0.1 - 0.8 kW modular dc servo amplifiers DCD60 series

The DCD60 Mini-Maestro servo amplifiers provide an ideal control solution for light industrial applications which require accurate servo control. The units are ideally suited to applications using analogue control techniques or as the drive element of a digitally controlled system when used in conjunction with the *digiloop* controller.

A choice of DCD60 units provide continuous current ratings from 3 to 14 Amps and precise servo control of dc servo motors equipped with a dc tachogenerator. In cost sensitive applications the Mini-Maestro drive may be used without a tachogenerator by employing a voltage feedback technique to stabilise motor speed.

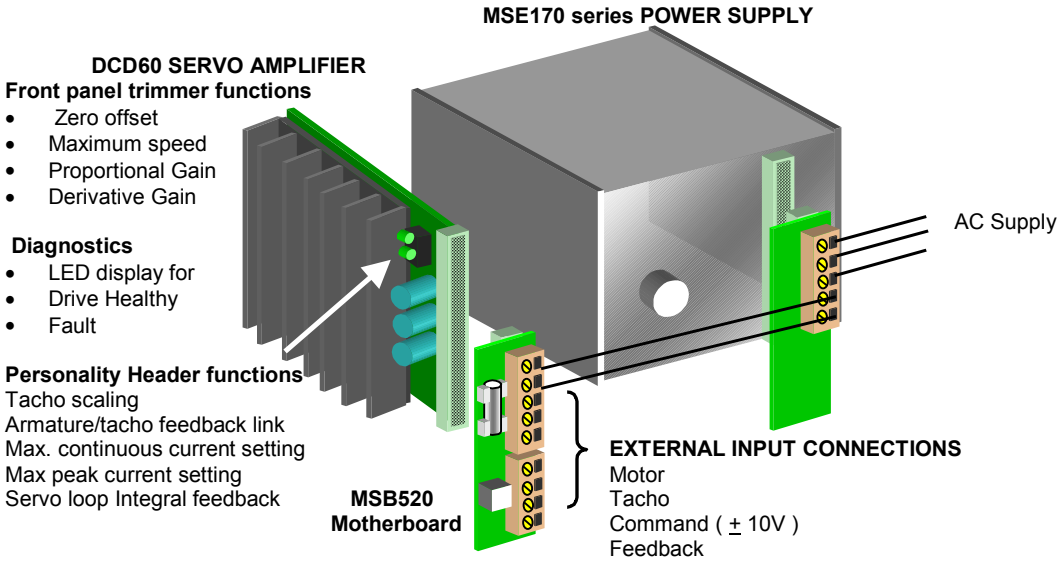
Operating from a single rail supply that enables battery operation if required, the units utilise a 4 quadrant PWM output stage with the following operating advantages:

- Very compact package enabling up to 7 units to be fitted in a single 19 in Eurorack installation
- High frequency operation for improved smoothness of motor operation over a wide speed range
- Advanced servo amplifier design for high servo loop gain and stability provides high torque combined with fast response.

Mini-Maestro drives are standard Eurocard modules utilising surface mount technology to provide compact overall size and high reliability. The differential amplifier based input stage incorporates advanced control technology to with the following features :

- adjustable peak output current up to 28 amps depending on model specified
- independently adjustable continuous output current up to 14 amps depending on type.
- choice of velocity control using armature voltage sensing or tacho feedback
- optional torque control or positional control
- plug-in personality header to match the drive to specific motor characteristics
- optional automatic velocity ramp for smooth starts using stepped input signal change
- inhibit input for use with end of travel limit sensors
- remote enable signal input
- front panel adjustments of servo loop constants for easy commissioning
- front panel diagnostic LED display of drive condition.

Mini-Maestro Control Options:



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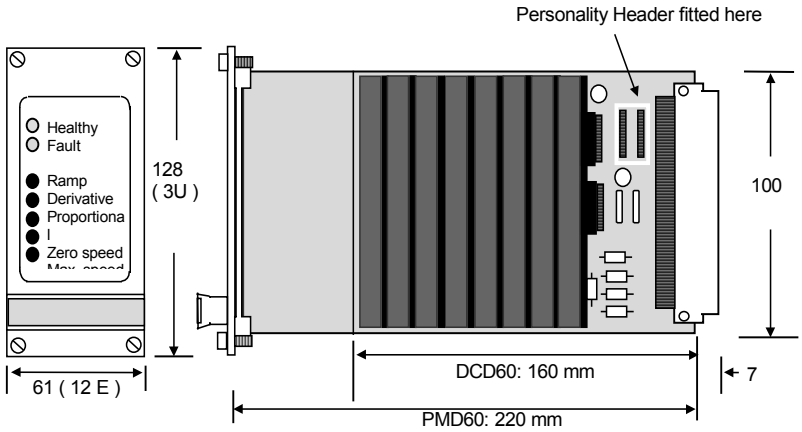
Dimensions: mm (Version shown fitted with PM series front panel)



Specification

Mini-Maestro Servo Amplifier Type		**DCD60 3/6**	**DCD60 7/14**	**DCD60 10/20**	**DCD60 14/28**
Version with front panel		**PMD60 3/6**	**PMD60 7/14**	**PMD60 10/20**	**PMD60 14/28**
Supply		24-70 Vdc	24-70 Vdc	24-70 Vdc	24-70 Vdc
Maximum output voltage		60 Vdc	60 Vdc	60 Vdc	60 Vdc
Maximum continuous output current		3 Amps	7 Amps	10 Amps	14 Amps
Maximum peak current		6 Amps	14 Amps	20 Amps	28 Amps
motor stall protection / over correct protection		I^2T			
Input proportional control signal		± 10 Vdc			
Control options					
Velocity Control options		using tacho or armature voltage feedback			
Positional control		using analogue feedback signal			
Torque control		motor torque proportional to ± 10 V signal			
Front panel adjustments		Proportional gain speed scaling derivative feedback zero offset motor acceleration			
Front panel diagnostics		I^2T indicator fault indicator			
Personality header functions		Tacho feedback scaling Armature feedback link tuning of integration circuit derivative circuit scaling Armature feedback scaling Time constant scaling Peak current scaling continuous current			
external signals					
reference supplies	outputs	+ 10 Vdc & - 10 Vdc output @ 3 mA			
proportional command signal	inputs	± 10 V			
torque control command signal	input	± 10 V			
Enable	input	+ 10 V - 30 Vdc signal			
Tacho feedback signal	input	± voltage signal internally scaled on header			
Motor current	output	monitors motor torque			
Inhibit	input	inhibits drive (may be connected to limit switches)			
Drive healthy	output	indicates over current or over temperature or I^2T limiting			

Connections

Recommended motherboard for fitment to 19 in. rack systems : **MSB520**
Recommended motherboard using PMD60 / PM600 controller : **MSB910**
Recommended motherboard for mounting on cabinet back panel : **2MH**