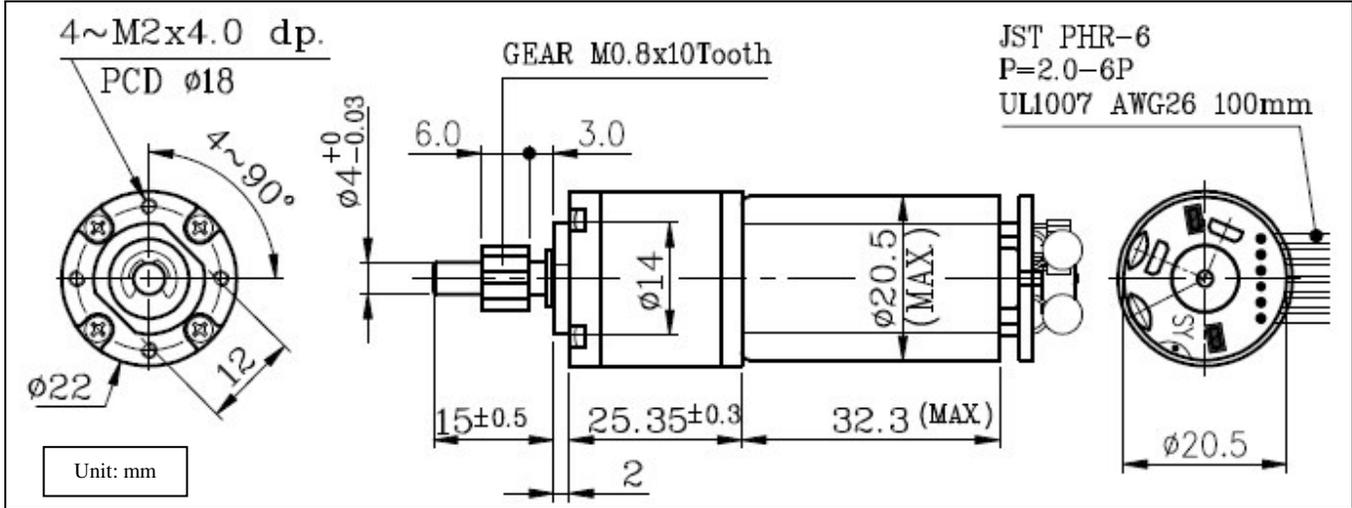


KYSAN SKU: 1030020  
 MFG: IG-22GM-12V1/231-G  
 Rated: 12VD, 29RPM, 2.5kg-cm  
 No Load Speed: 34.63RPM  
 Reduction Ratio: 1/231.2  
 Output Shaft: Steel 15+ M0.8 x 10T Bronze Gears  
 Encoder: 2 Channels, 6 Poles  
 Gear Box: Sleeve Bearings  
 DC Motor: 12V 8000 RPM



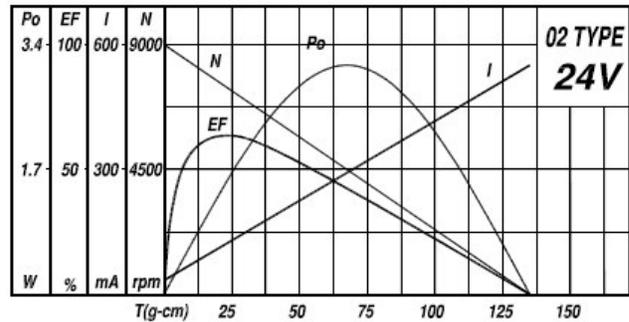
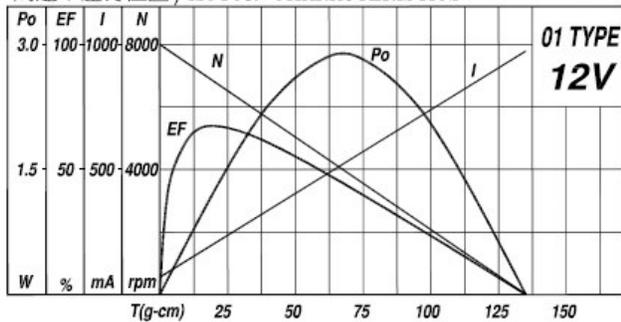
GEARED MOTOR TORQUE/SPEED

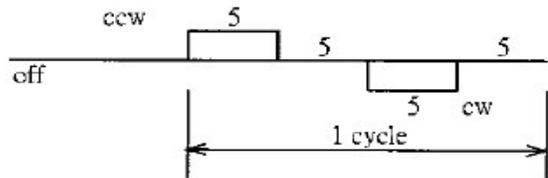
	減速比 Reduction ratio	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
		5	18	20	25	66	77	90	110	136	246	336	393	484	597	735	1079	1475	2124	3968
12V	定格扭力(g-cm) Rated torque	80	270	310	380	850	1000	1150	1400	1700	2600	3700	4200	5000	5000	5000	6000	6000	6000	6000
	定格回轉數(rpm) Rated speed	1405	375	325	260	101	86	74	60	48	26	19	16	13.8	11.5	9.5	6.7	5.0	3.4	1.8
24V	定格扭力(g-cm) Rated torque	80	270	310	380	850	1000	1150	1400	1700	2600	3700	4200	5000	5000	5000	6000	6000	6000	6000
	定格回轉數(rpm) Rated speed	1550	414	355	290	110	95	82	66	53	29	21	18	15.3	12.7	10.5	7.4	5.5	3.9	1.95

馬達單體型式 / MOTOR DATA

定格電壓 Rated volt (V)	定格扭力 Rated torque (g-cm)	定格回轉數 Rated speed (rpm)	定格電流 Rated current (mA)	無負荷回轉數 No load speed (rpm)	無負荷電流 No load current (mA)	定格出力 Rated output (W)	重量 Weight (g)
12	22	6700	≤ 200	8000	≤ 70	1.5	32.0
24	22	7400	≤ 110	9000	≤ 40	1.7	32.0

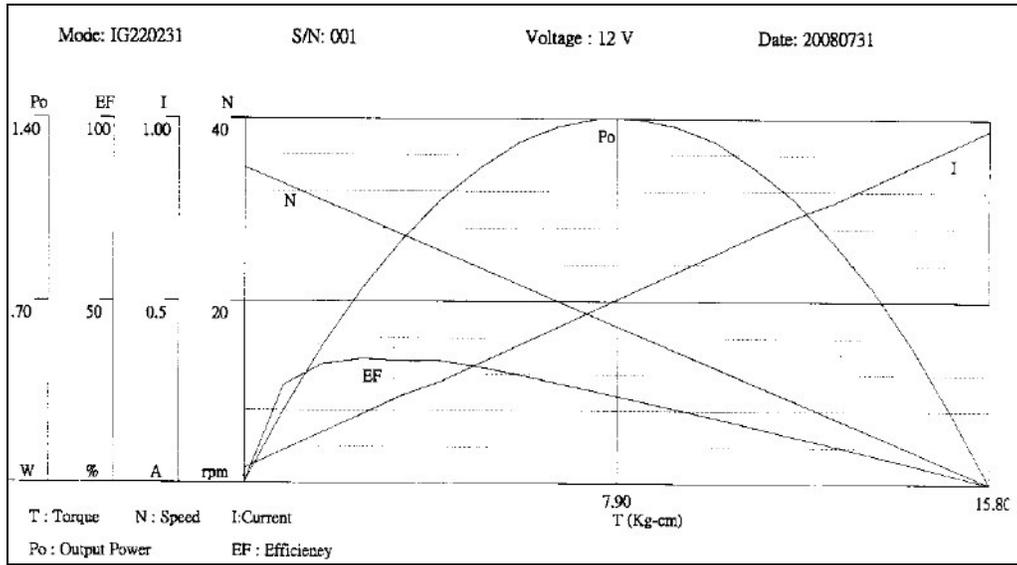
馬達單體特性圖 / MOTOR CHARACTERISTICS



<b>Part Number</b>		IG220231-2CHANNEL-6POLE	
<b>Customer P/N</b>			
<b>ITEM</b>	<b>Specifications</b>		<b>Note</b>
<b>1. Operation Status</b>			
1.1 Rated Voltage	12V D.C.		Stable power source 6mm from shaft end
1.2 Rated torque	2.5 kgf.cm		
1.3 Radial load	8N (0.8kg-f)		
1.4 Axial load	6N (0.6kg-f)		
1.5 Turning direction	Shaft horizontal		
1.6 Reverse direction	CW,CCW		
1.7 Using environment	Temperature -10~60 °C Humidity 20~90% RH		
1.8 Preserve environment	Temperature -20~70 °C Humidity 20~90% RH		
1.9 Using voltage range	12V (D.C.) ±10%		
<b>2. Electrical Characteristics</b>			
2.1 No Load current	75 mA max.		Motor terminal shell Motor terminal shell Reference Reference Reference
2.2 No Load speed	34.6rpm ±15%		
2.3 Rated current	190 mA		
2.4 Rated speed	29 rpm ±15%		
2.5 Stall current	0.97 A		
2.6 Stall torque	15.8 kgf.cm		
2.7 Insulation	D.C. 500V meg. 10 MΩ min		
2.8 Durable voltage	100V (A.C.) * 1 minute min		
2.9 Coil resistance	11.64Ω		
2.10 Torque constant	16.28 kgf.cm/A		
2.11 Voltage constant	155.46 mV/r/min		
<b>3. Mechanical characteristic</b>			
3.1 Reduction ratio	1/231.21		By visual judgment
3.2 Thrust play of shaft	0.2 mm max.		
3.3 Radial play of shaft	0.05 mm max.		
3.4 Back lash	3° max.		
3.5 Outside Appearance	No scratch defective...		
<b>2. Life Cycle</b>			
	72000 cycles min.		After the rated life cycle test current @ rated load must stay within ±30% of the initial value and r.p.m. @ rated load must stay within ±20% of the initial value. However change of mechanical noise level was not considered as part of the testing
			

## **ASSEMBLY, MAINTENANCE, OPERATION**

1. Install: To avoid internal geared motor touched by overlong screws and caused defective. Please check screw size and length on external dimension drawing when installing geared motor into construction.
  
2. Reprocess: Heavy impact and vibration during reprocessing output shaft may cause loose screws and lead to unbalance gear operation. Please avoid reprocessing output shaft. Must to prevent overheat when weld wires into terminal and cause breakdown due to burnt internal geared motor parts. Please do not overload the radial load limitation of output shaft when using belt pulley or chain pulley as power transmission. Please do not overload the axial load limitation of output shaft when pressing parts upon it as well.
  
3. Environment: The parts of geared motors or itself may corroded or damaged easier when using or maintaining in out of range environment. Must to pay close attention that gears may corroded even under an allowed environment in long term.
  
4. Impact: Must prevent geared motor from falling and impact, or the parts will get damaged, the screws will be loosed, and the gear operation will unbalance etc...
  
5. Locked out: Please well prepared current transmitting protection in case of burnt motor coil easy and damaged gear from locked out geared motor.
  
6. Output shaft Turning:  
Please note that it is easier to damage gear when directly turning output shaft.
  
7. PWM controlling:  
The graphite brush of motor will be abnormally wore out or the commutator interval will be blocked by carbon powder when using in the condition of D/T under 60%. Moreover, please pay attention to the motor with capacitor due to there is ineffectual capacity cycle scope.
  
8. Momentary reverse:  
The graphite brush will be abnormally wore out or coil getting aggravated when geared motor is reversed momentary. Also, the commutator interval will be stuck if switch frequently.



	T(N/m)	[Kg/cm]	N(rpm)	I(A)	Po(W)	EF(%)
No Load	0	0.00	34.60	.04	0	0
	.08	.83	32.81	.09	.28	26.94
	.33	3.32	27.31	.24	.93	33.66
	.41	4.16	25.49	.28	1.09	33.71
	.49	4.99	23.68	.33	1.21	31.93
	.57	5.82	21.87	.38	1.31	29.87
	.65	6.65	20.01	.43	1.37	27.57
	.81	8.31	16.39	.53	1.4	22.88
	.9	9.14	14.57	.58	1.37	20.47
	.98	9.99	12.74	.63	1.31	18.01
	1.06	10.81	10.94	.68	1.21	15.49
	1.14	11.65	9.11	.73	1.09	12.95
	1.22	12.47	7.28	.77	.93	10.5
	1.3	13.31	5.46	.82	.75	7.89
	1.47	14.96	1.82	.92	.28	2.63
Stall	1.55	15.80	0.00	.97	0	0
Po...(max)	.73	7.48	18.21	.48	1.4	25.28
EF...(max)	.25	2.50	29.14	.19	.75	34.16