GLENTEK BRUSHLESS SERVO MOTORS
GMBM40 SERIES

Revision: 3/24/2017

Glentek's GMBM40 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, GMBM40 series have been tooled for high volume production which makes them easy to use and extremely cost effective..

- Continuous Torque Range:
0.9 Lb-in (0.1 Nm) to 3.0 Lb-in (0.3 Nm)
- Peak Torque Range:
2.8 Lb-in (0.3 Nm) to 9.1 Lb-in (0.9 Nm)

GMBM40 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 contstruction with IP65 sealing optional
RoHS Compliant
CE marked.
UL Recognized Component for US and Canada.

GMBM40 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

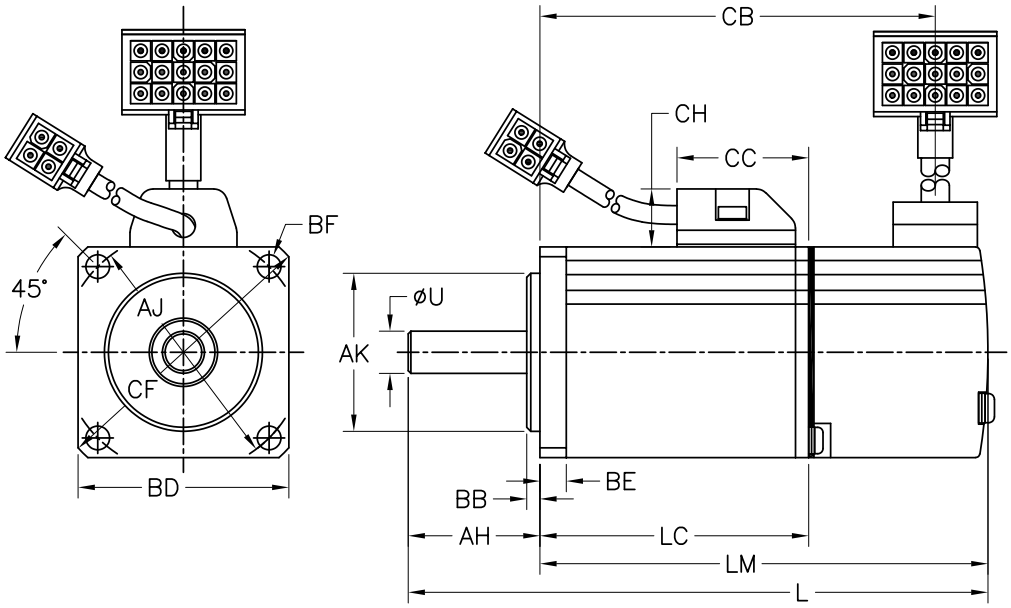
GMBM40 SERIES SELECTION TABLE

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-sec²	Kg-m²
GMBM40030-8	30	5000	3000	0.9	0.1	1.1	2.8	0.3	3.3	0.88	0.10	7.8	11.69	8.54	0.000015	0.000002
GMBM40050-11	50	5000	3000	1.5	0.2	1.2	4.5	0.6	3.6	1.26	0.14	10.6	9.43	8.27	0.000021	0.000002
GMBM40100-13	100	5000	3000	3.0	0.3	1.4	9.1	0.9	4.2	2.19	0.25	12.7	6.89	6.73	0.000040	0.000005

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

GMBM40 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
GMBM40030-8	0.32	100	76	42.5	66	31.0	13.0	25.0	8.0	M3 SQ. X 15	30.0	2.5	40.0	5.0	54.0	46.0	4.5	N/A	N/A
GMBM40050-11	0.38	108	83	49.5	73	31.0	13.0	25.0	8.0	M3 SQ. X 15	30.0	2.5	40.0	5.0	54.0	46.0	4.5	N/A	N/A
GMBM40100-13	0.50	125	100	66.5	90	31.0	13.0	25.0	8.0	M3 SQ. X 15	30.0	2.5	40.0	5.0	54.0	46.0	4.5	N/A	N/A

Note: Dimensions are in **mm**

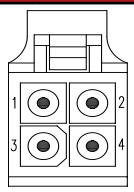
BRAKE OPTION

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
36 (1.43)	2.8	.32	6.0

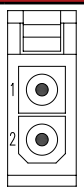
CONNECTORS & PIN-OUT INFORMATION

A - Motor Power AMP Connector



Pin #	Function
1	Phase T
2	Phase S
3	Phase R
4	Ground

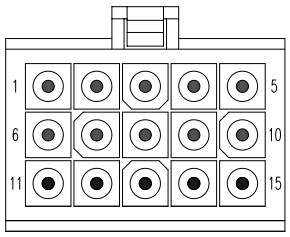
B - Brake AMP Connector



Pin #	Function
1	Brake +
2	Brake -

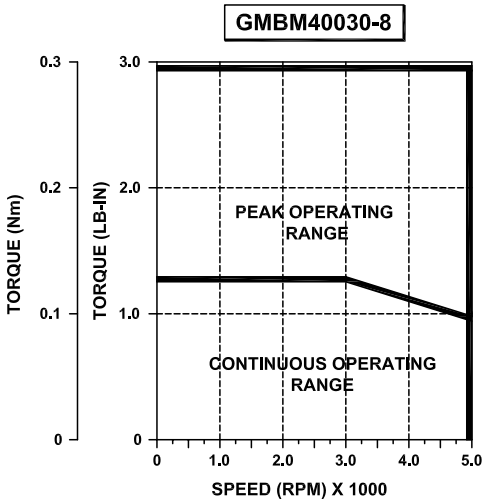
C - Encoder FeedBack

AMP Connector



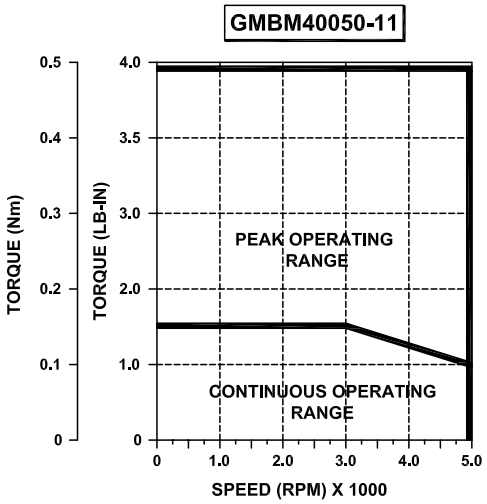
Pin #	Function	Pin #	Function
1	A+	**9**	Hall V+
2	A -	**10**	Hall V+
3	B+	**11**	Hall U+
4	B -	**12**	Hall U+
5	Z+	**13**	+5V
6	Z -	**14**	Common
7	Hall W+	**15**	Shield
8	Hall W -	-	-

GMBM40030-8 PERFORMANCE DATA



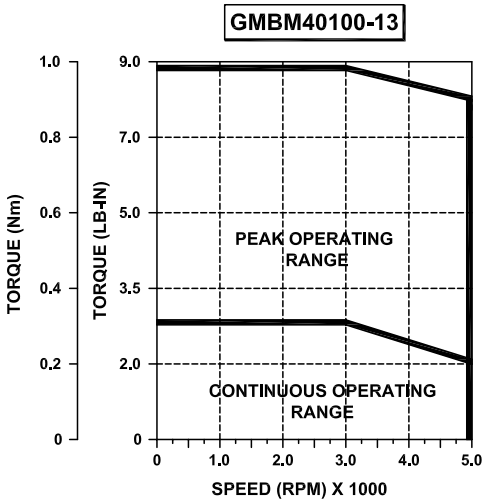
Power @ Max Speed	HP	0.04
	W	30
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	0.9
	Nm	0.1
	Amps	1.1
Peak Stall Rating	Lb-in	2.8
	Nm	0.3
	Amps	3.3
Torque Constant	Lb-in/A	0.88
	Nm/A	0.10
Back EMF	V/Krpm	7.8
Resistance	Ohms	11.69
Inductance	mH	8.54
Armature Inertia	Lb-in-sec²	0.000015
	Kg-m²	0.000002

GMBM40050-11 PERFORMANCE DATA



Power @ Max Speed	HP	0.067
	W	50
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	1.5
	Nm	0.2
	Amps	1.2
Peak Stall Rating	Lb-in	4.5
	Nm	0.6
	Amps	3.6
Torque Constant	Lb-in/A	1.26
	Nm/A	0.14
Back EMF	V/Krpm	10.6
Resistance	Ohms	9.43
Inductance	mH	8.27
Armature Inertia	Lb-in-sec²	0.000021
	Kg-m²	0.000002

GMBM40100-13 PERFORMANCE DATA



Power @ Max Speed	HP	0.134
	W	100
Speed, RPM	Max.	5000
	Rated	3000
Cont. Stall Rating	Lb-in	3.0
	Nm	0.3
	Amps	1.4
Peak Stall Rating	Lb-in	9.1
	Nm	0.9
	Amps	4.2
Torque Constant	Lb-in/A	2.19
	Nm/A	0.25
Back EMF	V/Krpm	12.7
Resistance	Ohms	6.89
Inductance	mH	6.73
Armature Inertia	Lb-in-sec²	0.000040
	Kg-m²	0.000005

GMBM40 SERIES MODEL NUMBERING

This section explains the model numbering system for Glentek's GMBM40 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 Gletnek Sales Engineer to confirm that the model number you have created is correct.

GMBM 40 100 - 13 - 0 0 0 0 0 0 0 -

Frame Size 40 = 40mm Motor
Power at Rated RPM 100 = 100 Watts
Back EMF Constant 13 = 13 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	
40	40mm Motor

Power at Rated RPM			
30	30 Watts	**100**	100 Watts
50	50 Watts		

Back EMF Constant		
30 Watts	**50 Watts**	**100 Watts**

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			
0	Two AMP Connectors	**1**	Special

Wiring Diagram			
0	Glentek Standard	**1**	Special

Encoder Option					
0	2048 PPR	**3**	1024 PPR	**4**	2500 PPR

Sealing Option	
0	No Shaft Seal (IP54 Sealing)

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