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New reluctance control license enables sensorless motor control down to standstill

- Firmware 4.8 enables Sinamics S120 converters to operate with synchronous reluctance motors
- System operation with or without position sensor using new Sinamics reluctance control license
- Durable in any operating environment due to field-oriented vector control
- High energy efficiency even at low speeds

Firmware version 4.8 allows Simotics synchronous reluctance motors to also be operated with Sinamics S120 converters, enabling them to benefit from the complex functionalities of the modular S120 product portfolio. The new Sinamics reluctance control license used in combination with the Sinamics Booksize Modules means that precise drive control down to a complete standstill is now possible with and without a position sensor. This applies both for motor and generator operation. Field-oriented vector control across the whole of the operating range makes for a tangibly more robust drive system. Unlike U/f-based methods, for instance, any possibility of motor stalling in the event of load jumps is excluded. Sensorless control also enhances the energy efficiency of the drive, as even in the low-speed range it allows the achievement of low values normally only possible using a sensor.

The new solution is particularly suited for applications calling for a high level of accuracy, such as servo pumps requiring precise operation right from standstill under high load. As the adjustment range is generally reduced to 1:10 with sensorless control, a sensor would normally be required in such cases. The new functionality is technically implemented using special test pulses which are fed into the motor at low speeds, allowing the motor position to be determined even without inducing a voltage capable of being evaluated at the motor terminals.
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This press release and a press picture are available at www.siemens.com/press/PR2017110049DFEN

For further information on the subject of Simotics synchronous reluctance motors, please see www.siemens.com/drivesystem-reluctance

For further information on Siemens at the SPS IPC Drives 2017, please see www.siemens.com/sps_ipc_drives and www.siemens.com/press/sps2017

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