iMOT172S TM CAN Intelligent Step Motor size 17

Step Motor with integrated Intelligent Drive for OEM Applications

Description

The iMOT172S represents the newest family of the Technosoft intelligent step motors that combine motion controller, drive, encoder and motor into a single compact package, compatible with the dimensions of the NEMA17 front panel.

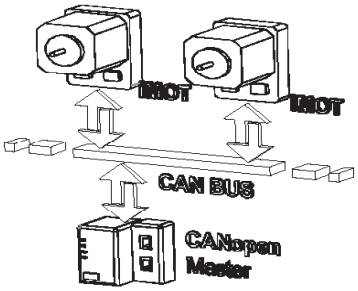
The iMOT172S series represents a cost-effective, compact solution specifically targeted to those distributed motion control applications where the elimination of the cabling between motor, sensor and drive is the success factor.

Using inside the powerful Technosoft iPOS motion controller, the iMOT172S family offers advanced motion control functions and interface to the application via digital and analogue I/Os and various industrial communication buses.

This structure significantly reduces the motor cabling through the machine, and eliminates the usage of external setup analogue components.

The iMOT172S uses a NEMA 17 frame size, high torque step motor with incremental encoder for closed loop operation, in true servo mode reducing the heat and current consumption to the exact amount required by the mechanical load applied to the motor shaft.

Distributed Control



Typical Applications :

- Systems with distributed motor control intelligence
- Packaging
- Printing
- Textile
- Medical
- Handling
- Labeling
- Pick and place
- Factory automation

TML

CANopen

Features:

• Fully digital intelligent 2 phase stepless motor with embedded motion controller, drive and absolute position feedback, offering a continuous power up to 72 W
• Cost effective positioning system, owing to compactness and elimination of motor wiring
• Offering 300 mNm of continuous torque up to 1200 rpm nominal speed
• No load speed of 1700 rpm at 48V
• Motor supply: 12-48V; Logic supply 15-36V;
• Separate or combined logic and power supply for safety or reduced wiring requirements
• Two control options: stepless closed loop servo using an absolute feedback sensor; stepper open loop using microstepping and step loss detection based on the feedback sensor
• 4 programmable PNP/NPN digital Inputs, 2 programable digital output and one analogue input
• Integrated absolute position sensor; 4096 bits/ revolution
• 16 h/w addresses selectable by hex switch
• Position, speed or torque control
• Advanced motion control capabilities (PVT, S-curve, electronic cam)
• Stand-alone operation capability with local sequential high level TML motion language programs execution
• TMLCAN and CANopen default communication bus protocols

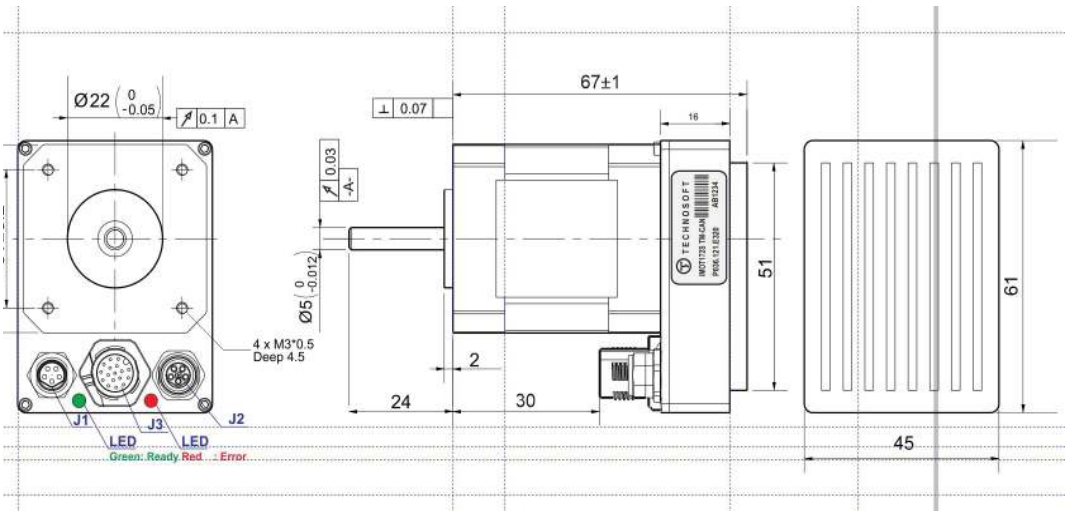
iPOS Technology :

• Embedded intelligence with a powerful set of trajectory generation profiles
• Stand-alone operation capability with the execution of pre-stored motion sequences and positioning profiles
• Activation of various motion modes or positioning sequences via I/Os or on-line motion commands
• Slave operation with execution of TML (Technosoft Motion Language) commands via RS232 or TML CAN bus
• CANopen slave with support for CiA DS402 profile for motion control
• Integrated protections to over-current, short circuit over-voltage, over-temperature, i2t and control error
• High-level PC programming tools including TML code generator for motion sequences

TECHNOSOFT
MOTION TECHNOLOGY

P091.036.iMOT172S TM-CAN.LFT.0617

Dimensions, Specifications, Ordering Information



All dimensions are in mm

EasyMotion Studio

The iMOT172S motors use the high level graphical development environment EasyMotion Studio, for the configuration, parameterization and programming of the drive, through

- Motion system set-up wizard
- Tuning assistance
- Automatic TML code generation capability
- Definition, programming and testing of motion sequences
- Advanced data logging and customizable control panels

Motion Control Libraries

The TML_LIB Motion Control Libraries can be used to implement a motion control application on a PC from Visual C/C++, C#, Visual Basic, Delphi or LabVIEW under Windows or Linux.

For a PLC host, implementations of TML_LIB observing the IEC 61131 standard are available for Siemens, Omron or B&R PLCs.

Application notes with ready to run Motion Language examples are available at:

www.technosoftmotion.com

Ordering Informations

P036.121.E320	iMOT172S TM-CAN, intelligent step motor, CAN
P038.040.C199	CCS iMOT17 TM-CAN150 (complete 150-cm cable set)
P034.001.E002	EasyMotion Studio Software
P040.001.Exxx	TML_LIB Motion Library*

* Ask for existing libraries types.

Intelligent Step Motor Specifications

Electrical Specifications	Units	iMOT172S
Rated torque	mNm	300
Rated Output at 900 rpm	W	72
Rotor Inertia	g.cm^2	8.2
Speed Range (no load @ 48Vdc)	rpm	0 - 1700
Speed Range (with full torque @48Vdc)	rpm	0 - 1200
Torque Control Accuracy (@ 20°C)	%	±10
Absolute Encoder resolution	bits/rev	4096
Operating ambient temperature	°C	0-40
Isolation rating		IP40
Mechanical Specifications *		
Flange and Shaft	NEMA17 compatible, front 42 x 42mm, 5 mm shaft	
Frame size	mm	61 x 45; 61 in connectors area
Length	mm +/-1	67
Weight	kg	0.4
Shaft Tolerance	mm	+0 / -0.03

*Other mechanical configurations, with adapted gearboxes, are available upon request

Mating Connectors	
J1	Molex 2x3 MicroFit 43045-0600
J2	Molex 2x2 MicroFit 43045-0400
J3	Molex 2x5 MicroFit 43045-1000
Crimp pins	Molex 04303 0- 0007

Please consult the factory for exact connector type and configurations.

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