Technosoft Presents the iMOT172S Intelligent Stepless Motor

The company Technosoft, based in Neuchâtel, Switzerland, has released the first member of their iMOT line of motors with integrated motion controller and drive — the iMOT172S XM-CAN intelligent stepless motor.

The product is based on a cost-effective hybrid step motor on which the motion control specialists at Technosoft have integrated a magnetic encoder, together with a member of their powerful iPOS motion controllers, into a very compact package (42 x 42 x 70 mm).

The design is made, for high reliability, with only one PCB incorporating the encoder and the iPOS controller that utilizes the Technosoft MotionChip™ technology and provides 7 I/Os. The configuration, tuning and local programming of the iPOS drive can easily be done using Technosoft’s powerful graphical platform, EasyMotion Studio. The position sensor is absolute single-turn, providing 4096 counts per revolution for accurate speed and position control, down to 5 arc minutes.

While an EtherCAT version is under preparation, the current release covers two CAN versions: the standard CANopen, in accordance to the CiA 301, 305 and 402 profiles, and the TMLCAN protocol. TML (Technosoft Motion Language) opens the possibility to use the powerful motion controller, allowing it to operate as an independent intelligent device. As an example, any homing routine can be customized to match the application needs. Standalone single- or multi-axis applications with communication between drives without the need of a CAN master are possible, while various types of CAN masters are as well supported through an extended set of Technosoft Motion Control Libraries.

This intelligent stepless motor reaches a peak torque of 500 mNm at 1000 rpm without a gearbox, achieved from a motor with a square flange of 42 mm. The maximum length of the integrated unit is a mere 70 mm. The high efficiency of the solution is obtained due to Technosoft's implementation of current and torque vector regulation under a field oriented control method (FOC) that practically transforms the motor into a stepless servo motor, dramatically reducing the current consumption and heat dissipation typical to hybrid steppers.

The standard NEMA17 flange ensures multiple sources of gearheads that are available for fitting to the motor, depending on the requirements of the application.

An intelligent motor can be used in many applications, but it has been developed for medical analysis and dosing machines, pick and place and welding robots, instrumentation and optical equipment, unmanned military vehicles, packaging, bottling and labeling machines.

Specifications can be found at: www.technosoftmotion.com/en/intelligent-drives-and-motors/imot-line/imot17/imot172s/imot172s-xm

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