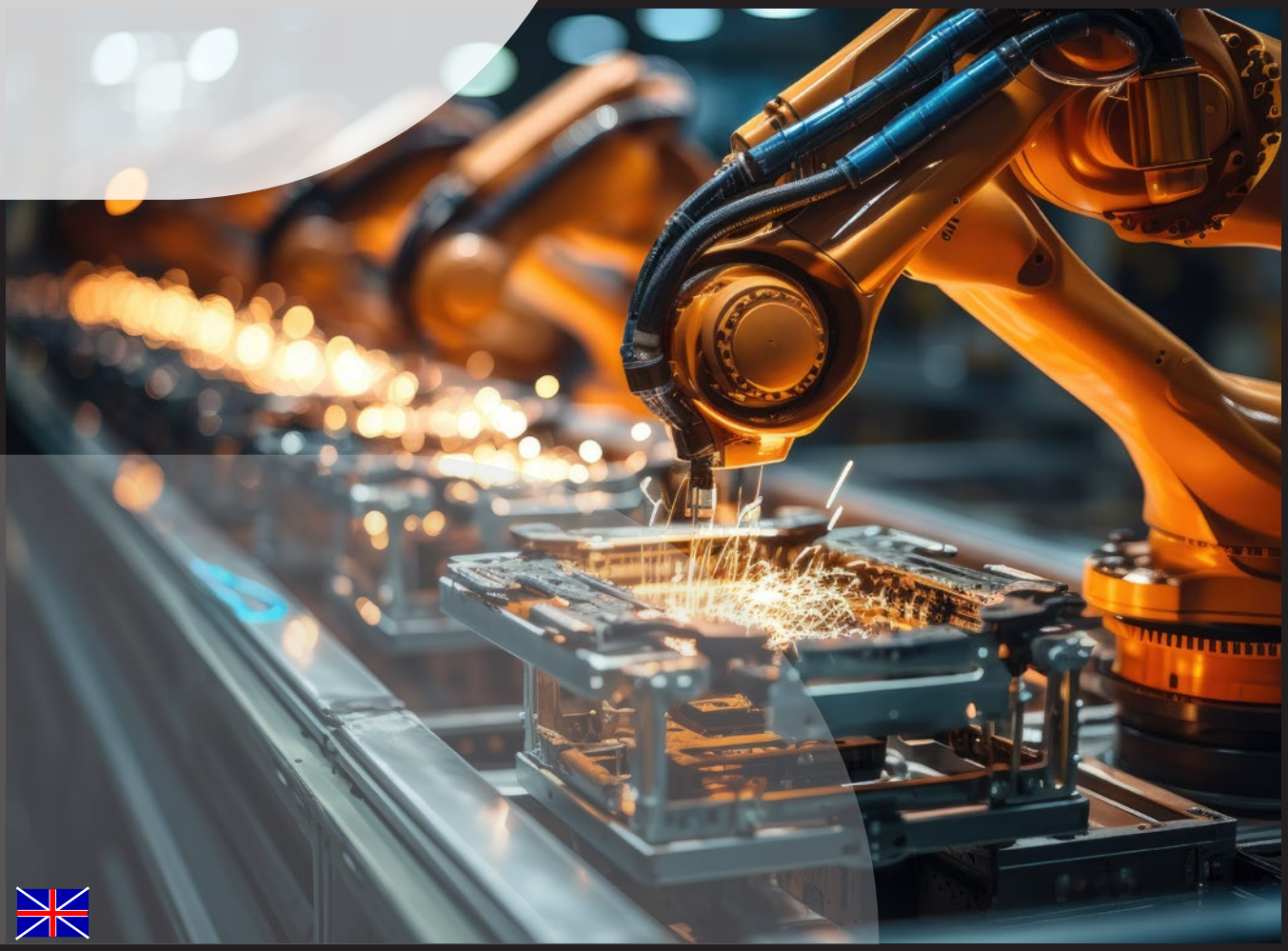
MOTION CONTROL SOLUTIONS

our solutions make yours easy

ever
e-MOTION SOLUTIONS

2025




our solutions make yours easy

OUR HISTORY since 1977

*From the beginning, our mission has been clear: to **create and provide advanced solutions that make motion control** in our clients' systems effortless.*

1977
Ever snc founded Ever snc making the beginning of the group's first company

1983
Ever Elettronica Srl joins Ever snc as a specialized production branch focused on stepper motor drives

1984
Ever becomes a trusted partner. The Ever gorup is chosen as a supplier of stepper motor drives by major italian clients

1986
"SMC", the first programmable stepper motor drive conetrolled by a microprocessor, awarded for its innovation

1992
Among the first in the world to join CAN in Automation (CiA), obtaining the vendor ID '4Bh'

2008
eePLC, a visual programming environment for the SW1 Series drives, represents the new generation of Ever's historic line of programmable drives with embedded PLC

2007
Changzhou Ever Electronics Motion Control Technology Co., is established to provide technical and commercial support to clients in the Asian market

2012
Joining CiA ETG and introducing the first EtherCAT SW1 drive

2003
Ever Elettronica srl moves to its new 2000 sqm headquarters in Lodi, implementing new SMD and THT production lins, as well as ITC and fuctional testing lines

*Since 1977, **we have been designing and producing complete and intelligent solutions** with stepper and brushless technology, capable of making your automatic machines increasingly high-performance and efficient and simplifying motion control.*

MADE IN ITALY

2013

Release of the High Efficiency stepper motor line

2015

Design and production of AC brushless drives and motor

2016

Design and production of DC brushless drives and motors

2019

Ever Elelettronica is among the first manufacturers of servo drives to implement the ProfiNET protocol

2021

The investment begins for the in-house production of stepper and brushless motors, entirely Made in Italy

2024

New motor production facility. The construction of the new production facility in Montanaso Lombardo (Lodi) dedicated to the manufacturing of brushless and stepper motors completed

2025

Ever Motion Solutions is established to expand our vision of automation solutions globally

ever e-MOTION SOLUTIONS

WHY CHOOSE EVER MOTION SOLUTIONS

We design, build and implement cutting-edge motion control systems, with synchronous motors, including customized ones.

WE DESIGN
drives and motors

With a team of experienced engineers across software, hardware and mechanical design, we specialize in delivering cutting-edge, custom built drives, boards, motors and software tailored to your unique application needs.

Moreover, every year we reinvest an average of 30% of our profits into R&D and another 30% into upgrading our production systems, all to ensure we continue delivering high-performance, energy-efficient and future-ready productrs.

WE PRODUCE IN ITALY
in lean mode

Our internal production department works every day with LEAN processes maximizing processes to provide customers with high quality products.

For us, the in-house production - Made in Italy, means quality, flexibility and full traceability of every component.
Our in-house manufacturing , combined with ISO 9001 certification, ensures controlled and reliable processes at every stage, from design to delivery.

We use advanced SMT lines and next generation automatic control systems to ensure maximum precision and reliability.
Our motor production is also highly automated, guaranteeing efficiency, consistent quality and fast response times.

QUALITY

Certifications
Our products are approved and certified CE, REACH, RoHS, UL and STO (Safe Torque Off).

360° support
We provide full support at every stage from the initial analysis to the selection of the motion control solution that best fits your needs.

Ready to ship delivery
We offer a wide stock of motors and drives available for immediate delivery, ensuring fast response during both prototyping and production phases.

After-sale services
Guided installation of products with dedicated post-sales support.

Warranty
Our motors and drives come with a 3-year warranty.

ADVANCED TECHNOLOGIES AVAILABLE TO THE CUSTOMER

f4d2

For the very best digital control and high switching frequency of brushless motors, Ever Motion Solutions has, for many years, implemented f4d2 (Fast Forward Feed Full Digital Drive) technology in its drives controlled by Digital Signal Processor. This technology, based on an innovative, proprietary and patented microstep phase current algorithm regulation, in particular, allowed to control the torque of stepper motors, in a closed or open loop, which generates a silent, fluid and smooth motor rotation without resonances even at low speed.

ELSE

The ELSE (Error Less Servo Efficient) technology, integrated in the latest ServoStep drives generation of the new Titanio series by means of ARM Cortex microprocessors, has been developed by Ever Motion Solutions to improve the performances of its f4d2 technology in stepper motor control. The added improvement of the shape of the phase current, made perfectly sinusoidal through “step-less” excitation, has also been applied by Ever Motion Solutions as a closed loop vectorial algorithm, with or without shaft feedback sensor, to the control of torque, velocity and position of the other types of synchronous, brushless DC and AC motors respectively, in the new Platino and Vanadio drive series.

Thanks to the f4d2 and ELSE technologies, the new Ever Motion Solutions drives can power synchronous motors, closed loop stepper or brushless, providing an even higher performance than the one possible with field orientation control techniques (FOC). With this control mode, the stepper motor, thanks to the 50 polar torques with which it is equipped, can be considered a brushless synchronous servo motor, ideal for use with direct coupling to the load without the costs and performance limitations of the gearbox.
With the closing of the torque loop, the resonance limit of the potential motor due to step loss is exceeded, and the increase in the working temperature due to heat dissipation is limited, supplying only the current required by the torque loop to the phases, so vibrations and thus, motor noise are eliminated.
The stepper motor will never lose synchronism of movement by adapting its speed profile to the drive torque required by the shaft , even with high inertial loads.
Controlling the stepper motor in a closed loop of torque, velocity and position offers the following advantages compared to:

1) its open-loop drive:
- safe positioning and stable maintenance of the fi nal position with automatic error recovery;
- full exploitation of the torque delivered by the motor;
- ability to constantly operate at the maximum speed allowed by the driving torque delivered by the motor;

2) the use of brushless motors with low poles number:
- stable hold of the idle position without risk of fluctuations and rapid repositioning;
- rapid execution of short strokes;
- lower solution cost due to the greater simplicity of the feedback and no need of a gearbox in low speed torque applications.

Programmabilità con funzionalità di PLC

The new TITANIO, PLATINO and VANADIO series drives, in the IDE e3PLC programmable versions, make it easier for the manufacturer to design, produce, integrate and start up the machine by eliminating the hardware and software problems which must be resolved to connect the PLC and drive. e3PLC, the user-friendly and intuitive Windows programming environment, makes it easier to solve problems related to drive programming and allows the implementation of complex application programs as well, without the user having to learn to use the languages and control methods of proprietary drives or set up interfacing tasks between distributed units.

INDUSTRIA 5.0

Functionality and communication for industry 5.0

The drives of the new TITANIO, PLATINO and VANADIO series make it easier for the manufacturer to design, produce, integrate and start up the machine and for the system operator to use in the production process. Controlled by the latest generation and fully digital DSPC, the drives of the three series have communication interfaces dedicated to commissioning and fi eld control with which they can communicate real-time messages about operating parameters, events, operating conditions, energy performance and useful information for maintenance, including predictive maintenance, as required in industry 5.0.

Modbus TCP/IP

The Modbus TCP/IP protocol uses Ethernet, resulting in greater speed, reliability and robustness, making it the preferred bus in the field for communicating messages, typically used by applications for industry 5.0. The Modbus TCP/IP is also a valid and economic alternative to the ProfiNet bus for connecting Ever Motion Solutions programmable drives to Siemens PLCs.

Modbus

It is the entry level fieldbus in embedded automation systems and still widely used for its cost savings and simplicity despite its limitations of use.

EtherCAT

Implemented by Ever as slave of most EtherCAT master PLCs on the market by adopting the CoE standard and supporting multiple:

- Control modes: Profile Position Mode, Velocity Mode, Profile Velocity Mode, Homing Mode, Interpolated;
- Position Mode, Cyclic Synchronous Position Mode, Cyclic Synchronous Velocity Mode;
- Homing mode according to standards 1,2,17,18,19,20,21,22,35,37;
- Synchronisation modes: Free Run, Synchronous with SM Event, Distributed Clock;
- Diagnostic services: EMCY, Diagnostics;

as well as:

- 500 microseconds minimum cycle time;
- ‘Touch Probe’ function (no. 2 Touch Probes managed at the same time);
- Factor Groups;
- Availability of at least 4 x 24 Vdc inputs and 2 outputs;
- Dynamic PDO mapping.

PowerLink

POWERLINK is a standard Ethernet-based communication protocol that guarantees reliable and determinisitc communications: it is therefore well suited to meet the needs of industrial automation and process control. The ability to operate both time-critical and nontime-critical processes with the same bus has encouraged its widespread use - particularly in those applications with a significant motion part, such as robotics. POWERLINK utilizes the same object dictionaries and communication mechanisms as CANopen, including process data objects (PDOs), service data objects (SDOs), and network management (NMT). For this reason, POWERLINK can be referred to as a “CANopen over Ethernet.”

ProfiNet

The drives developed by Ever Motion Solutions to be controlled according to the profiNet RT and IRT standard by Siemens master drives, also have four or more inputs and at least two 24 Vdc outputs with which they can also act as local I/O modules.

CanOPEN

The communication interface, still widely used for its low cost in industrial automation with embedded systems, developed by Ever according to the CANopen standard DS301 and DS402. The numerical value 77 (4Bh), assigned by the Can in Automation organisation as supplier identifier when it joined forces with Ever Motion Solutions, certifies its experience in the use of this simple and inexpensive bus.

EVER

High efficiency stepper motors resulting from the company’s decades of experience in stepper technology. Viewed as brushless synchronous motors with a high poles number suitable for direct drive, HE motors are built with innovative design and construction techniques.

MASTER COMPATIBLE

SIEMENS · ESA · Allen-Bradley · Schneider Electric · B&R · OMRON · BECKHOFF

CERTIFICATIONS

CE · RoHS 2002/95/EC · UL · IP65 RATED · Ex

FROM **FIELDBUS** TO **DRIVE**

MASTER GWC IMP HMI PC

PROFINET®

AW5


SW4


SM4


SW5

ETHERNET POWERLINK

EtherNet/IP


SW5

AW5

MULTIPROTOCOL

SN4

Modbus TCP/IP


DW4


SW4


SWD


AW5


SW5


SB4

EtherCAT


DW4


SN4


SB4


SM4


AW5


SW3


SW5


SW4


SWD

CANopen DS402


SB4


SM5


DW4


SW4


SWD


DM4


AW5


SW5


SM4

Modbus


AW5


DW4


SB4


SW5


SM5


DM4


SW4


SM4


SWD

DRIVES

AC BRUSHLESS DRIVES
DC BRUSHLESS DRIVES
STEPPER DRIVES

DRIVES
AC BRUSHLESS

Range of vectorial drives with innova ve features, designed to control AC brushless motors up to 1.5 KW.

VANADIO drives use Arm Core M4 technology and are completely digital, reliable, compact, programmable and available with multiple fieldbuses such as PowerLink, EtherCat, ProfiNet, Modbus TCP, Canopen or ModBus RTU.

VANADIO drives can control the brushless motor with feedback from an incremental or absolute single- or multurn encoder and are equipped with the Safety Torque Off (STO - Sil 3/PLe) func on. They are intended for use in various applications: packaging industry including labelling machines, electric cylinders, logiscs systems, automotive lines, orientation automation solutions, CNC machining centers and screen printing.

The quality of **VANADIO** drives is further guaranteed by UL certification, which certifies their reliability and safety of use for potential risks of fire, electric shock and mechanical hazards.

The drive functions include:

- Velocity control mode
- Torque Mode
- Function programmability, including stand alone
- Different posit ioning control modes (homing, relative, absolute, target)
- Electric shaft management with programmable reduction ratio to track an external master reference from fieldbus or encoder in speed and/or position
- Fast I/O that can be triggered on motor start & stop events in applications that require high response speeds
- Certified STO Safety Torque Off (Sil 3/PLe)
- UL recognized

VANADIO
AC - SERVO - DRIVES

Fieldbus and/or Programmable Drives

Control devices for AC brushless motors through fieldbus commands (slave) in multi- axle systems or programmable with the e3PLC Studio environment. Featuring inputs and outputs for autonomous operation, AW5 drives are also programmable and configurable in real me by means of the SCI service serial port.

Drives Models	Format	Power supply	Power	Fieldbus	Feedback	Characteristics	
AW5	Wall mounting	100 ÷ 240 VAC	0,75 ÷ 1,50 KW	EtherCAT ProfiNet PowerLink Modbus TCP/IP CANbus Canopen Serial Modbus RTU	Hall effects, incremental or absolute encoder	UL STO	Pag. 18

AW5

VANADIO AC SERVO DRIVES

CHARACTERISTICS

- Controllable versions with Step & Direc on signals, analog voltage, fieldbus or programmables with the e3PLC Studio environment (PLC functionality)
- Vectorial control with sinusoidal regulation of the high efficiency current with “Else” technology that maximizes the driving torque with smooth and silent rotation
- Feedback with incremental and absolute encoder
- Available with different fieldbuses
- Equipped with service serial connections or USB interface for configuration, programming and real-time debugging
- Safe Torque Off (STO) inputs Sil3/PLe
- Integrated oscilloscope
- Separated power supply for logic and power
- Internal or external braking resistor
- Integrated diagnostics

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK
- STO

COMMON LINE FEATURES	
Switching frequency	40kHz
Digital inputs	up to 16 optocoupled
Digital outputs	up to 12 optoisolated
Analog inputs	up to 2 isolated
Analog outputs	up to 2 isolated
Safe Torque Off inputs	STO Sil3/PLe
Feedback	incremental encoder, multiturn absolute encoder, hall effects
Encoder output	5V differential
Max braking internal resistance power	50 Watt
Service interface	Service Serial Interface (SCI) or Universal Serial Bus (USB) for real-time configuration and debugging
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/ phase and phase/earth
Status monitoring	led segments
Temperatures	working from 5°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85%
Protection class	IP20

AW5D3560: to drive two independents motors	
Power supply	from 24 Vdc to 80 Vdc
Current	up to 7.0 Arms (10 A peak)
Power	560W for each motor
Fieldbus	Powerlink
Dimensions	160.0 x 53.0 x 115.0 mm

AW5A6750	
Power supply	from 100 Vac to 120 Vac single phase (with internal voltage doubler)
Current	3.0 Arms nominal
Fieldbus	EtherCAT, Canbus, Modbus RTU, Modbus TCP/IP, ProfiNet
Dimensions	180.7 x 138.5 x 50.0 mm

AW5A9750	
Power supply	from main 100 Vac ÷ 240 Vac monophase
Current	3.0 Arms nominal
Fieldbus	EtherCAT, Canbus, Modbus RTU, Modbus TCP/IP, ProfiNet
Dimensions	180.7 x 138.5 x 50.0 mm

AW5A91K5	
Power supply	from 85 Vac to 265 Vac
Logic power supply	24 Vdc isolated
Current	5.2 Arms nominal
Fieldbus	EtherCAT, Modbus TCP/IP, ProfiNet, Canbus, Modbus RTU
Dimensions	196.6 x 136.6 x 47.0 mm

MODEL CODING

AW5A vwwwb2i1-oo-ayyyy

v	voltage
w	power
b	connection bus
i	i/o number
oo	options
yyyy	firmware embedded version

VANADIO

AC - SERVO - DRIVES

DRIVES
DC BRUSHLESS

Series of vectorial drives with innovative features, designed for the control of three-phase DC brushless motors up to 400 Watts.

The **PLATINO** drives are fully digital thanks to Arm technology and are exceptionally reliable, compact, programmable, available with multiple fieldbus based on Ethernet, Modbus RTU or CanOpen or with frequency or analogue controllable source.

In addition to the Hall sensors, the current control via encoder allows **PLATINO** drives to control the motor in closed loop ensuring extremely smooth movements.

For the use on machines controlled by one of the most commonly used bus masters on the automation market, **PLATINO** drives have advanced safety features, such as integrated diagnostics for monitoring faults, which is also convenient for remote machine support and power supplies for separate logic and power. They are intended for use in various control applications: conveyor belts, distributors, electric cylinders, marking machines, dosing devices, fabric reel rotation, winders, separators and robotic arms.

The drive functions also include:

- Velocity control mode
- Torque Mode
- Function programmability, including stand alone
- Different positioning control modes (homing, relative, absolute, target)
- Electric shaft management with programmable reduction ratio track an external master reference in speed and position from fieldbus or encoder
- Fast I/O that can be triggered on motor start & stop events in applications that require high response speeds

Platino
BLDC - SERVO - DRIVES

Fielbus and/or Programmable Drives

Devices for the control of brushless DC motors through fieldbus commands (slave) in multi-axle systems or systems which can be programmed with the e3PLC Studio environment. Featuring inputs and outputs for autonomous operation Platino series drives are also programmable and configurable in real-time by means of the SCI service serial port.

Drives Models	Format	Power supply	Power / Size	Fieldbus	Feedback	Characteristics	
DW4	Wall mounting	DC	400 W	EtherCAT Modbus TCP/IP CANbus Canopen Serial Modbus RTU	Hall Sensor and Incremental encoder		Pag. 22
DM4	Motor and Drives integrated	DC	NEMA 17 from 26 to 104W NEMA 23 from 46 to 184W	CANbus Canopen Serial Modbus RTU	Hall Sensor or magnetic encoder or incremental encoder or single turn absolute encoder		Pag. 23

DW4

PLATINO_BLDC SERVO DRIVES

CARATTERISTICHE

- Controllable versions with Step & Direction signals, analog voltage, fieldbus or programmables with the e3PLC Studio environment (PLC functionality)
- Vectorial control with sinusoidal regulation of the high efficiency current with “Else” technology that maximizes the driving torque with smooth and silent rotation
- Feedback including incremental encoder
- Available with different fieldbuses
- Equipped with service serial connections for configuration, programming and real-time debugging
- Integrated oscilloscope
- Separated power supply for logic and power optional
- Integrated diagnostics

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- HALL EFFECTS
- INCREMENTAL ENCODER
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

DW4	
Power supply	12÷48 Vdc
Logic power supply	12÷48 Vdc (optional and not isolated)
Phase current	10 Arms (28 Apeak for 5s)
Motor power	up to 400 W
Chopper frequency	40 kHz ultrasonic
Fieldbus	EtherCAT, Modbus TCP/IP, Modbus RTU, CANbus
Feedback	5V RS422 differential not isolated or single-ended (TTL/CMOS) incremental encoder, 5 V single-ended (TTL/CMOS) non isolato Hall sensor
SCI interface	SCI Service serial interface for real-time configuration and debugging
Digital inputs	up to 6 opto-isolated
Digital outputs	up to 3 opto-isolated
Analog inputs	2 inputs for models DW4D2400M2P1-00 and DW4D2400C2P1-00
Safety protections	over/under voltage, over current, over temperature, phase to phase and phase to earth short circuit
Temperatures	working: from 5°C to 40°C storage: from -25°C to 55°C
Humidity	5% ÷ 85% not condensing
Protection class	IP20 Category C3 EN61800-3
Dimensions	139 X 84.5 X 28 mm

MODEL CODING

DW4 Dvwwwb2i1-oo-dyyyy

v	voltage
w	power
b	connection bus
i	i/o number
oo	option
yyyy	embedded firmware version

DM4 Drive with integrated motor

PLATINO_BLDC SERVO DRIVES

CHARACTERISTICS

- Speed control with step and direction inputs or analog reference
- Feedback with Hall effects or incremental encoder - single turn absolute encoder
- Canopen DS402 or Modbus RTU interfaces
- Service serial connections for configuration, programming and real-time debugging
- Digital and analog inputs
- Digital outputs
- Programmable with e3PLC programming environment
- Available with NEMA 17, NEMA 23 round and NEMA24 size motors
- Compact sizes

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- HALL EFFETS
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

DM4D1	
Power	NEMA 17 motors : from 26 W to 104 W NEMA 23 motors: from 46 W to 184 W
Power supply	NEMA 17 motors: 24 Vdc NEMA 23 motors: 36 Vdc
Max speed	4000 rpm
Feedback	Hall sensors or incremental magnetic encoder or single turn absolute encoder
Fieldbus	EtherCAT, Modbus TCP/IP, Modbus RTU, CANbus
Digital inputs	3
Digital outputs	2
Analog inputs	1 - 0 ÷ 10 Vdc
Service interface	SCI Service serial interface for real-time configuration and debugging
Temperatures	working: from 5°C to 40°C storage: from -25°C to 55°C
Protection class	IP20
Humidity	5%÷85% not condensing
Dimensions	dipendenti dalla taglia del motore

DM4D2	
Power	200W
Power supply	48Vdc
Logic power supply	24Vdc
Max speed	3800rpm
Fieldbus	CANBus
Digital inputs	4
Digital outputs	2
Analog inputs	1 - 0 ÷ 10 Vdc
Service interface	SCI Service serial interface for real-time configuration and debugging
Temperatures	Working: from 5°C to 40°C Storage: from -25°C to 55°C
Protection class	IP65
Dimensions	89.6 x 65.6 x 120.0 mm

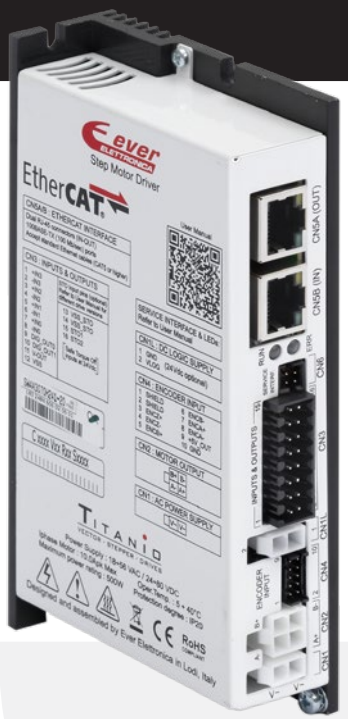
MODEL CODING

DM4D1wwwb2ixxfo-dyyyy

w	power
b	connection bus
i	i/o number
xx	motor size and deepth
f	feedback
oo	options
yyyy	firmware embedded version

DRIVES
STEPPER

The innovative vectorial drives of the **TITANIO** range, designed to control two- and three-phase stepper motors of various sizes, from Nema 08 to Nema 42, are compact, completely digital as they are controlled by Cores ARM M4, programmable or available for multiple fieldbus.



Thanks to the “ELSE - Error Less Servo Effi cient” technology, they control the stepper motor in open loop with stepless excitation, or in closed loop of torque, velocity and position, ensuring less overheating and smooth and silent motor rotation.

They can communicate with the most popular master controllers in the automation market through various fieldbus, complying with the requirements of Industry 4.0.

The **TITANIO** drives have advanced safety features, such as integrated diagnostics for fault monitoring and separate power supply for logic and power.

They are intended for use in various applications, especially packaging, labelling and laser cutting machines, peristaltic pumps, pick & place devices, engraving tables and medical devices.

The drive functions also include::

- Motor stall detection, even without encoder
- Closed loop of torque, velocity and position
- Function programmability, including stand alone
- Different positioning control modes (homing, relative, absolute, target)
- Electric shaft function with programmable transmission ratio to track a master reference in speed and position from fieldbus or encoder
- Fast I/O that can be triggered on motor start & stop events in applications that require high response speeds

TITANIO
VECTOR - STEPPER - DRIVES

Step & Direction drives

Devices for controlling stepper motors via step and direction inputs

Drives Models	Format	Phases number	Power supply	Power	Open loop Closed loop	Configuration	Characteristics
LW3	Wall mounting	2	DC	from 12 Vdc to 80 Vdc and up to 7.1 A/ph	Open	Roto-Switch	Pag. 26
LWC	Wall mounting	3	DC	from 24 Vdc to 80 Vdc and up to 7.1 A/ph	Open	Roto-Switch	Pag. 26
LW3A	Wall mounting	2	AC	from 100 Vac to 240 Vac and up to 3.0 A/ph rms	Open	SCI Seriale di servizio	Pag. 27

Fieldbus and/or programmable drives

Two- or three-phase stepper motor control devices controlled by fieldbus in multi-axle (slave) systems, or programmable with Windows e3PLC Studio environment. The drives are equipped with digital and analog inputs and outputs for independent operation programmable and configurable in real time via the SCI Service Serial.

Drives Models	Format	Phases number	Power supply	Power	Fieldbus	Programmable models	Open loop Closed loop	Characteristics	
SW3 SW3A	Wall mounting	2	DC/AC	from 12 Vdc to 48 Vdc up to 4,2 A/ph rms from 100 Vac to 240 Vac up to 3.0 A/ ph rms	EtherCAT	No	Open loop		Pag. 28
SN4	Boxed Nearby IP65	2	DC	from 12 Vdc to 48 Vdc up to 4 A/ph rms	EtherCAT PowerLink	Yes	Open or Closed	IP65	Pag. 29
SB4	Open board	2	DC	from 12 Vdc to 36 Vdc up to 3 A/ph rms	EtherCAT Modbus TCP/IP CANbus Canopen Modbus RTU	Yes	Open or Closed		Pag. 30
SW4	Wall mounting	2	DC / AC	from 12 Vdc to 48 Vdc from 18 Vac to 56 Vac up to 7.1 A/ph	EtherCAT Modbus TCP/IP CANbus Modbus RTU Profinet	Yes	Open or Closed also with absolute encoder		Pag. 31
SW5	Wall mounting	2	AC	from 18 Vac to 265 Vac up to 8.0 A/ph rms	EtherCAT Modbus TCP/IP PowerLink Profinet CANbus Canopen Modbus RTU	Yes	Open or Closed also with absolute encoder	UL STO	Pag. 32
SWD	Wall mounting	3	DC	from 18 Vac to 56 Vdc up to a 7.1 A/ph	CANbus Canopen Modbus RTU	Yes	Open or Closed		Pag. 33
SM4	Integrated motor and drives	2	DC/AC	from 12 Vdc to 48 Vdc up to 6.0 A/ph rms from 24 Vac to 56 Vac up to 4.2 A/ph	CANbus Modbus RTU EtherCAT Modbus TCP/IP	Yes	Open or Closed also with absolute encoder		Pag. 34
SM5	Integrated motors and drives	2	AC	from 18 Vac to 100 Vac NEMA34 motor and torque from 3.4 Nm to 12.2 Nm	CANbus Canopen Modbus RTU	Yes	Open or Closed	IP65	Pag. 35

LW3/LWC

TITANIO STEPLESS STEPPER DRIVES

CHARACTERISTICS

- Vectorial control: the sinusoidal regulation with “Else” technology keeps the motor torque constant, allowing smooth and silent movements
- Motor stall detection without encoder (sensorless)
- Compact size
- Software resonance damping
- Auto-tuning of the motor control parameters
- Integrated diagnostics
- High efficiency current set up and torque filter for noise reduction

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

COMMON LINE FEATURES	
Switching frequency	40 kHz
Digital inputs	4 opto-isolated
Digital outputs	1 opto-isolated for status monitoring
Emulated step resolution	From full step up to 1/256 step
Safety protections	Over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Status monitoring	3 leds with guiding light
Temperatures	Working: 0°C to 40°C Storage: from -25°C to 55°C
Humidity	from 5% ÷ 85% not condensed
Protection class	IP20

LW_D2030	
Power supply	from 12 to 36 Vdc
Current	3.0 Arms
Dimensions	95 x 73 x 23 mm

LW_D3070	
Power supply	from 24 to 80 Vdc
Current	7.1 Arms
Dimensions	128 x 74 x 30 mm

Drives for two phases (LW3) and three phases (LWC) stepper motors.

MODEL CODING

LW3DvxxxN0A1-oo / LWCDvxxxN0A1-oo

v	voltage
xxx	current
oo	options

LW3A

TITANIO STEPLESS STEPPER DRIVES

CHARACTERISTICS

- 230 Vac mains power supply
- Service Serial connections for configuration and real-time debugging
- Vectorial control: the sinusoidal regulation with “Else” technology keeps the motor torque constant, allowing smooth and silent movements
- Motor stall detection, without encoder (sensorless)
- Compact size
- Software resonance damping
- Auto-tuning of the motor control parameters
- Integrated diagnostics
- High efficiency current set up

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ASBOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

LW3A9030	
Power supply	from 100 to 240 Vac
Current	3.0 Arms
Switching frequency	40 kHz ultrasonic
Digital inputs	4 opto-isolated
Digital outputs	1 opto-isolated for status monitoring
Service Serial interface	SCI Service serial interface for real-time configuration and debugging
Emulated step resolution	from full step up to 1/10 or 1/256 step and other resolutions defined by software
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Status monitoring	3 led with guiding light
Temperatures	working: from 0°C to 40°C storage: from -25°C to 55°C
Humidity	from 5% ÷ 85% not condensed
Protection class	IP20
Dimensions	152 x 130 x 46 mm

MODEL CODING

LW3AvwwwN2A1-oo-cyyyy

v	voltage
www	current
oo	options
yyyy	embedded firmware version

SW3

TITANIO STEPLESS STEPPER DRIVES

CHARACTERISTICS

- EtherCAT (CoE) drive with DS402 functionalities for 2-phase bipolar stepper motors
- Service serial connection for configuration and real-time debugging
- Tested with the most common master controllers on the market
- Integrated oscilloscope
- Vectorial, stepless control of the phase current which ensures smooth and silent movements
- Monitoring and alarm history
- Auto-tuning of the electric motor parameters

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

COMMON LINE FEATURES	
Switching frequency	40 kHz ultrasonic
Digital inputs	4 opto-isolated
Digital outputs	2 opto-isolated
Fieldbus	EtherCAT
Service interface	SCI Service serial interface for real-time configuration and debugging
Emulated step resolution	stepless control technology (65536 positions per turn)
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Status monitoring	3 leds with guiding light
Temperatures	working from 5°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85% not condensed
Protection class	IP20

SW3D2042	
Power supply	from 12 to 48 Vdc
Logic power supply	from 12 to 48 Vdc (optional, not isolated)
Current	4.2 Arms
Dimensions	104.8 x 62.5 x 23.5 mm

SW3A9030	
Power supply	from 100 to 240 Vac
Current	3.0 Arms
Dimensions	180.7 x 130 x 50 mm

MODEL CODING

SW3Dvwwwb2i1-oo-cyyyy / SW3Avwwwb2i1-oo-cyyyy

v	voltage
www	current
b	connection bus
i	i/o number
oo	options
yyyy	embedded firmware version

SN4

TITANIO STEPLESS STEPPER DRIVES

CHARACTERISTICS

- Tested with the most common master controllers on the market
- Integrated oscilloscope
- Separate power supply for logic and power
- Monitoring and alarm history
- Auto-tuning of the electric motor parameters
- Vectorial control: the sinusoidal regulation with “Else” technology keeps the motor torque constant, allowing smooth and silent movements
- Closed loop of torque, velocity and position
- IP65 protection class
- Separate power supply for logic and power

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

COMMON LINE FEATURES	
Switching frequency	40 kHz ultrasonic
Emulated step resolution	Stepless control technology (65536 positions per turn)
Feedback	incremental encoder not isolated 5V single ended (TTL/CMOS)
Service interface	SCI Service serial interface for real-time configuration and debugging
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Status monitoring	leds segments
Temperatures	working from 5°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85% not condensed
Protection class	IP65

SW3D2042 for drive two independents motors	
Power supply	from 24 Vdc to 48 Vdc
Current	up to 4.2 Arms (6.0 Apeak)
Fieldbus	PowerLink
Dimensions	98.6 x 84.4 x 44 mm

SN4D2040	
Power supply	da 12 a 48 Vdc
Logic power supply	da 12 a 48 Vdc opzionale non isolata
Max current	4,0 Arms (5,6 Apk)
Fieldbus	EtherCAT
Digital inputs	2 optoisolated 2-24 Vcc NPN, PNP or Line-Driver
Digital outputs	2 optoisolated
Dimensions	145 x 56 x 50 mm

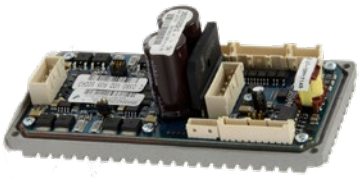
MODEL CODING

SN4Dvwwwn2i1-oo-cyyyy

v	voltage
www	current
b	connection bus
i	i/o number
oo	options
yyyy	embedded firmware version

SB4

TITANIO STEPLESS STEPPER DRIVES



CHARACTERISTICS

- Drives for 2-phase bipolar stepper motors with vectorial control: the sinusoidal regulation with “Else” technology keeps the motor torque constant allowing smooth and silent movements
- Multiple fieldbus depending on the models: EtherCAT, Modbus TCP/IP, CANbus, Modbus RTU
- Service serial connections for configuration and real-time debugging
- Open frame format (board only)
- Separate power supply for logic and power
- Monitoring and alarm history
- Auto-tuning of the motor control parameters
- Closed loop of torque, velocity and position

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

COMMON LINE FEATURES	
Logic power supply	24 Vdc not isolated
Max current	3.0 Arms (4.2 Apeak)
Switching frequency	40 kHz
Fieldbus	Canbus, Modbus RTU, EtherCAT, Modbus TCP/IP
Feedback	incremental encoder not isolated 5V single ended (TTL/CMOS) or 24 Vdc push-pull
Analog input	1 analog not isolated for potentiometer
Service interface	SCI Service serial interface for real-time configuration and debugging
Emulated step resolution	stepless control technology with 65536 positions per turn
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Temperatures	working from 5°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85%
Protection class	IP20

SB4D2030	
Power supply	from 12 to 48 Vdc
Digital inputs	4 not isolated
Digital outputs	3 not isolated
Dimensions	modbus/canbus: 61 x 42 mm EtherCAT/modbus TCP/IP: 83 x 42 mm

SB4A3042	
Power supply	from 18 to 56 Vac
Digital inputs	4 not isolated
Digital outputs	3 not isolated
Dimensions	modbus/canbus: 61 x 42 mm EtherCAT/modbus TCP/IP: 83 x 42 mm

SB4D1030	
Power supply	from 19 to 30 Vdc
Fieldbus	RS485 Modbus RTU
Digital inputs	3 optoisolated
Digital output	1 optoisolated
Dimensions	86.5 x 50.5 x 20.0 mm

MODELS CODING

SB4xvwwwb2i1-oo-cyyyy

x	AC or DC power supply
v	voltage
www	current
b	connection bus
i	i/o number
oo	options
yyyy	embedded firmware version

SW4

TITANIO STEPLESS STEPPER DRIVES

CHARACTERISTICS

- Drives for 2-phase bipolar stepper motors with vectorial control: the sinusoidal regulation with “Else” technology keeps the motor torque constant allowing smooth and silent movements
- Available in versions with closed loop of torque, velocity and position with input for incremental or absolute multi-turn encoder
- Available with different fieldbus
- Equipped with service serial connections for configuration and real-time debugging
- Integrated oscilloscope
- Separate power supply for logic and power
- Auto-tuning of the electric motor control parameters
- Integrated diagnostics
- High efficiency current set up

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

COMMON LINE FEATURES	
Switching frequency	40 kHz ultrasonic
Service interface	SCI Service serial interface for real-time configuration and debugging
Emulated step resolution	stepless control technology (65536 positions per turn)
Safety protections	over/under-voltage, over current, over temperature short cirquit phase/phase and phase/ground
Monitoring status	3 leds with guiding light
Temperatures	working from 5°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85% not condensing
Protection class	IP20

MODELS CODING

SW4xvwwwb2i1-oo-cyyyy

x	AC or DC power supply
v	voltage
www	current
b	connection bus
i	number i/o
oo	opzioni
yyyy	embedded firmware version

SW4D2070	
Power supply	Da 12 to 48 Vdc
Logic power supply	from 12 to 48 Vdc (optionala , non isolata)
Current	7.1 Arms
Fieldbus	Canbus, Modbus RTU
Digital inpus	4 optoisolated
Digital outputs	3 optoisolated
Analog input	2
Feedback	with incremental encoder
Dimensions	123.2 x 74 x 26 mm

SW4D2070T SW4D2070T4S2 version for drive two independents motors	
Power supply	from 12 to 48 Vdc
Logic power supply	from 12 to 48 Vdc (optional, not isolated)
Current	7.0 Arms
Fieldbus	ProfiNet
Digital inputs	4 optoisolated (8 for SW4D2070T4S2)
Digital outputs	3 optoisolated
Analog inputs	2 optoisolated (4 for SW4D2070T4S2)
Feedback	incremental encoder (or multiturn absolute encoder only for SW4D2070T4S2)
Dimensions	SW4D2070T : 150.2 x 79.5 x 27 mm SW4D2070T4S2: 194.0 x 112.0 x 32 mm

SW4A3070	
Power supply	from 18 to 56 Vac
Logic power supply	from 24 to 80 Vdc
Current	7.1 Arms
Fieldbus	Canbus, Modbus RTU
Digital inputs	4 optoisolated
Digital outputs	2 optoisolated
Ingressi analogici	2
Feedback	incremental encoder or multiturn absolute encoder and encoder output
Dimensions	146.8 x 74 x 30 mm

SW4A4085	
Power supply	from 18 to 100 Vac
Current	8.5 Arms
Fieldbus	Canbus, Modbus RTU
Digital inputs	4 optoisolated
Digital outputs	2 optoisolated
Analog inputs	2
Dimensions	154.4 x 123.5 x 46.0 mm

SW5

TITANIO STEPLESS STEPPER DRIVES

CHARACTERISTICS

- AC mains power supply models
- Drives for 2-phase bipolar stepper motors with vectorial control: the sinusoidal regulation with “Else” technology keeps the motor torque constant, allowing smooth and silent movements
- Available in closed loop of torque, velocity and position
- Feedback with incremental or absolute multi-turn encoder
- Various models with different fieldbus
- UL Recognized for SW5A9052/SW5A5080 models
- Service serial connections or USB interface for confi guration and real-time debugging
- Versions with Safe Torque Off (STO) SIL3/PLe inputs
- Integrated oscilloscope
- Separate power supply for logic and power
- Auto-tuning of the motor control parameters
- Integrated diagnostics
- High efficiency current set up

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

COMMON LINE FEATURES	
Switching frequency	40 kHz ultrasonic
Digital inputs	up to 16 optoisolated
Digital outputs	up to 12 optoisolated
Analog inputs	up to 2
Uscite analogiche	up to 2
Emulated step resolution	stepless control technology (65536 position per turn)
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Status monitoring	Leds segments
Temperatures	working from 5°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85% not condensed
Protection class	IP20

MODEL CODING

SW5Avwwwb2i1-oo-cyyyy

v	voltage
www	current
b	connection bus
i	i/o number
oo	options
yyyy	embedded firmware version

SW5D3070	
Power supply	da 24 a 80 Vdc
Logic power supply	24 Vdc (isolated and mandatory)
Current	7.1 Arms (10.1 Apeak)
Fieldbus	PowerLink
Feedback	incremental encoder or multiturn absolute encoder
Service interface	USB Universal Serial Bus
Dimensions	160 x 53 x 47 mm

SW5A5080	
Power supply	from 85 to 120 Vac
Logic power supply	24 Vdc (mandatory)
Current	8.0 Arms
Fieldbus	Ethercat, ProfiNet, Modbus TCP/IP, Canbus, Modbus RTU
Safe Torque Off inputs	STO Sil3/PLe
Feedback	incremental encoder or multiturn absolute encoder and encoder output
Service interface	SCI serial service interface for configuration and debug in real-time
Dimensions	196 x 136 x 47 mm

SW5A9030	
Power supply	from 100 to 240 Vac
Current	3.0 Arms
Fieldbus	Canbus, Modbus RTU, Modbus TCP/IP, ProfiNet
Safe Torque Off inputs	STO Sil3/PLe
Feedback	incremental encoder or multiturn absolute encoder
Service interface	SCI Sercise serial interface for configuration and debug in real-time
Dimensions	180.7 x 138.5 x 50 mm

SW5A4085	
Power supply	from 18 to 100 Vac single phase
Logic power supply	from 18 to 100 Vac (optional, not isolated)
Current	8.5 Arms
Fieldbus	Ethercat, ProfiNet, Modbus TCP/IP, Canbus, Modbus RTU
Feedback	incremental encoder
Service Interface	SCI Service serial interface for configuration and debug in real-time
Dimensions	165 x 120 x 48 mm

SW5A9052	
Power supply	from 85 to 265 Vac
Logic power supply	24 Vdc (mandatory)
Current	5.2 Arms
Fieldbus	Ethercat, ProfiNet, Modbus TCP/IP, Canbus, Modbus RTU
Safe Torque Off inputs	STO Sil3/PLe
Feedback	incremental encoder or multiturn absolute encoder and encoder output
Service interface	SCI Service serial interface for configuration and debug in real-time
Dimensions	196 x 136 x 47 mm

SWD

TITANIO STEPLESS STEPPER DRIVES

CHARACTERISTICS

- Drives for 3-phase bipolar stepper motors with vectorial control: the sinusoidal regulation with “Else” technology keeps the motor torque constant allowing smooth and silent movements
- Available in versions with closed loop of torque, velocity and position with input for incremental or absolute multi-turn encoder
- Available with different fieldbus
- Equipped with service serial connections for confi guration and real-time debugging
- Integrated oscilloscope
- Separate power supply for logic and power
- Auto-tuning of the electric motor control parameters
- Integrated diagnostics
- High efficiency current set up

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

COMMON LINE FEATURES	
Max current	7.1 Arms
Switching frequency	40 kHz ultrasonic
Fieldbus	EtherCAT, Modbus TCP/ IP, Canbus, Modbus RTU
Digital inputs	4 optoisolated 2-24 Vdc NPN, PNP or Line Driver
Digital outputs	2 optoisolated PNP, 24 Vdc - 100 mA
Encoder output	5 V differential
Feedback	incremental encoder not isolated
Service interface	SCI Service serial interface for real-time configuration and debugging
Emulated step resolution	stepless control technology (65536 position per turn)
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Status monitoring	Leds segments
Temperatures	working from 0°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85% not condensed
Protection class	IP20

DC versions: SWD2wwwb241-oo	
Power supply	from 12 Vdc to 48 Vdc
Logic power supply	from 12 Vdc to 48 Vdc (optional, not isolated)
Dimensions	121 x 74 x 26 mm

AC versions: SWDA3wwwb261-oo	
Power supply	from 18 Vac to 56 Vac
Logic power supply	24 Vdc optional, not isolated
Analog inputs	2 inputs for potentiometer ±10 Vdc
Dimensions	148.8 x 82 x 30 mm

MODELS CODING

SWDxvwwwb2i1-oo-cyyyy

x	power supply AC or DC
v	voltage
www	current
b	connection bus
i	i/o number
oo	options
yyyy	embedded firmware version

SM4

TITANIO STEPLESS STEPPER DRIVES AND MOTORS INTEGRATED

CHARACTERISTICS

- Drives with integrated 2-phase bipolar stepper motors with vectorial control: the sinusoidal regula on with “Else” technology keeps the motor torque constant allowing smooth and silent movements
- Closed loop of torque, velocity and posi on in models with encoder
- Motor: NEMA24 size with torque from 1.1 Nm up to to 3.3 Nm
- Available with different fieldbus
- Equipped with service serial connections for configuration and real-time debugging
- Separate power supply for logic and power
- Auto-tuning of the motor control parameters
- Integrated diagnostics
- IP65 protection class

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

COMMON LINE FEATURES	
Switching frequency	40 kHz ultrasonic
Digital inputs	4 optoisolated
Digital outputs	2 optoisolated
Analog input	1
Service interface	SCI Service serial interface for real-time configuration and debugging
Emulated step resolution	stepless control technology (65536 position per turn)
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Temperatures	working from 5°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85% not condensed
Protection class	IP65

SM4A	
Power supply	from 18 to 56 Vac
Logic power supply	12 Vdc (optional)
Current	up to 4.2 Arms
Fieldbus	Canbus, Modbus RTU - (Ethercat, ProfiNet, Modbus TCP/IP through IMP)
Feedback	optional with incremental encoder integrated
Dimensions	124 x 142 x 60 mm

SM4D	
Power supply	from 12 to 48 Vdc
Logic power supply	24 Vdc (mandatory)
Current	up to 6.0 Arms
Fieldbus	Ethercat, Modbus TCP/ IP, Canbus, Modbus RTU - (ProfiNet through IMP)
Feedback	optional with integrated incremental encoder or integrated multiturn absolute encoder
Dimensions	83 x 135 x 60 mm

MODEL CODING

SM4Avwwmb2i2pf / SM4Dvwwmb2i2pf

v	voltage
www	current
m	motor winding
b	connection bus
i	i/o number
oo	options
yyyy	embedded firmware version

SM5

TITANIO STEPLESS STEPPER DRIVES AND MOTORS INTEGRATED

CHARACTERISTICS

- Drives with integrated 2-phase bipolar stepper motors with vectorial control: the sinusoidal regula on with “Else” technology keeps the motor torque constant allowing smooth and silent movements
- Closed loop of torque, velocity and posi on in models with encoder
- Motor: NEMA34 size with torque from 3.4 Nm up to 12.5 Nm
- Available with different fieldbus
- Equipped with service serial connec ons for configuration and real-time debugging
- Separate power supply for logic and power
- Auto-tuning of the motor control parameters
- Integrated diagnostics
- IP65 protection class

- FREQ./DIR./VRIF
- MODBUS TCP/IP
- MODBUS RTU
- E3PLC
- PROFINET
- ENCODER INCR/ABSOL
- ETHERCAT
- UL-STO
- CANBUS
- POWERLINK

SM5A	
Power supply	from 18 Vac to 100 Vac
Logic power supply	24 Vdc
Max current	8.5 Arms
Switching frequency	40 kHz ultrasonic
Fieldbus	Canbus and Modbus RTU (Ethernet TCP/IP, EtherCAT and ProfiNet through IMP)
Digital inputs	4 optoisolated
Digital outputs	2 optoisolated
Analog inputs	2 for potentiometer ±10 Vdc
Emulated step resolution	stepless control technology (65536 position per turn)
Feedback	optional with incremental encoder integrated or multiturn absolute encoder integrated
Safety protections	over/under-voltage, over current, over temperature, short circuit phase/phase and phase/ground
Temperatures	working from 5°C to 40°C storage from -25°C to 55°C
Humidity	from 5% to 85% not condensed
Protection class	IP65
Dimensions	135 x 86 x 242 mm

MODEL CODING

SM5Avwwmb2i2pf

v	voltage
www	current
m	motor winding
b	connection bus
i	i/o number
oo	options
yyyy	embedded firmware versionb

MOTORS

AC BRUSHLESS MOTORS
DC BRUSHLESS MOTORS
- **GEARED AND HIGH VOLTAGE DC BRUSHLESS** MOTORS

STEPPER MOTORS
- **STANDARD** MOTORS
- **WATERPROOF** MOTORS
- **WITH GEARBOX** MOTORS
- **WITH INCREMENTAL OR ABSOLUTE ENCODER** MOTORS
- **WITH BRAKE** MOTORS
- **WITH PASS THROUGH OR HOLLOW SHAFT** MOTORS
- **WITH UL CERTIFICATION** MOTORS
- **WITH LINEAR ACTUATOR SHAFTS** MOTORS
- **WITH MULTI CHARACTERISTICS** MOTORS

MOTORS
AC BRUSHLESS

AC Brushless motors are the ideal solution for industrial applications that require **high efficiency, long life and precise motion control**.
Unlike DC motors, **AC brushless motors** eliminate the need for brushes and commutators, reducing wear and maintenance, providing optimized speed and torque control and improving performance.

These motors are designed for **stable operation and high power density**, making them ideal for advanced machinery, robotics and automated manufacturing systems. Their superior energy efficiency helps **reduce consumption and improve overall plant productivity**.

The use of AC brushless motors for automation brings with it a series of fundamental advantages for industrial sectors:

- **Greater reliability and durability,** thanks to the absence of brushes and reduced mechanical wear.
- **High energy efficiency,** which reduces energy consumption and operating costs.
- **Precise speed and torque control,** ideal for applications requiring high precision.
- **Silent operation and reduced vibration,** improving the working environment.
- **Compatibility with advanced drives,** for perfect integration into automated systems.

BA24HA

SPECIFICATIONS

- Flange (mm): 60x60
- Rated power (W): 400
- Rated voltage (Vac): 230
- Rated speed (rpm): 3000
- Front shaft (Ø mm): 14.0 + Key
- Protection class: IP65

Code	Flange (mm)	Rated power (W)	Rated voltage (Vac)	Rated current (Arms/ph)	Peak current (Apeak/ph)	Rated torque (Nm)	Rated speed (rpm)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
BA24HA0402E0B00	60x60	400	230	2.95	9.90	1.28	3000	14.0 + Key	IP65	109.0	Incremental encoder and on board connectors
BA24HA0402A0B0F	60x60	400	230	2.60	7.70	1.27	3000	14.0 + Key	IP65	136.5	Multiturn absolute encoder, brake and on board connectors

BA32HA

SPECIFICATIONS

- Flange (mm): 82x82
- Rated power (W): 750
- Rated voltage (Vac): 230
- Rated current (Arms/ph): 5.16
- Peak current (Apeak/ph): 18.10
- Rated torque (Nm): 2.39
- Rated speed (rpm): 3000
- Front shaft (Ø mm): 19.0 + Key
- Protection class: IP65

Code	Flange (mm)	Rated power (W)	Rated voltage (Vac)	Rated current (Arms/ph)	Peak current (Apeak/ph)	Rated torque (Nm)	Rated speed (rpm)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
BA32HA0752A0B0F	82x82	750	230	5.16	18.10	2.39	3000	19.0 + Key	IP65	158.0	Multiturn absolte encoder, brake and on board connectors
BA32HA0752E0B00	82x82	750	230	5.16	18.10	2.39	3000	19.0 + Key	IP65	127.0	Incremental encoder and on board connectors
BA32HA0752E0B0F	82x82	750	230	5.16	18.10	2.39	3000	19.0 + Key	IP65	157.0	Incremental encoder, brake and on board connectors

BA39HA

SPECIFICATIONS

- Flange (mm): 98x98
- Rated power (W): 110
- Rated voltage (Vac): 230
- Rated current (Arms/ph): 4.50
- Peak current (Apeak/ph): 20.70
- Rated torque (Nm): 3.50
- Rated speed (rpm): 3000
- Front shaft (Ø mm): 19.0 + Key
- Protection class: IP65
- Other characteristics: multiturn absolute encoder, brake and on board connectors

Code	Flange (mm)	Rated power (W)	Rated voltage (Vac)	Rated current (Arms/ph)	Peak current (Apeak/ph)	Rated torque (Nm)	Rated speed (rpm)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
BA39HA1102A0B0F	98x98	1100	230	4.50	20.70	3.50	3000	19.0 + Key	IP65	200.0	Multiturn absolte encoder, brake and on board connectors

MOTORS
DC BRUSHLESS

Brushless DC (BLDC) motors are direct current electric motors without brushes, designed to deliver **high efficiency, long lifespan and superior performance**.

Unlike traditional brushed motors, BLDC motors use an **electronic commutation** system to control rotor rotation, eliminating the need for mechanical contacts that are subject to wear.

BLDC motors operate through an electronic control system that sequentially energizes the stator windings based on the rotor's position, detected via Hall effect sensors or sensorless technologies. This enables **highly accurate control of speed and torque**, minimizing energy losses and significantly improving overall system efficiency.

Thanks to their advanced design, BLDC motors are widely used in both industrial and commercial applications, offering a range of key benefits:

- **Extended lifespan and high reliability:** The absence of brushes reduces mechanical wear and lowers maintenance requirements.
- **Optimized energy efficiency:** Lower energy losses compared to traditional motors, resulting in higher performance.
- **High-performance operation:** Precise control of speed and torque, even at high rotational speeds.
- **Low noise and minimal vibration:** The brushless design ensures quieter operation and greater mechanical stability.
- **Seamless integration with automation systems:** Easily compatible with digital drives and industrial interfaces.

Thanks to these features, **Ever Motion Solutions' brushless DC motors** are the ideal choice for applications that demand **top-level performance, reliability, and precise motion control.**

DC BRUSHLESS

SPECIFICATIONS

- Available dimensions: 42 mm squared flange (NEMA 17)
  57 mm round flange (NEMA 23)
- Hall sensor integrated
- Personalizzabili sia meccanicamente che nei cablaggi

DC BRUSHLESS

HIGH VOLTAGE COMPLETE WITH REDUCER

SPECIFICATIONS

- Available flanges of 60, 70, 80, 90, 111 and 120 mm
- Hall sensor included
- IP54 protection
- High quality magnets

Code	Flange (mm)	Power (W)	Rated voltage (Vac)	Rated current (A/ph)	Front shaft (mm)	Motor length (mm)	Other characteristics
MT31ZBVH120M3G3	80x80	120	230	2.0	15.0 con chiavetta 5x5x25	95	Hall sensor - IP54 protection - 1:15 ratio gearbox
MT36ZBVH120M3G1	90x90	120	230	1.2	15.0 con chiavetta 6x6x25	95.5	Hall sensor - IP54 protection - 1:5 ratio gearbox
MT36ZBVH120M3G6	90x90	120	230	2.0	15.0 con chiavetta 6x6x25	108.5	Hall sensor - IP54 protection - 1:50 ratio gearbox
MT36ZBVH200M3G3	90x90	200	230	2.0	18.0 con chiavetta 6x6x25	99.5	Hall sensor - IP54 protection - 1:15 ratio gearbox

MT17HB

SPECIFICATIONS

- Flange (mm): 42x42
- Power (W): 26 - 130
- Rated voltage (Vdc): 24.0 – 48.0
- Rated current (Arms/ph): 1.5 – 8.0
- Peak current (Apeak/ph): 4.5 – 24.0
- rated torque (Nm): 0.063 – 0.250
- Front shaft (Ø mm): 5.0 – 8.0 / 8.0 D-cut
- Protection class: from IP40 to IP54
- Other characteristics: Hall sensor – Incremental encoder

Code	Flange (mm)	Power (W)	Rated voltage (Vdc)	Rated current (A/ph)	Peak current (Apeak/ph)	Rated torque (Nm)	Front shaft Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT17HB2H026M300	42x42	26	24.0	1.6	---	0.063	5.0	IP40	41.0	Hall sensor
MT17HB2H070E3L1	42x42	70	24.0	4.5	13.5	0.220	8.0	IP54	84.5	Incremental encoder
MT17HB2H130E301	42x42	130	24.0	8.0	24.0	0.250	8.0 + D-cut	IP40	121.3	Incremental encoder
MT17HB4H060M300	42x42	60	48.0	1.5	4.5	0.130	5.0	IP40	61.0	Hall sensor

MT23HB

SPECIFICATIONS

- Flange (mm): Ø57 – 57x57
- Power (W): 188 - 250
- Rated voltage (Vdc): 24.0 – 36.0
- Rated current (Arms/ph): 1.5 – 8.0
- Peak current (Apeak/ph): 4.5 – 24.0
- Rated current (Nm): 0.063 – 0.250
- Front shaft (Ø mm): 5.0 – 8.0 / 8.0 D-cut
- Protection class: from IP40 to IP54
- Other characteristics: Hall sensor

Code	Flange (mm)	Power (W)	Rated voltage (Vdc)	Rated current (A/ph)	Peak current (Apeak/ph)	Rated torque (Nm)	Front shaft Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT23HB2H200M301	Ø57	200	24.0	12.0	---	0.320	8.0	IP40	73.5	Hall sensor
MT23HB2H250M302	Ø57	250	24.0	11.5	---	0.800	8.0	IP40	113.6	Hall sensor
MT23HB3H188E301	57x57	188	36.0	7.5	19.0	0.600	8.0 + D-cut	IP40	134.5	Hall sensor

MT24HB

SPECIFICATIONS

- Flange (mm): 60x60
- Power (W): 200 – 400
- Rated voltage (Vac): 48.0
- Rated current (Arms/ph): 6.1 – 12.0
- Peak current (Apeak/ph): 18.3 – 25.0
- Rated torque (Nm): 0.640 – 1.27
- Front shaft (Ø mm): 12.7 + Key – 14.0 + Key
- Protection class: from IP54 to IP65
- Other characteristics: incremental encoder

Code	Flange (mm)	Power (W)	Rated voltage (Vdc)	Rated current (A/ph)	Peak current (Apeak/ph)	Rated torque (Nm)	Front shaft Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT24HB4N200E3L1	60x60	200	48.0	6.1	18.3	0.640	12.7 + Key	IP65	99.0	Incremental encoder
MT24HB4N400D301	60x60	400	48.0	12.0	25.0	1.27	14.0 + Key	IP54	118.5	Incremental encoder

MT34HB

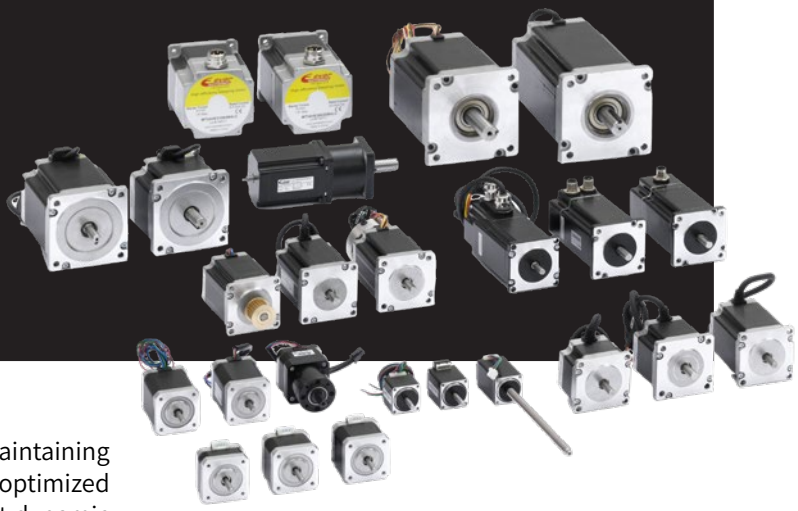
SPECIFICATIONS

- Flange (mm): 86x86
- Power (W): 200 – 400
- Rated voltage (Vac): 48.0
- Rated current (Arms/ph): 6.1 – 12.0
- Peak current (Apeak/ph): 18.3 – 25.0
- Rated torque (Nm): 0.640 – 1.27
- Front shaft (Ø mm): 12.7 + Key – 14.0 + Key
- Protection class: from IP40 - IP54 - IP65
- Other characteristics: Hall sensor

Code	Flange (mm)	Power (W)	Rated voltage (Vdc)	Rated current (A/ph)	Peak current (Apeak/ph)	Rated torque (Nm)	Front shaft Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT34HB4H660M302	86x86	660	48.0	14.7	44.1	2.10	14.0 + Key	IP40	115.0	Hall sensor

MOTORS
STEPPER

High-Efficiency stepper motors are engineered to deliver maximum output with reduced energy consumption.



They provide high torque across variable speeds while maintaining excellent positioning accuracy and stability. Thanks to optimized step angles and low rotor inertia, these motors offer fast dynamic response, an essential feature for industrial processes requiring rapid cycles.

Their versatility makes them ideal for applications such as packaging, light automation, and conveyor systems.
Precise motion control minimizes production errors and waste, improving overall process quality. With long operational life and minimal maintenance needs, these motors ensure a fast return on investment, helping to optimize both time and operating costs.

CHARACTERISTICS

- Deliver on average 40% more power than standard stepper motors of the same size
- Reduced torque ripple due to optimized magnetic flux and improved rotor-stator gap precision
- Built with high-grade Class F magnetic materials for long-term performance stability and thermal resistance
- Equipped with robust, high-precision bearings for reliability and durability, even under challenging shaft load conditions
- Customizable both mechanically and electrically, with performance tuning available even for small production batches
- 3-year warranty backed by the high quality of materials and advanced manufacturing techniques

STANDARD MOTORS

TECHNICAL SPECIFICATIONS

- Available flanges from NEMA08 to NEMA42 with various depth sizes
- Torque from 0.017 Nm to 28 Nm
- Insulation class: Class B or Class F
- Bearings with high dynamic capacity and long life
- Protection IP20 and IP40

WATERPROOF MOTORS

TECHNICAL SPECIFICATIONS

- Available flanges from NEMA11 to NEMA34 with various depth sizes
- Torque from 0.15 Nm to 12.2 Nm
- Cable outlets with IP65 connector or with flying cable and cable gland
- IP65 protection or more on request

WITH INCREMENTAL OR ABSOLUTE ENCODER

TECHNICAL SPECIFICATIONS

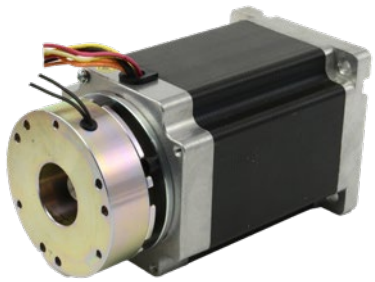
- Different types of encoders available both incremental and absolute multi-turn
- Available flanges from NEMA08 to NEMA42
- Incremental encoder with resolution from 400ppr to 2000ppr and various outputs 5Vdc differential or 24 Vdc single ended
- Multi-turn absolute encoders with 17 bits resolution on single turn and 16 bits multi-turn with BISS-C or SSI interface
- protection from IP20 to IP65

WITH GEARBOX MOTORS

TECHNICAL SPECIFICATIONS

- Different gearbox types available: epicyclic, spur gear, etc.
- Motors for gearbox coupling from NEMA17 to NEMA34 in the various depth sizes
- Output torques of motor from 0.15 Nm to 12.2 Nm
- Customizable reduction ratio
- Protection from IP20 to IP65

WITH BRAKE MOTORS



TECHNICAL SPECIFICATIONS

- Brakes applicable with customized voltages and torques
- Available motor flanges from NEMA17 to NEMA42 in the various depth sizes

WITH HOLLOW SHAFT MOTORS

TECHNICAL SPECIFICATIONS

- Customizable with special workmanship on the hollow shafts
- Available motor flanges from NEMA17 to NEMA42 in the various depth sizes

WITH LINEAR ACTUATORS SHAFT MOTORS

TECHNICAL SPECIFICATIONS

- Available motor flanges NEMA17, NEMA23 e NEMA24
- Customizable shaft screw parameters based on application

MULTIPLE CHARACTERISTICS MOTORS

TECHNICAL SPECIFICATIONS

- Availabe motors with multiple features (e.g. High Efficiency motors with gearbox, encoder and IP65 protection)
- More customizations on request

MT08HE

SPECIFICATIONS

- Flange (mm): 20x20
- Step angle (°): 1.8
- Bipolar holding torque (Nm): 0.015
- Current : 0.4 (Arms/ph)
- Front shaft (Ø mm): 4.0
- Protection class: IP40

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT08HE11004M40V	20x20	1.8	0.015	0.4	4.00	IP40	27.8	---

MT10HE

SPECIFICATIONS

- Flange (mm): 25x25
- Step angle (°): 1.8
- Bipolar holding torque (Nm): 0.033
- Rated current (Arms/ph): 0.7
- Front shaft (Ø mm): 3.0
- Protection class: IP40

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT10HE10007M40C	25x25	1.8	0.033	0.7	3.00	IP40	23.5	Connector on board

MT11HE

SPECIFICATIONS

- Flange (mm): 28x28
- Step angle (°): 1.8
- Bipolar holding torque (Nm): 0.070 – 0.170
- Rated current: (Arms/ph): 0.7 – 1.5
- Front shaft (Ø mm): 5.0 (+ D-Cut) – 8.0
- Protection class: from IP40 to IP65

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT11HE10007M4LC	28x28	1.8	0.071	0.7	5.0	IP65	51.0	Connector on board
MT11HE12010B401	28x28	1.8	0.070	1.0	8.0	IP40	30.1	Rear shaft
MT11HE17007M4LC	28x28	1.8	0.127	0.7	5.0	IP65	70.3	Connector on board
MT11HE20010M400	28x28	1.8	0.140	1.0	5.0 + D-cut	IP40	50.4	---
MT11HE20015E401	28x28	1.8	0.170	1.5	5.0 + D-cut	IP40	64.8	Incremental encoder

MT14HE

SPECIFICATIONS

- Flange (mm): 35x35
- Step angle (°): 1.8
- Bipolar holding torque (Nm): 0.160 – 0.270
- Rated current (Arms/ph): 0.7 – 2.3
- Front shaft (Ø mm): 5.0 (+ D-Cut)
- Protection class: IP40

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT14HE15023M401	35x35	1.8	0.160	2.3	5.0 + D-cut	IP40	36.5	Connector on board
MT14HE21007M401	35x35	1.8	0.270	0.7	5.0	IP40	49.7	---

MT17HE

SPECIFICATIONS

- Flange (mm): 42x42
- Step angle (°): 1.8
- Bipolar holding torque (Nm): 0.150 – 0.860
- Rated current: (Arms/ph): 0.8 – 2.8
- Front shaft (Ø mm): 5.0 (+ D-Cut)
- Protection class: from IP40 to IP65

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT17HE12008M402	42x42	1.8	0.150	0.8	5.0 + D-cut	IP40	29.2	Connector on board
MT17HE16017M4	42x42	1.8	0.410	1.7	5.0 + D-cut	IP40	39.7	---
MT17HE18010M4V	42x42	1.8	0.500	1.0	5.0	IP40	43.7	Connector on board
MT17HE18017B4F1	42x42	1.8	0.450	1.7	5.0	IP40	68.2	Brake
MT17HE19020A4L2	42x42	1.8	0.480	2.0	5.0	IP65	75.0	Multiturn absolute encoder
MT17HE19020E403	42x42	1.8	0.480	2.0	5.0 + D-cut	IP40	67.6	Incremental encoder
MT17HE19020H401	42x42	1.8	0.480	2.0	5.0 + D-cut	IP40	100.6	Incremental encoder and brake
MT17HE24018E4LC	42x42	1.8	0.720	1.8	5.0	IP65	86.0	Incremental encoder and connectors on board
MT17HE24020E401	42x42	1.8	0.720	1.8	5.0 + D-cut	IP40	79.6	Incremental encoder
MT17HE24028M4	42x42	1.8	0.860	2.8	5.0	IP40	59.7	---
MT17HE24028M4LC	42x42	1.8	0.860	2.8	5.0	IP65	84.9	Connector on board

MT23HE

SPECIFICATIONS

- Flange (mm): 56x56 – 57x57
- Step angle (°): 1.8
- Bipolar holding torque (Nm): 0.720 – 2.000
- Rated current (Arms/ph): 1.5 – 5.0
- Front shaft (Ø mm): 6.35 – 8.0 (+ D-Cut)
- Protection class: IP40 – IP65

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT23HE20020M41C	57x57	1.8	0.720	2.0	6.35 + D-cut	IP40	46.5	Connector on board
MT23HE22015B4F1	56x56	1.8	1.000	1.5	6.35	IP40	84.2	Brake and connectors on board
MT23HE22015M402	56x56	1.8	1.000	1.5	6.35	IP40	53.3	Connector on board
MT23HE22028E4L2	56x56	1.8	1.100	2.8	6.35	IP65	80.0	Incremental encoder and connector on board
MT23HE22042M403	57x57	1.8	1.150	4.2	6.35 + D-cut	IP40	56.5	Connector on board
MT23HE22042M4L1	56x56	1.8	1.200	4.2	6.35 + D-cut	IP65	70.0	Connector on board
MT23HE26030M40C	57x57	1.8	1.700	3.0	6.35 + D-cut	IP40	65.5	Connector on board
MT23HE31028E4LC	56x56	1.8	1.950	2.8	6.35	IP65	101.5	Incremental encoder and connetors on board
MT23HE31042A4L1	56x56	1.8	2.000	4.2	6.35	IP65	125.4	Multiturn absolute encoder and connectors on board
MT23HE31042M4LC	56x56	1.8	2.200	4.2	6.35	IP65	93.7	Connector on board
MT23HE31050E402	57x57	1.8	2.000	5.0	8.0 + D-cut	IP40	98.3	Incremental encoder
MT23HE31050F401	57x57	1.8	2.000	5.0	8.0 + D-cut	IP40	116.5	Brake
MT23HE31050H401	57x57	1.8	2.000	5.0	8.0 + D-cut	IP40	138.5	Incremental encoder and brake
MT23HE31050M401	56x56	1.8	2.200	5.0	8.0 + D-cut	IP40	76.9	---
MT23HE31056M4	56x56	1.8	1.870	5.6	6.35	IP40	76.9	---

MT24HE

SPECIFICATIONS

- Flange (mm): 60x60
- Step angle (°): 1.8
- Bipolar holding torquee (Nm): 1.600 – 3.000
- Nominal current (Arms/ph): 2.8 – 5.0
- Front shaft (Ø mm): 6.35 – 8.0 (+ D-Cut)
- Protection class: from IP40 to IP65

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT24HE22028M402	60x60	1.8	1.600	2.8	6.35 + D-cut	IP40	54.5	---
MT24HE35030M4F1	60x60	1.8	3.000	3.0	8.0 + D-cut	IP40	88.5	---
MT24HE35040M401	60x60	1.8	2.700	4.0	8.0 + 2-D-cut	IP40	85.5	---
MT24HE35042A4LC	60x60	1.8	3.000	4.2	8.0 + D-cut	IP65	117.5	Multiturn absolute encoder and connectors on board
MT24HE35050E402	60x60	1.8	3.000	5.0	8.0 + D-cut	IP40	107.8	Incremental encoder
MT24HE35050H403	60x60	1.8	3.000	5.0	8.0 + D-cut	IP40	146.8	Incremental encode and brake

MT34HE

SPECIFICATIONS

- Flange (mm): 86x86
- Step angle (°): 1.8
- Bipolar holding torque (Nm): 3.600 – 12.200
- Rated current (Arms/ph): 2.0 – 10.0
- Front shaft (Ø mm): 9.52 + Key – 15.87 + Key
- Protection class: from IP40 to IP65

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT34HE26060M4K1	86x86	1.8	3.600	6.0	9.52 + Key	IP40	67.5	---
MT34HE29060E401	86x86	1.8	4.200	6.0	14.0 + Key	IP40	96.0	---
MT34HE31060M4K2	86x86	1.8	5.360	6.0	12.7 + Key	IP40	79.3	---
MT34HE38020E4VK	86x86	1.8	7.000	2.0	14.0 + Key	IP40	119.1	Incremental encoder and high voltage winding
MT34HE38040M4VK	86x86	1.8	7.000	4.0	14.0 + Key	IP40	96.5	High voltage winding
MT34HE38060M4K1	86x86	1.8	7.000	6.0	14.0 + Key	IP40	96.5	---
MT34HE38060E404	86x86	1.8	7.000	6.0	14.0 + Key	IP40	117.5	Incremental encoder
MT34HE44060E401	86x86	1.8	8.200	6.0	14.0 + Key	IP40	134.1	Incremental encoder
MT34HE44060H401	86x86	1.8	8.200	6.0	14.0 + Key	IP40	176.2	Incremental encoder and brake
MT34HE47060E4L2	86x86	1.8	8.500	6.0	14.0 + Key	IP65	152.5	Incremental encoder and connectors on board
MT34HE47060M4LC	86x86	1.8	8.500	6.0	14.0 + Key	IP65	152.5	Connector on board
MT34HE47060M8K	86x86	1.8	11.800	6.0	12.7 + Key	IP40	118.0	---
MT34HE47095R4L1	86x86	1.8	10.500	9.5	11.0	IP65	191.0	Multiturn absolute encoder, brake and connectors on board
MT34HE47100M4R1	86x86	1.8	10.000	10.0	12.7 + Key	IP40	119.3	Round motor shape
MT34HE50040E4VK	86x86	1.8	10.000	4.0	14.0 + Key	IP40	147.3	Incremental encoder and high voltage winding
MT34HE62060M8K	86x86	1.8	12.200	6.0	15.87 + Key	IP40	159.5	8 lead wires winding

MT42HE

SPECIFICATIONS

- Flange (mm): 110x110
- Step angle (°): 1.8
- Bipolar holding torque (Nm): 12.000 – 22.000
- Rated current (Arms/ph): 7.5 – 11.0
- Front shaft (Ø mm): 19.05 + Key
- Protection class: IP40
- Other characteristic: high voltage winding

Code	Flange (mm)	Step angle (°)	Bipolar holding torque (Nm)	Rated current (A/ph)	Front shaft (Ø mm)	Protection class	Motor length (mm)	Other characteristics
MT42HE39075M8K	110x110	1.8	12.000	7.5	19.05 + Key	IP40	99.0	8 lead wires winding for high voltage
MT42HE59110M8K	110x110	1.8	22.000	11.0	19.05 + Key	IP40	150.0	8 lead wires winding for high voltage

ENCODER

ABSOLUTE ENCODER
OPTICAL INCREMENTAL SE-ENCODER

ENCODER

The optical rotary encoders offered by Ever Motion Solutions are both incremental quadrature and absolute multi-turn encoders and have been designed for the most common applications for closing the loop of our motors.
Incremental encoders have differential or single-ended control interfaces and are available with resolutions of 400, 1000 or 2000 ppr. Absolute encoders, are connected via BISS-C and have a 17-bit single-turn or 16-bit multi-turn resolution. Both types of encoders can be easily connected with Ever Motion Solutions drives to control all types of motors both in terms of positioning and torque control.

ABSOLUTE ENCODER

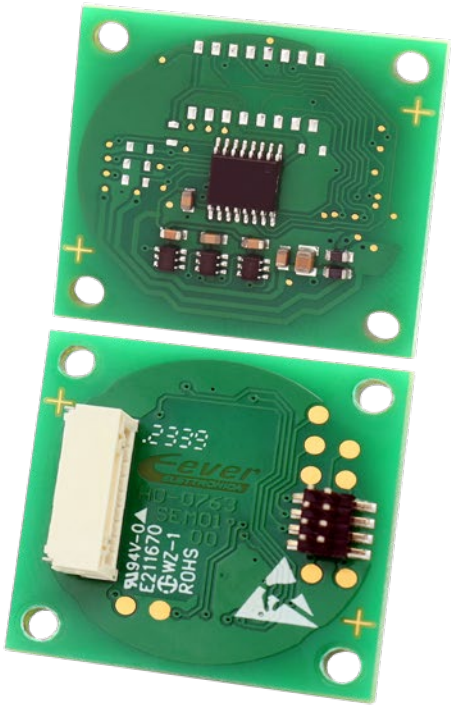
CHARACTERISTICS

- Type: multiturn absolute encoders
- Single turn resolution: 17 bits
- Multi turn resolution: 16 bits
- Power supply: 5 Vdc
- Connection interface: BISS-C or SSI

SE INCREMENTAL OPTICAL ENCODER

CHARACTERISTICS

- Interface type: incremental quadrature
- Fixing: 2 screw (M2.5 or 2-56 UNC) Ø46 mm
- Input shaft: length 10~20 mm Ø 6.35 mm G6
- Resolution: from 400 ppr to 2000 ppr depend on model
- Power supply: 5 Vdc ±10% or 10~30 Vdc ±10%
- Output type: 5 Vdc differential or 24 Vdc single ended
- Output current: ±20 mA
- Feedback signals: A, B, Z. or A, A/, B, B/, Z, Z/.
- Fasature: electrical 90° phases A and B
- Max speed: 6000 [rpm]
- Protection class: IP30
- Max axial load: 10 N
- Max radial load: 20 N
- Input shaft: length 10~20 mm - Ø 6.35 mm G6
- Body material: metallic encoder
- Vibration resistance: 100 m/s^2, 10…200Hz
- Shock resistanti: 1.000 m/s^2, 6 ms
- Standard cable length: 300mm.
- Weight: 80g



Code	Type	Power supply	Interfacce	Resolution	Output type
SEM00	Magnetic	5.00 [Vdc] ~ 5.00 [Vdc] ± 5 [%]	Incremental quadrature	1024 ppr	Single-Ended TTL / 5Vdc Line Driver
SEM01	Magnetic	5.00 [Vdc] ~ 5.00 [Vdc] ± 5 [%]	Incremental quadrature	4096 ppr	Single-Ended TTL / 5Vdc Line Driver
SEM02	Magnetic	24.00 [Vdc] ~ 24.00 [Vdc] ± 10 [%]	Incremental quadrature	4096 ppr	Single-Ended 0 ÷ 24Vdc
SE460400AA10030	Optical	10 [Vdc] ~ 30 [Vdc] ± 10 [%]	Incremental quadrature	400 ppr	Single ended - 24Vdc
SE460400AB10030	Optical	5 [Vdc] ~ 5 [Vdc] ± 5 [%]	Incremental quadrature	400 ppr	Differential - 5Vdc
SE461000AA10030	Optical	10 [Vdc] ~ 30 [Vdc] ± 10 [%]	Incremental quadrature	1000 ppr	Single ended - 24Vdc
SE462000AA10030	Optical	5 [Vdc] ~ 5 [Vdc] ± 5 [%]	Incremental quadrature	2000 ppr	Single ended - 24Vdc
SE462000AB10030	Optical	10 [Vdc] ~ 30 [Vdc] ± 10 [%]	Incremental quadrature	2000 ppr	Differential - 5Vdc
SE461000AB10030	Optical	5 [Vdc] ~ 5 [Vdc] ± 5 [%]	Incremental quadrature	1000 ppr	Differential - 5Vdc

CONTROLLERS AND GATEWAY

IMP
GWC

CONTROLERS AND GATEWAY

Ever Motion Solutions control units are developed to guarantee three functions: programmable logic controller (PLC), motion controller and communication protocol converter (gateway).

The programmable logic controller and motion controller functions allow the user to control a process through fieldbus, serial interface and inputs/outputs, according to a customized user program.

The communication converter function allows the data exchange between the different fieldbus: Ethercat, Modbus TCP/IP, CANbus (CANopen master/slave), ProfiNet, DeviceNet (slave), ProfiBus (ProfiBus-DP slave) and Serial (Modbus master/slave). The three functions in a single unit allow you to simplify the automation of a wide range of industrial applications in a simple cost-saving way.

CHARACTERISTICS

- Easy to program
- Connected devices local control
- Real-time axel management
- Data exchange among various fieldbusses
- High reliability and versatility
- Management of others manufacturers devices

IMP

TECHNICAL DATA	
CPU	ARM® CORTEX® M7 32bit MCU
Interfaces	CANbus: 2 isolated, 1 Mbit/s, ISO11898 Modbus TCP/IP: 1 port 100BASE-TX Ethernet ProfiNet: 1 depending on IMP version EtherCat: 1 depending on IMP version Modbus RTU: 1 serial RS485, full or half-duplex
Dimensions	194 x 120 x 45 mm

GWC

TECHNICAL DATA	
CPU	CISC 16 bit 40MHz
Interfaces	CANbus: 1 isolated, 1 Mbit/s, ISO11898 - CANopen (CAN1) DeviceNet: 1 isolated ProfiBus-DP: 1 isolated Modbus RTU: 2 serial RS232/RS485 isolated, full or half duplex
Dimensions	194 x 116 x 40 mm

COMMON LINE FEATURES	
Power supply	24 Vdc
Programming	TR.I.P.O.S.GW for windows operative system, compatibile (EN61131-3-ST)
User program memory	1 Mb flash e 512 Kb hagh speed ram
Inputs	8 isolated
Outputs	8 isolated and protected
Dip switches	8 for user configuration
Display	7 segments leds for unit function status
Temperatures	working from 5°C to 40°C storage from 0°C to 55°C
Humidity	0% ÷ 90%
Protection class	IP20

HMI
TOUCH SCREEN

VTHMI

HMI TOUCH SCREEN

HMI range include models with 16.7M colours TFT LCD backlight touch screens with sizes from 4.3” to 10.1” with Modbus RS232/485 or Ethernet communication port.

All units can be programmed via USB or Ethernet bus and can be supplied with the programming required to manage the applications controlled with Ever Motion Solutions drives and motion controllers.

CHARACTERISTICS

- Easy to connect to our drives
- Integrated watch dog function
- Power failure detection
- Easy to program
- EC, EMI and UL compliant
- Optional remote support
- Fanless cooling system
- High reliability and versatility
- IP65 protection
- Compact sizes

TECHNICAL DATA	
Power supply	24Vdc ±20%
Touch screen	4 wires analog resistive continuous resolution
Brightness transmission	about 80%
Protection	IP65
Life	1 million activations minimum
Display	LCD backlight
Display dimensions	from 4.3” to 10.1” and resolution up to 1024x600 dpi, 16.7 M colours, contrast 500:1, brightness 400 cd/m^2 NEMA4 front membrane with IP65 protection, 4H surface
CPU	32 bits RISC Cortex-A8 600MHz
Memories	Flash 128 MB, EEPROM recipes 50 MB, RAM DDR2 128 MB
Interface	Serial, USB and Ethernet on all models

SOFTWARE CONFIG AND APPLICATION ENVIRONMENTS

e3PLC Studio
Ever Studio

GURATORS

SOFTWARE

The drives of the Titanio, Platino and Vanadio lines are equipped with a service interface to confi gure work parameters and/or to program the customer's application cycle using special software, also equipped with real-time functions useful for setting up the application.

The configuration of the drives can also be done through CANbus, Ethernet or other communication interfaces available in the drive model.

e3PLC Studio

e3PLC Studio is the latest evolution of PC development environment (IDE) supplied by Ever Motion Solutions included with its programmable drives which can manage real-time inputs and outputs, by integrating a real PLC, and simultaneously control the movement of the motor. e3PLC Studio means the user does not have to learn specific programming languages in order to use the functions of the PLC integrated in the programmable drives of Ever Motion Solutions.

Despite the simple, graphic-based and guided programming, it is possible to create complex automations, reducing wiring and installation times having a single device for the logic and motor control. e3PLC Studio is the ideal IDE both for automatic machines with a few axles and for more complex machines allowing the allocation of part of the machine control locally, thus off loading the main PLC and delegating partial or total control of the operating cycle to programmable drives.

e3PLC Studio offers advanced graphics and features, in particular the debugging and multitasking management have been enhanced, integrating a real digital oscilloscope for the calibration and diagnostics of the drives.

e3PLC Studio is compatible with the Titanio range (for stepper motors), Platino range (brushless DC motors) and Vanadio range (for AC brushless motors), allowing the application program to migrate from one line to another according to the torque dynamic required by the controlled axle.

MAIN CHARACTERISTICS:

- Intuitive and easy to use: it does not require any particular languages to be studied
- Developed to create multitasking applications
- Available for brushless AC, DC or stepper drives
- Integrates all PLC functions of all the hardware resources of the drive
- Integrates the module for the management of the electronic cams
- Integrates the real-time Labelling Wizard module for the complete advanced management of a labelling head
- Integrated oscilloscope for the calibration of the feedback
- Equipped with software tools for the fast debugging of the application
- Support and training by Ever Motion Solutions team

Ever Studio

Ever Studio

Ever Studio is a software package for Windows PCs useful for a simple and rapid drive configuration and monitoring.

MAIN CHARACTERISTICS:

- Simple windows, intuitive to use and wizards for entering the parameters required to integrate the drive and motor in the application
- Useful real-time functions for simulating working cycles and fine-tuning customized solutions on-site
- Advanced Module Motion: possibility to integrate it with the CANbus DS402 protocol for drives with CANbus interface, with a wide range of functions and tools for configuring the drive
- Features for updating the drive firmware
- Software utility for testing the customer's application

AUTOMATION SOLUTIONS FOR **5.0 INDUSTRY**

PACKAGING MACHINES
PRINTING MACHINES AND **CERAMIC DECORATION** MACHINES
MARBLE AND GLASS PROCESSING MACHINES
TOOLS MACHINES AND **WOODWORKING** MACHINES
AUTOMATION FOR MEDICAL MACHINES
AUTOMATIC WAREHOUSES
DISPENSING MACHINES AND **FOOD PROCESSING**
OFFICE AND VIDEO SURVEILLANCE
TEXTILE AND **FOOTWEAR** MACHINES
HOME AUTOMATION
3D PRINTER AND **3D SCANNER**
VENDING MACHINES
AUTOMATION AND AUTOMATIC PRODUCTION IN GENERAL

INDUSTRY 5.0

Drives designed for a smart and human-scale industry

The drives of the new **TITANIUM, PLATINUM** and **VANADIUM** series by **Ever Motion Solutions** are designed to simplify the **work of the machine builder** at every stage: from design to production, from integration to commissioning. At the same time, they place **the operator at the center**, offering a clear, intuitive and ready-to-use interface in the daily production context.

Fully digital and managed by **latest-generation Arm controllers**, these drives are equipped with advanced communication interfaces, designed not only for field control but also for **continuous collaboration between man and machine**. The information transmitted in real time includes operating parameters, events, operating conditions, energy performance and data useful for predictive maintenance—essential elements in the context of Industry 5.0 but perfectly projected towards Industry 5.0, where technology adapts to the human being, not the other way around.

The use of Ever Motion Solutions drives is fast, modular and flexible, thanks to the wealth of control and communication resources made available to the user. Whether it is a single-axis “stand alone” system or a complex multi-axis architecture, **full compatibility with the main control systems** on the market guarantees easy integration.

In response to the growing demand for **intelligent yet human-accessible systems**, Ever Motion Solutions has developed **technologies oriented towards the human-machine interface**, which include simplified configuration tools, advanced diagnostics and a **teleassistance service** that allows our technical team **to intervene remotely from anywhere in the world**, as long as an internet connection is available.

The possible applications with Ever Motion Solutions systems are almost endless. The following sections illustrate the **most widespread in the world of industrial automation**, for which the company is able to provide **complete, ready-to-use solutions oriented towards productivity and operator centricity**.

PACKAGING MACHINES SOLUTIONS

- Single-head linear labelling machine
- Multi axel rotary labelling machine
- Hot melt labelling machine
- Conveyor belt control for product orientation
- Conveyor belt control for product synchronisation
- Horizontal and vertical packaging machines
- Bottling machines and capping machines
- Thermoforming packaging machines
- Palletizers
- Long pasta packaging
- Cap orientation
- Pod production machines
- Die-cutters for labels
- Automatic bagging machines

PRINTING MACHINE SOLUTIONS AND CERAMIC DECORATION

- Self-adhesive label printing
- Screen printing for ceramic or glass tiles
- Tile cutting machines
- Control of flexographic printing regulators
- Automatic roll change for printing machines
- Automatic cutters
- Automatic creasing machines
- Post-cutter edge compactor
- Pre-tensioner for printing on plastic film

SOLUTIONS FOR MARBLE AND GLASS PROCESSING MACHINES

- Axle control for shaping marble machines
- Control of grinding wheels for glass processing
- Axle control for contouring machines

TOOLING MACHINES SOLUTIONS AND WOODWORKING

- Tools and wood
- Electric axles for CNC
- Solution for tool change control
- Format change
- Axles for machines for processing and cutting metal sheets
- Automation for electrical wiring
- Movement of axles of machines for doors and windows
- Bending machines
- Automatic tool sharpening machines
- Electronic grinders for springs

SOLUTIONS FOR AUTOMATED MEDICAL MACHINES

- Radiographic equipment
- Collimators
- Blister packaging machines
- Peristaltic pumps
- Automated lines for clinical laboratories
- Inspection machines

AUTOMATIC WAREHOUSES

- Canbus and Ethercat interfacing with relative DS402 communication protocol
- Stepless and closed loop torque
- High precision and repeatability of positioning
- Additional parking brake for vertical axles
- Management of homing and limit switch sensors directly from the drive.

SOLUTIONS FOR DISPENSING MACHINES AND FOOD ROCESSING

- Dispensing
- Mixers
- Mincing machines
- Ice cream production machines

SOLUTIONS FOR OFFICE AND VIDEO SURVEILLANCE

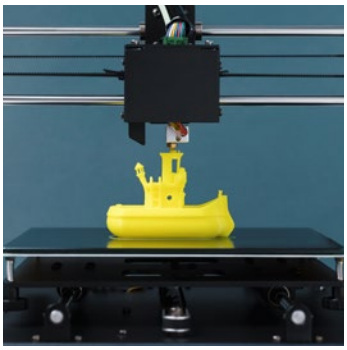
- Printers
- Control for CC cameras

SOLUTIONS FOR TEXTILE AND FOOTWEAR MACHINERY

- Thread Winding for winders
- Winding machines
- Industrial staplers
- Machines for buttons
- Footwear machinery
- LetOff and TakeUp

HOME AUTOMATION SOLUTIONS

- Kinetic sculptures
- Control of sunscreen blades



SOLUTIONS FOR 3D PRINTERS AND 3D SCANNERS

- 3D printers
- 3D scanners

SOLUTIONS FOR VENDING MACHINES

- Control of axes for collecting products in automatic warehouses
- Control of opening and closing of vending machine doors

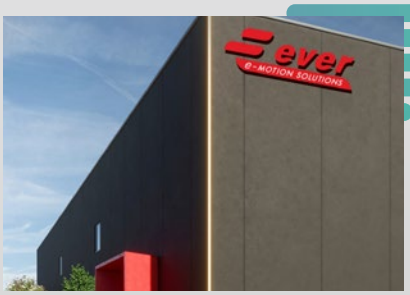
SOLUTIONS FOR AUTOMATION AND AUTOMATED PRODUCTION IN GENERAL

- Electric cylinders
- Linear guides
- Rotary tables
- Automatic warehouses
- Laser pointers for automatic warehouses
- Automatic assembly (Pick & Place)

WHERE WE ARE

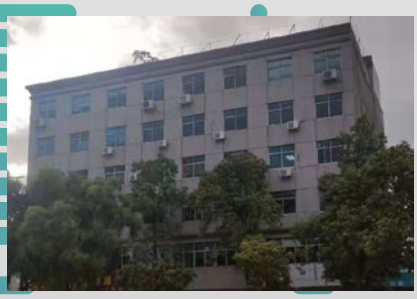
Ever Motion Solution Srl Headquarter e R&D
via del Commercio 2/4 - Lodi, ITALY

Unità produttive
via del Commercio 9/11 - Lodi, ITALY
Montanaso Lombardo - Lodi, ITALY

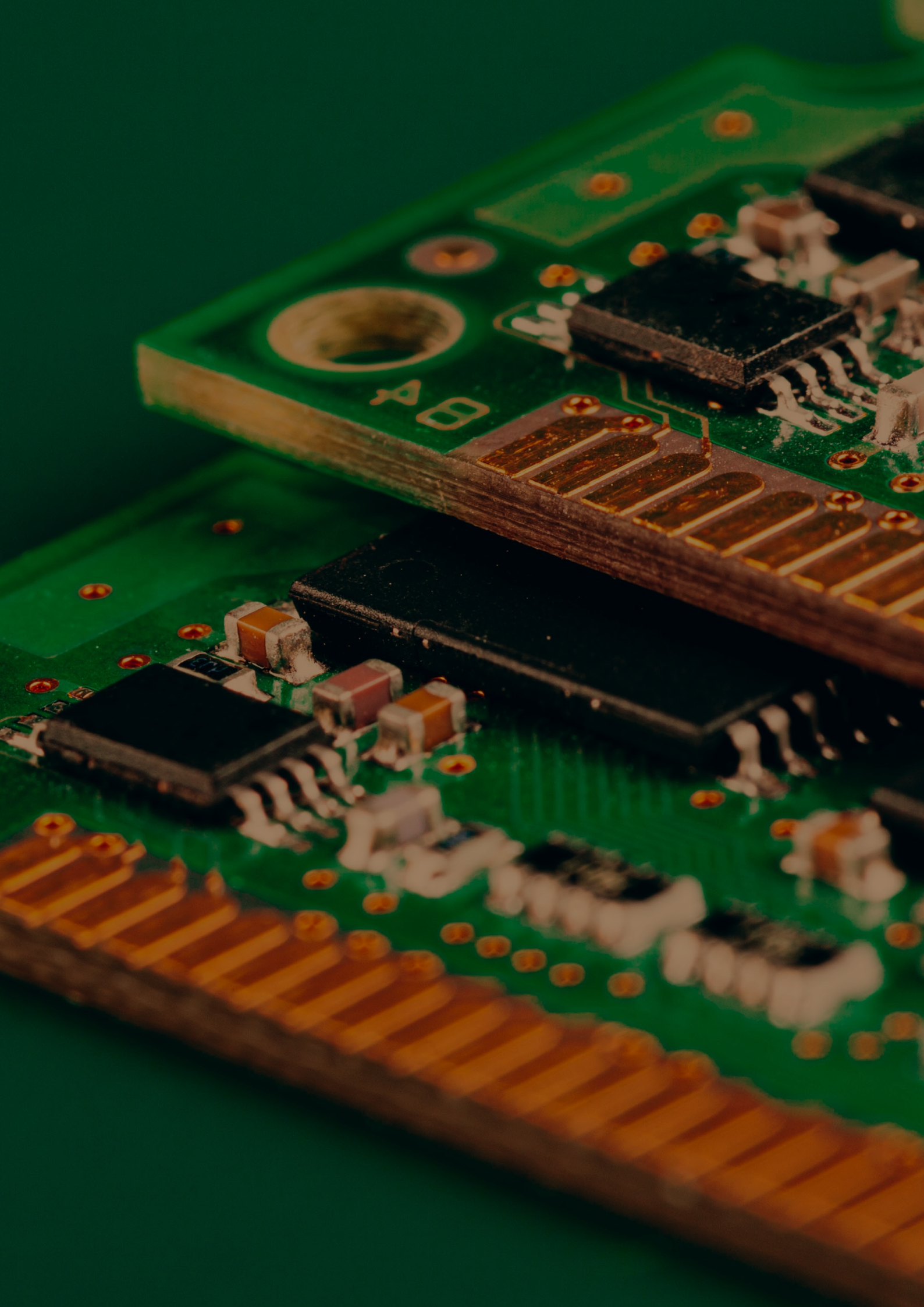


Ever Electronics Motion Control Technology LTD
Motors factory Wujin Changzhou, CHINA

Donguan Ever Electronics LTD
Commercial and sales office South of CHINA



This catalog ends here but our business relationship doesn’t.



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