

SOC

Motor control solution enhanced with CAN

Microsemi, a provider of semiconductor solutions, announced extensions to its Smart Fusion 2 system-on-chip (SoC) multi-axis motor control solution. CAN is one of the added features.

The Smart Fusion 2 system-on-chip (SoC) multi-axis motor control solution is field programmable gate array (FPGA)-based and supports applications using CAN, encoders, Hall sensors, and induction motors. It is a development environment comprising a modular intellectual property (IP) suite, hardware kit, and graphical user interface (GUI) for development and debugging of the design.

The motor control solution's modular IP suite is optimized for Smart Fusion 2 and can be reused and ported across designs using Microsemi's Libero SoC Design Suite. "Our FPGA-based motor control solution offers many advantages over traditional digital signal processor and microcontroller-based solutions, as our device features deterministic response, better performance with multiple motor control, as well as the ability to integrate multiple



(Photo: Microsemi)

functions and offer scalability," said Prem Arora, director of marketing for Microsemi. "This high performance device can also support multiple industrial communication protocols, which are quintessential to modern drives and industrial control systems."

The added features of the solution enable support of various motor types and control algorithms. Its extensions enable alignment and speed control (position and motion sensing) and are suitable for a number of target applications. These include industrial/factory automation, robotic arms, 3D printers, automotive, as well as portable medical equipment. A family of sensor interface integrated circuits (ICs) based upon inductive sensing technology complements the deterministic motor control solution.

"The industrial and factory automation and process control market is expected to grow at a compound annual growth rate of 4 % from 2015 to 2020," said Les Santiago, research director for wireless and IoT semiconductors, at market research firm IDC. "Key trends driving this growth are automated factories, intelligent motion control, advances in industrial communication, and wireless sensor networks." The solution provides a motor performance of 100 K revolutions per minute (RPM) as well as a torque output. In addition, source code is now available in Verilog, along with VHSIC Hardware Description Language (VHDL).

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