

GLENTEK BRUSHLESS SERVO MOTORS GMBM60 SERIES

Revision: 3/16/2017



Glentek's GMBM60 series of high performance, permanent magnet Brushless servo motors utilize high-energy Neodymium-Iron- Boron (NdFeB) magnets, which provide more torque in a smaller package with higher dynamic performance than traditional ferrite magnet designs. In addition, GMBM60 series have been tooled for high volume production which makes them easy to use and extremely cost effective..

- Continuous Torque Range:
3.0 Lb-in (0.3 Nm) to 11.8 Lb-in (1.3 Nm)
- Peak Torque Range:
9.0 Lb-in (0.9 Nm) to 35.4 Lb-in (3.9 Nm)

GMBM60 SERIES FEATURES

High-energy Neodymium-Iron-Boron (NdFeB) magnet design with low inertia rotors provides a high dynamic performance.
Special design provides ultra smooth operation (i.e. low cogging torque) at all speeds.
Worldwide standard mounting configurations are available.
Optional custom mounting configurations are available to meet virtually any requirement.
Encoder with commutation tracks, brushless resolvers or Hall sensors are standard feedback devices offered
Shaft Keyway.
Standard operating temperature is dependent on the feedback device installed. Motors with resolver feedback can be specially configured to operate down to -40°C.
Optional 24VDC holding brakes are available.
Constructed to withstand the toughest industrial environment with rugged, high performance bearings and TENV construction with IP65 sealing optional
RoHS Compliant
CE marked.
UL Recognized Component for US and Canada.

GMBM60 SERIES ENVIRONMENTAL CONDITIONS

Storage Temperature:	-20°C to 70°C
Operating Temperature:	Standard: -20°C to 40°C, without derating, derate torque 10% per 10°C above 40°C Special: -40°C to 40°C, without derating, derate torque 10% per 10°C above 40°C
Humidity:	5% to 95% relative humidity, non-condensing
Altitude:	Up to 1000m without derating, derate torque 10% per 1000m above 1000m

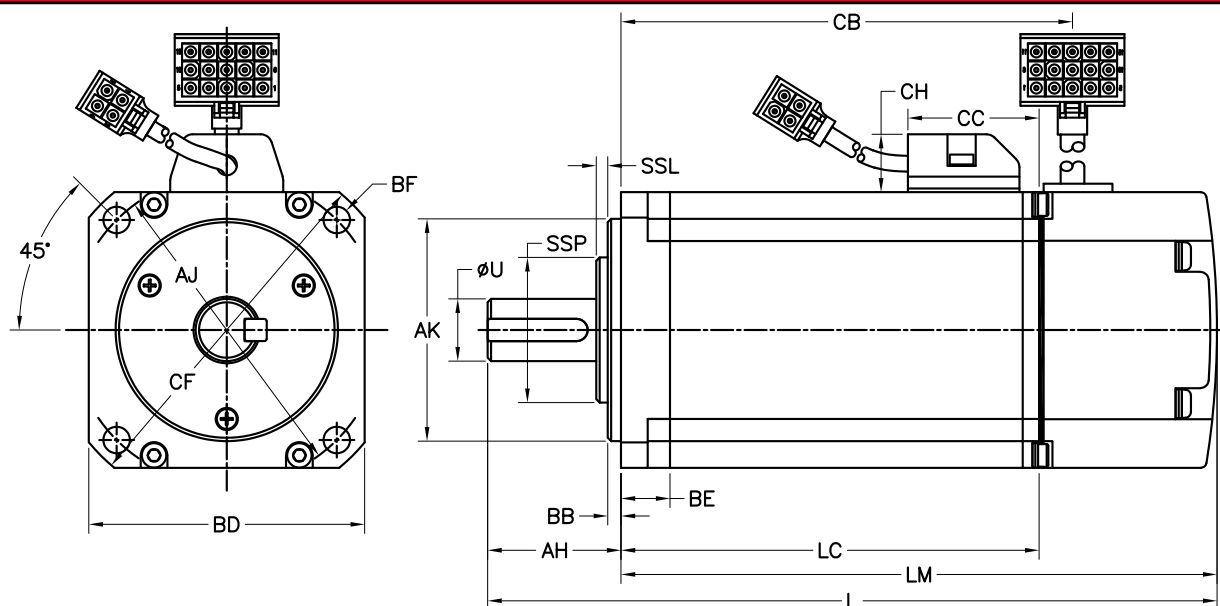
GMBM60 SERIES SELECTION TABLE

K_T = Torque Constant • K_V = BEMF = Volts/1000 RPM • R_A = Phase to Phase Resistance • L_A = Inductance

Model Number	Rated Power	Speed, RPM		Cont. Stall Rating			Peak Stall Torque			K_T		K_V	R_A	L_A	Rotor Inertia	
	W	Max	Rated	Lb-in	Nm	Amps	Lb-in	Nm	Amps	Lb-in/A	Nm/A	V	Ω	mH	Lb-in-sec ²	Kg-m ²
GMBM60100-14	100	5000	3000	3.0	0.3	1.7	9.0	0.9	5.1	1.82	0.21	13.6	2.50	7.37	0.000101	0.000011
GMBM60200-30	200	5000	3000	6.0	0.7	1.6	18.0	2.1	4.8	3.69	0.42	29.2	4.15	15.21	0.000161	0.000018
GMBM60400-29	400	5000	3000	11.8	1.3	2.9	35.4	3.9	8.7	4.07	0.46	29.5	1.64	7.32	0.000284	0.000032

NOTE: The values for Max and Rated Speed are for motors operated with a 200 VAC power supply.

GMBM60 SERIES DIMENSIONS



Model Number	Weight	External Dimension						Shaft/Key			Flange/Face					Mounting Hole		Shaft Seal (Optional)	
	Kg	L	LM	LC	CB	CC	CH	AH	U	KEY	AK	BB	BD	BE	CF	AJ	BF Ø	SSP	SSL
GMBM60100-29	0.82	121.5	91.5	52.5	61	29.5	13.0	30.0	14.0	M5 SQ. X 22	50.0	3.0	62.0	6.0	80.0	70.0	6.0	31.0	6.5
GMBM60200-30	1.08	135.5	105.5	66.5	73	29.5	13.0	30.0	14.0	M5 SQ. X 22	50.0	3.0	62.0	6.0	80.0	70.0	6.0	31.0	6.5
GMBM60400-29	1.58	163.5	133.5	94.5	103	29.5	13.0	30.0	14.0	M5 SQ. X 22	50.0	3.0	62.0	6.0	80.0	70.0	6.0	31.0	6.5

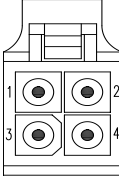
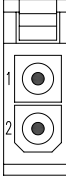
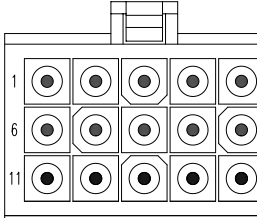
Note: Dimensions are in **mm**

BRAKE OPTION

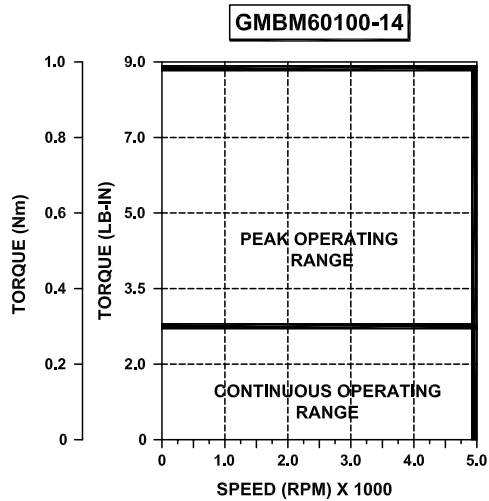
Brake requires 24V DC input voltage. The values for "Extension" represent the nominal maximum length that the brake will add to the motor. For some models, the extension will be less. Please contact one of our sales engineers for the exact values.

Extension	Torque		Power
mm (in.)	Lb-in	Nm	Watts
40 (1.57)	13.0	1.8	6.5

CONNECTORS & PIN-OUT INFORMATION

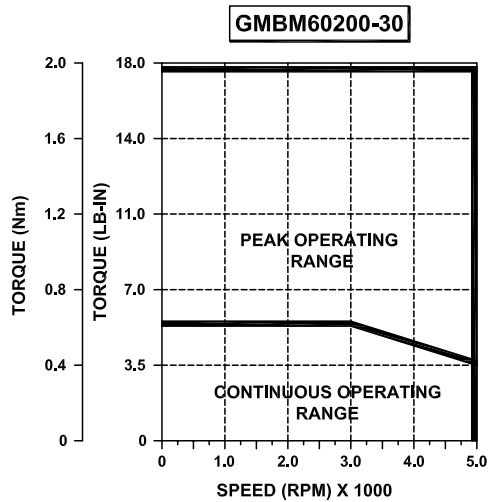
A - Motor Power		B - Brake		C - Encoder FeedBack					
AMP Connector		AMP Connector		AMP Connector		Pin #	Function	Pin #	Function
						1	A +	9	Hall V +
Pin #	Function	Pin #	Function			2	A -	10	Hall V +
1	Phase T	1	Brake +			3	B +	11	Hall U +
2	Phase S	2	Brake -			4	B -	12	Hall U +
3	Phase R					5	Z +	13	+5V
4	Ground					6	Z -	14	Common
						7	Hall W +	15	Shield
						8	Hall W -	-	-

GMBM60100-14 PERFORMANCE DATA



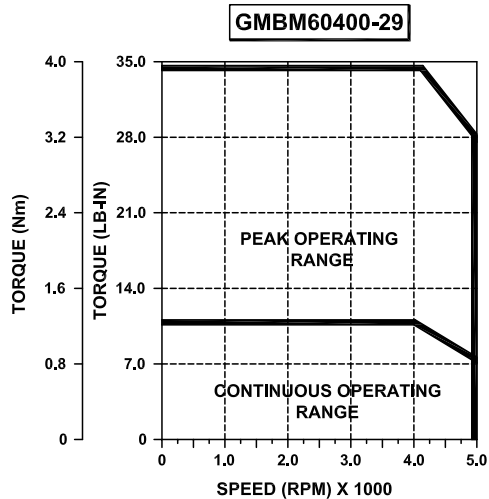
Power @ Max Speed	HP	.134
	W	100
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	3.0
	Nm	0.3
	Amps	1.7
Peak Stall Rating	Lb-in	9.0
	Nm	0.9
	Amps	5.1
Torque Constant	Lb-in/A	1.82
	Nm/A	0.21
Back EMF	V/Krpm	13.6
Resistance	Ohms	2.50
Inductance	mH	7.37
Armature Inertia	Lb-in-sec ²	0.000101
	Kg-m ²	0.000011

GMBM60200-30 PERFORMANCE DATA



Power @ Max Speed	HP	0.268
	W	200
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	6.0
	Nm	0.7
	Amps	1.6
Peak Stall Rating	Lb-in	18.0
	Nm	2.1
	Amps	4.8
Torque Constant	Lb-in/A	3.69
	Nm/A	0.42
Back EMF	V/Krpm	29.2
Resistance	Ohms	4.12
Inductance	mH	15.21
Armature Inertia	Lb-in-sec ²	0.000161
	Kg-m ²	0.000018

GMBM60400-29 PERFORMANCE DATA



Power @ Max Speed	HP	0.536
	W	400
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	11.8
	Nm	1.3
	Amps	2.9
Peak Stall Rating	Lb-in	35.4
	Nm	3.9
	Amps	8.7
Torque Constant	Lb-in/A	4.07
	Nm/A	0.46
Back EMF	V/Krpm	29.5
Resistance	Ohms	1.64
Inductance	mH	7.32
Armature Inertia	Lb-in-sec ²	0.000284
	Kg-m ²	0.000032

GMBM60 SERIES MODEL NUMBERING

This section explains the model numbering system for Glentek's GMBM60 Series Brushless Servo Motors. The model numbering system is designed so that you, our customer, will be able to quickly and accurately create the model number for the drive that best suits your requirements. Please complete the drive configuration code you require using the information on this page. After completing your model number, please contact a Glentek Sales Engineer to confirm that the model number you have created is correct.

GMBM **60** **100** - **14** - **0** **0** **0** **0** **0** **0** **0** **0** -

Frame Size 60 = 60mm Motor

Power at Rated RPM 100 = 100 Watts

Back EMF Constant 14 = 14 V/Krpm

Brake option 0 = No brake installed

Flange Type 0 = Standard

Shaft Type 0 = Standard

Lead Termination 0 = Two AMP Connectors

Wiring Diagram 0 = Glentek Standard

Encoder Option 0 = 2048 PPR

Sealing Option 0 = No Shaft Seal

Factory Assigned Option leave blank

GMBM - - -

Frame Size	
60	60mm Motor

Power at Rated RPM			
100	100 Watts	400	400 Watts
200	200 Watts		

Back EMF Constant			
100 Watts	200 Watts	400 Watts	
14	14V/Krpm	30	30V/Krpm
		29	29V/Krpm

Brake Option			
0	No brake installed	1	24 VDC Brake
		2	Special

Flange Type			
0	Standard Round	1	Special

Shaft Type			
0	Standard Round	1	Special

Lead Termination Type			
1	Special	2	Two MS Connectors

Wiring Diagram			
0	Glentek Standard	1	Special

Encoder Option			
0	2048 PPR	3	1024 PPR
1	3000 PPR	4	2500 PPR

Sealing Option			
0	No Shaft Seal (IP54 Sealing)	2	Special
1	Shaft Seal		

Factory Assigned Option	
A numerical code will be assigned by Glentek to motors whose specifications vary from the standard configuration	