

# 60mm servo motor 4pairs of poles



## General Specifications

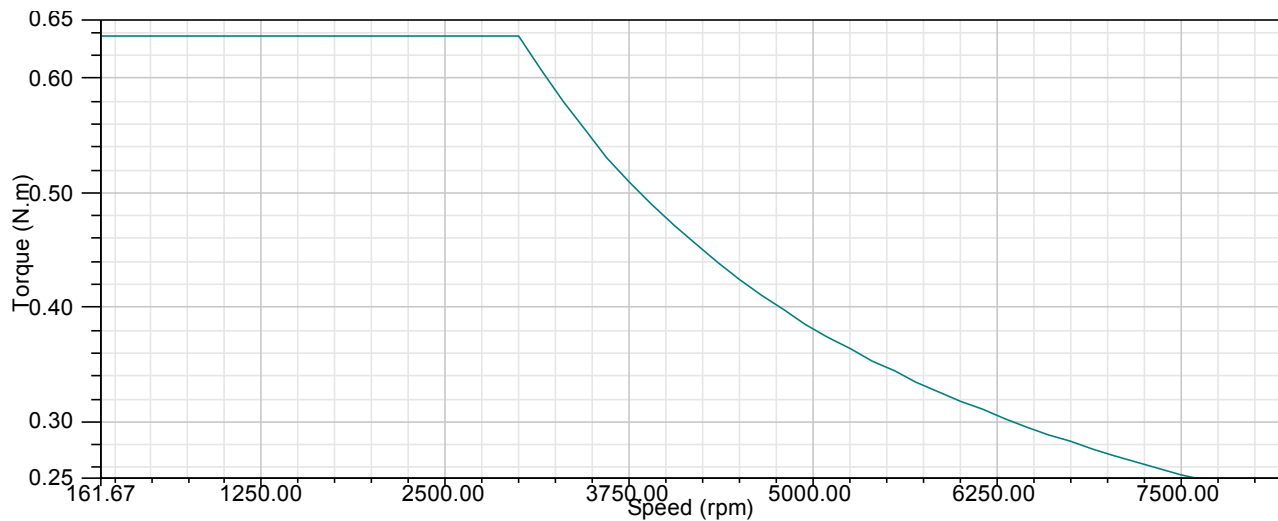
Pairs of poles	4
Numbers of Phases	3
Dielectric Strength	600 VAC/S
Insulation Resistance	100MOhm @500VDC
Shaft Axial Play	0.08mmMax.@4N
Shaft Radial Play	0.02mmMax.@4N
Distance from flange	10mm
Ambient Environment	-20...+55°C, Humidity max 85%(No condensation)
Storage Environment	-10...+55°C, Humidity max 85%(No condensation)
IP Grade	IP 65
Encoder	2500ppr Magnetic encoder Incremental/Absolute (optical / magnetic) encoder optional, multiple resolutions are available

## Electrical Specifications

Model		62100-4820	62100-4830	621004840	62100-2420	62100-2430	62100-2440
Rated Voltage	V	DC48	DC48	DC48	DC24	DC24	DC24
No-load Current	A	0.67	0.75	1.03	1.35	1.47	2.05
Rated Current	A	5.5	7.8	10.1	11.6	16.5	22
Rated Power	W	200	300	400	200	300	400
Rated Speed	rpm	3000	3000	3000	3000	3000	3000
No-load Speed	rpm	3600	3600	3600	3600	3600	3600

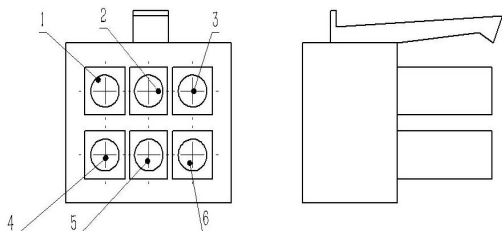
Rated Torque	N.m	0.64	0.95	1.27	0.64	0.95	1.23
Peak Torque	N.m	1.5	2	2.7	1.5	1.98	2.65
Peak Current	A	15.3	20.1	22	30.6	41	45
Back-EMF Constant	vs/Krpm	11.3	8.3	5.8	4.6	3.7	2.6
Rotor inertia	$*10^{-5}kg.m^2$	1.62	2.32	3.16	1.62	2.32	3.16
Resistance	mΩ	110	84	66	55	42	33
Inductance	mH	0.65	0.49	0.31	0.35	0.23	0.18
Torque Constant	Nm/A	0.126	0.083	0.097	0.06	0.06	0.06
Electrical time constant	ms	0.108	0.58	0.62	0.116	0.69	0.97
Efficiency	%	77	80.2	82	75.8	78.5	81
Axial force	N	202	338	422	210	442	457
Radial force	N	114	160	198	116	204	242
Motor Length	mm	89	104	120	89	104	120
Motor length with brake L	mm	130	145	170	130	130	170
Weight	Kg	1.12	1.35	1.62	1.12	1.35	1.62
Weight with Brake	Kg	1.52	1.85	2.15	1.52	1.85	2.15

## Speed-torque Curve



# Connections

## Power wire



Sequence	Colour	Definition	Guage
1	Blue	U	16AWG
2	Green	V	
3	Yellow	W	
4	yellow/green	PE	22AWG
5	Brown	24+	
6	black	GND	

## Encoder wire

No.	Function	Colour	No.	Function	Colour	No.	Function	Colour
1	+5V	Red	6	U-	Brown/Black	11	GND	Black
2	A-	Green/Black	7	V-	Gray/Black	12	AD	Shielded
3	A	Green	8	B-	White/Black	13	U+	Brown
4	Z	Yellow	9	B	White	14	V+	Gray
5	Z-	Yellow/Black	10	W-	Orange/Black	15	W+	Orange

## Encoder signal format

$X1+X2=0.5T \pm 0.1T$   
 $X3+X4=0.5T \pm 0.1T$   
 Phase difference:  $X_n=0.25T \pm 0.1T$   
 Z signal width:  $Z=1T \pm 0.5T$   
 $T=360^\circ / N$  (N:pulse per rotation)  
 $P=360^\circ / N1 \pm 1.5^\circ$  (N1=2,3,4)  
 Phase difference:  $Y=Pn/6 \pm 1.5^\circ$  (n=1,2,3,4,5,6)  
 Z phase and U phase position :  $C \leq \pm 1^\circ$   
 (mechanical angle)

