GLENTEK DC BRUSH SERVO MOTORS
GMR3300 SERIES

Revision: 8/2/2023



Glentek's GMR3300 series of high performance, permanent magnet DC brush 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, due to high torque to inertia ratio of these motors, they are ideal for applications which require high acceleration and deceleration characteristics or where the physical size of the motor is a major concern.

- Continuous Torque:
16.0 Lb-in (0.5 Nm)
- Peak Torque:
88.0 Lb-in (9.05 Nm)

GMR3300 SERIES FEATURES
High-energy Neodymium-Iron-Boron (NdFeB) magnet design provides more torque in a smaller package with higher dynamic performance.
Skewed armature design provides ultra smooth operation (i.e. low cogging torque) at all speeds.
Various electrical windings are available as standard to suit both low and high voltage amplifiers in order to provide optimum speed and torque characteristics. Optional custom electrical windings are available to meet virtually any requirement.
Worldwide standard mounting configurations are available (Square, Round, and NEMA 34). Optional custom mounting configurations are available to meet virtually any requirement.
Industry standard lead termination configurations. (i.e. MS connectors, fluid tight strain relief cable exit, NPT hole with flying leads and terminal boxes)
Optional industry standard feedback devices. (i.e. high performance silver commutator tachometers, and encoders)
Class H insulation standard.
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.
Optional IP65 sealing is available
RoHS compliant.
CE marked.
UL Recognized Component for US and Canada.

GMR3300 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

GMR3300 SERIES SELECTION TABLE

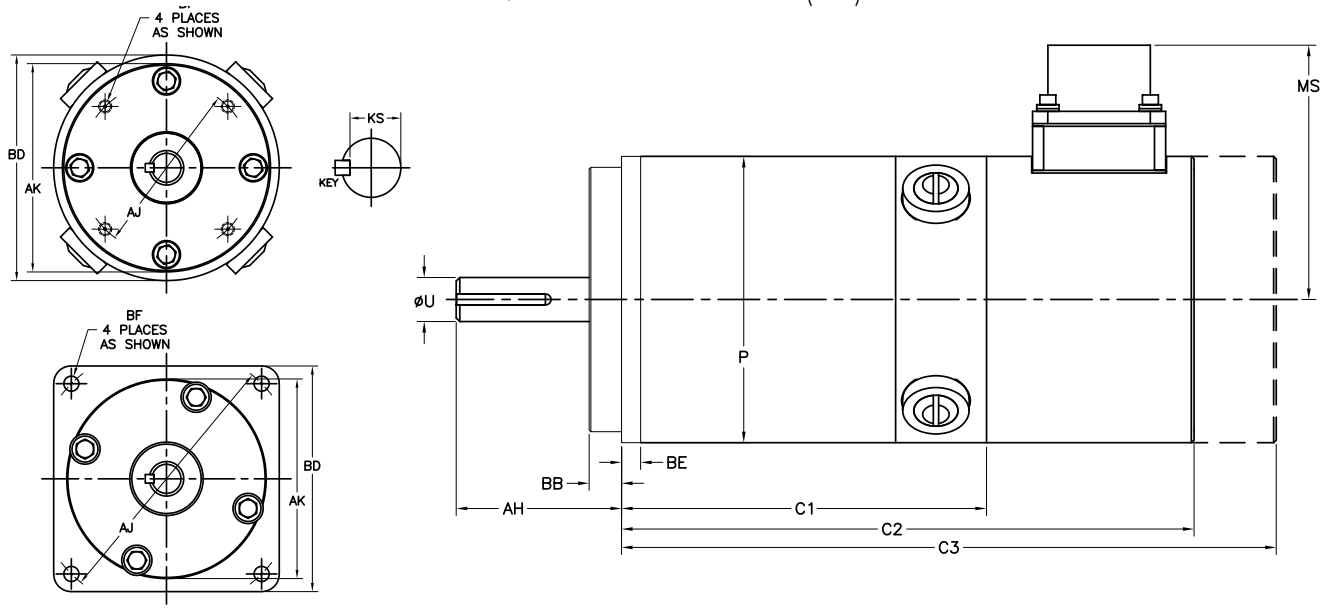
K_T = Torque Constant • K_V = BEMF = Volts/1000 RPM • L_A = Inductance

Model Number	Power @ Max Speed		Cont. Stall Rating			Peak Stall Rating			K_T		R_A	L_A	RPM	K_V	Armature Inertia	
	HP	KW	Lb-in	Nm	Amps	Lb-in	Nm	Amps	Lb-in/A	Nm/A	Ω	mH	Max	V/Krpm	Lb-in-sec²	Kg-m²
GMR3340-27	0.84	0.627	16	1.81	7.1	80.0	9.05	35.5	2.25	0.25	0.9	1.25	3300	27	0.00310	0.000350
GMR3340-30	0.81	0.604	16	1.81	6.3	80.0	9.05	31.5	2.53	0.29	1.4	1.40	3200	30	0.00310	0.000350

NOTE: All ratings based on a 40°C ambient temperature with the motor face mounted to a 12" x 12" x 1/2" aluminum heatsink.

GMR3300 SERIES DIMENSIONS

C1 = Bare Motor, C2 = Motor with Tachometer or Encoder, C3 = Motor with Tachometer and Encoder.
Note: Dimensions are in inches (mm)



Model Number	Lbs (kg)	C1		C2		C3		P
		RND	SQR	RND	SQR	RND	SQR	
GMR3340	10.0 (4.5)	5.98 (151.89)	5.88 (149.35)	8.71 (221.23)	8.61 (218.69)	9.97 (253.24)	9.87 (250.73)	3.25 (82.55)

Connectors	6-Pin	14-Pin	16-Pin	Liquid Tight
MS	2.689 (68.3)	2.886 (73.3)	2.979 (75.7)	2.691 (68.35)

Flange Type	Shaft				Flange/Face				Mounting Hole		
	AH	U (MAX)	KEY	KS	AJ	AK	BB	BD	BE (MAX)	BF Dia.	Tap
Round	1.87 (47.50)	0.5000 (12.70)	0.125 SQ. X 1.00	0.420-0.430	2.500 (63.50)	3.000 (76.20)	0.37 (9.40)	3.25 (82.55)	0.22 (5.59)	-	10-32 ↧.50
Square Flange	1.60 (40.64)	0.5000 (12.70)	0.125 SQ. X 1.00	0.420-0.430	3.875 (98.43)	2.875 (73.03)	0.10 (2.54)	3.25 (82.55)	0.48 (12.19)	0.22 (5.59)	THRU
NEMA 34	1.19 (30.23)	0.3750 (9.53)	-		3.875 (98.43)	2.875 (73.03)	0.10 (2.54)	3.25 (82.55)	0.48 (12.19)	0.22 (5.59)	THRU

BRAKE OPTION

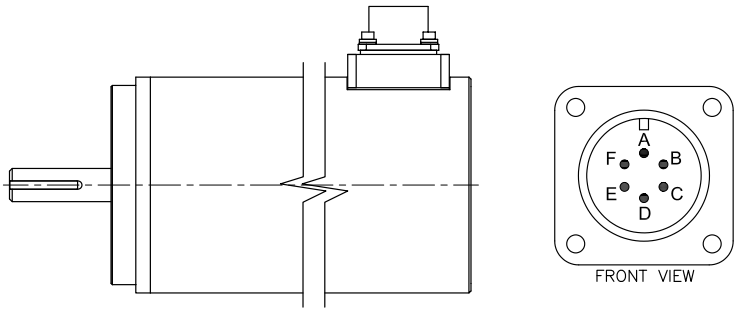
Brake requires 24V DC input voltage. The values for "Extension" represent the nominal maximum length that the brake will add to the motor. For some models, the extension will be less. Please contact one of our sales engineers for the exact values.

Extension	Torque		Power
in. (mm)	Lb-in	Nm	Watts
1.98 (50)	79.6	9.0	18

CONNECTORS & PIN-OUT INFORMATION

With a positive voltage applied to the red motor lead (Motor +) with respect to the black motor lead (Motor -), the motor drive shaft will turn in the clockwise direction as viewed from the shaft end.

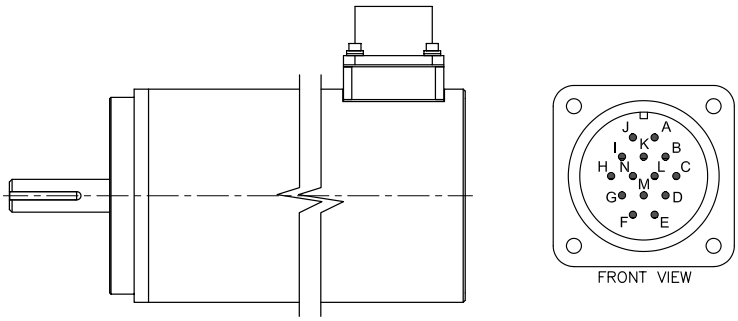
GMR 3300 Series Standard 6-pin MS Connector Location



- Straight Mating Connector: MS3106F-20-27S
- 90° Mating Connector: MS3108E-20-27S

MS3102R-14-6P 6-Pin	Function
A	Motor +
B	Motor -
C	Tachometer +
D	Tachometer -
E (W/O Brake)	Tachometer Cable Shield
E (W/ Brake)	Brake+
F	Brake -

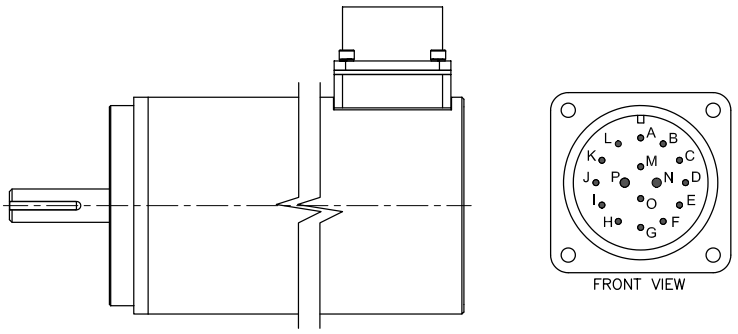
GMR 3300 Series Standard 14-pin MS Connector Location



- Straight Mating Connector: MS3106F-20-27S
- 90° Mating Connector: MS3108E-20-27S

MS3102R-20-27P 14-Pin	Encoder Feedback Function	Resolver Feedback Function
A	Channel A+	Sine Sig (S1)
B	Channel A-	Sine Com (S2)
C	Channel B+	Cosine Sig (S3)
D	Channel B-	Cosine Com (S4)
E	Channel Z+	Reference Sig (R1)
F	Channel Z-	Reference Com (R2)
G	+5 VDC	N/C
H	Common	N/C
I	Cable Shield	N/C
J	Tachometer +	
K	Tachometer -	
L	Tachometer Cable Shield	
M	Motor -	
N	Motor +	

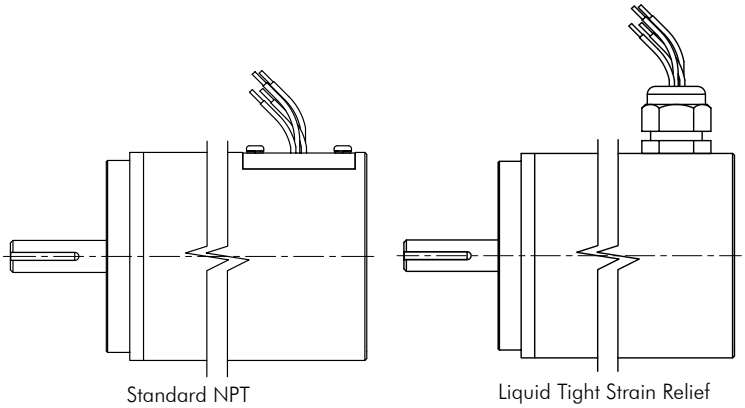
GMR 3300 Series Standard 16-pin MS Connector Location



- Straight Mating Connector: MS3106F-20-27S
- 90° Mating Connector: MS3108E-20-27S

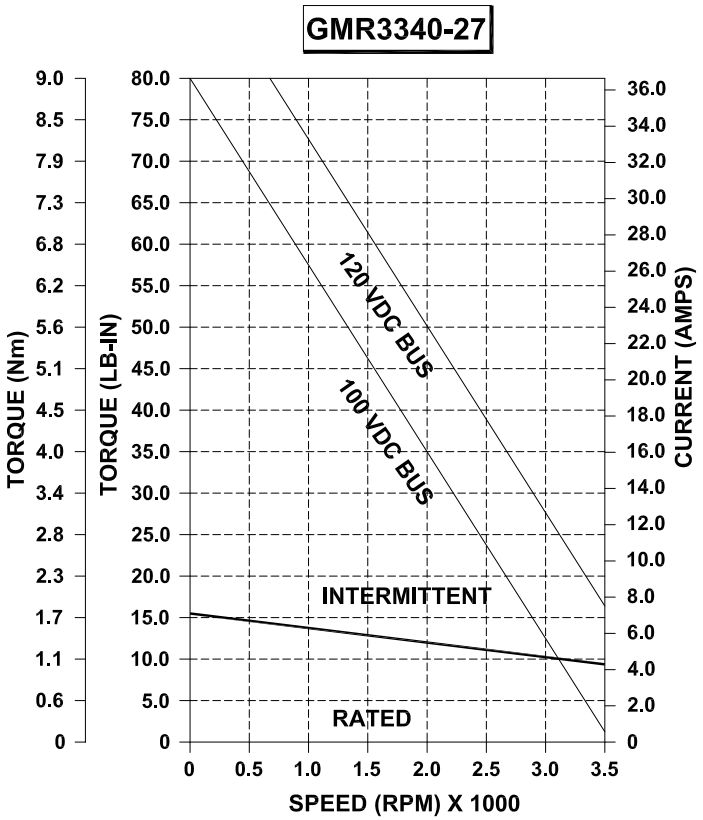
MS3102R-24-07P 16-Pin	Encoder Feedback Function	Resolver Feedback Function
A	Channel A+	Sine Sig (S1)
B	Channel A-	Sine Com (S2)
C	Channel B+	Cosine Sig (S3)
D	Channel B-	Cosine Com (S4)
E	Channel Z+	Reference Sig (R1)
F	Channel Z-	Reference Com (R2)
G	+5 VDC	N/C
H	Common	N/C
I	Cable Shield	N/C
J	Tachometer +	
K	Tachometer -	
L	Tachometer Cable Shield	
M	Brake +	
N	Motor +	
O	Brake -	
P	Motor -	

GMR 3300 Series standard NPT & Liquid Tight Strain Relief



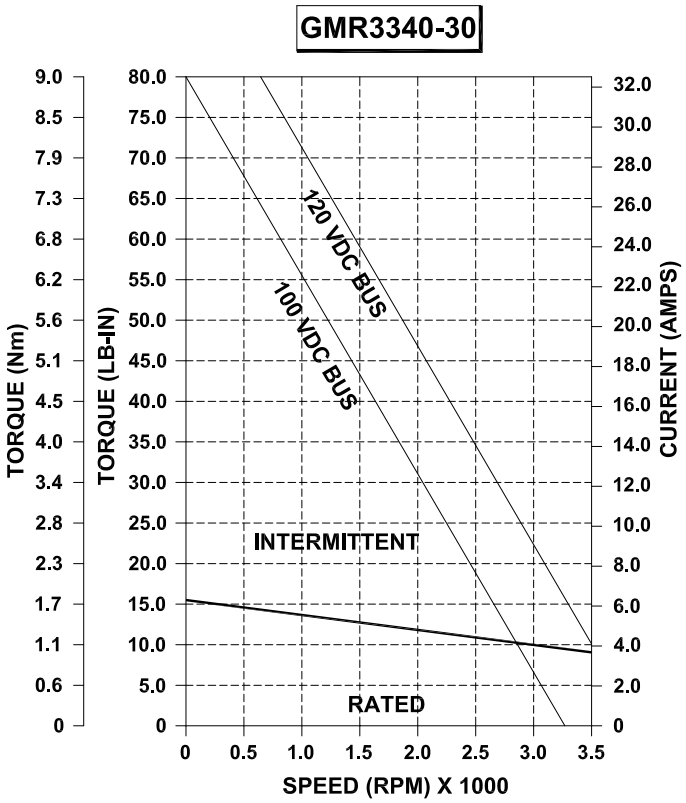
Glentek's GMR3300 Series offer Special mounting options please contact a Gletnek Sales Engineer for detailed information.

GMR3340-27 PERFORMANCE DATA



Power @ Max Speed	**HP**	0.84
	KW	0.627
Cont. Stall Rating	**Lb-in**	16
	Nm	1.81
	Amps	7.1
Peak Stall Rating	**Lb-in**	80.0
	Nm	9.05
	Amps	35.5
Torque Constant	**Lb-in/A**	2.25
	Nm/A	0.25
Resistance	**Ohms**	0.9
Inductance	**mH**	1.25
Maximum Speed	**RPM**	3300
Back EMF	**V/Krpm**	27
Armature Inertia	**Lb-in-sec²**	0.00310
	Kg-m²	0.000350

GMR3340-30 PERFORMANCE DATA



Power @ Max Speed	**HP**	0.81
	KW	0.604
Cont. Stall Rating	**Lb-in**	16
	Nm	1.81
	Amps	6.3
Peak Stall Rating	**Lb-in**	80.0
	Nm	9.05
	Amps	31.5
Torque Constant	**Lb-in/A**	2.53
	Nm/A	0.29
Resistance	**Ohms**	1.4
Inductance	**mH**	1.40
Maximum Speed	**RPM**	3200
Back EMF	**V/Krpm**	30
Armature Inertia	**Lb-in-sec²**	0.00310
	Kg-m²	0.000350

NOTE: All ratings based on a 40°C ambient temperature with the motor face mounted to a 12" x 12" x 1/2" aluminum heatsink.

GMR3300 SERIES MODEL NUMBERING

This section explains the model numbering system for Glentek's GMR3340 Series DC Brush 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.

GMR	33	40	-	27	-	0	2	8	0	1	5	0	0	-	

Frame Size 33 = 3.3" Motor
Stack Length 40 = 4.0 inch stack
Back EMF Constant 27 = 27 V/Krpm
Brake Option 0 = No brake installed
Tachometer Option 2 = 7 VDC tachometer
Encoder Option 8 = 2500 PPR
Brushless Resolver Option 0 = No resolver installed
Flange Type 1 = Standard Square
Lead Termination 5 = Male MS connector, MS3102R-24-07P (16-pin style)
Wiring Diagram 0 = Glentek Standard
Sealing Option 0 = No shaft seal
Factory Assigned Option Leave blank

GMR			-		-									-	

Frame Size	
33	3.3" Motor

Stack Length	
40	4.0 inch Stack

Back EMF Constant	
4.0" only	
27	27 V/Krpm
30	30 V/Krpm
For custom Back EMF, Please Contact Glentek	

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

Tachometer Option					
0	No tachometer installed	2	7 VDC tachometer	4	Special
1	3 VDC tachometer	3	9.5 VDC tachometer	-	-

Encoder Option					
0	No encoder installed	4	1000 PPR	8	2500 PPR
2	500 PPR	6	2000 PPR	9	Special

Brushless Resolver Option					
0	No resolver installed	1	Brushless resolver	2	Special

Flange Type			
0	Standard Round	6	Special
1	Standard Square	8	NEMA 34

Lead Termination			
0	Flying leads exiting through a rubber grommet	4	14-Pin, Male MS connector
1	.5" NPT with flying leads	5	16-Pin, Male MS connector
2	.75" NPT with flying leads	6	Liquid tight strain relief with flying leads
3	6-Pin, Male MS connector	8	Special

Wiring Diagram (MS connector lead termination only)			
0	Glentek Standard	1	Special

Sealing Option					
0	No shaft seal	1	Shaft Seal	2	Special

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