IBL2401 Intelligent Servo Drive 25W

Digital Drive for Brushless, DC Brush, Linear and Step Motors

The IBL2401 is a new Technosoft high-performance intelligent drive, combining motion controller, drive and PLC functionality in a single compact unit.

The IBL2401 drive is a flexible, cost effective and compact solution, particularly adapted for distributed and co-ordinated control of brushless, DC, linear and step motors of powers up to 25W, with voltages up to 24V.

Typical applications include distributed motor control with possibilities of gearing and electronic CAM functions in a CAN network operation (optional configuration).

The IBL2401 hardware structure is based on a cost optimised design integrating all the basic motor control functions and motion control functionality on a single module. A series of I/O signals, both digital and analogue, are available for easy interfacing with the application.

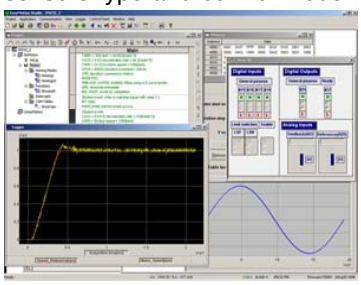
A complete set of high-level Technosoft Motion Language (TML) instructions permit to define and start complex motion sequences from your host, PC, or to execute pre-stored motion sequences selected from I/O lines, in a stand-alone mode.

The embedded intelligence of the IBL2401 facilitates its configuration and programming through a high level graphical interface as the EasyMotion Studio.

Your Next Intelligent Move
"Motion Control at the Click of a Mouse"

The configuration, tuning and programming of the IBL2401 intelligent drive is easy using the powerful graphical Technosoft EasyMotion Studio.

System **configuration** and **parameterization** are performed by the selection and test of system structure, motor and sensors type and control mode.



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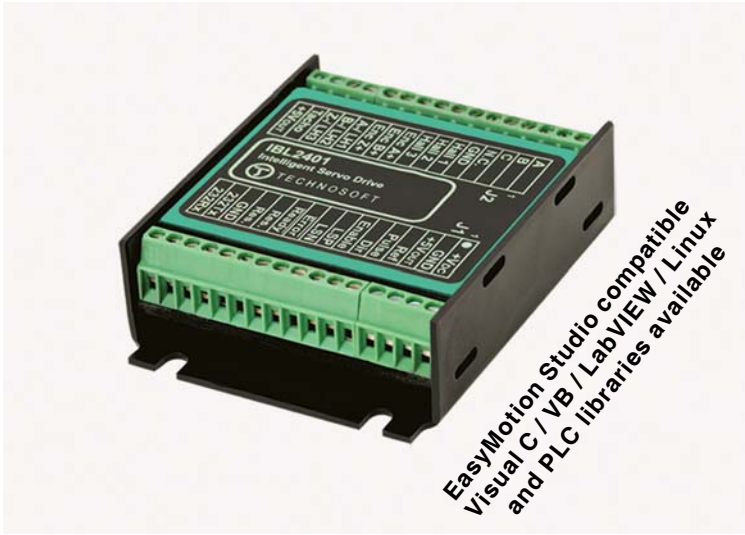


Features

- **Fully digital servo drive with embedded intelligence and PLC functionality**
- **Suitable for brushless (sinusoidal or trapezoidal commutation), DC brush, linear and step motors**
- **Compact design (60x44x16 mm)**
- **Various control modes as:**
  - **Torque, speed or position control**
  - **Electronic gearing, contouring, profiling**
  - **Step motor emulation (step and direction input)**
  - **External variables control capabilities (pressure, flow, temperature, etc.)**
- **Powerful Technosoft Motion Language (TML) instruction set for definition and execution of motion sequences in:**
  - **Single or multi axis control (master or slave mode)**
  - **Standalone operation with Stored Motion sequences**
- **RS-232 serial communication**
- **Optional CAN-Bus 2.0B up to 1 Mbit/s / CANopen**
- **Programmable digital input / outputs and analog inputs**
  - **5 inputs, 5 or 24V compatible (Enable, Pulse and Direction, Limit Switches)**
  - **2 outputs (open-collector), 5 or 24V compatible (Ready, GPO)**
  - **Differential quadrature encoder and digital Hall interface**
  - **Linear Hall sensors interface**
  - **2 analog inputs, 0/+5V range (+/- 10V optional)**
- **Single power supply 6-24V**
- **High current capability (1A continuous, 3.6A peak current)**
- **Protection for over current, short circuit, earth fault, over- and under-voltage, I^2t, control error**
- **2x16, 2.54 mm screw terminal connectors**

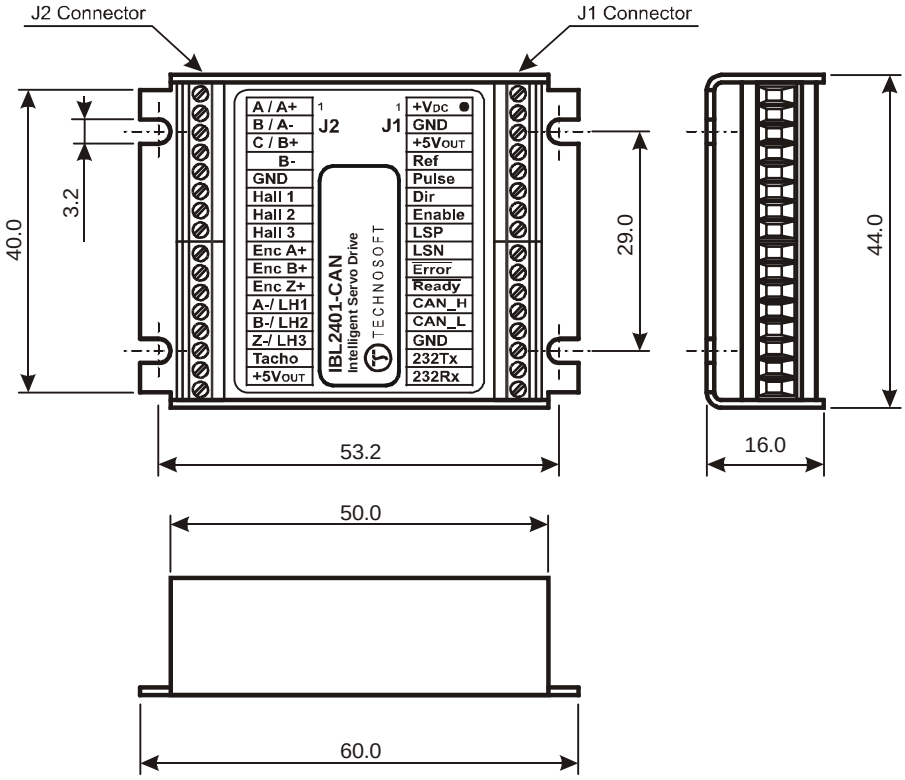
Typical Applications

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

Application notes with TML program examples available at www.technosoftmotion.com

DIMENSIONS, SPECIFICATION, ORDERING INFORMATION

IBL2401



Dimensions in mm
Drawings not to scale

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 with capture functions
- 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.

IBL STARTER KIT

Complete evaluation packages for the IBL drive, containing the servodrive, motor, I/O board, EasyMotion Studio software that are supported by a collection of application notes and documentation.

P091.035.LFT.0810

IBL2401 INTELLIGENT SERVO DRIVE

Electrical Specifications

DC supply voltage: motor and logic	6-24V
Maximum continuous current	1A
Peak current (1 sec.)	3.6A
Minimal load inductance	50 microHenry*
Nominal switching frequency	40kHz
Operating ambient temperature	0°C-40°C
Dimensions	60x44x16 mm

*at 24V and 40kHz switching frequency

Ordering Information

P035.001.E001 IBL2401 Servo/Stepper Drive, 24V, 1A, RS232
P035.001.E002 IBL2401 Servo/Stepper Drive, 24V, 1A, RS232/CAN
P035.001.E012 IBL2401 Servo/Stepper Drive, 24V, 1A, RS232/CANopen
P035.001.E084 IBL2401 Starter Kit for Stepper Motor
P035.001.E085 IBL2401 Starter Kit for Brushless Motor
P034.001.E002 EasyMotion Studio software
P040.001.Exxx TML_LIB Motion Library **

**ask for existing libraries types

FLEXIBILITY

Control schemes supported by the IBL2401 Drive

Motor Types	Torque control	Speed control	Position control
Brushless DC / AC	✓	✓	✓
DC Brush	✓	✓	✓
Linear	✓	✓	✓
Step	✓	✓	✓

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Your Next Intelligent Move

TECHNOSOFT
MOTION TECHNOLOGY

IBL2403 Intelligent Servo Drive 75W

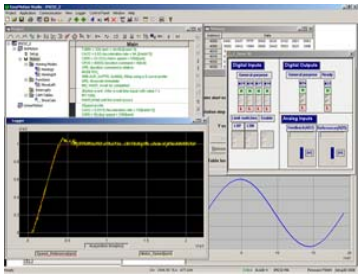
Universal Drive for Brushless, DC Brush, Linear and Step Motors

The IBL2403 is a new Technosoft high-performance intelligent drive, combining motion controller, drive and PLC functionality in a single compact unit.
The IBL2403 drive is a flexible, cost effective and compact solution, particularly adapted for distributed and co-ordinated control of brushless, DC, linear or step motors of powers up to 75W, with voltages up to 24V.
Typical applications include distributed motor control with possibilities of gearing and electronic CAM functions in a CAN network operation (optional configuration).
The IBL2403 hardware structure is based on a cost optimised design integrating all the basic motor control functions and motion control functionality on a single module. A series of I/O signals, both digital and analogue, are available for easy interfacing with the application.
A complete set of high-level Technosoft Motion Language (TML) instructions permit to define and start complex motion sequences from your host, PC, or to execute pre-stored motion sequences selected from I/O lines, in a stand-alone mode.
The embedded intelligence of the IBL2403 facilitates its configuration and programming through a high level graphical interface as the EasyMotion Studio.

Your Next Intelligent Move
"Motion Control at the Click of a Mouse"

The configuration, tuning and programming of the IBL2403 intelligent drive is easy using the powerful graphical Technosoft EasyMotion Studio.

System **configuration** and **parameterization** are performed by the selection and test of system structure, motor and sensors type and control mode.



Features

- **Fully digital servo drive with embedded intelligence and PLC functionality**
- **Suitable for brushless (sinusoidal or trapezoidal commutation), DC brush, linear and two-phase step motors**
- **Compact design (65x58x19 mm)**
- **Various control modes as:**
  - **Torque, speed or position control**
  - **Electronic gearing, contouring, profiling**
  - **Step motor emulation (step and direction input)**
  - **External variables control capabilities (pressure, flow, temperature etc.)**
- **Powerful Technosoft Motion Language (TML) instruction set for definition and execution of motion sequences in:**
  - **Single or multi axis control (master or slave mode)**
  - **Standalone operation with Stored Motion sequences**
- **RS-232 serial communication**
- **Optional CAN-Bus 2.0B up to 1 Mbit/s / CANopen**
- **Programmable digital input / outputs and analog inputs**
  - **5 inputs, 5 or 24V compatible (Enable, Pulse and Direction, Limit Switches)**
  - **2 outputs (open-collector), 5 or 24V compatible (Ready, GPO)**
  - **Differential quadrature encoder and digital Hall interface**
  - **Linear Hall sensors interface**
  - **2 analog inputs, 0/+5V range (+/- 10V optional)**
- **Single power supply 12 - 28V**
- **High current capability (3A continuous, 6A peak current)**
- **Protection for over current, short circuit, earth fault, over- and under-voltage, I^2t, control error**
- **2x16, 2.54 mm screw terminal connectors**

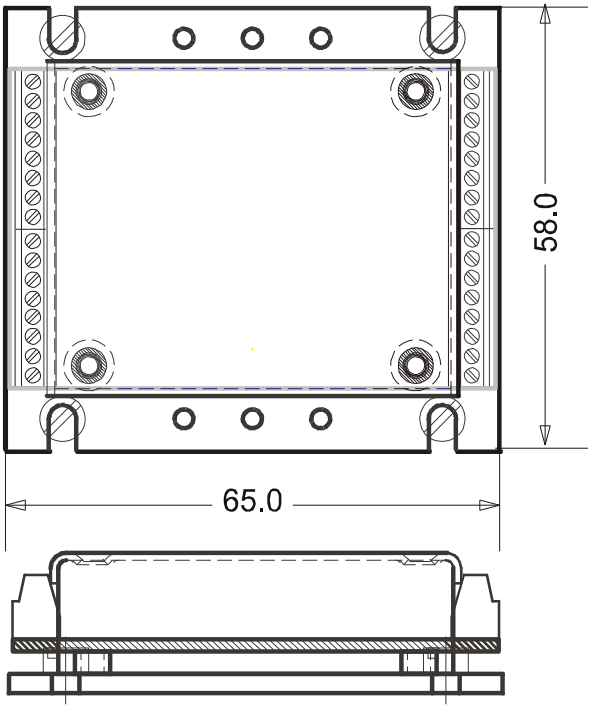
Typical Applications

- **Systems with distributed motor control intelligence**
- **Packaging equipment**
- **Printing**
- **Textile**
- **Medical**
- **Automotive**
- **Pick and place**
- **Factory automation**

Application notes with TML program examples available at www.technosoftmotion.com

DIMENSIONS, SPECIFICATION, ORDERING INFORMATION

IBL2403



J1 connector
Pin 1 +VDC
Pin 2 GND
Pin 3 +5Vout
Pin 4 Reference
Pin 5 Pulse
Pin 6 Direction
Pin 7 Enable
Pin 8 Limit switch positive
Pin 9 Limit switch negative
Pin 10 / Error
Pin 11 / Ready
Pin 12 CAN_H
Pin 13 CAN_L
Pin 14 GND
Pin 15 RS232 Tx
Pin 16 RS232 Rx

J2 connector
Pin 1 A / A+
Pin 2 C / B+
Pin 3 B / A-
Pin 4 B-
Pin 5 GND
Pin 6 Hall 1
Pin 7 Hall 2
Pin 8 Hall 3
Pin 9 Enc A+
Pin 10 Enc B+
Pin 11 Enc Z+
Pin 12 Enc A- / LH1
Pin 13 Enc B- / LH2
Pin 14 Enc Z- / LH3
Pin 15 Tacho
Pin 16 +5 Vout

Dimensions in mm. Drawings not to scale

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 with capture functions
- 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.

IBL2403 STARTER KIT

Complete evaluation packages for the IBL2403 drives, containing the servodrive, motor, I/O board, EasyMotion Studio software that are supported by a collection of application notes and documentation.

P091.037.LFT.0810

IBL2403 INTELLIGENT SERVO DRIVE

Electrical Specifications

DC supply voltage: motor and logic	12-28V
Maximum continuous current	3A
Peak current (100 ms. max.)	6A
Minimal load inductance	100 microHenry*
Nominal switching frequency	20kHz
Operating ambient temperature	0°C-40°C

*at 24V and 20kHz switching frequency

Ordering Information

P037.001.E001	**IBL2403 Servo/Stepper Drive, 24V, 3A, RS232**
P037.001.E002	**IBL2403 Servo/Stepper Drive, 24V, 3A, RS232/CAN**
P037.001.E012	**IBL2403 Servo/Stepper Drive, 24V, 3A, RS232/CANopen**
P037.001.E084	**IBL2403 Starter Kit Brushless Motor**
P037.001.E085	**IBL2403 Starter Kit Stepper Motor**
P034.001.E002	**EasyMotion Studio software**
P040.001.Exxx	**TML_LIB Motion Library****

**ask for existing libraries types

FLEXIBILITY

Control schemes supported by the IBL2403 Drive

Motor Types	Torque control	Speed control	Position control
Brushless DC / AC	✓	✓	✓
DC Brush	✓	✓	✓
Linear	✓	✓	✓
Step	✓	✓	✓

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www.technosoftmotion.com

IBL3605 Intelligent Servo Drive 180W

Universal Drive for Brushless, DC Brush, Linear and Step Motors

The IBL3605 is a new Technosoft high-performance intelligent drive, combining motion controller, drive and PLC functionality in a single compact unit.

The IBL3605 drive is a flexible, cost effective and compact solution, particularly adapted for distributed and coordinated control of brushless, DC, linear or step motors of powers up to 180W, with 36V nominal voltage.

Typical applications include distributed motor control with possibilities of gearing and electronic CAM functions in a CAN network operation (optional configuration).

The IBL3605 hardware structure is based on a cost optimised design integrating all the basic motor control functions and motion control functionality on a single module. A series of I/O signals, both digital and analogue, are available for easy interfacing with the application.

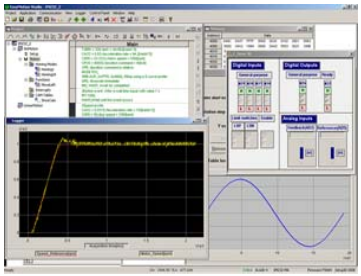
A complete set of high-level Technosoft Motion Language (TML) instructions permit to define and start complex motion sequences from your host, PC, or to execute pre-stored motion sequences selected from I/O lines, in a stand-alone mode.

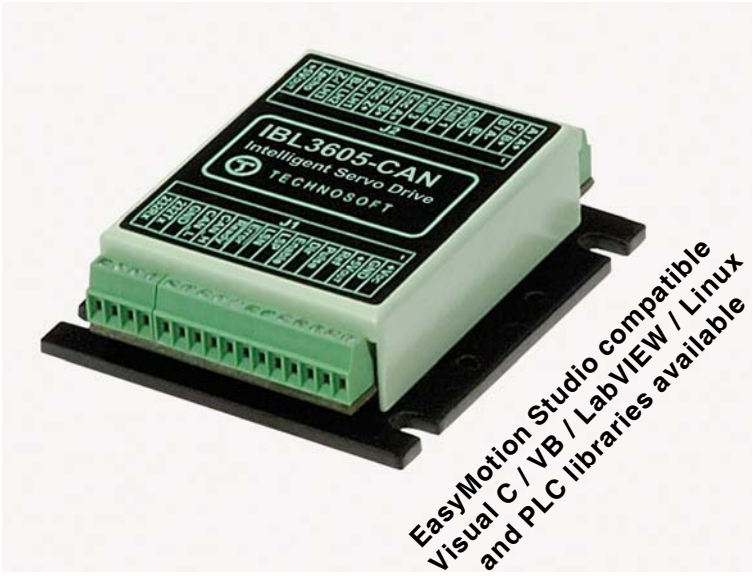
The embedded intelligence of the IBL3605 facilitates its configuration and programming through a high level graphical interface as the EasyMotion Studio.

Your Next Intelligent Move
"Motion Control at the Click of a Mouse"

The configuration, tuning and programming of the IBL3605 intelligent drive is easy using the powerful graphical Technosoft EasyMotion Studio.

System **configuration** and **parameterization** are performed by the selection and test of system structure, motor and sensors type and control mode.





Features

- **Fully digital servo drive with embedded intelligence and PLC functionality**
- **Suitable for brushless (sinusoidal or trapezoidal commutation), DC brush, linear and two-phase step motors**
- **Compact design (65x58x19 mm)**
- **Various control modes as:**
  - **Torque, speed or position control**
  - **Electronic gearing, contouring, profiling**
  - **Step motor emulation (step and direction input)**
  - **External variables control capabilities (pressure, flow, temperature etc.)**
- **Powerful Technosoft Motion Language (TML) instruction set for definition and execution of motion sequences in:**
  - **Single or multi axis control (master or slave mode)**
  - **Standalone operation with Stored Motion sequences**
- **RS-232 serial communication**
- **Optional CAN-Bus 2.0B up to 1 Mbit/s / CANopen**
- **Programmable digital input / outputs and analog inputs**
  - **5 inputs, 5 or 24V compatible (Enable, Pulse and Direction, Limit Switches)**
  - **2 outputs (open-collector), 5 or 24V compatible (Ready,GPO)**
  - **Differential quadrature encoder and digital Hall interface**
  - **Linear Hall sensors interface**
  - **2 analog inputs, 0/+5V range (+/- 10V optional)**
- **Single power supply: 12 - 42V**
- **High current capability (5A continuous, 16A peak current)**
- **Protection for over current, short circuit, earth fault, over- and under-voltage, I^2t, control error**
- **2x16, 2.54 mm screw terminal connectors**

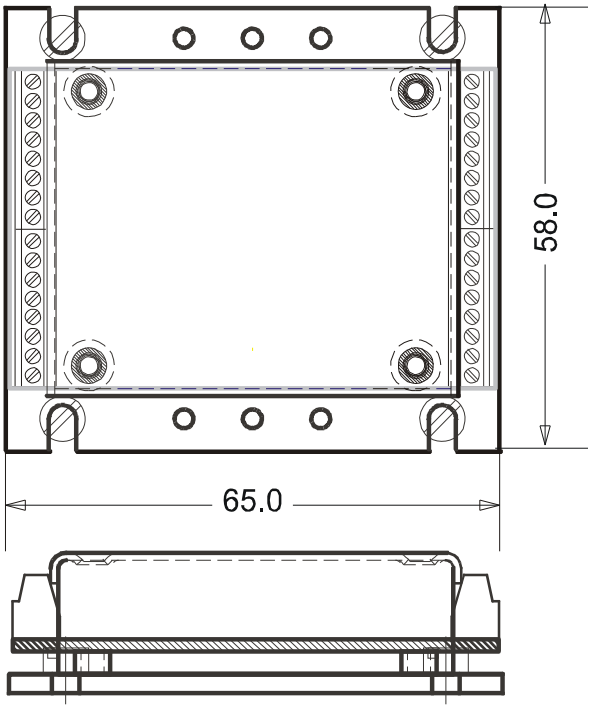
Typical Applications

- **Systems with distributed motor control intelligence**
- **Packaging equipment**
- **Printing**
- **Textile**
- **Medical**
- **Automotive**
- **Pick and place**
- **Factory automation**

Application notes with TML program examples available at www.technosoftmotion.com

DIMENSIONS, SPECIFICATION, ORDERING INFORMATION

IBL3605



J1 connector
Pin 1 +VDC
Pin 2 GND
Pin 3 +5Vout
Pin 4 Reference
Pin 5 Pulse
Pin 6 Direction
Pin 7 Enable
Pin 8 Limit switch positive
Pin 9 Limit switch negative
Pin 10 / Error
Pin 11 / Ready
Pin 12 CAN_H
Pin 13 CAN_L
Pin 14 GND
Pin 15 RS232 Tx
Pin 16 RS232 Rx

J2 connector
Pin 1 A / A+
Pin 2 C / B+
Pin 3 B / A-
Pin 4 B-
Pin 5 GND
Pin 6 Hall 1
Pin 7 Hall 2
Pin 8 Hall 3
Pin 9 Enc A+
Pin 10 Enc B+
Pin 11 Enc Z+
Pin 12 Enc A- / LH1
Pin 13 Enc B- / LH2
Pin 14 Enc Z- / LH3
Pin 15 Tacho
Pin 16 +5 Vout

Dimensions in mm. Drawings not to scale

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 with capture functions
- 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.

IBL3605 STARTER KIT

Complete evaluation packages for the IBL3605 drives, containing the servodrive, motor, I/O board, EasyMotion Studio software that are supported by a collection of application notes and documentation.

P091.037.IBL3605.LFT.0810

IBL3605 INTELLIGENT SERVO DRIVE

Electrical Specifications

DC supply voltage: motor and logic	36V
Maximum continuous current	5A
Peak current (2.4 sec. max.)	16A
Minimal load inductance	150 microHenry*
Nominal switching frequency	20kHz
Operating ambient temperature	0°C-40°C

*at 36V and 20kHz switching frequency

Ordering Information

P037.002.E001	**IBL3605 Servo/Stepper Drive, 36V, 5A, RS232**
P037.002.E002	**IBL3605 Servo/Stepper Drive, 36V, 5A, RS232/CAN**
P037.002.E012	**IBL3605 Servo/Stepper Drive, 36V, 5A, CANopen Brushless/DC**
P037.002.E013	**IBL3605 Servo/Stepper Drive, 36V, 5A, CANopen Stepper**
P037.002.E014	**IBL3605 Servo/Stepper Drive, 36V, 5A, CANopen Linear Hall**
P037.002.E080	**IBL3605 Starter Kit W/O Motor**
P037.002.E084	**IBL3605 Starter Kit Brushless Motor**
P037.002.E085	**IBL3605 Starter Kit Stepper Motor**
P037.001.E184	**IBL3605 / IBL2403 I/O Board**
P034.001.E002	**EasyMotion Studio Software**
P040.001.Exxx	**TML_LIB Motion Library****

**ask for existing libraries types

FLEXIBILITY

Control schemes supported by the IBL3605 Drive

Motor Types	Torque control	Speed control	Position control
Brushless DC / AC	✓	✓	✓
DC Brush	✓	✓	✓
Linear	✓	✓	✓
Step	✓	✓	✓

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www.technosoftmotion.com

Your **Next** Intelligent **Move**

TECHNOSOFT
MOTION TECHNOLOGY

IDM240/640 Intelligent Servo Drives 240/640W

Digital Motor Control for Brushless, DC Brush, Linear and Step Motors

The IDM240 and IDM640 are new members of the fully digital servo drive family from Technosoft with embedded intelligence based on the latest DSP controller technology.

These high-performance intelligent servo drives, combine motion controller, drive and PLC functionality in a single compact unit. The drives are programmable with the high level Technosoft motion language (TML), used for the definition and the execution of speed or position commands from a master or of pre-stored motion sequences triggered by I/O signals.

Distributed motion control functionality is ensured by the embedded CAN controller or by the RS-485 interface.

Compatible with Technosoft EasyMotion Studio for quick configuration, tuning and motion programming, the IDM drives offer a flexible and easy to implement solution for a wide range of applications.

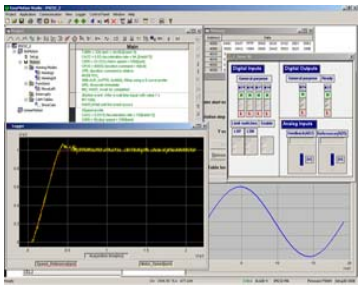
Go for Real Intelligent Motion

"Motion Control at the Click of a Mouse"

The configuration, tuning and programming of the IDM intelligent servo drives is easy using the powerful graphical Technosoft EasyMotion Studio.

The **first step,** consists of the system **configuration** by the selection and definition of system structure, motor type, feedback types and control mode. Test procedures help you to test and verify the hardware structure.

As the **second step,** the EasyMotion Studio supports the **parameterisation** and the **tuning** of the digital control loops of the selected motor control scheme. Data logging and scope facilities will capture variables during test movements for analysis and fine-tuning.



EasyMotion Studio compatible
Visual C / VB / LabVIEW / Linux
and PLC libraries available

Features

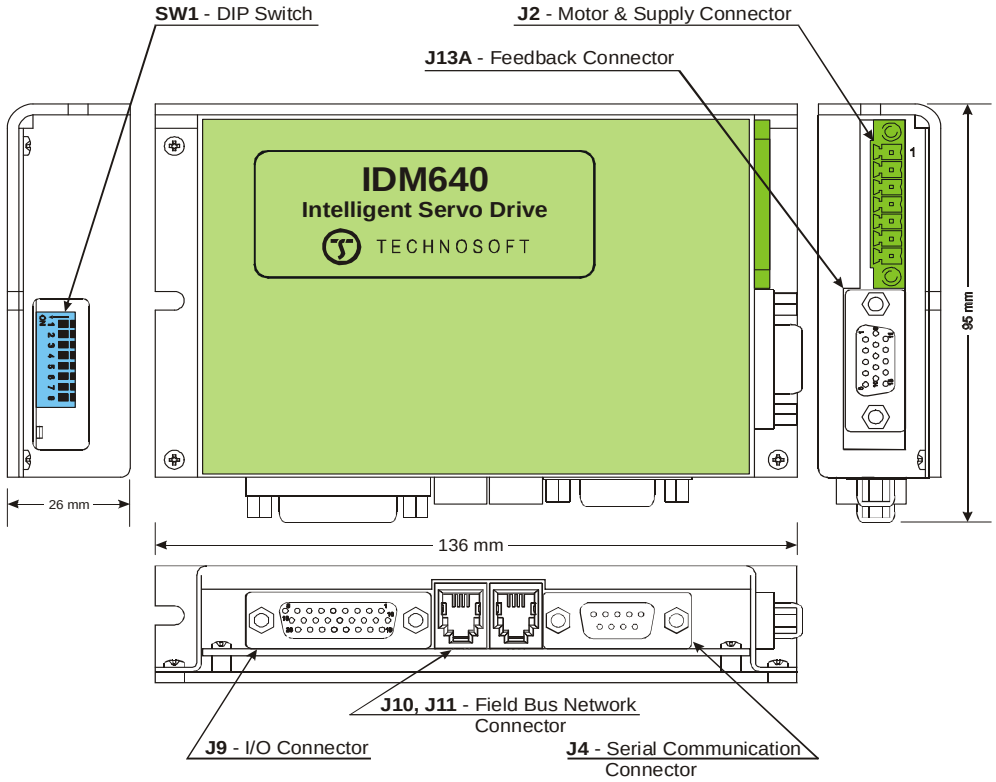
- **Fully digital servo drive with embedded intelligence and PLC functionality**
- **Suitable for brushless DC, brushless AC (vector control), linear, step and DC brush motors**
- **Programmable with High level Technosoft EasyMotion Studio software for quick axis configuration and tuning**
- **Various control modes as:**
  - **Torque, speed or position control**
  - **Electronic gearing, contouring, profiling**
  - **Step motor emulation in BL mode (step and direction input)**
  - **Open/closed loop, microsteping and stepless operation (step motors)**
  - **External variables control capabilities (pressure, flow, temperature etc.)**
- **High resolution up to equivalent of 256 microsteps/step (step motors)**
- **Powerful Technosoft Motion Language (TML) instruction set for definition and execution of motion sequences in:**
  - **Single or multi axis control (master or slave mode)**
  - **Standalone operation with Stored Motion sequences**
- **RS-232, RS-485 serial communication**
- **CAN-Bus 2.0B up to 1 Mbit/s / CANopen (IDM240 optional)**
- **Accepts external digital or analogue reference inputs**
  - **Opto-isolated programmable I/O (6 outputs / 7 inputs)**
  - **2 differential analog inputs +/-10V (reference and tacho)**
  - **Differential quadrature encoder (RS422), digital Halls**
- **Power supplies for logic (12-48V) and motor (12-80V) (IDM640)**
- **5A (IDM240), 8A (IDM640) continuous, 16A peak current**
- **Protection for over current, short circuit, earth fault, over temperature, over- and under-voltage, I^2t, control error**

The **third step** may already be the use of the axis on your machine. Using high level TML commands, you can define and start on-line motion sequences via serial communication port from your host, PC, or an optional hand-held terminal. In the stand-alone mode, pre-stored motion sequences can be executed, which can be activated through programmable I/O lines.

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

DIMENSIONS, SPECIFICATION, ORDERING INFORMATION

IDM240 / IDM640



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.

IDM240/640 STARTER KITS

Complete evaluation packages for the IDM drives, containing the servodrive, motor, I/O board, EasyMotion Studio software that are supported by a collection of application notes and documentation.

IDM240 / IDM640 INTELLIGENT SERVO DRIVES

Electrical Specifications	IDM240	IDM640
DC supply voltage: logic	12-48V	
motor	12-48V	12-80V
Maximum continuous current	5A	8A
Peak current (1 sec. max.)	16A	
Minimal load inductance	200 microHenry*	330 microHenry*
Nominal switching frequency	20kHz	
Operating ambient temperature	0°C-40°C	

*at 48V (IDM240) / 80V (IDM640) and 20kHz switching frequency

Ordering Information

P051.001.E002	**IDM240-5EI; 48V, 5A, Encoder, Opto-isol. I/O, CAN**
P048.001.E101	**IDM640-8EI; 80V, 8A, Encoder, Opto-isol. I/O, CAN**
P048.001.E111	**IDM640-8EI; 80V, 8A, Encoder, Opto-isol. I/O, CANopen**
P048.001.E085	**IDM640 Starter Kit for Brushless Motor**
P048.001.E084	**IDM640 Starter Kit for Step Motor**
P048.001.E184	**IDM240/640 I/O board**
P034.001.E002	**EasyMotion Studio software**
P040.001.Exxx	**TML_LIB Motion Libraries****

**ask for existing libraries types

FLEXIBILITY

Standard control schemes supported by the IDM Drives

Motor Types	Torque control	Speed control	Position control
Brushless DC / AC	✓	✓	✓
DC Brush	✓	✓	✓
Linear	✓	✓	✓
Step	✓	✓	✓

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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.

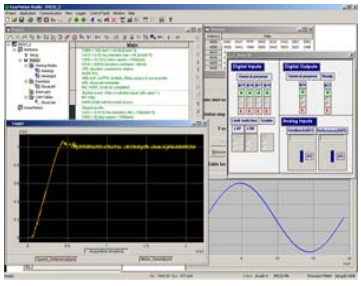
Go for Real Intelligent Motion
"Motion Control at the Click of a Mouse"

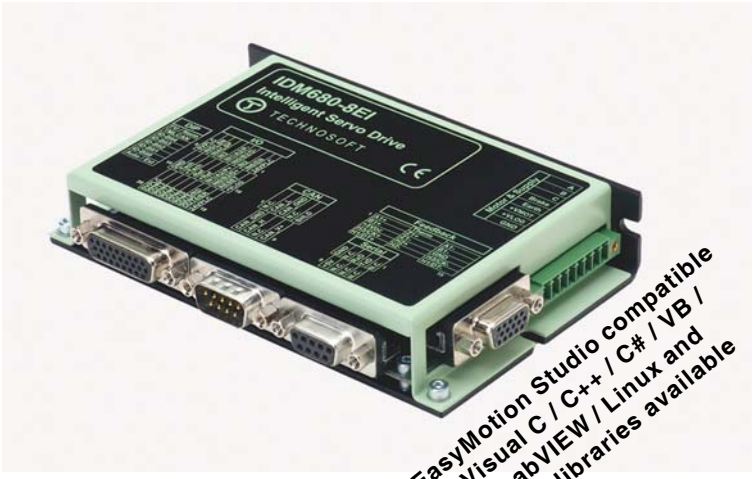
The drives commissioning can be done with **EasySetUp**. Test procedures help you to check the connections, verify the motor data and tune the control loops.

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

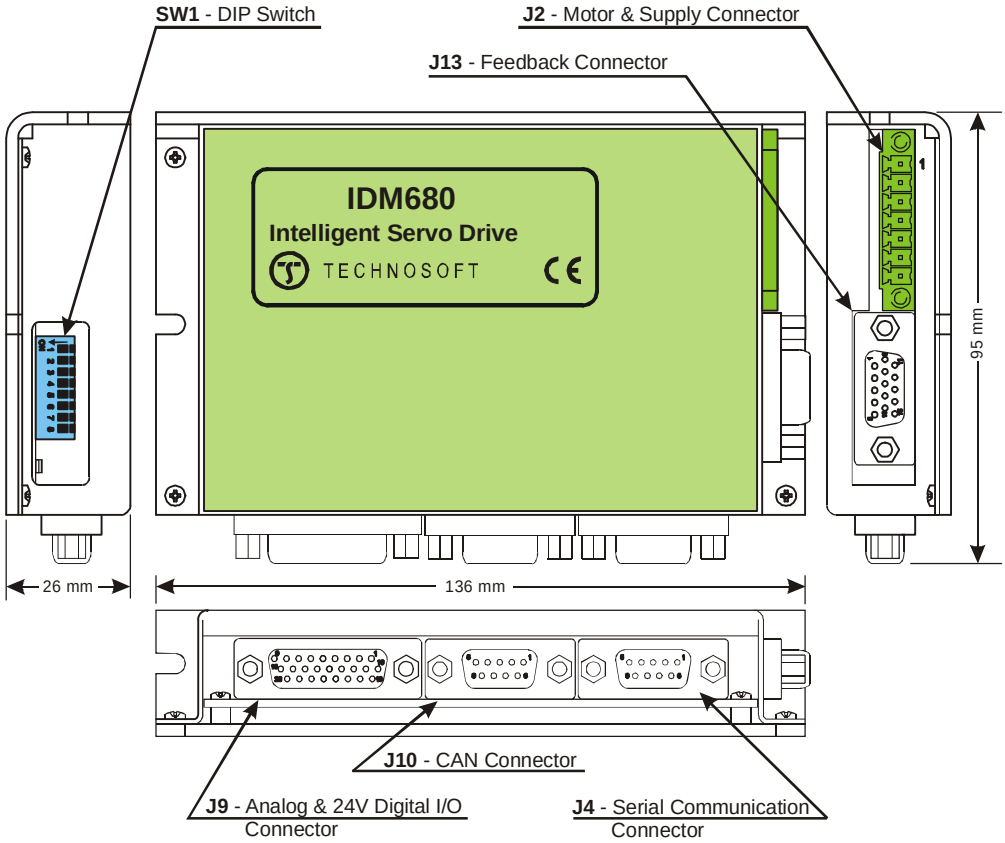
- **Fully digital servo drive with embedded motion controller and PLC funcionality**
- **Suitable for brushless DC, brushless AC (vector control), linear, DC brush and 2 or 3 phase step motors**
- **Various modes of operation:**
  - **Position or speed profiles (trapezoidal, S-curve)**
  - **3rd order PVT (Position, Velocity, Time) and 1st order PT interpolation**
  - **Electronic gearing and camming**
  - **External reference: analogue or digital**
  - **Open / closed loop and microsteping (up to 256 µsteps/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 tacho)**
- **Digital reference inputs: 2nd 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^2t, 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

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

Motor / Sensor	Brushless		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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P091.048.IDM680.LFT.0810

Your **Next** Intelligent **Move**

TECHNOSOFT
MOTION TECHNOLOGY

IDM680 Intelligent Servo Drive with EtherCAT 640W

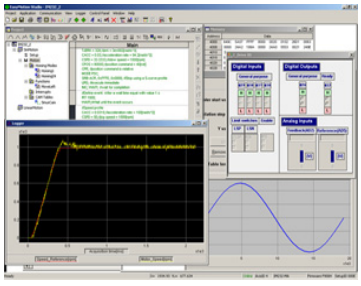
Universal Drive for Rotary and Linear Brushless, DC Brush and Step Motors

The IDM680 drive is a member of Technosoft's new family of digital intelligent servo drives equipped with an EtherCAT communication interface. This high-performance intelligent servo drive combines motion controller, drive and PLC functionality into a single compact unit. It can operate either as a standard EtherCAT slave using CANopen over EtherCAT (CoE) protocol or it can be programmed to execute complex motion programs directly at drive level, using the high level Technosoft motion language (TML). This enables the user to reduce a master task by calling complex motion functions, pre-stored in the drive memory, or by 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 drive 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 an EtherCAT master or directly at drive level using the built-in motion controller and the 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. Using TML programming, you can reduce the development time of complex applications by distributing the intelligence between the master and the drives.

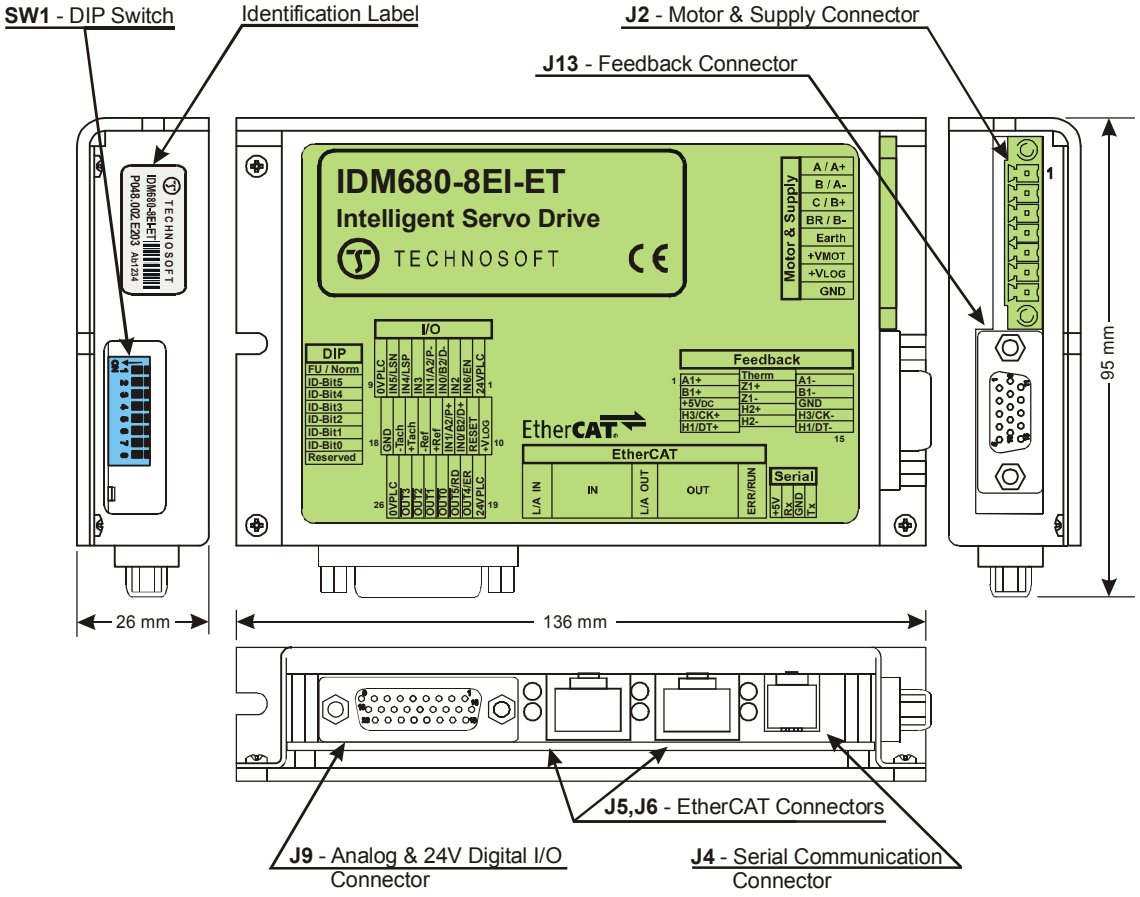


Features

- **Fully digital servo drive with EtherCAT networking, embedded motion controller and PLC functionality**
- **Suitable for control of DC brush, 2 and 3-phase step and brushless rotary or linear motors**
- **CANopen over EtherCAT (CoE) with full support of CiA402**
- **Various modes of operation:**
  - **Position or speed profiles (trapezoidal, S-curve)**
  - **3rd order PVT (Position, Velocity, Time) and 1st order PT interpolation**
  - **Electronic gearing and camming**
  - **External reference: analog or digital**
  - **Open / closed loop and microstepping (up to 256 µsteps/step) for step motors**
- **Powerful Technosoft Motion Language (TML) instruction set including:**
  - **Motion commands, program flow control, I/O handling**
  - **Arithmetic and logic operations, axis synchronization**
- **Stand-alone operation with stored motion program**
- **RS-232 serial communication for setup and motion programming**
- **Opto-isolated digital I/O (6 outputs / 5 inputs)**
- **2 Analog inputs +/- 10V differential (reference and tacho)**
- **Digital reference inputs: 2nd encoder / step and direction, RS422 differential**
- **Position feedback:**
  - **RS422 differential encoder and digital Halls or absolute SSI encoders (IDM680-8EI-ET)**
  - **Linear Halls, sine / cosine incremental encoder or sine / cosine absolute encoder with EnDAT protocol (IDM680-8LI-ET)**
  - **Resolver (IDM680-8RI-ET)**
  - **BiSS encoder (IDM680-8BI-ET)**
- **Power supplies for logic (12-48V) and motor (12-80V)**
- **8A continuous, 16.5A peak current**
- **Protection for over current, short circuit, over temperature, over- and under-voltage, I^2t, control error**

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

DIMENSIONS, SPECIFICATIONS, ORDERING INFORMATION
IDM680



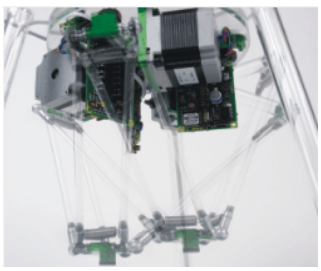
EASYMOTION STUDIO

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

TYPICAL APPLICATIONS

- **Packaging equipment**
- **Printing**
- **Textile**
- **Automotive**
- **Labeling**
- **Handling**
- **Pick-and-place**



P091.048.IDM680-ET.LFT.1110

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.E201	**IDM680-8LI-ET: 80V, 8A, Sin/Cos Encoder, Linear Hall, EtherCAT**
P048.002.E202	**IDM680-8RI-ET: 80V, 8A, Resolver, EtherCAT**
P048.002.E203	**IDM680-8EI-ET: 80V, 8A, Incremental, SSI Encoders, EtherCAT**
P048.002.E204	**IDM680-8BI-ET: 80V, 8A, BiSS Encoder, EtherCAT**
P048.002.E184	**IDM680 I/O board**
P034.001.E002	**EasyMotion Studio software**

FLEXIBILITY

Standard motor-sensor configurations schemes supported by the IDM680

Motor / Sensor	Brushless		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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IDM3000 Intelligent Servo Drive 3kW

Digital Motor Control for Brushless, DC Brush, Linear and Induction Motors

The IDM3000 is a new member of the fully digital servo drive family from Technosoft with embedded intelligence based on the latest DSP controller technology.
This high-performance intelligent servo drive, combines motion controller, drive and PLC functionality in a single compact unit. The drive is programmable with the high level Technosoft motion language (TML), used for the definition and the execution of speed or position commands from a master or of pre-stored motion sequences triggered by I/O signals.
Distributed motion control functionality is ensured by the embedded CAN controller or by the RS-232 interface.

Compatible with Technosoft EasyMotion Studio for quick configuration, tuning and motion programming, the IDM3000 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 configuration, tuning and programming of the IDM intelligent servo drive is easy using the powerful graphical Technosoft EasyMotion Studio.

The **first step,** consists of the system **configuration** by the selection and definition of system structure, motor type, feedback types and control mode. Test procedures help you to test and verify the hardware structure.

As the **second step,** the EasyMotion Studio supports the **parameterisation** and the **tuning** of the digital control loops of the selected motor control scheme. Data logging and scope facilities will capture variables during test movements for analysis and fine-tuning.

The **third step** may already be the use of the axis on your machine. Using high level TML commands, you can define and start on-line motion sequences via serial communication port from your host, PC, or an optional hand-held terminal. In the stand-alone mode, pre-stored motion sequences can be executed, which can be activated through programmable I/O lines.

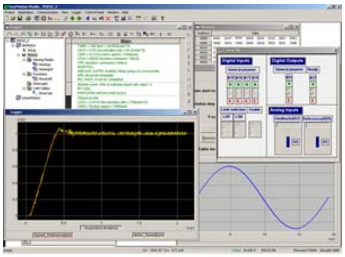
Features

- **Fully digital servo drive with embedded intelligence and PLC functionality**
- **Suitable for brushless DC, induction (vector control), linear and DC brush motors**
- **Programmable with high level Technosoft EasyMotion Studio software for quick axis configuration and tuning**
- **Various control modes as:**
  - **Torque, speed or position control**
  - **Electronic gearing, contouring, profiling**
  - **Step motor emulation (step and direction input)**
  - **External variables control capabilities (pressure, flow, temperature etc.)**
- **Powerful Technosoft Motion Language (TML) instruction set for definition and execution of motion sequences in:**
  - **Single or multi axis control (master or slave mode)**
  - **Standalone operation with Stored Motion sequences**
- **RS-232 serial communication**
- **CAN-Bus 2.0B up to 1 Mbit/s / CANopen**
- **Accepts external digital or analogue reference inputs**
  - **Opto-isolated programmable I/O (6 outputs / 8 inputs)**
  - **2 differential analog inputs +/-10V (reference and tacho)**
  - **Differential quadrature encoder (RS422), digital Halls**
  - **Absolute serial encoder SSI or EnDat**
  - **Resolver, SIN/COS encoder (optional)**
- **Operation from 160-325V DC-bus voltage**
- **10A continuous, 30A peak current**
- **Protection for over current, short circuit, earth fault, over temperature, over- and under-voltage, I^2t, control error**

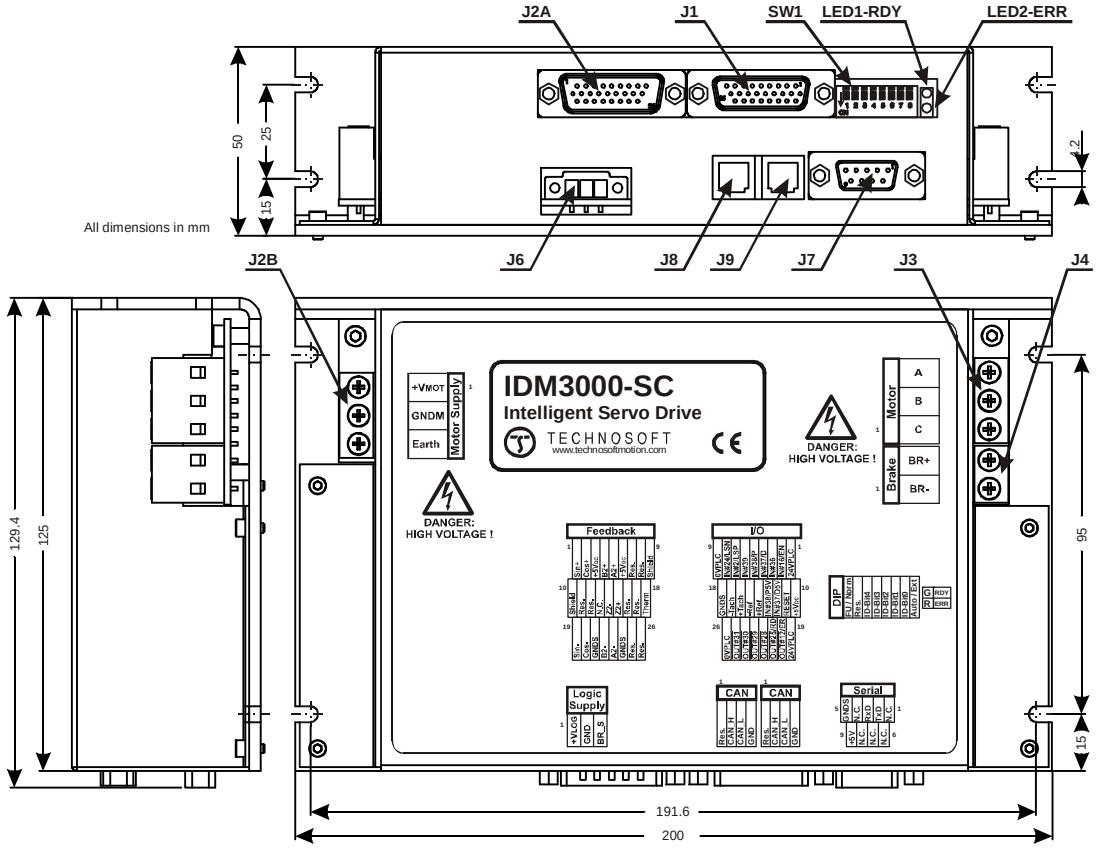
Typical Applications

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

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



DIMENSIONS, SPECIFICATION, ORDERING INFORMATION
IDM3000



EASYMOTION STUDIO

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- Tuning assistance
- Definition, programming and testing of motion sequences

MOTION CONTROL LIBRARIES

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

IDM3000 INTELLIGENT SERVO DRIVE

Electrical Specifications	IDM3000
Logic DC supply	20-30V
Nominal DC bus supply	160-325V
Maximum continuous current	10A*
Peak current (1 sec. max.)	30A
Minimal load inductance	1.5 miliHenry**
Nominal switching frequency	10kHz
Operating ambient temperature	0°C-40°C

Ordering Information

P049.004.E101	**IDM3000-ER Servo Drive, 325V, 10A, Encoder / Resolver, CAN**
P049.004.E102	**IDM3000-SC Servo Drive, 325V, 10A, Sin/Cos Encoder, CAN**
P049.004.E111	**IDM3000-ER Servo Drive, 325V, 10A, Encoder Interface, CANopen**
P049.004.E112	**IDM3000-SC Servo Drive, 325V, 10A, Sin/Cos Encoder, CANopen**
P049.004.E113	**IDM3000-ER Servo Drive, 325V, 10A, Resolver Interface, CANopen**
P034.001.E002	**EasyMotion Studio software**
P040.001.Exxx	**TML_LIB Motion Libraries*** **

*mounted on heatsink

**at 300V and 10kHz switching frequency

***ask for existing libraries types

FLEXIBILITY

Standard control schemes supported by the IDM3000

Motor Types	Torque control	Speed control	Position control
Brushless DC / AC	✓	✓	✓
DC Brush	✓	✓	✓
Linear	✓	✓	✓
Induction	✓	✓	✓

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