Characteristics

Introduction and Applications

The M5A and DCM are full digital drives, featuring a compact design, optimized to reduce size and costs and ntegrating the most recent generation of motor phase current monitoring. Thi sa features allow a smoothing stepper motor control, reducing the vibrations even at low speed minimizing the motor heating.
Equipped with digital and analog I/O, these drives can be controlled directly from a PC or PLC via digital frequencies, analog references or slave fieldbus, and they can be software level customized for each client through IDE for PC Windows. Opened to the hardware customization, the Ever Elettronica 'open frame' drives are ideal for applications that require the costs and space optimization, combined with direct drive control with less vibration in a wide speed range.

Specifications

MODELS

Code	Power supply	Maximal output current
M5A	24 ÷ 60 Vdc	6.0 Arms
DCM	12 ÷ 24 Vdc	0.5 Arms

POWER STAGE
40kHz. bipolar chopper H-Bridge

INPUTS
3 5 Vdc NPN, PNP or line driver digital inputs (300 kHz)
1 analog input
1 analog output

CONTROL INTERFACE
RS485 or I^2C

OUTPUTS
1 digital output 24 Vdc - 100 mA

STEP RESOLUTION

Step type	Steps per rev.	Degrees per step
Passo pieno	200	1.8°
1/2	400	0.9°
1/4	800	0.45°
1/8	1600	0.225°
1/16	3200	0.1125°
1/32	6400	0.05625°
1/64	12800	0.028125°
1/128	25600	0.0140625°

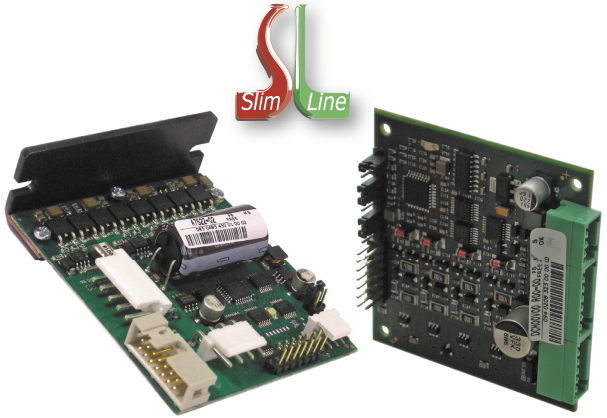
SAFETY PROTECTIONS
Over/Under Voltage, Over Current, Over Temperature

DRIVE STATUS MONITORING
Power LED and failure status LED

TEMPERATURE
Working: from 0°C to 50°C ; storage from 0°C to 55°C

HUMIDITY
0% ÷ 90%

Full Digital Drives for 2 phase stepper motors for High Performances at Low Costs



M5A & DCM

SlimLine Drives

- Equipped with Advanced Safety Devices:
  - √ tested for direct unit installation
  - √ failures monitoring and handling

- Main Drive's characteristics:
  - √ low motor vibrations
  - √ low mechanical noise
  - √ low heat production
  - √ excellent EMC properties
  - √ safety protections
  - √ compact dimensions
  - √ no motor resonance
  - √ high reliability
  - √ easy to set-up
  - √ high speed and torque drive

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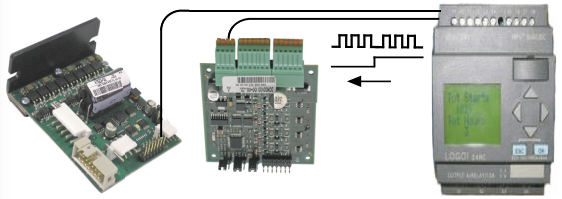
Control Modes

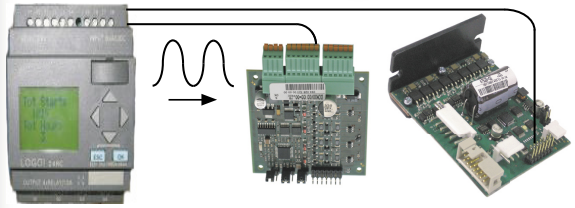
Digital Frequency



Controllore di altri costruttori

The motor speed and position are controlled by a master (axis board or PLC) via digital frequency in either clock up/ clock down or clock & direction mode.

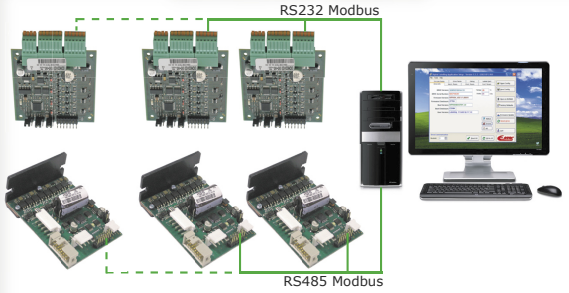
Analog Signal



Controllore di altri costruttori

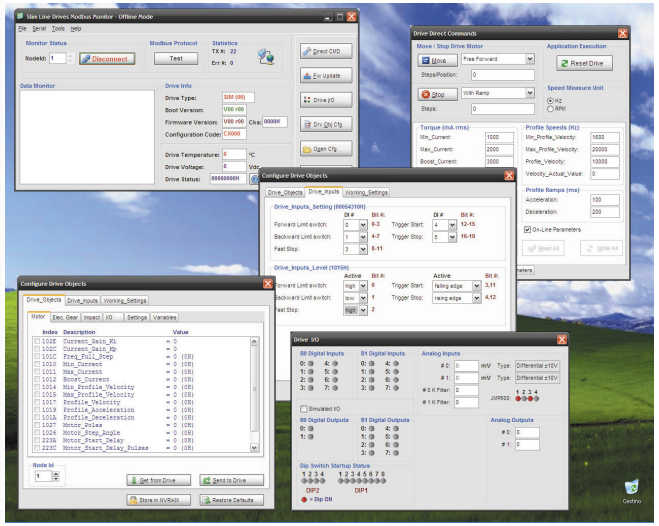
The position or the motor rotation speed is controlled by an analog signal generated by a PLC or a potentiometer. In this mode, using an analog sensor to read the motor angular position, it's possible to make absolute positions in a simple and economical.

Modbus Slave



Through the serial interface is possible to control the motor position, rotation speed and control all the hardware resources of which this 'open frame' drives are equipped. For example, it is possible a check of the digital or analog I/O, or monitor the drive operating status.

PC Software Configuration

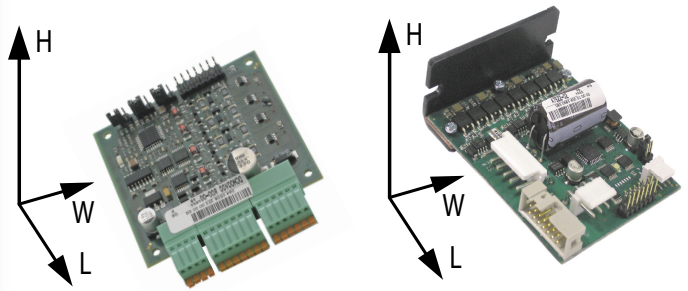


SL-Monitor
Configuration environment for SlimLine drives

Main features:

- Software tool to configure the M5A and DCM SlimLine drives with serial interface.
- Intuitive and complete screens to configure the application parameters.
- Functions and tools to set the *Advanced Motion Module.*
- Functionality to update the drives' firmware.
- Complete with software tools to debug in a simple and fast way the created application.

Mechanical Data



Models	Dimensions (mm)			Weight (g.)
	H	L	W	
M5A	26.0	85.0	70.0	250
DCM	14.0	67.0	63.0	250

Ordering Information for M5A and DCM

Ordering code		Power		System Resources				
Versions	Configuration	Power Supply	Current	Digital Inputs	Analog Inputs	Digital Outputs	Analog Outputs	Fieldbus
M5A Drives								
M5Av10	c0400	24 ÷ 60 Vdc	0 ÷ 4.3 Arms (0 ÷ 6.0 A peak)	3 5Vdc 300 kHz configurable as NPN	1 (0 ÷ 3 Vdc)	---	1	RS485 Modbus
M5Av11	c0400	24 ÷ 60 Vdc	0 ÷ 4.3 Arms (0 ÷ 6.0 A peak)	4 5Vdc 300 kHz configurable as NPN	/	---	1	RS485 Modbus
M5Av12	c0414	24 ÷ 60 Vdc	0 ÷ 4.3 Arms (0 ÷ 6.0 A peak)	3 5Vdc 300 kHz configurable as NPN	1 (0 ÷ 5 Vdc)	----	1	RS485 Modbus
DCM Drives								
DCMv00	c0400	12 ÷ 24 Vdc	0 ÷ 0.5 Arms (0 ÷ 0.7 A peak)	3 5Vdc 300 kHz configurable as NPN or PNP	1 (0 ÷ 10 Vdc)	1 5 Vdc NPN transistor output for Fault	0	RS232 Modbus