

NEWS RELEASE

Power Integrations' Latest MotorXpert Software Drives FOC Motors Without Shunts or Sensors

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Software companion to BridgeSwitch motor-driver ICs controls and configures high-efficiency single- and three-phase BLDC inverters

SAN JOSE, Calif.--(BUSINESS WIRE)-- **Power Integrations** (NASDAQ: **POWI**), the leader in high-voltage integrated circuits for energy-efficient power conversion, today announced **MotorXpert™** v3.0, a software suite for configuration, control and sensing of BLDC inverters that utilize the company's BridgeSwitch™ motor-driver ICs. The latest release of the software incorporates Power Integrations' shuntless and sensorless technology for field-oriented control (FOC), adding support for advanced modulation schemes and unconditional startup under any load condition, along with significant improvements to the host user interface and debugging tools.

Power Integrations' Latest MotorXpert Software Drives FOC Motors Without Shunts or Sensors (Graphic: Business Wire)

Cristian Ionescu-Catrina, product marketing manager at Power Integrations said: "MotorXpert

simplifies single- and three-phase sensorless motor-drive designs. In this version 3.0 release, we have added a two-phase modulation scheme, which is ideal for applications that work in high temperature environments such as hot-water circulation pumps. The new modulation reduces inverter switching losses by 33 percent. Version 3.0 also features a five-fold improvement to our waveform visualization tool and an enhanced zoom function, giving developers substantially more information for motor tuning and debugging."

MotorXpert 3.0 comprises three main sections:

1. Sophisticated mathematical algorithms resident on the local MCU or DSP construct accurate feedback signals from the BridgeSwitch IC and provide real-time control of the switching patterns.

2. A host-side application interprets inverter actions and displays critical data in actionable format for engineering analysis.
3. The easy-to-use control interface permits development engineers to experiment and quickly converge to a final product.

MotorXpert suite is MCU-agnostic and includes a comprehensive porting guide to simplify deployment with a wide range of MCUs. It is implemented in common C language to MISRA standards.

The MotorXpert v3.0 host-side application includes a graphical user interface with Power Integrations' digital oscilloscope visualization tool that makes it easy to design and configure parameters and operation and simplifies debugging. Parameter tool tips and a tuning assistant improve the development process, and the intuitive parameter list provides easy motor tuning. The new version also features both V/F and I/F control, which permits motor startup in any load condition. A selectable two-phase modulation scheme allows developers to trade off temperature of the inverter vs torque ripple which is beneficial in applications such as hot water circulation pumps, reducing heatsinking requirements and enclosure cost. Development time is greatly reduced by the included single- and three-phase code libraries with sensorless support, reference designs, and other tools such as a power supply design and analysis tool.

The BridgeSwitch IC is a half-bridge motor driver of low RDS(on) FREDFET switches, controllers and drivers in a thermally efficient package. Sensorless feedback, fault reporting, and self and load protection are also available for applications from 30 W to 1 HP (750 W).

Applications include indoor and outdoor air conditioning fans, refrigerator compressors, fluid pumps, washing machine and dryer drums, range hoods, industrial fans and heat pumps.

Availability & Resources

MotorXpert v3.0 is available at no cost with an end-user license agreement. The software suite comes with a quick start guide, software manual, MCU porting guide, single- and three-phase software libraries and a video tutorial. For further information, contact a Power Integrations sales representative or one of the company's authorized worldwide distributors— **DigiKey**, **Newark**, **Mouser** and **RS Components**, or visit **power.com**.

About Power Integrations

Power Integrations, Inc. is a leading innovator in semiconductor technologies for high-voltage power conversion. The company's products are key building blocks in the clean-power ecosystem, enabling the generation of renewable energy as well as the efficient transmission and consumption of power in applications ranging from milliwatts to megawatts. For more information, please visit **www.power.com**.

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