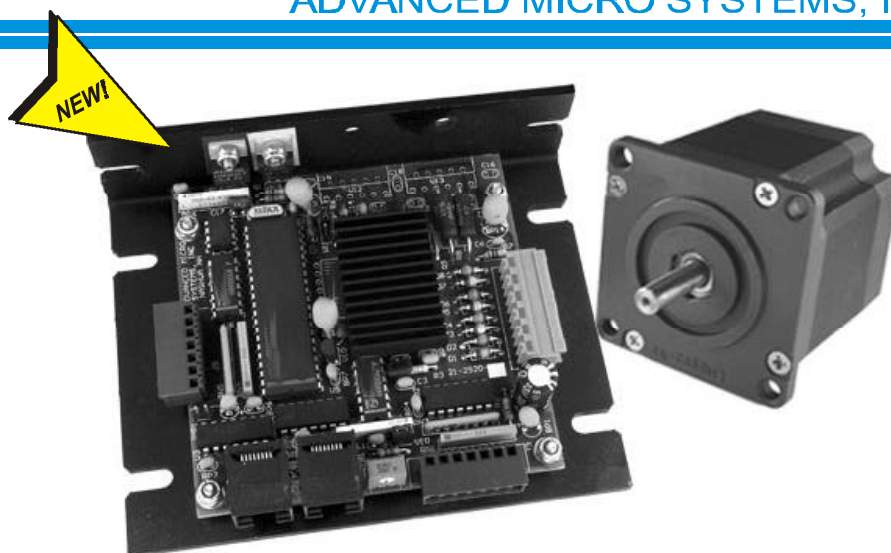


DCB-261/DCB-264

OEM SERIES MICROSTEP DRIVERS WITH PROGRAMMABLE CONTROL



OVERVIEW

The **DCB-261** and **DCB-264** offer low cost alternatives for operating small to midsize stepping motors. They combine programmable control, including over 30 sophisticated motion commands, with efficient, bipolar chopper drive output for high performance operation. All that is required for operation is a single, unregulated power supply and a motor.

The DCB-261 has a (peak) output current rating of 1.2 amps/phase for operating small stepping motors. The DCB-264 provides 4.0 amps of power to drive the larger NEMA 23 and 34 size motors. Both models offer microstepping resolution of 1/8, 1/4, 1/2, full and wave drive mode.

FEATURES

- Programmable control
- Efficient bipolar, chopper drive
- Full, half, microstep and wave drive
- Single power supply input
- 2k bytes of non-volatile memory
- Limit, Home, Go, Stop and Jog inputs
- Step and Direction inputs
- Serial communication (1-32 axes)
- Adjustable run current setting
- Automatic hold current adjust
- Programmable accel/decel ramping
- Constant velocity commands
- Heat-sink mounted

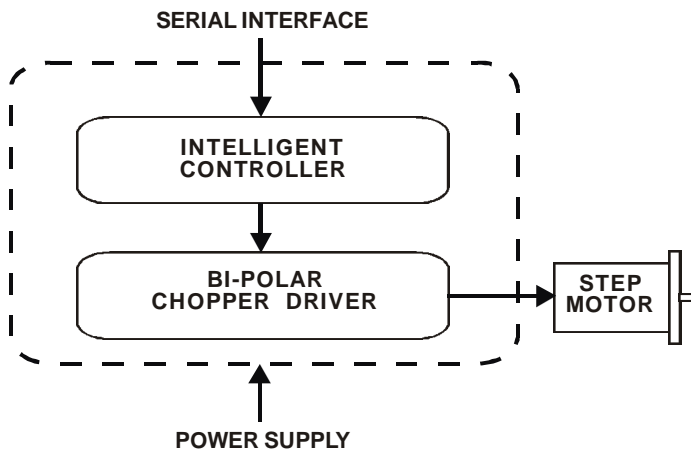
DRIVER

For maximum performance, both models utilize a bipolar chopper drive circuit with a 20kHz chopping rate. The input voltage range is from 24 to 40Vdc. The run current is set via a potentiometer. To eliminate excess heat generated by the motor, the hold current can be programmed to a reduced current setting at the completion of a move.

CONTROLLER

The on-board controller provides powerful step and direction output signals to the driver that produce step rates in excess of 20,000 steps per second. A 24 bit position register tracks steps within a $\pm 8,388,607$ step range. An instruction set of over 30 commands, including: loop on port, count delays, set/clear ports, limit and home sensor inputs, provides flexibility and programming ease.

BLOCK DIAGRAM



POWER SUPPLY

The DCB-261 and DCB-264 use a single, unregulated +24 to 40Vdc power supply. The on-board 5 volt logic power is derived from the motor power supply.

SERIAL INTERFACE

Full duplex serial communications, with an RS-422/485 "Party Line" interface, helps to ensure reliable communication in harsh industrial environments. This protocol also permits simultaneous communication (to 32 axes) with minimum command processing latency.

PROGRAMS

Using a host computer or dumb terminal, programs can be stored in non-volatile memory (2k bytes) and initiated via the serial communication port, the "GO" input or auto-power-up.

INPUT SIGNALS

Input signals include: Home, Limit A, Limit B, Go, Soft Stop and Ground. (Step, Direction and Jog available with Rev. B). All signals have a 5 volt range.

USER I.O.

Three input ports are available that can test and branch to multiple motion subroutines. Two programmable outputs are also available to drive solid state relays and other devices. A separate "TRIP" function provides automatic program branching when a specified position is passed.

COMMANDS

ASCII	Description
ESC	Abort/Terminate
@	Soft Stop
^C	Reset
+	Index in Plus Direction
-	Index in Minus Direction
I	Read NV Memory
l	Read Limits. Hardware
\	Write to NV Memory
l	Selective Termination
^	Read Moving Status
A	Port Read/Write
C	Restore/Initialize
D	Divide Step Rates
E	Enable Auto Power Down
F	Find Home (SPS)
G	GO from Address
H	Resolution Mode
I	Initial Velocity (SPS)
J	Jump to Address
K	Ramp Slope
k	Special Trip
L	Loop on Port
M	Move at a Constant Speed
O	Set Origin
P	Program Mode
Q	Query Program
R	Index to Target Position
S	Store Parameters
T	Set Trip Point
V	Slew Velocity (SPS)
W	Wait "N" Milliseconds
Y	Set Hold Current
X	Examine Parameters
Z	Display Position

SPECIFICATIONS

Electrical

Output Current (Peak)

DCB-261..... 1.2 Amps

DCB-264..... 4.0 Amps

Input Voltage..... +24 to 40Vdc

Step Resolution..... 1, 1/2, 1/4, 1/8, Wave

Chopping Frequency..... 20kHz

Non-Volatile Memory..... 2k Bytes

Position Counter..... ±8,388,607

Thermal

Operating Temperature..... 0 to +50°C

Storage Temperature..... -40 to +125°C

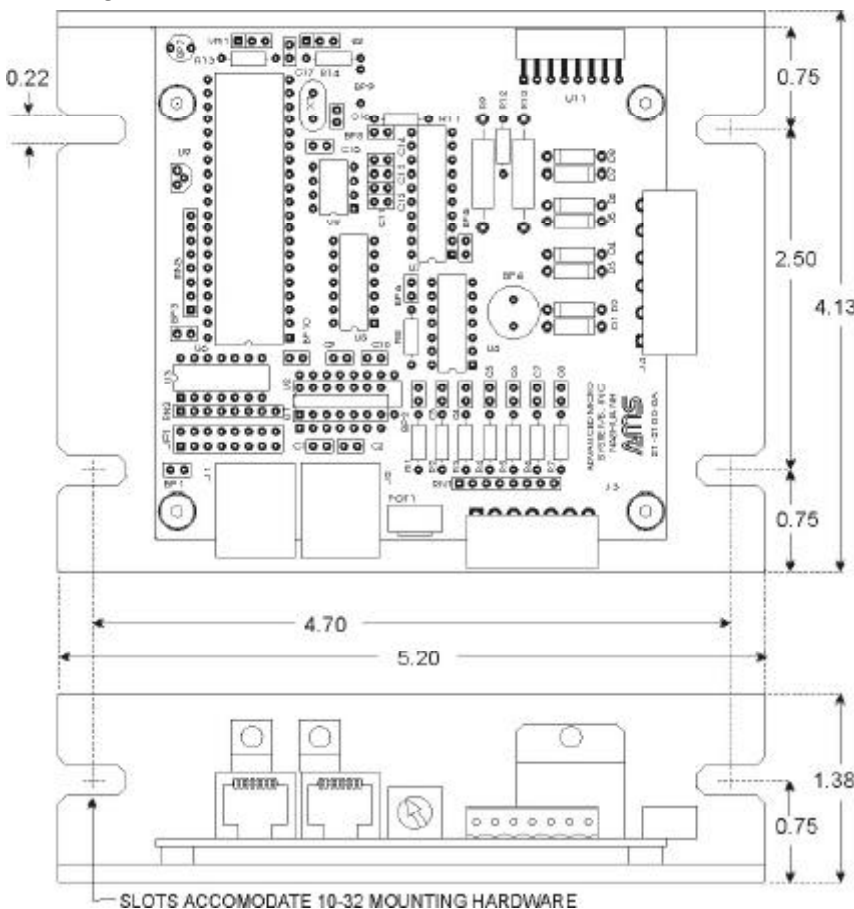
Plate Temperature (max)..... +70°C

Mechanical

Size..... 4.13 x 5.20 x 1.38 in.

Weight..... 8.0 oz.

Mounting Dimensions



ACCESSORIES

SIN-8..... RS-232/RS-422 Serial Line Converter and Cable

SIN-10..... Intelligent Serial Line Converter

BLC-51..... Interconnect Cable

AM Series Stepping Motors