

Very compact analog servodrive 60 - 145 - 205 - 250 Vdc power supply range for Brushless servomotors. Driving motor ranges up to 20 Nm, encoder+hall signals or hall signals feedback.

# SPEED ONE XL Plus

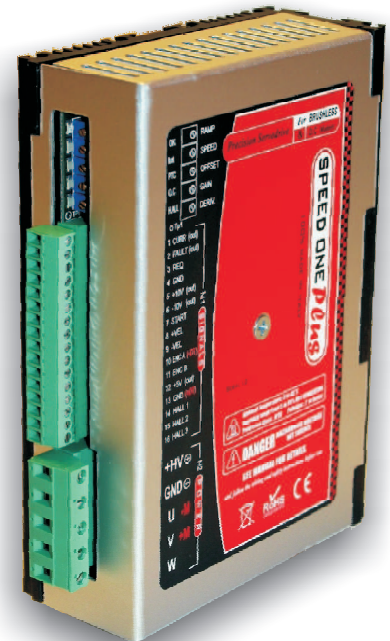
## SERVO AMPLIFIER FOR BRUSHLESS MOTORS

**Speed One XL PLUS** is a precision four quadrant regenerative servo drive for permanent Brushless servomotors.

Possible control methods include velocity and torque modes. There are many different velocity modes: tachogenerator feedback, encoder+hall feedback, hall signals feedback and PWM+DIR comand. The **Speed One XL** series drives push high performance servo technology into lower power applications without compromising on reliability or package size.

### ► Speed One XL advantage

- Compact drive up to 6KW (20Nm) motors
- Small package, versatility, ease-of-use, cost-effective
- Feedback for motors with encoder+hall signals, or hall signals.



### ► Standard characteristic

- Four quadrant regenerative operation
- Single supply DC voltage
- 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
- Feedback available (series): Quadrature encoder+hall - Armature - hall signals
- NPN Fault drive output
- Five Potentiometer adjustments (Speed, offset, gain, derivative), acceleration/deceleration ramp

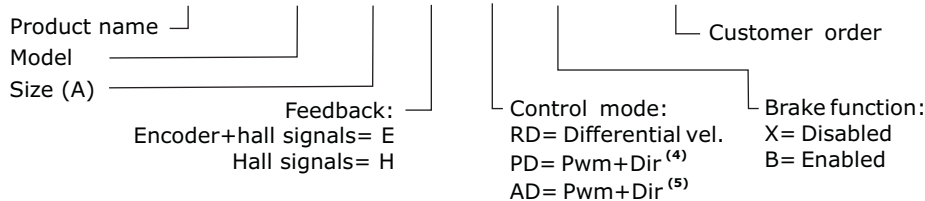
### ► Specifications

- Output voltage 0,9 Vdc Input
- PWM frequency 20Khz
- Operative temperature 0/+40°C
- Analog inputs range +/-10Vdc
- Current monitor +/- 8Vdc (At pk curr.)
- Velocity monitor +/- 8Vdc (At max.vel.)
- Encoder power supply (+V) +5Vdc @130 mA
- 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 XL 65	SPEED ONE XL 145	SPEED ONE XL 205	SPEED ONE XL 305			
DC Voltage Supply (Vdc)	65	145	205	250			
DC Voltage Range (Vdc)	19 - 84	39 - 184	54 - 276	60 - 320			
Size (A)	2/4	4/8	7/14	10/20	14/28	20/40	30/60
Rated Current (A)	2	4	7	10	14	20	30
Peak Current (1) (A)	4	8	14	20	28	40	60

Order code example:

**SP1L-305-7-E-RD-X-ord.527/13**

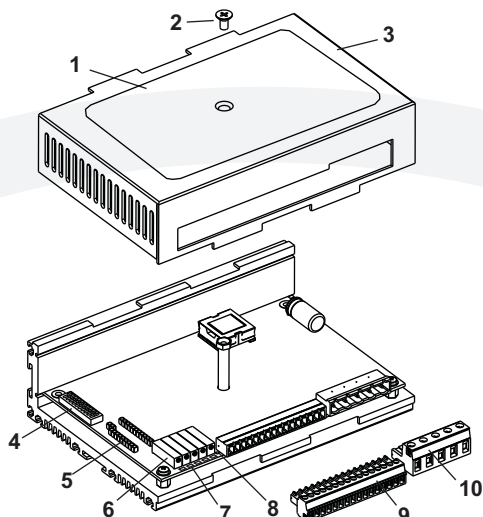


Label example:

**SP1L-305-7-E-RD-X  
ord. 527/13**

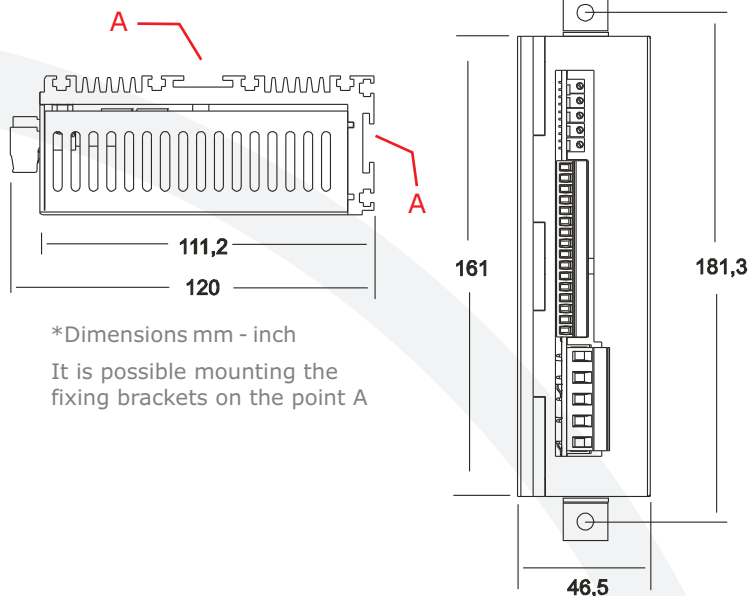
(1) Peak current (Adc) for 2 sec. (\*) Power of amplifier at the rated current and rated voltage (\*) Power of amplifier at the peak current and rated voltage  
 (4) PWM+DIR comand with open loop (5) PWM+DIR comand with close loop and hall signals feedback.  
 (\*) Model 205/305 size 20/40 and size30/60A 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-7,62 (pitch 7,62)

## Mechanical dimensions



[ Datasheet Speed One XL (eng) - 2 of 2 ]

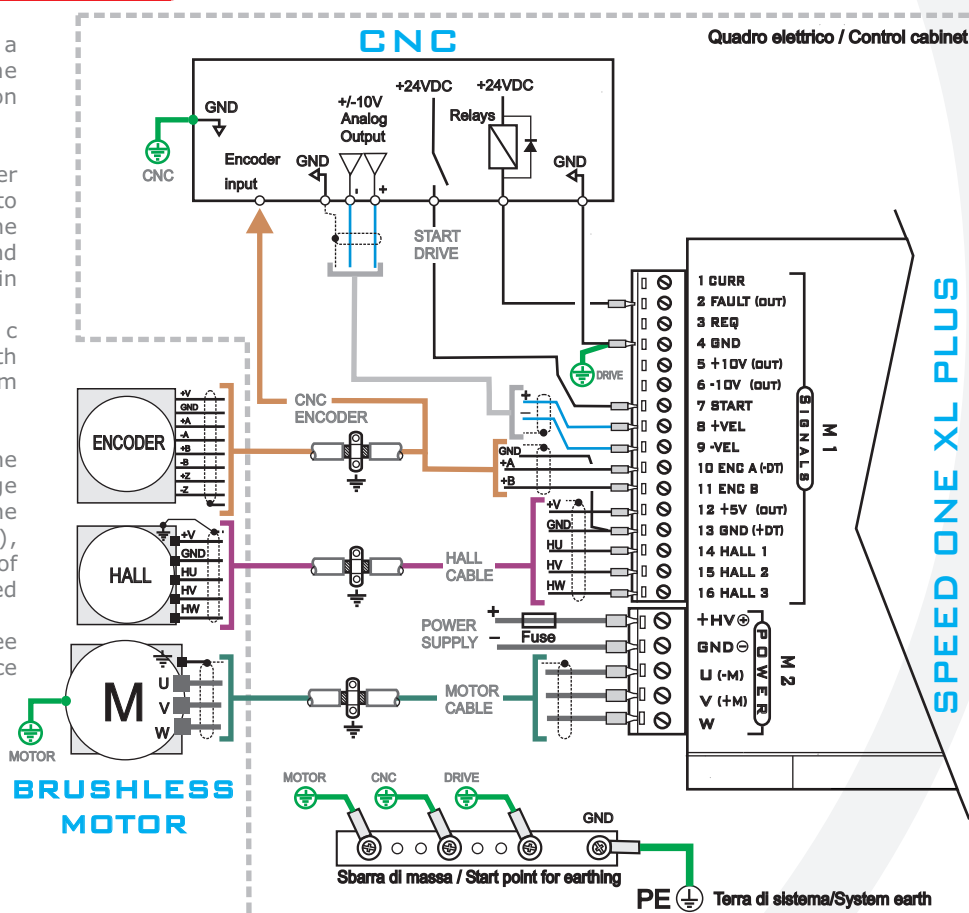
## Typical connection

In the figure above is shown a typical connection of the **Speed One XL** 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 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 XL** service manual.



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