

PRESS RELEASE

Agile Systems Receives Patent for Hybrid Stepper Motor Control

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Waterloo, ON - Agile Systems, a world leader in the design, development and manufacturing of advanced motion control technology, receives patent that promises to improve stepper motor performance. The technology will help companies turn simple low cost 2 phase stepper motors into sophisticated servo motors, without the use of external sensors, with the benefits of improved productivity, increased safety and lower energy usage.

The patented technique transitions from open loop micro-stepping methodology at low speed control after gathering enough information from the motor. “The transition from open loop to close loop was the hardest part of the design, therefore we had to make sure the transition was seamless and robust” says Dan Rose, Application Engineering Manager of Agile Systems. The algorithm calculates the position of a rotor from the sensing circuitry in the amplifier, and when the motor reaches 30 –60 RPM depending on the motor design, it switches to servo control. When servo techniques are applied to the stepper motor, the results are higher acceleration/deceleration, greater efficiency, stall detection and prevention, and higher potential motor speeds.

Agile’s newly launched product, SILENTstep™, incorporates this patented technique to control a 2 phase stepper motor, and boosts the performance of the motors used in many applications such as in printers, photocopiers, and packaging and lab automation equipment – into the range of more precise, and costlier servo-motors. Stepper motors produce high torque at low speeds and attempts to increase their speeds often result in the motor stalling out. However, SILENTstep™ software algorithms eliminate this potential for stalling.

“SILENTstep™ technology will allow customers to specify motors at their full torque limits. This means electrical engineers no longer have to over-size the motor for any given application. Smaller-sized stepper motors can do the job of larger ones,” said Tom Geiger, VP Sales and Marketing of Agile Systems.

“Prospective customers have been looking for an alternative motor-control solution to get high performance out of their low-cost traditional stepper motor for some time”, added Geiger.

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About Agile Systems

Agile Systems is a global leader in the design and manufacture of energy-efficient electronic controls for electric motors. Agile's compact digital motion-control solutions are used in robotics, semiconductor production, and in life sciences and factory-automation equipment. Other vertical markets include HVAC, consumer white goods, and automotive industries. Agile Systems is headquartered in Waterloo, Ontario, with sales representation around the globe.

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