

Very compact analog servodrive 60 - 100 - 130 Vdc power supply range for Brushless & Brush servomotors. Driving motor ranges up to 3.3 Nm, tacho generator, encoder or armature feedback.

# SPEED ONE

## SERVO AMPLIFIER FOR BRUSHLESS & BRUSH MOTORS

The **Speed One** is a precision four quadrant regenerative servo drive for permanent Brushless & Brush DC servomotors.

Possible control methods include velocity and torque modes. There are many different velocity modes: tachogenerator feedback, encoder feedback, armature feedback and PWM+DIR comand.

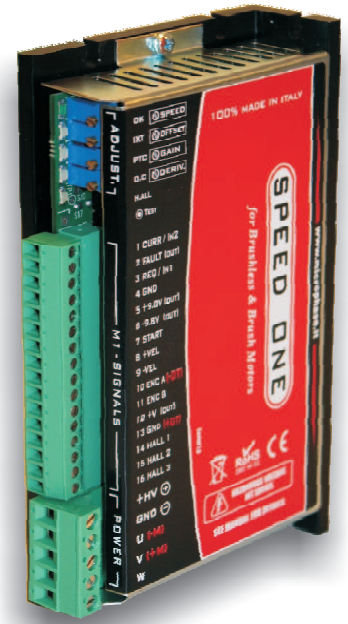
The **Speed One** series drives push high performance servo technology into lower power applications without compromising on reliability or package size.

### Speed One advantage

- Compact drive for 1KW (3,3Nm) motors
- Small package, versatility, ease-of-use, Cost-effective
- One Only Servo Amplifier For BLDC & DC brush Motors

### Standard characteristic

- Four quadrant regenerative operation
- Single supply DC voltage
- Internal setting for BLDC & BRUSH motors
- 5 diagnostic Leds (State and Alarms)
- Protections for: Over/Under voltage, max. temperature reaches, Over current, Ixt motor current, hall missing
- Power and signals extractable connectors
- 1 Differential velocity input +/-10V
- 1 Torque mode (demand current) input +/-10V
- Feedback available (series): Quadrature encoder - tachogenerator - Armature
- NPN Fault drive output
- Four Potentiometer adjustments (Speed, offset, gain, derivative). Acceleration/deceleration ramp
- Brake function activable



### Specifications

- Output voltage 0,9 Vdc Input
- PWM frequency 20Khz
- Operative temperature 0/+40°C
- Analog inputs range +/-10Vdc
- Current monitor +/- 8Vdc (At peak curr.)
- Velocity monitor +/- 8Vdc (At max.vel.)
- Encoder power supply (+V) +5Vdc @130mA
- Ausiliary power supply +/-10Vdc @ 4mA
- Maximum encoder frequency 300Khz
- Logic level encoder inputs ≥ +2,8V/+24V
- Start signal (Input range) +9V/+30Vdc
- Current loop bandwidth 2KHz
- Velocity loop bandwidth 150Hz

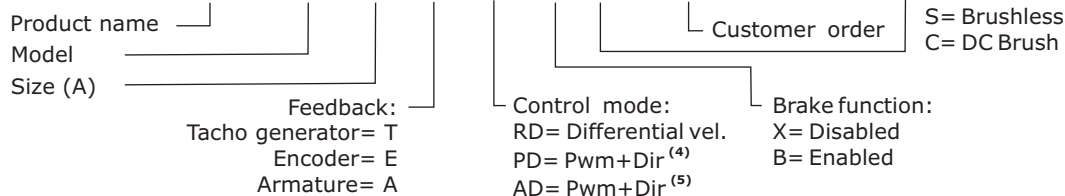
MODEL	SPEED ONE 12	SPEED ONE 65	SPEED ONE 100	SPEED ONE 130
DC Voltage Supply (Vdc)	12	65	100	130
DC Voltage Range (Vdc)	9 - 27	19 - 84	30 - 132	35 - 165

Size available for each model:

Size	(A)	2/4	4/8	7/14	10/20
Rated Current (A)	(A)	2	4	7	10
Peak Current (1) (A)	(A)	4	8	14	20

Order code example:

**SP1 - 100 - 7 - E - RD - X - S - ord. 338/13**

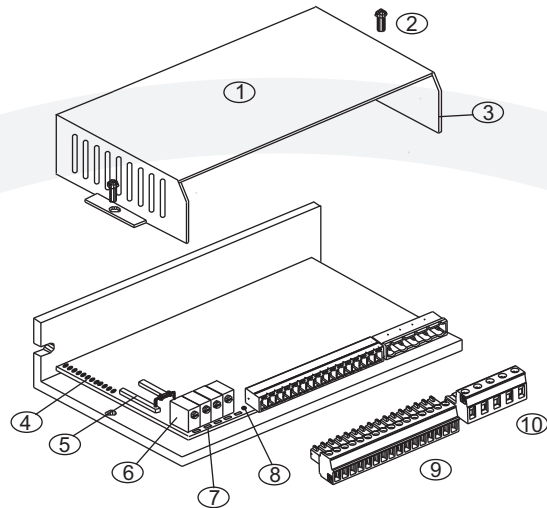


Label example:

**SP1-100-7-E-RD-X-S  
ord. 338/13**

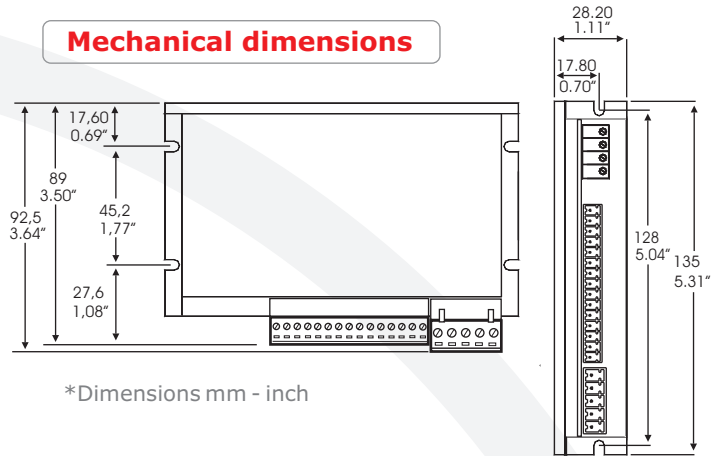
(1) Peak current (Adc) for 2 sec. (2) Power of amplifier at the rated current and rated voltage (3) Power of amplifier at the peak current and rated voltage (4) PWM+DIR comand with open loop (5) PWM+DIR comand with close loop and armature feedback. (\*) Model 130 size 10/20 forced cooling required

### ► View product



- (1) Product Label
- (2) Fixing screw
- (3) Product Cover
- (4) Solder bridges
- (5) Adjustment zone
- (6) Calibration Potentiometers
- (7) Leds
- (8) Test (velocity monitor)
- (9) M1 Signals terminal 16 pins MC1,5/16-ST-3,81 (pitch 3,81)
- (10) Power Terminal 5 pins GMST 2.5/5-G-5,08 (pitch 5,08)

### Mechanical dimensions



[ Datasheet Speed One (gb) - 2 of 2 ]

### ► Typical connection

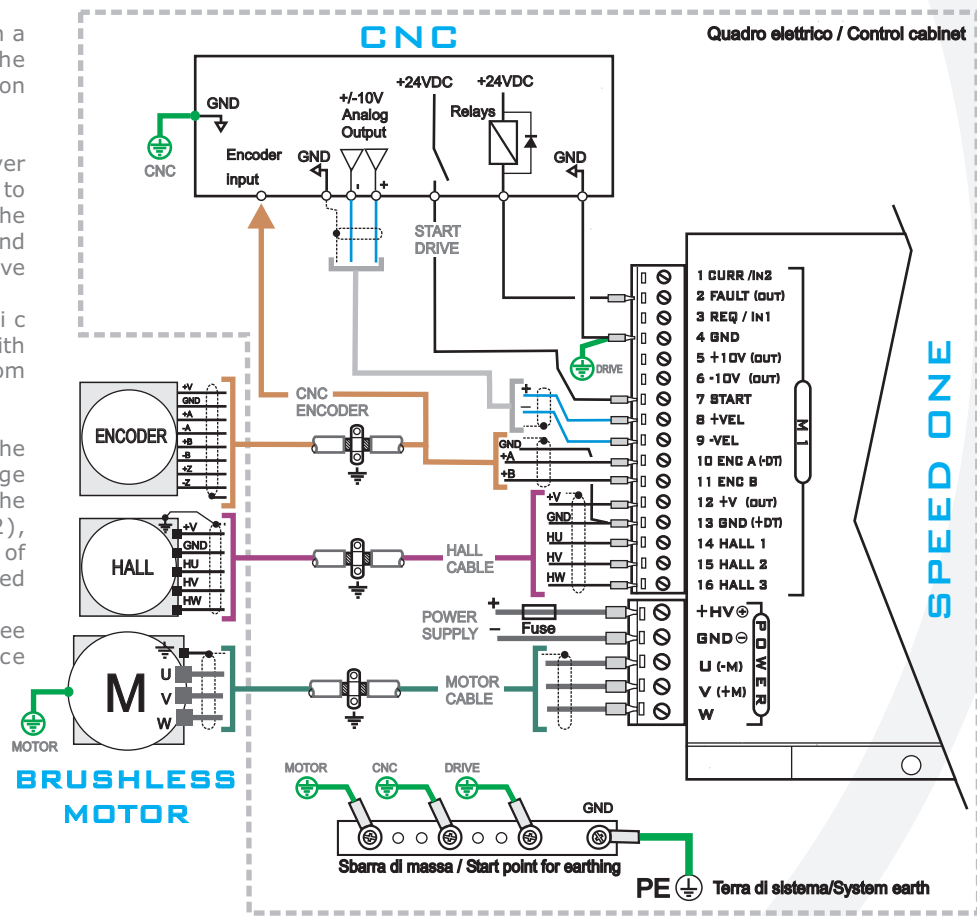
In the figure above is shown a typical connection of the **Speed One** in combination with a brushless motor.

The encoder with line driver output is connected directly to the control. Depart from the CNC control wires +A +B and GND to the **Speed One** drive (signals in common mode).

Excellent dynamic performance is obtained with encoder with resolution from 500 to 2000PPR.

It also possible to supply the encoder with the voltage available on the +5V of the drive (+V terminal 12), verifying that the absorption of the encoder does not exceed 130mA.

For all other information see the **Speed One** service manual.



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**Accessories:** • Switching power supply 220-400Vac/55Vdc • Single/3ph transformers from 100 to 7000VA • Single/3ph bridges 600V 35A • Power supply capacitors 4700uF / 10000uF • Net filters (for CE compliance)