



## GN Series



*Exceptionally powerful and extremely accurate range of servo motors, that provide all the advantages of printed armature and rare earth magnet technologies for high performance industrial automation and scientific applications.*

### TYPICAL APPLICATIONS

- Process plant/equipment
- High performance robotics
- Factory automation
- High speed winding machinery
- Military systems
- Medical/scientific equipment

GN motors are available in three basic sizes, GN9, 12 and 16. Totally enclosed in extra slim profile, all metal cylindrical casings, the design allows for easy attachment of ancillaries. Mountings comply with international standards.

- 3 sizes
- 6 models

### DESIGN OPTIONS

- Fixings/flange to IEC, BS, or DIN standards
- Tachos, brakes, encoders, gearboxes, etc
- Shaft extensions - front/rear
- Shaft fixings - taper, key, flat, thread, pin-hole
- Tailored performance profiles
- Custom engineered units

### MATERIAL AND FINISH

<b>Casing</b>	anodised aluminium - black
<b>End-plates</b>	mild steel - chemically blacked
<b>Bearings</b>	ABEC 3
<b>Connections</b>	flying leads; or screw, or spade terminals
<b>Magnet</b>	Neodymium iron Boron

### PERFORMANCE CHARACTERISTICS AND DATA

General performance values and data are available from our website [www.pmlflightlink.com](http://www.pmlflightlink.com).

### REAR SHAFT EXTENSION

Readily available to suit customers ancillary mounting requirements, subject to agreement on specification.

### STANDARD BENEFITS

- Peak torque output 20x rated torque
- Excellent power/weight ratio
- Wide speed range
- Constant torque over speed range
- Excellent low speed performance
- Zero cogging
- Very slim profile
- Low inertia
- Extra high sensitivity
- EMC compliant

### GN-T SERIES

A unique range of GN servo motors incorporating a second flat armature configured to provide highly accurate tacho voltage generation. The GN-T series; GN9T, 12T and 16RT, combine all the benefits of the GN series motors with those of the G-Tacho series, in a single, cost effective and space saving unit.

Optional non-magnetically coupled tacho can be separately mounted to motor shaft.

For further information ►



# GN Series

## PERFORMANCE DATA

TEST DETAIL			GN SERIES MOTOR TEST RESULTS					
MOTOR RATINGS	SYMBOL	UNIT	GN9	GN9T	GN12	GN12T	GN16R	GN16RT
Power	P	Watt	154	140	344	320	800	754
Torque	T	Ncm	49	45	110	102	255	240
Speed	N	rpm	3000	3000	3000	3000	3000	3000
Voltage	V	Volt	30	27.7	46	46	99.4	93.2
Current	I	Amp	7.9	7.4	9.2	9.3	9.4	9.6
Continuous Stall Current	IS	Amp	7	6.6	8	6	8	6
Tacho Output	V	V/krpm	-	3.5	-	6.6	-	10.5
Ripple P-P @ 1000 RPM	-	-	-	3%	-	3.5%	-	3%

  

MOTOR CONSTANTS	SYMBOL	UNIT	GN9	GN9T	GN12	GN12T	GN16R	GN16RT
Torque	Kt	Ncm/Amp	7.3	6.8	13.47	12.5	28.65	26.4
EMF	Ke	V/krpm	7.6	7.12	14.1	13.1	30	27.6
Damping	Kd	Ncm/krpm	0.78	0.78	1.8	1.6	3.5	3.5
Friction Torque	Tf	Ncm	2.8	3.2	3.9	4.2	4.3	4.6
Terminal Resistance @ 5A	Rm	Ohm	0.85	0.85	0.75	0.75	1.0	1.0
Rotor Moment of Inertia	J	kg.cm <sup>2</sup>	0.409	0.6	1.412	2.33	5.93	8.9

## PERFORMANCE CHARACTERISTICS AND DATA

## DIMENSION GUIDES

\* With keyway in output shaft.  
All dimensions in mm. All weights in kg.

MOTOR TYPE	DIMENSIONS												Wt
	A	B	C	D	E	F	G	H	J	K	L	M	
GN9	111	75h7	12j6	90	32	24	16	6.5	6	M4	5	88	1.5
GN9T	111	75h7	12j6	90	32	25	16	6.5	6	M4	5	88	1.5
GN12	140	75h7	12j6	90	32	25.8	16	2.5	6	M5	6	88	2.3
GN12T	140	75h7	12j6	90	32	26.5	16	6.5	6	M5	6	88	2.4
GN16R*	188	95h7	14g6	100	30	26	20	3	10	M8	8	115	4.5
GN16RT*	188	110h7	14g6	100	32	26.5	20	8.1	6	M8	8	130	4.7

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