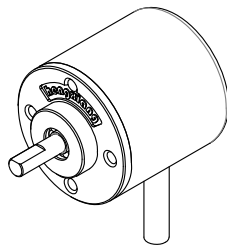


S30

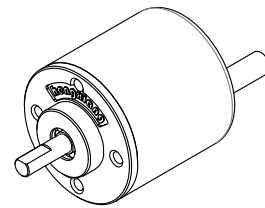
Specifications 1/4

Incremental Type (Solid shaft)

- Feature: small,compact configuration,durable
- Application: subminiature motor,small instrument,etc,for automation control
- External dimensions: external diameter Ø30mm,thickness 30mm,diameter of shaft Ø4mm(D type)
- Resolution: up to 2500P/R
- Supply voltage: DC5V; DC8-30V
- Protection: IP50
- Cable length: 1000mm
- Weight: about 60g



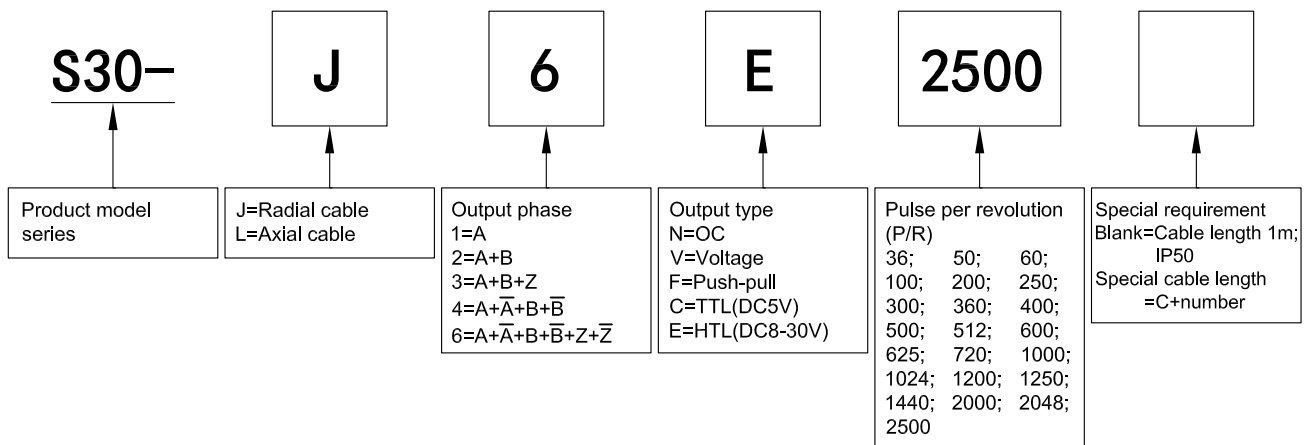
S30-J



S30-L

Model Guide

- Model form (filled required parameters in the box as following)
- Must choose supply voltage: DC5V;DC8-30V
- If need coupling,please purchase additionally (Please refer to accessory at specifications 4/4)



Output Mode

Output type	Output circuit	Output wave form	Connection
OC		<p> $a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$ Phase A is ahead of B by $\frac{T}{4} \pm \frac{T}{8}$, rotation direction CW (Viewing from shaft end, direction is clockwise rotation) CW direction \rightarrow </p>	0=GND 1=red=DC5V; DC8-30V 2=black=OV 3=white=A 4=green=B 5=yellow=Z
Push-Pull		<p> $a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$ Phase A is ahead of B by $\frac{T}{4} \pm \frac{T}{8}$, rotation direction CW (Viewing from shaft end, direction is clockwise rotation) CW direction \rightarrow </p>	
Voltage		<p> $a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$ Phase A is ahead of B by $\frac{T}{4} \pm \frac{T}{8}$, rotation direction CW (Viewing from shaft end, direction is clockwise rotation) CW direction \rightarrow </p>	
TTL HTL		<p> $a.b.c.d = \frac{T}{4} \pm \frac{T}{8}$ Phase A is ahead of B by $\frac{T}{4} \pm \frac{T}{8}$, rotation direction CW (Viewing from shaft end, direction is clockwise rotation) CW direction \rightarrow </p>	

■ Electrical Characteristics

Parameter Item	Output type	OC		Voltage		Push-pull		TTL		HTL	
Supply voltage		DC+5V±5%; DC8V-30V±5%				DC+5V±5%		DC8-30V±5%			
Consumption current		100mA Max									
Allowable ripple		≤3%rms									
Top response frequency		100KHz				200KHz		300KHz			
Output capacity	Output current	Input	≤30mA		Load resistance 2.2K	≤30mA		≤±20mA		≤±50mA	
		Output	—			≤10mA					
	Output voltage	"H"	—		≥[(Supply voltage)-2.5V]		≥2.5V		≥V _{CC} -3 V _{DC}		
		"L"	≤0.4V		≤0.7V(less than 20mA)		≤0.4V(30mA)		≤0.5V		≤1V V _{DC}
Load voltage		≤DC30V		—		—					
Rise & Fall time		Less than 2us(cable length: 2m)				Less than 1us (Cable length: 2m)		≤100ns			
Insulation strength		AC500V 60s									
Insulation resistance		10MΩ									
Mark to space ratio		45% to 55%									
Phase shift between A & B		90°±10° (frequency in low speed)									
		90°±20° (frequency in high speed)									
Origin motion		Low level available		High level available		Low level available		—			
GND		not connect to encoder									

■ Mechanical Characteristics

Shaft	∅4mm D type(stainless steel)
Starting torque	Less than 1mN·m
Inertia moment	Less than 1×10 ⁻⁷ kg·m ²
Shaft load	Radial 10N; Axial 5N
Slew speed	≤5000 rpm
Bearing Life	1.5X10 ⁹ revs at rated load(100000hrs at 2500RPM)
Shell	Aluminium alloy
Weight	about 60g

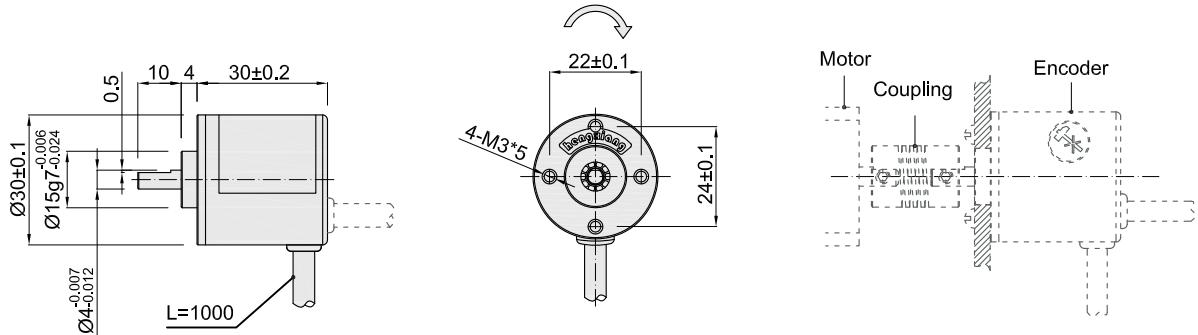
■ Environmental Specifications

Environmental temperature	Operating: -20~+80°C(repeatable winding cable: -10°C); Storage: -25~+85°C
Environmental humidity	Operating and storage: 35~85%RH(noncondensing)
Vibration(endure)	Amplitude 0.75mm, 10~55Hz, 2h for X,Y,Z direction individually
Shock(endure)	49m/s ² 11ms three times for X,Y,Z direction individually
Protection	IP50

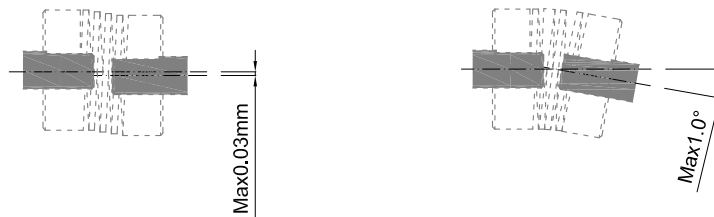
S30

Specifications 4/4

Basic Dimensions

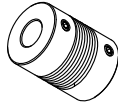
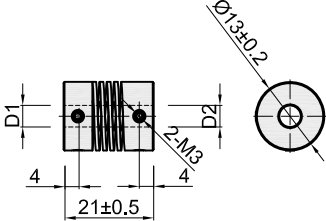


Assembling requirement

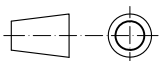


Notice : The radial runout of motor shaft should be less than 0.03mm, and the angle should be less than 1.0°.

Accessory(Need purchase additionally)

H series oldham coupling 4H4 No:8700013 4H6 No:8700006			Model	D1	D2
			4H4	Ø4 ^{+0.01} _{+0.03}	Ø4 ^{+0.01} _{+0.03}
			4H6	Ø6 ^{+0.01} _{+0.03}	Ø6 ^{+0.01} _{+0.03}
material:			aluminium alloy		

Unit: mm



 = Rotate direction of signal output shaft

About vibration

Vibration act on encoder always cause wrong pulse, so we should pay attention to working place.
 More pulse per revolution,
 narrower groovy spacing of grating,
 more effect to encoder by vibration,
 when rev is low or stop,
 vibration act on shaft or main body would cause grating vibrating,
 so encoder might make wrong pulse.