

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, UL, and IEC 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

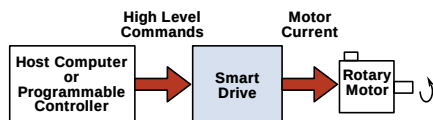
- The B8961 and B8962 features the same outstanding dynamic performance and reliability as our DSP based B8001 digital brushless servo drive, described on page H-11

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





Specifications

B8961/2
Smart Drive

**Servo
Systems**

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-quadrature)

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

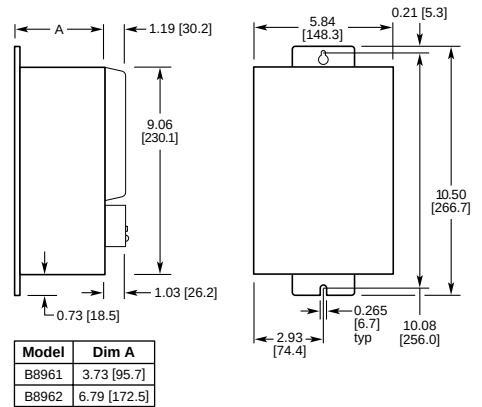
8 Programmable

Open collector, sink current 100 mA max. Total of 350 mA for all I/O.

Mounting Dimensions

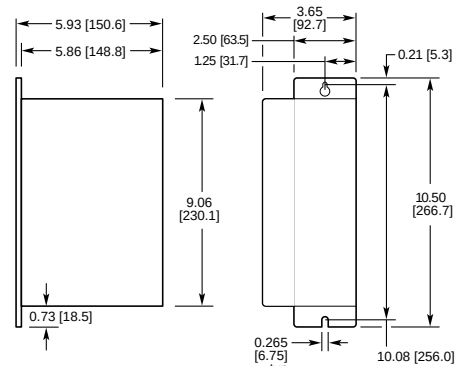
(B8961 and B8962)

Minimum Depth Mounting in [mm]



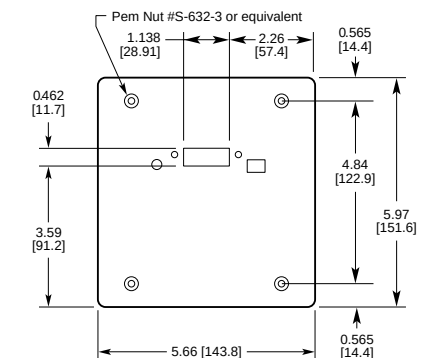
Minimum Width Mounting in [mm]

(B8961 only, front panel and opto modules removed)



Remote Mounting

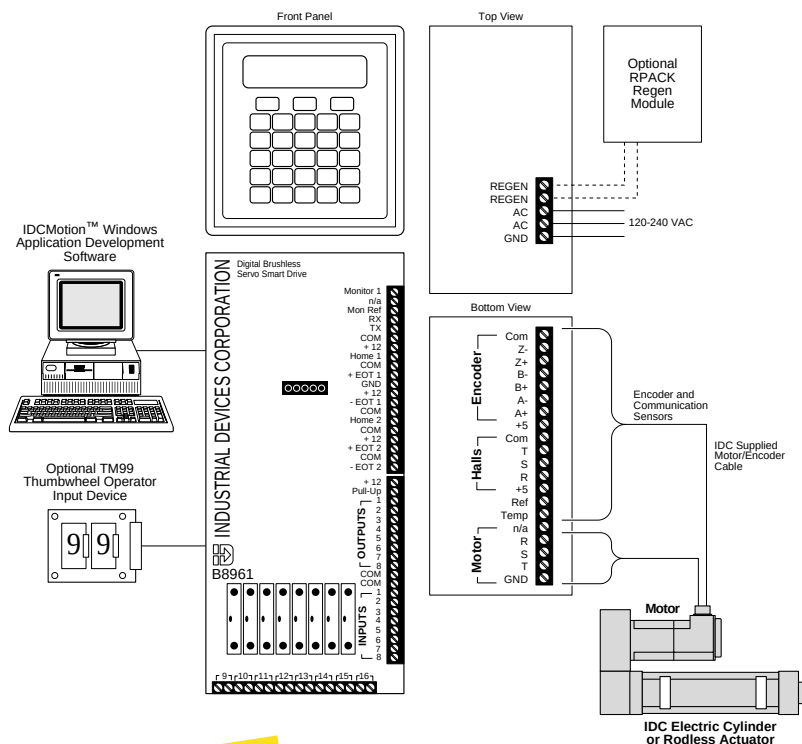
Front Panel (rear view) in [mm]



Brushless Servo Systems



Operation



How To Order

Model	Description	Code	I/O	Module	Description	Option	Description		
		1	2	3	4	5	6	7	8
		Position							
B8961	1-axis unit, with FP220 front panel	A	DC/AC In, 10-32 VDC, 12-32 VAC					-LMIR	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						
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.