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Find the *Danaher Motion / IDC B7002* at our website: ***Click HERE***

The B7000 Brushless Servo Drives provide analog (torque/velocity) control, or digital position control with user-supplied step and direction or quadrature command signals. Both the B7001 and B7002 Drives are equipped with an internal power supply and shunt regulator.

The B7000 Series provides continuous rated thrust of up to 2,400 lbs when used with the TB Series brushless servo motor driven cylinder.

Features

- TB Series has the greatest continuous power of any IDC T Series cylinder, and the lowest motor inertia for rapidly accelerating light loads
- Ideal for OEM applications
- Single resolver feedback for harsh environments
- Quadrature encoder outputs derived from resolver
- Inaudible, high frequency PWM for current control
- Smooth, high bandwidth velocity/ torque control
- Transformerless, direct 230 (3-phase or 1-phase)/115 VAC line operation
- Convection cooled drive
- IGBT 20 kHz PWM output stage
- Easy to wire screw terminal connections
- Panel mounts in 10 inch deep NEMA cabinets
- Integral, directional dynamic braking
- Removable analog or digital personality module for easy set-up and maintenance
- Digital personality module provides step and direction or quadrature encoder position command for connection to an indexer or electronic gearing
- UL recognized

Resolver Feedback

The B7000 Series uses a single frameless resolver mounted on the motor for rugged, reliable operation. The resolver provides all necessary feedback information for commutation, velocity and position servo control.

The drive produces a quadrature encoder output signal which is available for use by an external position controller, including PLC servo modules. (Selectable resolution to 1024 counts/revolution)

Personality Modules

A removable personality module contains all motor and application-specific drive settings. Easily removed and installed, these modules simplify setup, installation and maintenance while reducing spare parts requirements.

All adjustments on the B7001 Drive (uses Analog Personality Module) are made using potentiometers, jumpers or switches. All adjustments on the B7002 Drive (uses Digital Personality Module) are set via a serial communications port and stored in EEPROM.

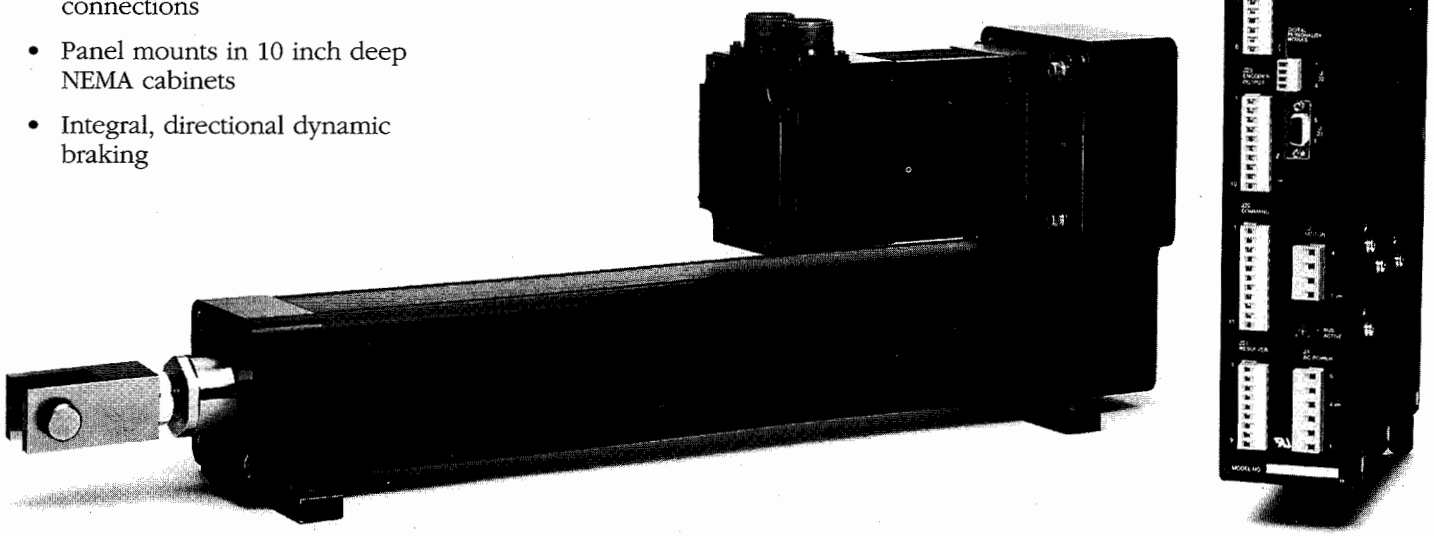
The B7001 accepts analog command of motor shaft torque or velocity. The B7002 Drive accepts these same inputs, plus digital position commands in step and direction or quadrature format. These commands may be used for electronic gearing or come from an indexer for programmed position positioning.

Compatible with TB

- Speeds up to 40 ips
- Thrust to 2,400 lbs

NB, RB

- Contact distributor or factory for details



COMMON B7000 SPECIFICATIONS

Current Bandwidth	750 to 3000 Hz
Velocity/Torque input command	±10V
Switching Frequency	20 KHz
Feedback	Resolver
Encoder Output Resolution	500, 512, 1000 and 1024 PPR (Switch selectable)
Signal (Electrical Specifications)	TTL differential line driver
Accuracy	±22 arc min
Control Inputs	Enable; Reset; Inhibit+ and Inhibit- (Active low pulled up internally to 12 VDC)
Fault Output	3 bit fault code (Open collector rated at 30 VDC, sinks 100mA maximum)
Test Points (Front Panel)	Velocity Command Tach Monitor Current Monitor Commutation Signal
Digital Personality Module (PM002)	
Communications	9600 Baud

TEMPERATURE

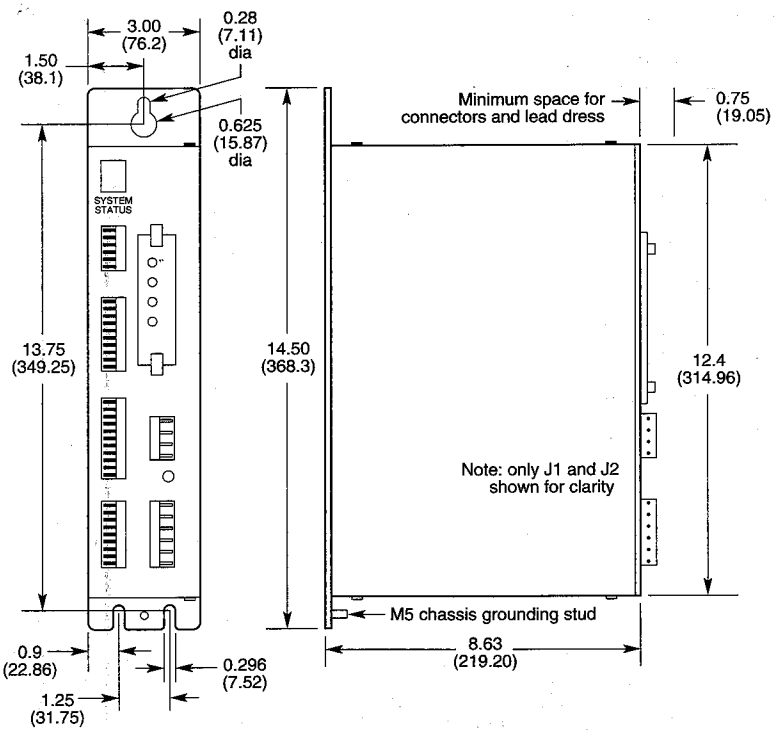
Operating	0°C to 50°C
Storage	-55°C to 70°C

*Linearly derate the continuous current and power ratings to 70% at 60°C

POWER DATA

Input Voltage	230 VAC +10%, -15%, 47-63 Hz, single or 3-phase 115VAC +10%, -15%, 47-63Hz, single phase
Input current	
230VAC, 3-phase	4.5A rms
230VAC, single phase	6.2A rms
115VAC, single phase	6.2A rms
Output Current	
Peak (5 seconds)	7.5A
Continuous	3.75A
Shunt regulator	
Peak power	3000W
Continuous power	20W
Output power (min. @ 50°C)	
Peak (1 second)	
230 VAC, 3-phase	2200W
230VAC, 1-phase	2000W
115VAC, 1-phase	1000W
Continuous	
230VAC, 3-phase	1100W
230 VAC, 1-phase	800W
115 VAC, 1-phase	550

DIMENSIONS



Personality Modules

The Personality Module contains all motor and application-specific drive settings. They are easily removed and installed; and they simplify set-up, installation and maintenance. There are two modules available.

Analog Personality Module (PM001)

All adjustments on the B7001 Drive's analog personality module are done with potentiometers, jumpers and switches. This module provides analog command of the motor's torque (cylinder thrust) or velocity. Four 15-turn potentiometers provide velocity offset, command gain, velocity loop and current limit adjustments.

Digital Module (PM002)

All adjustments on the B7002 Drive's digital personality module are made over a serial communications port and stored in EEPROM. The B7002 Drive accepts the same analog inputs as the B7001 but in addition it accepts position commands in Step/Direction or quadrature format. This module also features automated setup and the ability to change adjustments via a serial interface while the controller is in operation.

Drive Comparison

	B7001 Drive PM001	**B7002 Drive PM002**
Personality Module		
Operating Modes	Torque, Velocity	Torque, Velocity, Position
Tuning, Adjustments	Potentiometers	ASCII Commands (RS-232/422/485)
Command Input	Analog: Torque/Velocity	Analog: Torque/Velocity Digital: Step/Direction Quadrature
Filter	Analog	PIDV Notch (3rd order)
Auto Tuning	No	Yes
Position and Feedback Scaling	Dip Switches	Software Commands

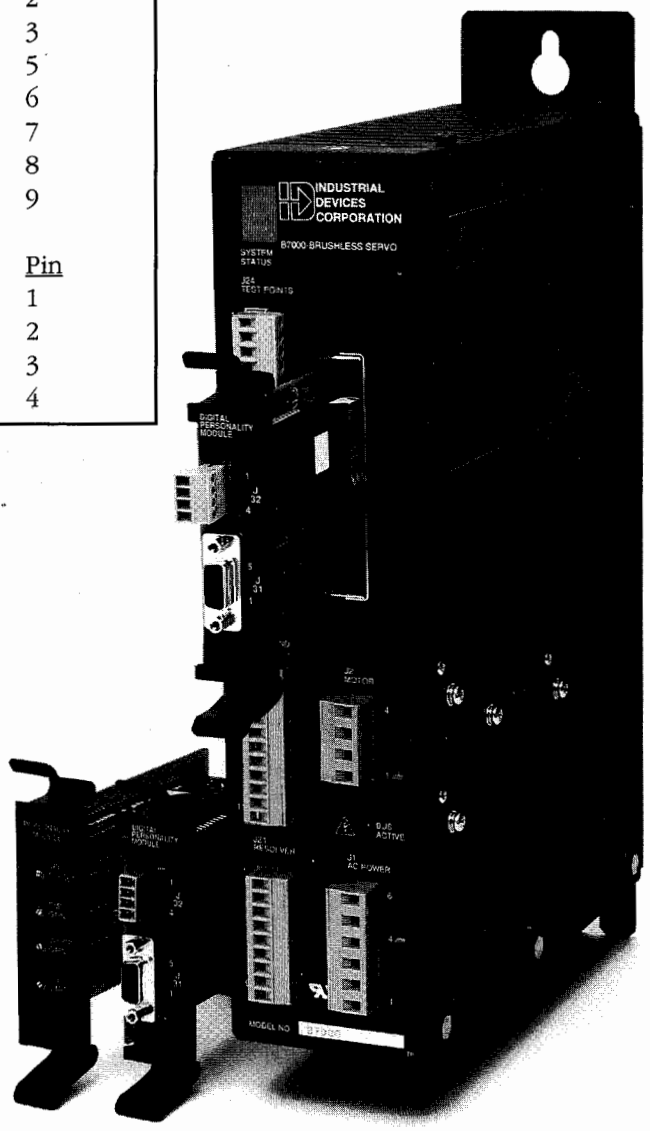
Connections (PM002)

Serial Programming Interface (9 Pin Female "D" Connector)

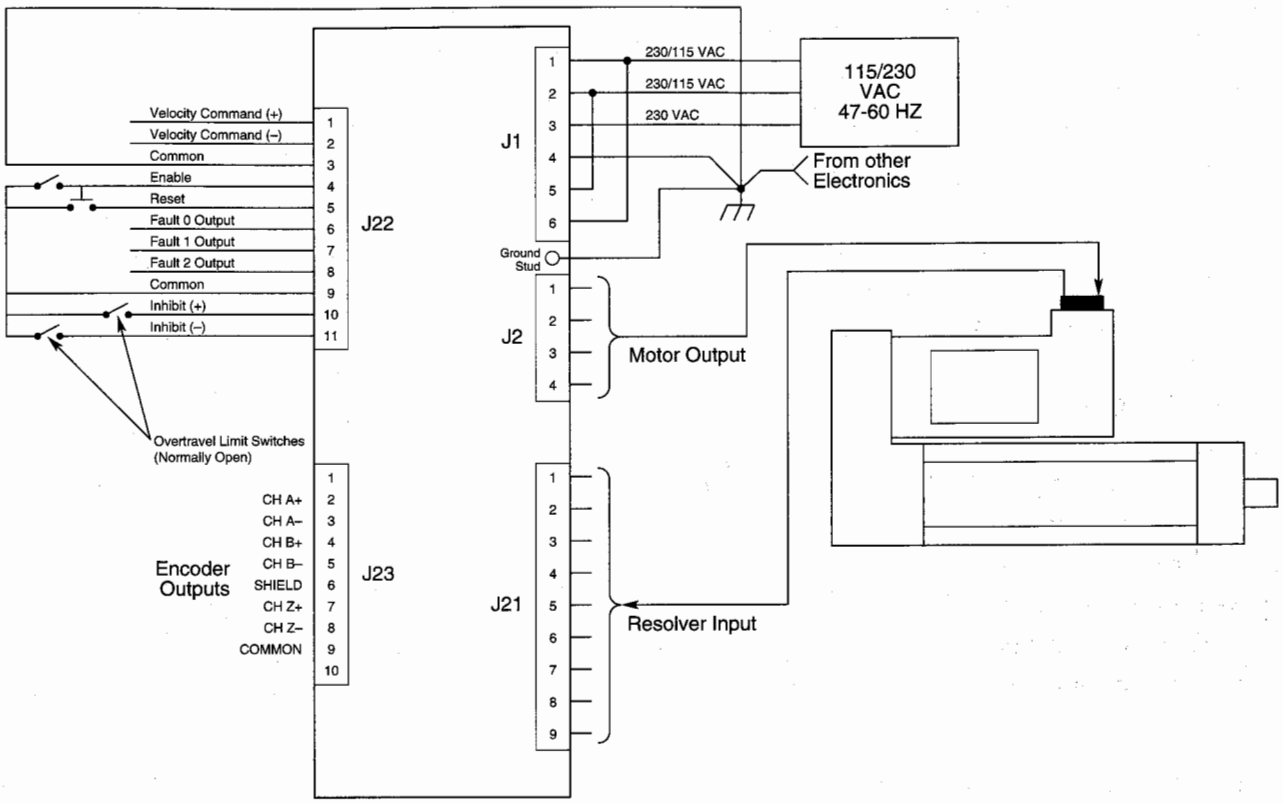
Function	Pin
TXD (RS-232)	2
RXD (RS-232)	3
Common	5
TXD-(RS-485)	6
TXD+(RS-485)	7
RXD+(RS-485)	8
RXD-(RS-485)	9

Position Input (J32)

Function	Pin
Step+/Encoder A	1
Step-/Encoder A not	2
Dir+/Encoder B	3
Dir-/Encoder B not	4



CONNECTION DIAGRAM



HOW TO ORDER

Model Number	Description
B7001	Brushless servo drive with an analog personality module
B7002	Brushless servo drive with a digital personality module
B7000	Brushless servo drive with no personality module
PM001	Analog personality module only
PM002	Digital Personality Module only

Note: TB Series cylinders include 12 foot motor and resolver cables.

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