

**Low Voltage
24 VDC**

**BRUSHLESS DC MOTORS/
GEARMOTORS WITH BUILT-IN
CONTROLS**

Bodine Electric's Brushless DC *INTEGRAmotor*[™] products combine three Bodine strengths into one powerful package that reduces wiring, panel space, assembly time, and system cost.

Bodine has been manufacturing small motors for over 100 years and has long been acknowledged as the leader in manufacturing high quality, long-lasting small gearmotors. And Bodine has the engineering capability and the state-of-the-art automated assembly equipment for manufacturing modern electronic controls that are small and economical.

INTEGRAmotors[™]

INTEGRAmotor™ Direct Drive Brushless DC Motors

1/16 - 1/8 HP



22B/FV



Bodine Electric's new **INTEGRAmotor™** Brushless DC products integrate three motion control components into one compact package. The perfect match of motor, speed control, and gearhead provide simplified wiring, reduced panel space, faster assembly times, and lower system costs.

NEW! PWM Input Models

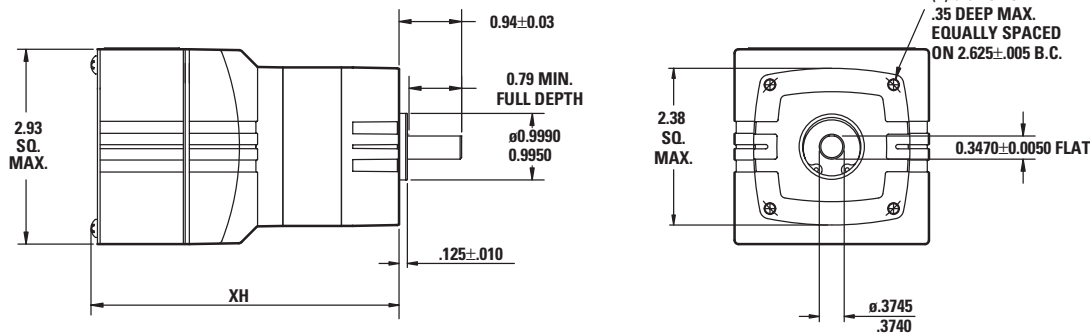
The new type 22B/FV models combine a 24VDC Brushless DC Motor with a built-in, open loop, voltage mode PWM controller. They accept PWM input from an external motion or speed controller, and feature amplifier enable, direction input, dynamic braking, and a built-in, 256 PPR, 2-channel encoder. These models are designed to be used in applications that would typically require more costly stepper or high-end servo motors. **Please visit our website for detailed information on the new 22B/FV series.**

22B/SR Features

- Integral control simplifies installation, minimizes EMI & reduces wiring cost
- Totally enclosed motor construction
- Single plug-in connector for power & logic
- Inputs for run, brake, speed, & direction
- 12 pulse/revolution tach output
- Dynamic braking for quick stops
- Current limit protects motor from overload
- Small size takes up minimal space
- cURus (UL recognized for USA and Canada), CE
- For our complete line of brushless products see page 103

Motor Output		Control Input			Length XH (inch)	Weight (lbs.)	Product Type	Model Number
Speed Range (rpm)	Torque (oz-in.)	HP	Volts (VDC)	Continuous Amps				
200-2500	25	1/16	24	4.0	4.7	2.5	22B2BEBL/SR	3802
200-2500	50	1/8	24	6.0	5.7	3.5	22B4BEBL/SR	3804

22B/SR and 22B/FV **INTEGRAmotor™**



Note: all direct drive INTEGRAmotor models have the same mounting hole dimensions.



INTEGRAmotor™ Parallel Shaft BLDC Gearmotors

Up to 100 lb-in. continuous

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Same Features as 22B/SR Direct Drive Motors, PLUS:

- Integral gear reducer increases torque and reduces speed
- Helical & spur gearing for high efficiency
- Oil lubrication for long life
- Unvented gearhousing for universal, horizontal mounting
- High-strength thermoplastic input gear for quiet operation
- Output torque ratings chosen for long, reliable life
- For our complete line of brushless products see page 103

Optional Accessories

- "L" bracket kit model 5968, see page 122



22B-D and 22B-Z



New e-TORQ™

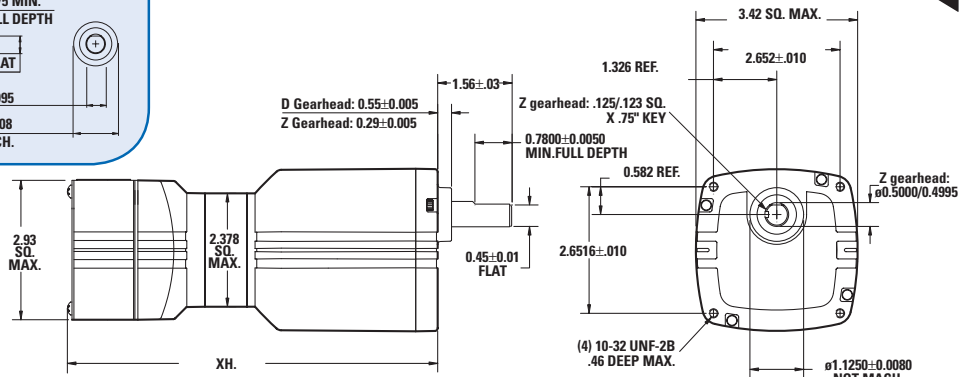
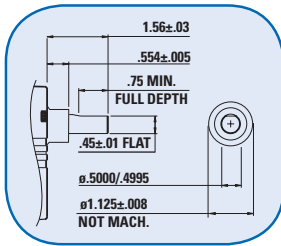
INTEGRAmotor™

Motor Output			Control Input			Length XH (inch)	Weight (lbs.)	Product Type	Model Number ¹
Speed Range (rpm)	Torque (lb-in.)	Gear Ratio	HP	Volts (VDC)	Continuous Amps				
0.7-8	100	300:1	1/16	24	4.0	7.9	4.8	22B2BEBL/SR-Z4	N3864
0.7-8	40	300:1	1/16	24	4.0	6.7	3.8	22B2BEBL/SR-D5	N3837
1-14	100	180:1	1/16	24	4.0	7.9	4.8	22B2BEBL/SR-Z4	3863
1-14	40	180:1	1/16	24	4.0	6.7	3.8	22B2BEBL/SR-D4	3836
2-28	97	90:1	1/16	24	4.0	7.9	4.8	22B2BEBL/SR-Z4	N3862
2-28	40	90:1	1/16	24	4.0	6.7	3.8	22B2BEBL/SR-D4	N3835
3-42	95	60:1	1/11	24	5.0	8.4	5.3	22B3BEBL/SR-Z3	N3861
3-42	40	60:1	1/16	24	4.0	6.7	3.8	22B2BEBL/SR-D3	N3834
7-83	52	30:1	1/11	24	5.0	8.4	5.3	22B3BEBL/SR-Z3	3860
7-83	29	30:1	1/16	24	4.0	6.7	3.8	22B2BEBL/SR-D3	3829
11-139	31	18:1	1/11	24	5.0	7.4	5.3	22B3BEBL/SR-Z2	N3859
11-139	17	18:1	1/16	24	4.0	6.7	3.8	22B2BEBL/SR-D3	N3828
17-208	20	12:1	1/11	24	5.0	7.4	5.3	22B3BEBL/SR-Z2	N3858
17-208	12	12:1	1/16	24	4.0	6.7	3.8	22B2BEBL/SR-D3	3827
33-417	10	6:1	1/11	24	5.0	7.4	5.3	22B3BEBL/SR-Z2	3857
33-417	5.8	6:1	1/16	24	4.0	6.7	3.8	22B2BEBL/SR-D3	3826

¹ NOTE: Model numbers shown in bold type are in stock. "N" model numbers require lead time and minimum quantities.

22B-D and 22B-Z **INTEGRAmotor™** (SR and /FV)

D gearhead shaft dimension



Note: all parallel shaft **INTEGRAmotors** models have the same mounting hole dimensions. Drive shaft and shaft hub dimensions vary between type D and Z gearheads.



Hollow Shaft

Custom

Pacesetter™ Inverter Duty

AC Induction

Permanent Magnet DC

Brushless DC

Index



22B-3N



INTEGRAmotor™ Right Angle BLDC Gearmotors

Up to 37 lb-in. continuous

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Same Features as 22B/SR Direct Drive Motors, PLUS:

- Integral gear reducer increases torque and reduces speed
- Worm gearing for high strength & quiet operation
- Higher gear ratios provide self-locking to hold load in place
- Grease lubrication for long life & flexible mounting positions
- Unvented gearhousing
- Output torque ratings chosen for long, reliable life
- For our complete line of brushless products see page 103
- Hollow shaft configurations are available. See page 19 for mounting and shaft details. These models require lead time and minimum quantities.

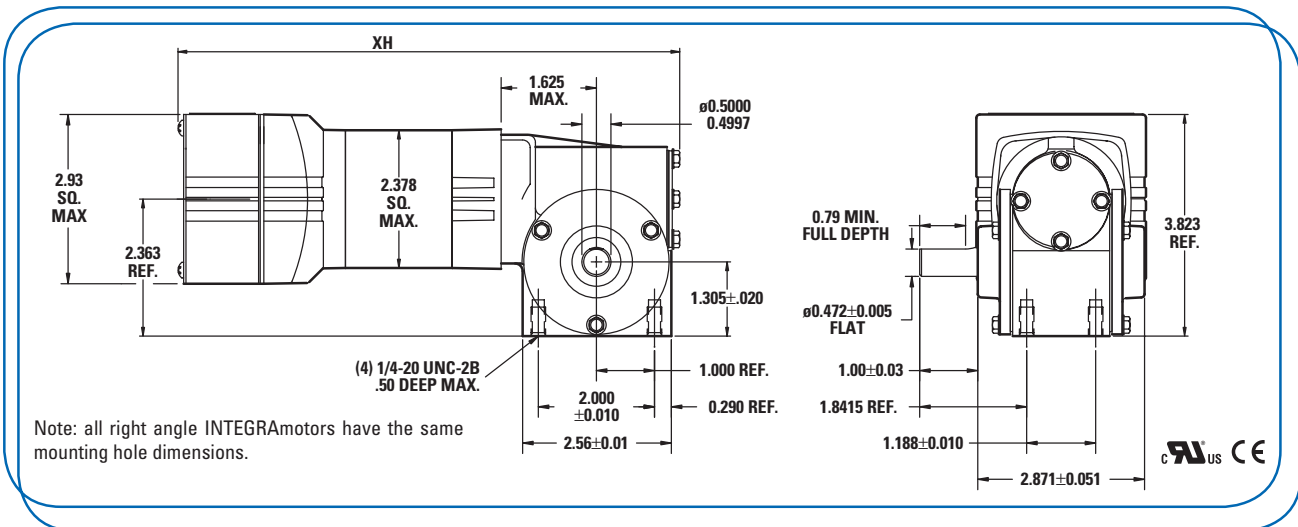
Optional Accessories

- Baseplate kit model 0967, see page 122

Motor Output			Control Input			Length XH (inch)	Weight (lbs.)	Product Type	Model Number ¹
Speed Range (rpm)	Torque (lb-in.)	Gear Ratio	HP	Volts (VDC)	Continuous Amps				
3-42	37	60:1	1/8	24	6.0	8.79	5.4	22B4BEBL/SR-3N	N3865
5-62	37	40:1	1/8	24	6.0	8.79	5.4	22B4BEBL/SR-3N	3866
10-125	35	20:1	1/8	24	6.0	8.79	5.4	22B4BEBL/SR-3N	N3867
20-250	22	10:1	1/8	24	6.0	8.79	5.4	22B4BEBL/SR-3N	3868
40-500	11	5:1	1/8	24	6.0	8.79	5.4	22B4BEBL/SR-3N	N3869

¹ NOTE: Model numbers shown in bold type are in stock. "N" model numbers require lead time and minimum quantities.

22B-3N INTEGRAmotor™

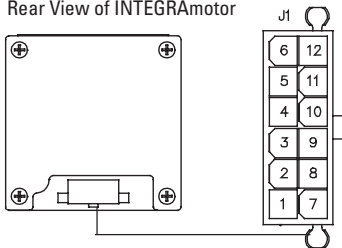


Note: all right angle INTEGRAmotors have the same mounting hole dimensions.

ELECTRICAL CONNECTIONS FOR ALL 22B/SR INTEGRAmotors

(visit our website for 22B/FV connections and pin-out information)

Rear View of INTEGRAmotor



Mating Connector Housing is Molex P/N 39-01-2125

Power Pin No.	Description
1	24V Return (Common)
7	+24V

Mating Receptacle is Molex P/N 39-00-0039 (loose piece) for 18 – 24 AWG wire

Logic Pin No.	Description	Logic Pin No.	Description
2	Direction	8	Tach (12 PPR)
3	Enable (Active low)	9	Voltage Input (Speed)
4	Fault (Active low)	10	+5V (Use for speed pot only)
5	New: Direction Output	11	Brake (Active low)
6	Common	12	Common

Mating Receptacle is Molex P/N 39-00-0047 (loose piece) for 22 – 28 AWG wire

NOTE: Use Molex Hand Tool P/N 57026-5000 to crimp the receptacles to the wires.



MADE IN U.S.A.