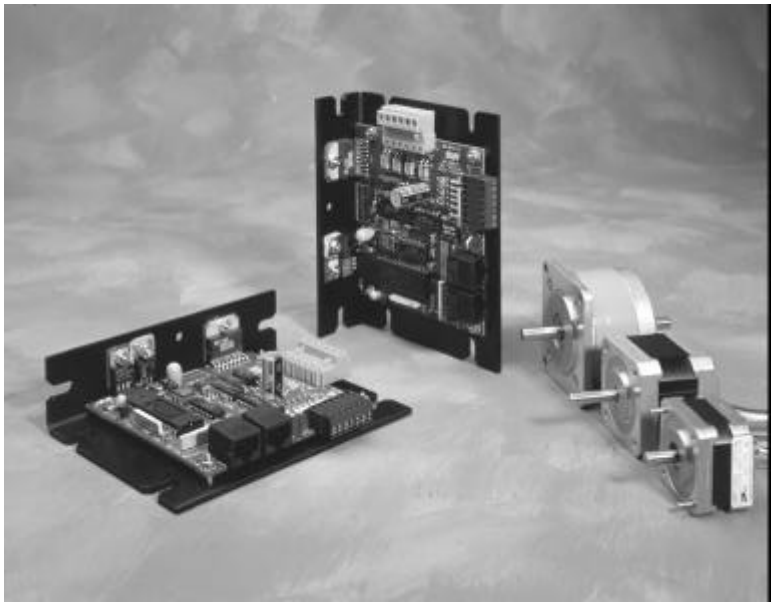


DCB-241

1 AMP DRIVER AND CONTROLLER BOARD

OVERVIEW

The **DCB-241** is a combination bi-polar chopper ***Driver*** and intelligent ***Controller*** board for operating small stepping motors. It is designed for low cost O.E.M. applications, yet it includes many enhanced operating features found in products costing much more:

- ***1 amp/phase chopper drive output***
- ***AMS' Award Winning controller***
- ***Single 24 to 40 volt power supply***
- ***1/2 step resolution to 24k SPS***
- ***2k bytes of non-volatile memory***
- ***Limit, Home, Go and Stop inputs***
- ***Serial communication (1-32 axes)***
- ***Adjustable run current setting***
- ***Automatic hold current adjust***
- ***Programmable accel/decel ramping***
- ***Constant velocity commands***
- ***Heat-sink mounted***
- ***Mating connectors included***
- ***Free development software***

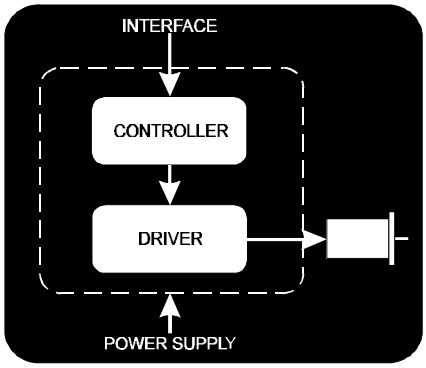
DRIVER

For maximum performance, the DCB-241 utilizes a bi-polar chopper drive circuit with a 20kHz chopping rate. The voltage range is from 24 to 40Vdc and the output current is up to 1.2 amps per phase. The run current is set via a potentiometer. To eliminate excess heat generated by the motor, the hold current automatically "folds-back" to a percentage of the run current at the completion of a move.

CONTROLLER

The on-board controller provides high performance step and direction output signals to the driver. It produces step rates in excess of 24,000 steps per second. The 24 bit position register tracks steps within a ±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.



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.

POWER SUPPLY

The DCB-241 uses a single, unregulated +24 to 40Vdc power supply. The on-board 5 volt logic power is derived from the motor power supply.

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Nashua, NH 03053
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ADVANCED MICRO SYSTEMS, INC.
2 Townsend West, Nashua, NH 03063-1277 603-882-1447 FAX 603-881-7600

DCB-241

COMMANDS

ASCII	***Description***
ESC	Abort/Terminate
@	Soft Stop
^C	Reset
+	Index in Plus Direction
-	Index in Minus Direction
[	Read NV Memory
]	Read Limits, Hardware
\	Write to NV Memory
^	Read Moving Status
A	Port Read/Write (optional)
B	Jog Speed, Slow/Fast (optional)
C	Restore/Initialize
D	Divide Step Rates
E	Enable Auto Power Down
F	Find Home (SPS)
G	GO from Address
I	Initial Velocity (SPS)
J	Jump to Address
K	Ramp Slope
L	Loop on Port (optional)
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
X	Examine Parameters
Z	Display Position

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 & B, Go, Soft Stop, and Ground. All signals have a 5 volt range.

OPTIONAL I.O.

Three optional input ports are available that can test and branch to multiple motion sub-routines. 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.

SPECIFICATIONS

Electrical

Output Current (Peak).....1.2 Amps
Chopping Frequency.....20kHz
Input Voltage.....+24 to 40Vdc
Motor Step Resolution.....Half Step
Non-Volatile Memory.....2k Bytes
Position Counter.....±8,388,607
Baud Rate.....9600 BPS

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 Oz.

MOUNTING DIMENSIONS