## Specifications

**MODELS**

| Code | Power supply | | Max. Out Current |
|------|-------|-------|------------------|
| | Power | Logic | |
| SW4A3070 | 18 ÷ 56 Vac | 24÷ 80 Vdc | 7.1 Arms (10 Apeak) |

**OPTOISOLATED CONTROL BUSSES**
Modbus or CANbus

**ENCODER INTERFACE**
incremental encoder not isolated input 5V Differential (RS422)
or 5V Single-Ended (TTL/CMOS)
encoder output not isolated 5V Differential (RS422)

**SCI INTERFACE**
service SCI interface for programming and real time debug

**OPTOISOLATED INPUTS**
4 digital inputs 2-24 Vdc NPN, PNP or Line-Driver 2 MHz

**OPTOISOLATED OUTPUTS**
2 digital outputs PNP, 24 Vdc - 100 mA

**ANALOG INPUTS**
2 analog inputs for potentiometer or ±10 Vdc

**EMULATED STEP RESOLUTION**
Stepless Control Technology (65536 positions per turn)

**SAFETY PROTECTIONS**
Over/UnderVoltage, OverCurrent, OverTemperature,
Phase/Phase and Phase/Ground Short

**TEMPERATURE**
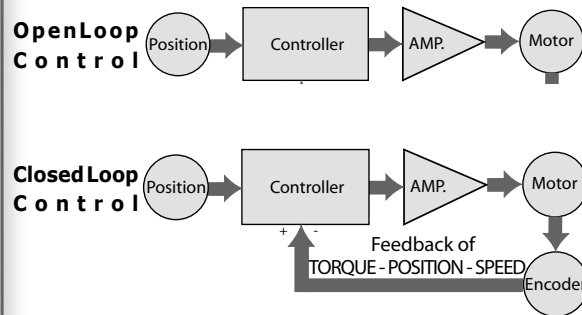operating from 0°C to 40°C, storage -25°C to 55°C

**HUMIDITY**
5% ÷ 85%

**PROTECTION CLASS**
IP20

## Open loop / Closed Loop



**Open Loop Control** — Position → Controller → AMP. → Motor

**Closed Loop Control** — Position → Controller → AMP. → Motor → Encoder
Feedback of TORQUE - POSITION - SPEED

Better control compared to both an open loop stepper solution and a servo-controlled brushless solution

# Programmable vectorial drivers for 2 phases stepper motors



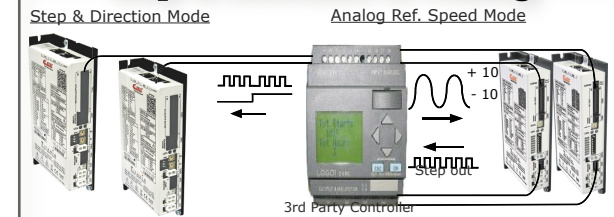**Titanio** VECTOR - STEPPER - DRIVES

**CANopen** DS402

**Modbus**

GARANZIA 3 ANNI

# SW4
# Titanio drivers

- Multiform Control Modes
- Equipped with advanced safety features:
  - √ Integrated diagnostic
  - √ separated power supply for logic and power
  - √ fault monitoring and handling
- Drives main features:
  - √ Vectorial control
  The sinusoidal phase current with "else" technology keep the motor torque constant allowing smooth and noiseless movements.
  - √ Closed loop
  - √ Integrated oscilloscope
  - √ Auto tuning of motor control parameters
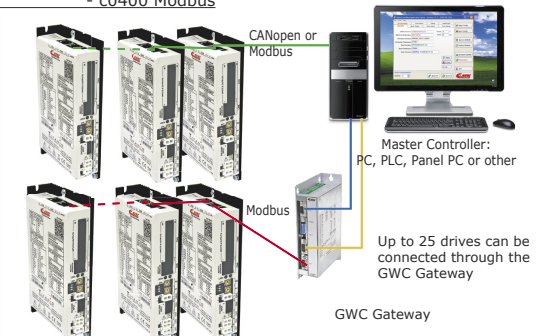  - √ High efficiency current set up



**EVER Motion Solutions srl**
Via del Commercio, 2/4 -9/11
Loc. S. Grato - Z.I.
26900 - LODI (LO) - Italy
Tel. 0039 0371 412318  -  Fax 0039 0371 412367
email infoever@everelettronica.it
www.everelettronica.it

## Step & Direction or Analog

Step & Direction Mode | Analog Ref. Speed Mode



+ 10
- 10
Step out
3rd Party Controller

## Multi Axes Systems

Slave Mode - c0380 CANopen DS402
- c0400 Modbus



CANopen or Modbus
Master Controller:
PC, PLC, Panel PC or other
Modbus
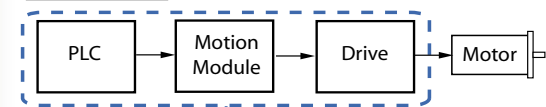Up to 25 drives can be connected through the GWC Gateway
GWC Gateway

Drive control through commands by Master Controller.
Suitable for multi axes systems (up to 127 drives).
Built in powerfull Motion Module functionality assures perfect synchronization among axes and reduces Master Controller workload.

## Stand Alone Mode

PUser Programmable - e3PLC- c0390 - c0490
***FIELDBUS DRIVES WITH AUTONOMOUS FUNCTIONING*** that, by integrating advanced PLC and motion controller functions in one single device, programmable by the user with the IDE for Windows PC and e3PLC, allows to reduce the traditional machine control solution.

Traditional Solution



PLC → Motion Module → Drive → Motor

e3PLC Solution

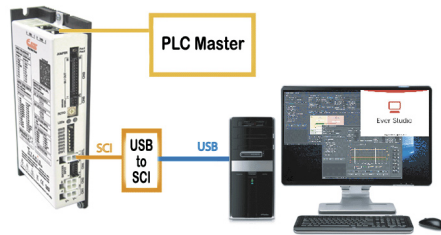SW4xxxx Drive line
**e3PLC** → Motor

The e3PLC IDE allows the user to access all the I/O control functions and resources, provided by the drive, and to locally program its Motion Control Module, which can also be synchronized with other drives and events of the controlled process. Thanks to the advanced functionalities of the Power Motion Module, an integrated Real-time Process Module, applications can be easily created for special applications such as:
- Labelling
- Electronic cams
- Control Sequences of cable processing
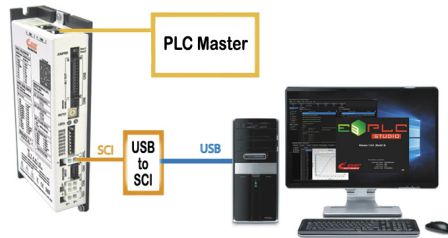- Many other user-customized processes ...

# Configuration and programming

Ever co. proprietary PC Software Tools for easy and quick development, configuration and supervision of each system.

## Fieldbus configuration (slave)



## IDE e3PLC configuration (programmable)



Autonomous management of the firmware for the execution of the **homing**, of the target movement with relative or absolute quota and for the generation of the ramp profiles

**Torque mode** for operation with torque limitation

Speed control thanks to digital inputs, analogue inputs or fieldbus

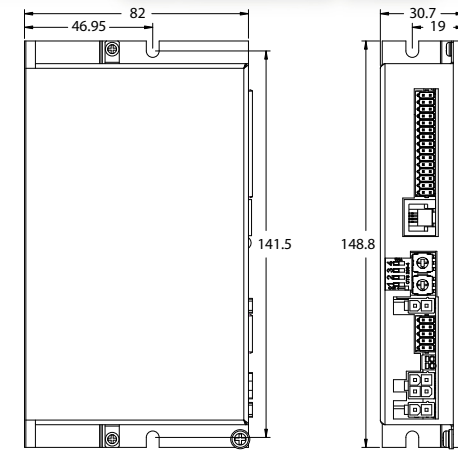**Electronic CAM** with advanced programming of internal profiles inside the drive

**Electric shaft** with encoder or analogue input with variable tracking ratio (Electric Gear)

Fast inputs and outputs for motor' start & stop and event synchronization for high speed response applications such as labeling, nick finder, flying saw etc.

Possibility to synchronize the movements in multi-axis systems, even without fieldbus

Enabling and on-the-fly changing of the motion control modes

# Mechanical Data



| Models | Dimensions (mm) | | | Weight (g.) |
|---|---|---|---|---|
| | H | L | W | |
| SW4A3070 | 148.8 | 82.0 | 30.7 | 350 |

# Ordering Information for SW4 Drives

| Ordering code | | Power | | | System Resouces | | | | | | | | Kits d'installazione |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Versions | Config. | Power Supply | Logic Power Supply | Current | Digital Inputs | Digital Outputs | Analog Inputs | Analog Outputs | Interfaces | Encoder Interface | SCI Interface | Contol Mode | Software *[1] Kits |
| **SW4 Drives Line: 3070 Models** | | | | | | | | | | | | | |
| SW4A3070N241-01 | S0201 | 18 ÷ 56 Vac | 24 ÷ 80 Vdc | 0 ÷ 7.1 Arms (0÷10.0 Apeak) | 4 | 2 | 2 | 0 | --- | Incremental | Service serial for programming and debug in real time | Ck&Dir closed loop mode | SW4_SERV10-SL |
| SW4A3070C261-01 | c0380 | | | | | | | | Canbus | | | CANopen DS402 | SW4_SERV10-SL |
| | c0390 | | | | | | | | Canbus | | | e3PLC CANbus | SW4_SERV10-EE |
| SW4A3070M261-01 | c0490 | | | | | | | | Modbus | | | e3PLC Modbus | SW4_SERV10-EE |

*1  Kits software are intended for the SCI communications for systems configuration or programming and includes converters and cables form serial service to RS485 and from RS485 to USB in the SW4_SERV00-xx code versions and a CD-Rom.