

# IDM680 INTELLIGENT SERVO DRIVE

640W

DIGITAL MOTOR CONTROL FOR BRUSHLESS, DC BRUSH, LINEAR AND STEP MOTORS

The IDM680 drive is a new member of the IDM family of fully digital intelligent servo drives with embedded motion controller.

This high-performance intelligent servo drive, combines motion controller, drive and PLC functionality in a single compact unit.

Besides CANopen DS301 and DS402 profiles, the IDM680 drive can execute complex motion programs directly at drive level, using the high level Technosoft motion language (TML).

This offers the possibility to reduce a master task by calling complex motion functions pre-stored in the drive memory or triggering their execution via I/O signals. Compatible with EasySetUp and EasyMotion Studio for quick configuration and motion programming at drive level, the IDM680 drive offers a flexible and easy to implement solution for a wide range of applications.

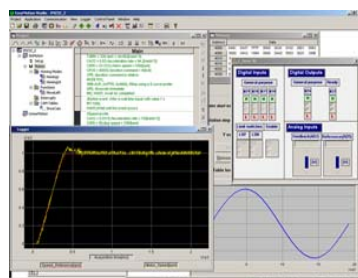
## GO FOR REAL INTELLIGENT MOTION

### “MOTION CONTROL AT THE CLICK OF A MOUSE”

The drives commissioning can be done with **EasySetUp**. Test procedures help you to check the connections, verify the motor data and tune the control loops. The motion programming can be done from a CANopen master, via a PC / PLC using the appropriate motion library or directly at drive level using the built-in motion controller and **EasyMotion Studio** platform.

This includes EasySetUp and a Motion Wizard for the motion programming.

The 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.



## FEATURES

- Fully digital servo drive with embedded motion controller and PLC functionality
- Suitable for brushless DC, brushless AC (vector control), linear, DC brush and 2 or 3 phase step motors
- Various modes of operation:
  - Position or speed profiles (trapezoidal, S-curve)
  - 3<sup>rd</sup> order PVT (Position, Velocity, Time) and 1<sup>st</sup> order PT interpolation
  - Electronic gearing and camming
  - External reference: analogue or digital
  - Open / closed loop and microstepping (up to 256  $\mu$ steps/step) for 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
- RS-232 serial communication
- CAN protocol: CANopen (compatible DS301 & DS402) and TMLCAN (selectable via DIP switch)
- Opto-isolated digital I/O (6 outputs / 5 inputs)
- 2 Analogue inputs +/- 10V differential (reference and tachometer)
- Digital reference inputs: 2<sup>nd</sup> encoder / step and direction, RS422 differential
- Position feedback:
  - RS422 differential encoder and digital Halls or absolute SSI encoders (IDM680-8EI)
  - Linear Halls, sine / cosine incremental encoder or sine / cosine absolute encoder with EnDAT protocol (IDM680-8LI)
  - Resolver (IDM680-8RI)
  - BiSS encoder (IDM680-8BI)
- Power supplies for logic: 12-48V and motor: 12-80V
- 8A continuous, 16.5A peak current
- Protection for over current, short circuit, earth fault, over temperature, over- and under-voltage, I<sup>2</sup>t, control error

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

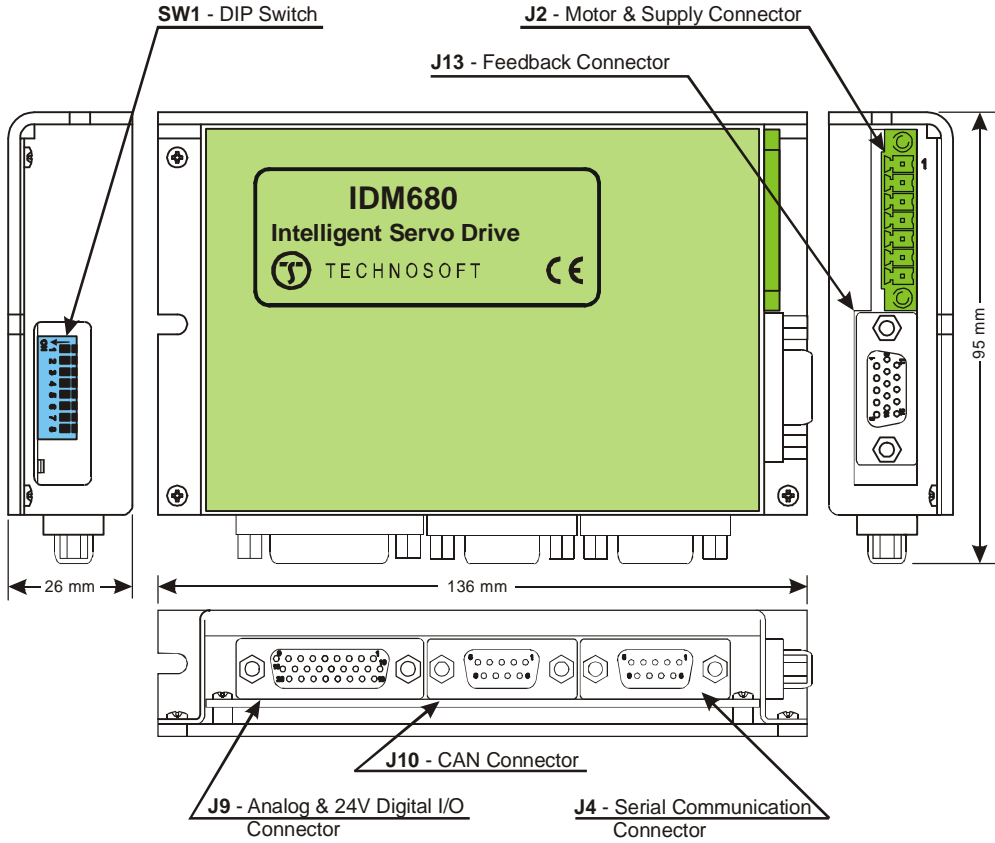
Application notes with ready to run Motion Language program examples are available at [www.technosoftmotion.com](http://www.technosoftmotion.com)

Your  
Next  
Intelligent  
Move



# DIMENSIONS, SPECIFICATIONS, ORDERING INFORMATION

## IDM680



### EASYMOTION STUDIO

The high level graphical development environment EasyMotion Studio, supports the configuration, parameterization and programming of the drive, through

- Motion system set-up wizard
- Tuning assistance
- Definition, programming and testing of motion sequences

### 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

### IDM680 INTELLIGENT SERVO DRIVE

Electrical Specifications	IDM680
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.E101	IDM680-8LI; 80V, 8A, Sin/Cos Encoder, Linear Hall, CAN / CANopen
P048.002.E102	IDM680-8RI; 80V, 8A, Resolver, CAN / CANopen
P048.002.E103	IDM680-8EI; 80V, 8A, Incremental, SSI Encoders, CAN / CANopen
P048.002.E104	IDM680-8BI; 80V, 8A, BiSS Encoder, CAN / CANopen
P048.002.E184	IDM680 I/O board
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 IDM680

Sensor	Motor		DC Brushed	Stepper	
	Rotary	Linear		2 Phase	3 Phase
Incremental Encoder	✓	✓	✓	✓	
Linear Hall	✓				
SSI Encoder	✓		✓		
BiSS Encoder	✓				
Sin/Cos (EnDAT) Enc.	✓				
Resolver	✓				
Tacho			✓		
Open Loop (no sensor)				✓	✓

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