CAN Newsletter Online

NEMA-17 STEPPER MOTOR

Optionally with CANopen interface

JVL Industri Elektronik (Denmark) has released the Servostep integrated stepper motor family (MIS171 to MIS176). They provide an embedded multi-turn encoder.

The products integrate the controller including the optional CANopen interface compliant with CiA 402. Additionally, the stepper motor is equipped with eight I/O lines, which can be configured individually as digital input, digital output, or analog input. An ActiveX/OCX driver is available to allow interfaces to LabView, Excel, VB, or other Windows-programs.

The IP67-rated stepper motor comes with an STO (safe-torque-off) input. The resolution is 409 600 steps per revolutions. The achievable precision is 0,01 min^{-1}. The implemented heat transfer system, power electronics, and special motor windings allow a peak power up to 100 W and 1 Nm. The closed-loop control function provides higher torque, faster acceleration, current control, stall free operation, and quieter operation compared to more traditional step motor systems, said the supplier. It compensates and corrects step angle error during a movement with a 36-MHz update rate within a full step.

There are three models available: MIS171 with 0,15 Nm, length 73,5 mm, and a 5-mm shaft; MIS173 with 0,26 Nm, length 85,2 mm, and a 5-mm or 6,35-mm shaft; MIS176 with 0,80 Nm, length 106 mm, and an 8-mm shaft. The voltage supply ranges from 7 V_{DC} to 72 V_{DC}. The maximum motor current is 4 A (peak: 5,6 A). Planetary gears and brakes that fit the motor directly can be delivered, too.

The Nema-17 compliant stepper motors feature a 42 mm by 42 mm flange (Photo: JVL Industri Elektronik)

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