Servodrive up to 1,2KW

Very compact analog servodrive 60 - 100 - 130 Vdc power supply range for Brush servomotors. Driving motor ranges up to 3.8 Nm, tacho generator, encoder or armature feedback.

Dc One Classic

SERVO AMPLIFIER FOR BRUSH DC MOTORS

The **Dc One** is a precision four quadrant regenerative servo drive for permanent dc Brush 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 **Dc One** series drives push high performance servo technology into lower power applications without compromising on reliability or package size.

▶ Dc One advantage

- Compact drive for 1,2W (3,8Nm) motors
- Small package, versatility, ease-of-use, cost-effective
- Feedback for motors with:
  * Encoder
  * Tachogenerator
  * Armature

▶ Standard characteristic

- Four quadrant regenerative operation
- Single supply DC voltage
- 4 diagnostic Leds (State and Alarms)
- Protections for: Over/Under voltage, max. temperature reaches, Over current, Ixt motor current
- 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 adjustements (Speed, offset, gain, derivative)
- Acceleration/deceleration ramp
- Brake motor function

▶ 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 @130 mA
• Ausiliary power supply	+/-10Vdc @ 3mA
• 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
• Polution degree	2° or better

MODEL	DC ONE 12	DC ONE 65	DC ONE 100	DC 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)	2	4	7	10
Peak Current (1) (A)	4	8	14	20

Order code example:

DC1C - 130 - 7 - E - RD - N - X - ord. 901/13

- Product name
- Model
- Size (A)
- Feedback:
  - Tacho generator = T
  - Encoder = E
  - Armature = A
- Control mode:
  - RD = Differential vel.
  - PD = Pwm+Dir (4)
  - AD = Pwm+Dir (5)
- Limit Switch:
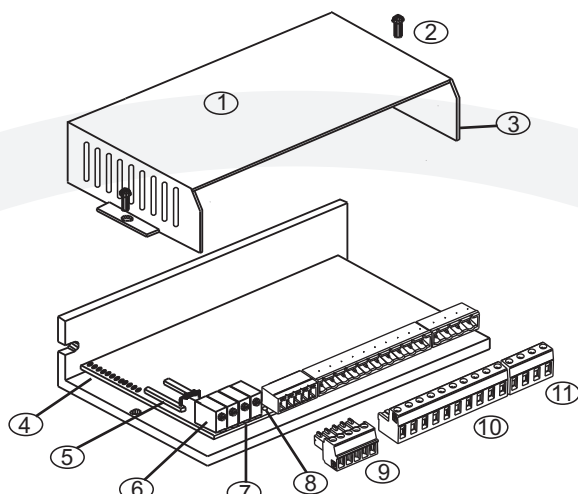 - N = Disabled
  - L = Enabled
- Customer order
- Brake function:
  - X = Disabled
  - B = Enabled
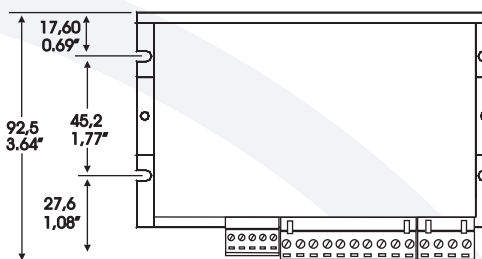
Label example:

DC1C-130-7-E-RD-N-X
ord. 901/13

(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
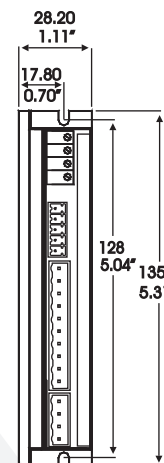
DC One Classic — Servo Amplifier for Brush DC Motors

▶ View product

(1) Product Label
(2) Fixing screw
(3) Product Cover
(4) Solder bridges
(5) Adjustement zone
(6) Calibration Potentiometers
(7) Leds
(8) Test (velocity monitor)
(9) M2 Signals terminal 5 pins MC1,5/5-ST-3,81 (pitch 3,81)
(10) M1 Signals terminal 10 pins GMST 2.5/10-G-5,08 (pitch 5,08)
(11) Power Terminal 4 pins GMST 2.5/4-G-5,08 (pitch 5,08)

Mechanical dimensions
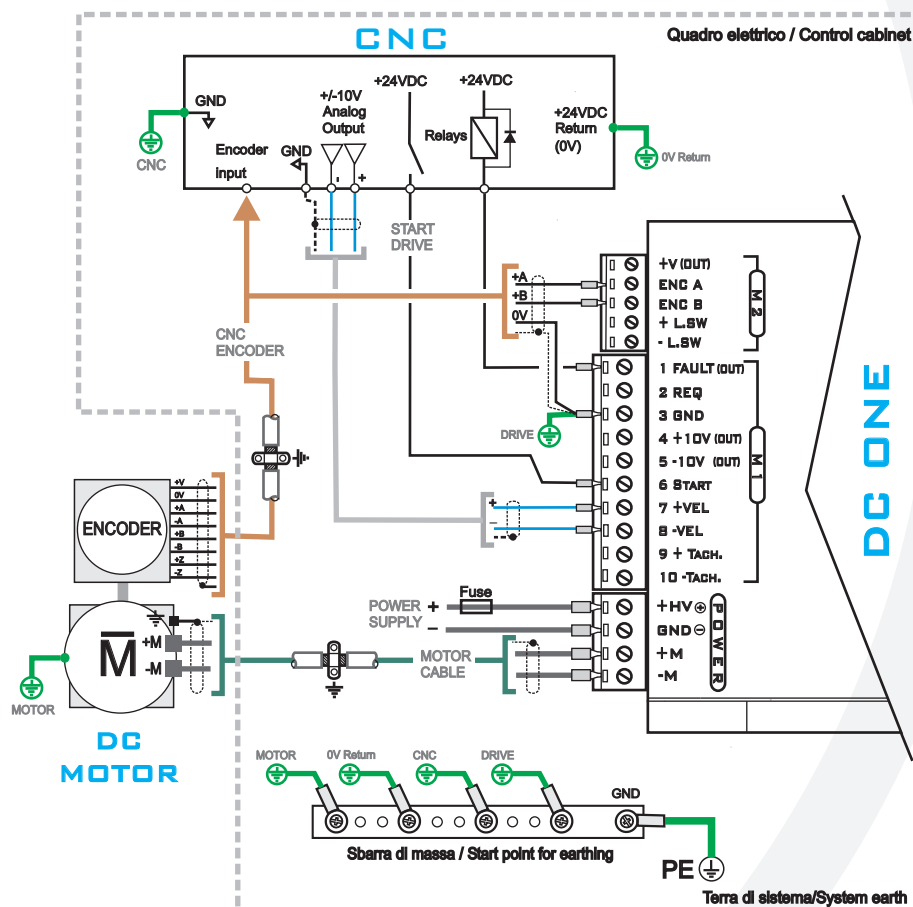

Dimensions mm - inch

* Weight 0,37 kg

▶ Typical connection

The following diagram shown a typical connection of the **Dc One Classic** in combination with a brush 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 **Dc One Classic** drive (signals in common mode).

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 additional information see the **Dc One Classic** service manual.

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)