



### 1. Characteristics of Motor

Item	Symbol	Unit	Specification
Drive	—	—	Rectangular wave
Cooling Method	—	—	Totally Enclosed
Exciting Method	—	—	Permanent Magnet
Rated	—	—	Cont.
Rated Output	$P_r$	W	100
Rated Torque	$T_r$	N·m	0.313
Continuous Stall Torque	$T_s$	N·m	0.343
Peak Stall Torque	$T_{ps}$	N·m	0.98
Rated Speed	$N_r$	min <sup>-1</sup>	3000
Maximum Speed	$N_{max}$	min <sup>-1</sup>	4500
Rated Current	$I_r$	A(rms)	2.7
Continuous Stall Current	$I_s$	A(rms)	2.8
Peak Armature Current	$I_{ps}$	A(rms)	8.9
Torque Constant	$K_t$	N·m/A	0.139±10%
Voltage Constant	$K_e$	mv/min <sup>-1</sup>	14.6±10%
Rotor Inertia	$J_m$	kg·m <sup>2</sup>	0.096x10 <sup>-4</sup>
Rated Power Rate	$Q_r$	kW/S	10.2
Resistance	$R_a$	$\Omega$	3.0
Inductance	$L_a$	mH	7.8
Mech. Time Constant	$t_m$	ms	1.5
Elect. Time Constant	$t_e$	ms	2.6
Insulation Class	—	—	F
Max. Temperature Rise	$\theta$	K	115
Insulation Resistance	—	M $\Omega$	10Min. (DC500V megger)
Dielectric Strength	—	V	1500(AC 1min)
Mass	$W$	kg	0.64

### 3. Environmental Condition

Item	Operation	Storage
Temperature (°C)	0~40 20~90	-20~65 20~90
Humidity (%)	NO dew condensation required.	

Remarks 1.  $\Delta\Delta$  Indicates motor temperature rise saturation point combined with Amplifier.  $\Delta$  Indicates coil temperature at 20°C. All values are at typical ones.

2. The ratings measured by aluminum heat sink sized 305x305x12t.

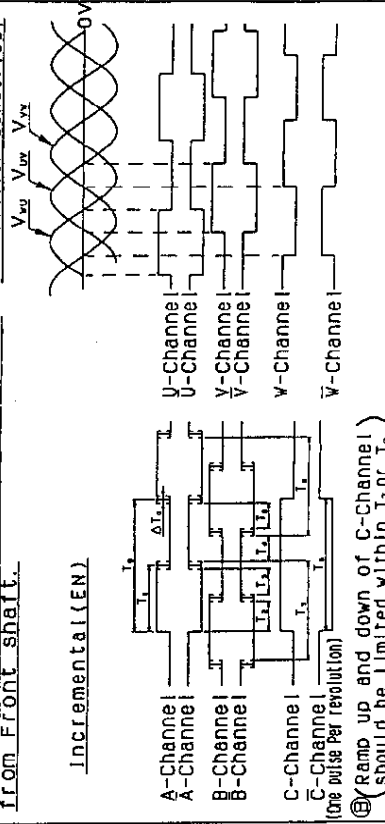
3. Total rotor inertia and mass shall be added respectively.

### 2. Characteristics of Encoder

Item	Rated Characteristics	Remarks
$\alpha$ Pulse per Revolution	See Outline Drawings	
$\beta$ Frequency Response	0~300kHz	
$\gamma$ Pulse Duty Cycle	$T_1 = (1/2)T_0 \pm (1/8)T_0$	Above characteristics exclude motor flutter
$\delta$ Interchannel Phase Relationship	$T_2 \sim T_3 = (1/4)T_0 \pm (1/8)T_0$	Above characteristics exclude motor flutter
$\epsilon$ C-Channel	$T_4 = T_0 \pm 0.4T_0$	
$\zeta$ Pulse per Revolution	2	
$\eta$ Input Voltage	+5V $\pm 0.25V$ DC	
$\theta$ Input Current	450mA Max.	
$\iota$ Output Signal	Line Driver AM26LS31 Equivalent	Recommendable line receiver: AM26LS32
$\kappa$ Insulation Resistance	50M $\Omega$ MIN DC250V between frame and lead wire. (Without shield wire)	To avoid circuit destruction, user's test prohibited.
$\lambda$ Operating Temp. Range	-10°C TO 85°C	
$\mu$ Rotor Inertia	0.005x10 <sup>-4</sup> (kg·m <sup>2</sup> )	
$\nu$ Mass	0.1(kg)	

Output waveform is C.C.W as viewed from front shaft.

#### Incremental (EN)



Ⓐ Ramp up and down of C-Channel should be limited within  $T_1$  or  $T_2$ .

承認 APPROVED BY N. Sugaku 94-11-08	名目 UNIT M/M	名称 TITLE Characteristics
設計 DESIGNED BY S. Shimizu	尺度 SCALE M/M	図番 Dwg. NO. P50B05010PKS7
検出 CHECKED BY T. Miyasita	日付 DATE 94-11-07	REV. 106-5169B
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