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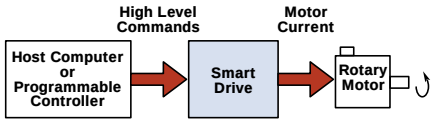
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Overview

IDC's B8961 (1–axis) and B8962 (2–axes) Brushless Servo Smart Drives are user friendly systems that offer you many compelling features and benefits. Consider these systems when your motion control application requires:

- A well integrated motion controller, digital servo drive, operator interface, power supply, 30 I/O, and built in Opto I/O rack
- CE cULus compliant
- A sophisticated servo controller capable of controlling position, velocity, and force/torque simultaneously. This capability makes the B8961/2 an ideal solution for clamping, pressing, drilling, and automated fastening applications
- A simple Machine Controller
- Interrupts
- Configurable I/O
- Linear Interpolation, and Registration
- Coordinated motion between two axis
- Go Immediate Mode. This mode of operation allows the controller to multitask between motion control and I/O operations. Immediate Mode also allows each axis to move completely independently of the other axis
- 1–99 axes of immediate control via host RS-232C communication
- Optional analog I/O for:
  - Reading an analog input proportional to temperature, distance, pressure, or force
  - Setting an analog output to control position of another axis of motion (for use with a D2500, H3501/4501, or B8501 analog position controls)

Compatible Actuators:
EC2-B, EC3-B, EC4-B, EC5-B, N2-B, NV-BN, R2A-BN, R3-B, R4-B, LM, LD Positioning Tables





Optional Keypad

- Both a programming and a operator interface
- Menu-driven setup, tuning, Help Function, Diagnostic Screens, Trace Mode-easy set up, troubleshooting and program debugging
- Easy to read 40 character display
- Keypad is protected to Nema 4 (IP65) when panel mounted

Drive Performance

- The B8961 and B8962 features the same outstanding dynamic performance and reliability as our DSP based B8001 digital brushless servo drive, described on page H-11

Motion Control

- 6K memory for up to 199 user programs (30K, 400 programs optional)
- User scaling of position, velocity, and acceleration
- Descriptive variables, math and conditional branching
- High Speed interrupt driven inputs–registration
- B8962–linear interpolated vector moves
- IDCMotion™ Windows Application Developer software included. See page H-26.

Opto Compatible I/O

- Accepts OPTO–22 (G4) digital modules and Grayhill (G5) analog and temperature modules
- 100% solid state, opto–isolation to 4000 volts
- 8 positions, all bidirectional
- Specify (intermix) Opto I/O modules: for AC, DC, analog, and temperature signals

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Specifications

Common Specifications

Input Power	90-240 VAC single phase, 50/60 Hz. 1150 VA Max @115 VAC, 2300 VA max @230 VAC. (B8962: X 2).
Motor Output	
Current Capability	5A continuous, 10A peak
Protection	Protected against phase-to-phase shorts and shorts to ground. Fused.
Power Dump Capacity	See page H-40 for details.
Encoder Input	
Type	Differential quadrature incremental encoder, with or without index
Maximum Rate	2MHz (post-quadratune)
Power	+5V @ 200 mA power encoder
Diagnostic Output	
Format	0 to 5V analog signal (centered at 2.5V)
Variables	Configurable as actual, and commanded velocity; position error; velocity error; actual, and commanded torque—programmable scaling
Serial Interface	RS-232C, 3 wire implementation (Tx, Rx, & Com), 9600 Baud, 8 data bits, 1 stop bit, no parity.
Environmental	
Operating Temperature	Shutdown occurs if heat-sink exceeds 55°C (131°). This temperature is a function of motor current, regen and ambient temperature. Some applications may require FK fan kit. See page H-39.
Humidity	0% to 90% non-condensing

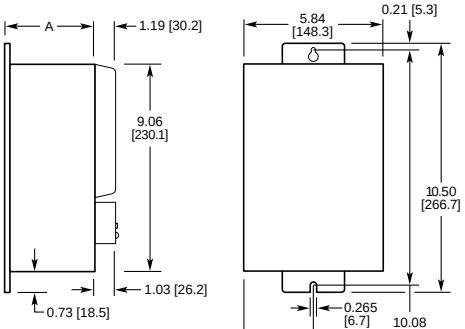
Additional B8961 & B8962 Specifications

Motion	
Position Range	±0-2,147,483,647 steps. Absolute and incremental.
Acceleration Range	0.01 to 999.99 rev/sec/sec
System Resolution	8,000 counts per revolution (IDC supplied motors)
OPTO-compatible I/O	8 Positions support OPTO-22 (G4) digital, Grayhill (G5) analog and temperature modules
Analog Opto Module	
Resolution	12 bits
Bandwidth	62.5 Hz
Inputs	
8 programmable, Limits, Home	Optically isolated, 24 VDC compatible (via pull up terminal—disconnect jumper to 12 VDC), 12 mA sinking current required.
Incremental Encoder	Optically isolated, differential 5 VDC, 2 MHz max (post-quadrature). 5VDC, 200mA power available.
Outputs	
8 Programmable	Open collector, sink current 100 mA max. Total of 350 mA for all I/O.

Mounting Dimensions

(B8961 and B8962)

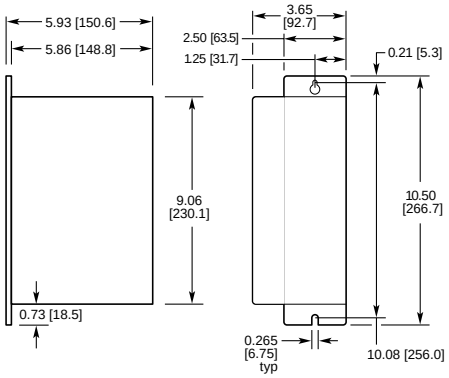
Minimum Depth Mounting in [mm]



Model	Dim A
B8961	3.73 [95.7]
B8962	6.79 [172.5]

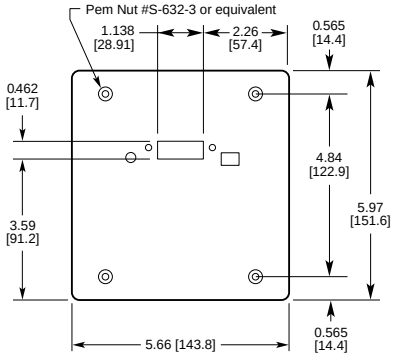
Minimum Width Mounting in [mm]

(B8961 only, front panel and opto modules removed)



Remote Mounting

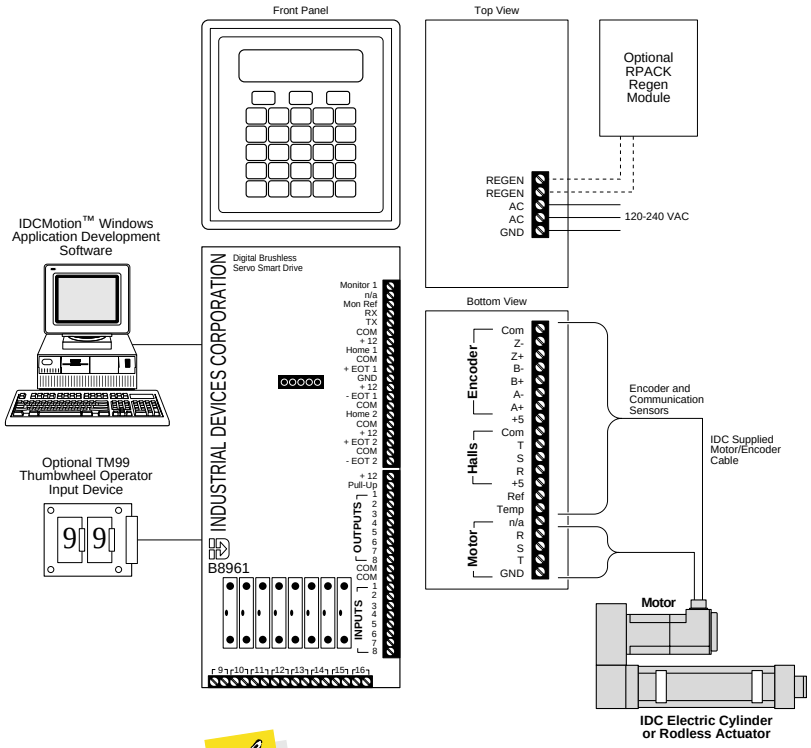
Front Panel (rear view) in [mm]



Brushless Servo Systems

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Operation



How To Order

Model	Description	Code	I/O Module Description	Option	Description
B8961	1-axis unit, with FP220 front panel	A	DC/AC In, 10-32 VDC, 12-32 VAC	-LMTR	For operation with an IDC Linear Motor
B8962	2-axis unit, with FP220 front panel	B	DC In, TTL		
B8961NP	1-axis unit, no front panel	C	DC In, 35-60 VDC	-FK1	Fan Kit, 115 VAC See page H-39.
B8962NP	2-axis unit, no front panel	D	AC In, 90-140 VAC	-FK2	Fan Kit, 230 VAC See page H-39.
		E	AC In, 180-240 VAC	-30K	30K user program memory
		F	DC Out, 5-60 VDC, 3 Amps		
		G	AC Out, 12-140 VAC, 3 Amps		
		H	AC Out, 24-280 VAC, 3 Amps		
		I	Input test switch		
		J	Analog In, 0-10 VDC		
		K	Analog In, 4-20 mA		
		L	Analog Out, 0-10 VDC		
		M	Analog Out, 4-20 mA		
		N	J Thermocouple In, 0-700°C		
		O	K Thermocouple In, -100-924°C		
		P	RTD In, 100 Ohm		
		X	Empty		

Position: 1 2 3 4 5 6 7 8

Accessories

RPACK-1, 115 VAC Operation	External regenerative power dissipation module. See page H-40.
RPACK-2, 230 VAC Operation	External regenerative power dissipation module. See page H-40.
FP220	Operator interface, front panel. See page H-41.
TM99	Thumbwheel input module. See page H-42.

To confirm your selection, review the checklist on page H-6.

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