

TMC-3D MULTI-AXIS MOTION CONTROLLER AND SERVO DRIVE DIGITAL MOTOR CONTROL FOR BRUSHLESS, DC BRUSH, LINEAR AND STEP MOTORS

640W

The new **TMC-3D** combines a multi-axis motion controller and a state-of-the-art digital servo drive functionality in a single compact unit.

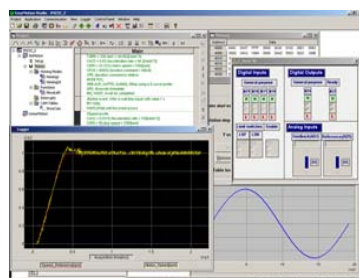
TMC-3D can control, via a CAN bus, up to 8 Technosoft drives, including itself.

Complex motion programs can be programmed using the high level Technosoft Motion Language (TML). 3D and 2^{1/2}D coordinated motion paths are executed through TMC-3D and 2 other Technosoft drives, using PVT commands (position, velocity and time). TMC-3D can be one of these drives that perform local 3rd order interpolation between PVT points. This unique combination offers a very cost effective solution for precise multi-axis applications, where 3D paths can be executed accurately using 2 drives and TMC-3D connected via CAN-bus.

Compatible with EasySetUp and EasyMotion Studio for quick configuration and motion programming at each drive level, TMC-3D offers a flexible and easy to implement solution for a wide range of multi-axis applications.

GO FOR REAL INTELLIGENT MOTION
"MOTION CONTROL AT THE
CLICK OF A MOUSE"

The drives' commissioning can be done with EasySetUp. Test procedures will help you to check the connections, verify the motor data and tune the control loops. The motion programming can be done using motion libraries, or directly at controller level using EasyMotion Studio.



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FEATURES

- Multi-axis motion controller including a 640W embedded digital servo drive
- Controls up to 8 axes, 3 in tight coordination for 3D paths, using PVT commands
- Executes G-code programs converted into TML via EasyMotion Studio
- One of the controlled axes can be the embedded TMC-3D digital drive
- Fully digital servo drive suitable for brushless DC, brushless AC (vector control), linear, DC brush and 2-phase or 3-phase step motors
- Powerful Technosoft Motion Language (TML) instruction set including:
 - Motion commands, program flow control, I/O handling
 - Arithmetic and logic operations, axes synchronization
- Stand alone operation with stored motion program
- CAN-bus and RS-232 communication
- Opto-isolated digital I/O (6 outputs / 5 inputs)
- 2 analog inputs +/- 10V differential
- Digital reference inputs: 2nd encoder / step and direction, RS-422 differential
- RS-422 differential encoder, digital Hall, absolute SSI encoder, linear Hall (optional)
- Power supplies for logic: 12-48V and motor: 12-80V
- 8A continuous, 16.5A peak current
- Protection to over-current, short-circuit, earth fault, over-temperature, over-/under-voltage, I²t, control error

This package includes motion setup (EasySetUp) and a Motion Wizard for motion programming. Motion Wizard provides a simple, graphical way of creating motion programs written in TML. It automatically generates all the TML instructions, hence you don't need to learn or write TML code.

Using TML programming, you can save development time with complex applications by distributing the intelligence between the master and the drives.

Application notes with ready-to-run program examples are available at www.technosoftmotion.com

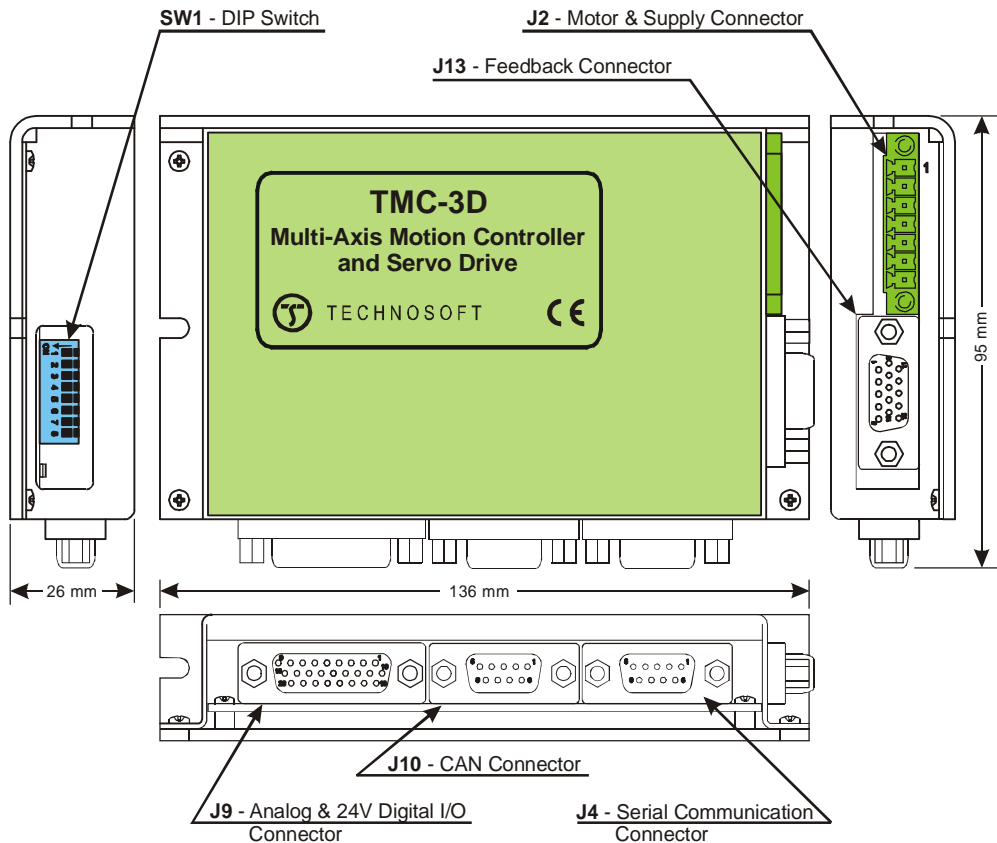
Your
Next
Intelligent
Move



TECHNO SOFT
MOTION TECHNOLOGY

DIMENSIONS, SPECIFICATIONS, ORDERING INFORMATION

TMC-3D MULTI-AXIS MOTION CONTROLLER AND SERVO DRIVE



EASYMOTION STUDIO

The high level graphical development environment, EasyMotion Studio, supports the configuration, parameterization and programming of the TMC-3D controller and drive, through

- Motion system set-up wizard
- Tuning assistance
- Definition, programming and testing of motion sequences including conversion of the G-code files

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 operating systems. If a PLC is used as host, implementations of the TML_LIB observing the IEC-61131 standard are available for Siemens and Omron PLCs.

TYPICAL APPLICATIONS

- **Systems with distributed motor control intelligence**
- **Packaging equipment**
- **Printing**
- **Textile**
- **Automotive**
- **Labeling**
- **Handling**
- **Pick and place**

TMC-3D MOTION CONTROLLER AND SERVO DRIVE

Electrical Specifications	TMC-3D
DC supply voltage: logic	12-48V
motor	12-80V
Maximum continuous current	8A
Peak current (1 sec. max.)	16.5A
Minimal load inductance	330 microHenry*
Nominal switching frequency	20kHz
Operating ambient temperature	0°C-40°C

*at 80V and 20kHz switching frequency

Ordering Information

P048.002.E301	TMC-3D Multi-Axis Motion Controller; 80V, 8A, CAN
P034.001.E002	EasyMotion Studio software
P040.001.Exxx	TML_LIB Motion Libraries**

**ask for existing libraries types

FLEXIBILITY

Standard motor-sensor configurations schemes supported by the TMC-3D embedded digital drive

Sensor	Motor		DC Brushed	Stepper	
	Rotary	Linear		2 Phase	3 Phase
Incremental Encoder	✓	✓	✓	✓	
Linear Hall	optional				
SSI Encoder	✓		✓		
Digital Hall	✓	✓			
Tacho	✓		✓		
Open Loop (no sensor)				✓	✓

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