel's AVR Product Marketing Director says, "We are delighted to work together with HMT and MESCO Engineering to position our AVR family as the microcontroller-of-choice to build an IO-Link-enabled product. The customer benefits from the HMT's strong expertise in mixed-signal ICs and ASICs for industrial sensors, as well as MESCO's experience in the field of the industrial communication and, in particular, its work within the IO-Link standard. The combination of the innovative and small-sized HMT PHY IC, with the compact and efficient AVR devices and a full validated software stack, is a true added-value for all sensor or actuator companies who are looking for an integrated, low system cost and ready-to-go IO-Link solution. AVR products are offered in a wide variety of pin, memory, and feature options. This makes it easy for developers to find the perfect microcontroller for their application needs, use the software from MESCO, and interface with the HMT7742 PHY IC to build an IO-link device."

Roger Bostock, HMT's IO-Link Product Manager comments, "We are pleased to have applied our long experience in high voltage and industrial sensor integrated circuit design to produce the HMT7742 PHY IC, which is suitable for a broad market. Our road-map extends this base to a wider family of IO-Link IC's and IP's for the diverse sensor and actuator requirements, always with an eye to small

physical size. The flourishing partnership with Atmel and MESCO provides sensor and actuator designers with reference designs which are qualified and guaranteed to provide compatible elements. This allows customers to concentrate on sensing and actuating, rather than on the wiring behind the device."

Peter Bernhardt, MESCO's Sales Manager comments, "IO-Link technology is developed for sensors and actor communication. Therefore, a strong requirement of the IO-Link device developer is an ultra-small hardware implementation. For MESCO, as a service company for customer specific hardware and software development, it is a great benefit to cooperate with Atmel and HMT. We are now able to provide the customer such small solutions, which we never achieved with standard discrete electronic components and circuits."

"MESCO is an active member of the IO-Link working group since its foundation. We used the gained expertise to develop the IO-Link device software stack and provide expert development services to our customers," Bernhardt continued.

Availability and Photo

Samples of the TM96.0-A demonstrator and the TM96.0-B development kit are now available. Please visit www.hmt.ch/genie-explorer for further information.

To download a photo of the board, please click one of the following links:

http://www.atmel.com/images/homepage_new/press/TM96_0_VarA.jpg

http://www.atmel.com/images/homepage_new/press/TM96_0_VarB.jpg

About Atmel

Atmel is a worldwide leader in the design and manufacture of microcontrollers, advanced logic, mixed-signal, nonvolatile memory and radio frequency (RF) components. Leveraging one of the industry's broadest intellectual property (IP) technology portfolios, Atmel is able to provide the electronics industry with complete system solutions focused on consumer, industrial, security, communications, computing and automotive markets.

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About HMT microelectronic AG

Active in the IC, ASIC and module design industry since 1978, HMT is one of Europe's largest independent contract design houses, delivering tested, qualified IC's and modules to customers. HMT specialize in mixed signal design both in micro-power and in high voltage, with application areas from implanted biosensors to industrial control. HMT's dynamic team of engineers provides the capacity for complex projects and higher volumes, while still offering the flexibility needed for cost effective development of smaller series. HMT provides a miniature electronic manufacturing capability inside HiDensity Group at Hybrid SA, which is of particular importance in medical and sensor markets.

About MESCO Engineering

MESCO is the partner for innovative product development in the area of process automation and factory automation. The core competences are customer specific electronic development and software development. MESCO specialize in measurement technology, industrial communication, functional safety (IEC 61508) and explosion protection. As a fully accredited Fieldbus Competence Center and through the active membership in organizations like HART Communication Foundation, PROFIBUS International, Fieldbus Foundation and IO-Link Working Group, MESCO is engineering-wise one of the industry's leader.

Highly qualified engineers and physicists form creative, perfectly matched development teams which implement customer specific product. Interdisciplinary know-how, many years of experience and well-proven processes for a methodical product development are the basis for successful projects at MESCO.

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