



SANSHENG
SENSOR



Product Selection Guide

SA30S Applications & Features

Widely used in automatic control
and measurement.

A sensor for measuring the rotational
angle and speed.

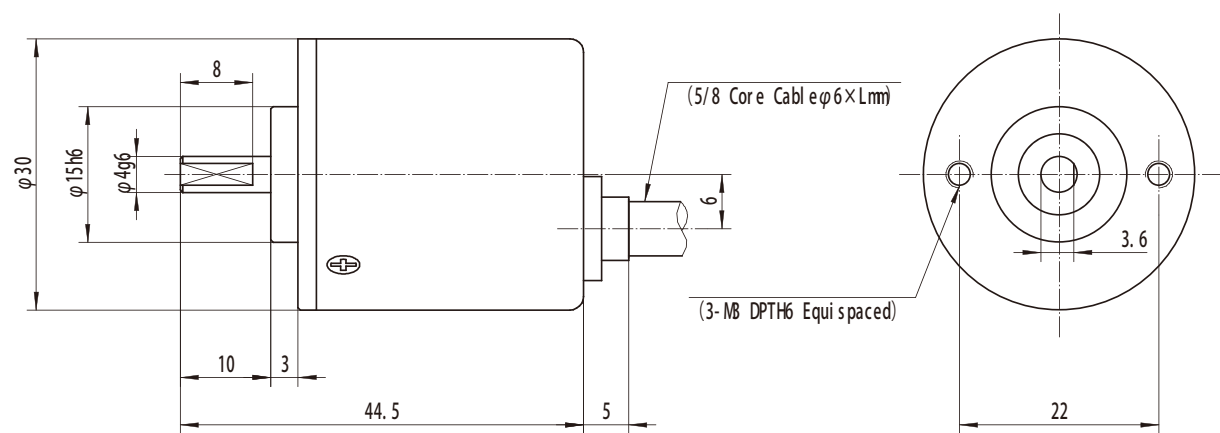
Compact size, light weight, excellent
performance.

Suitable for narrow space applications.

Resolution up to 1200 ppr.



Mechanical Drawing



Electrical Specifications

Output Type	Supply Voltage DC (V)	Current Consumption (mA)	Output Voltage (V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤ 80	> 3.5	≤ 0.7	≤ 500	≤ 100	0-300
	8-26	≤ 120	> VCC-2.5	≤ 0.7	≤ 500	≤ 100	0-300
C (Open Collector)	5±0.25	≤ 60	> VCC-2.5	≤ 0.7	≤ 500	≤ 100	0-300
	8-26						

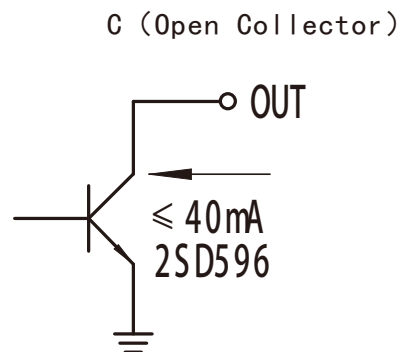
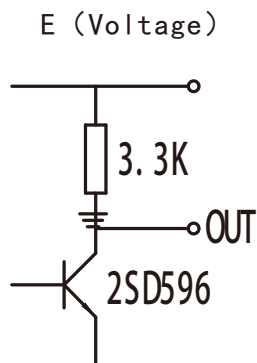
Mechanical Specifications

Max. Speed (r/min)	Start Torque(25 °C) (N.M)	Max. Load on Shaft (N)		Moment of Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1*10 ⁻³	15	10	5*10 ⁻⁸	≈0.09

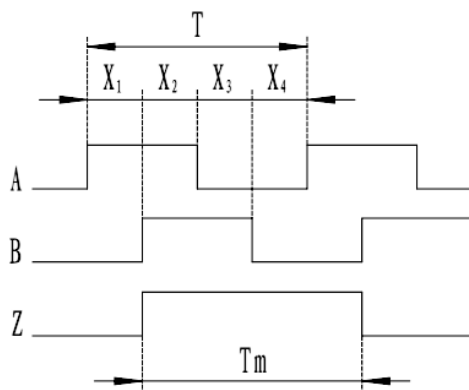
Enviromental Specifications

Operating Temp. (°C)	-20 ~ +85	Impact Resistance (m/s ²)	50 (3 times on x,y,z direction, each time last for 6ms)
Storage Temp. (°C)	-30 ~ +95	Anti-vibration (m/s ²)	20 (10 ~ 200Hz 2 hours on X,Y,Z direction)
Relative Humidity	35% ~85%RH No Condensation	Protection Class	Common IP54

Output Circuits



Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$ $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error : $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N = lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$ $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relation of Z signal and A,B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$ $T_m=0.25T \pm 0.125T$

The rising edge of the z-channel signal is aligned with the rising edge of the B-channel signal

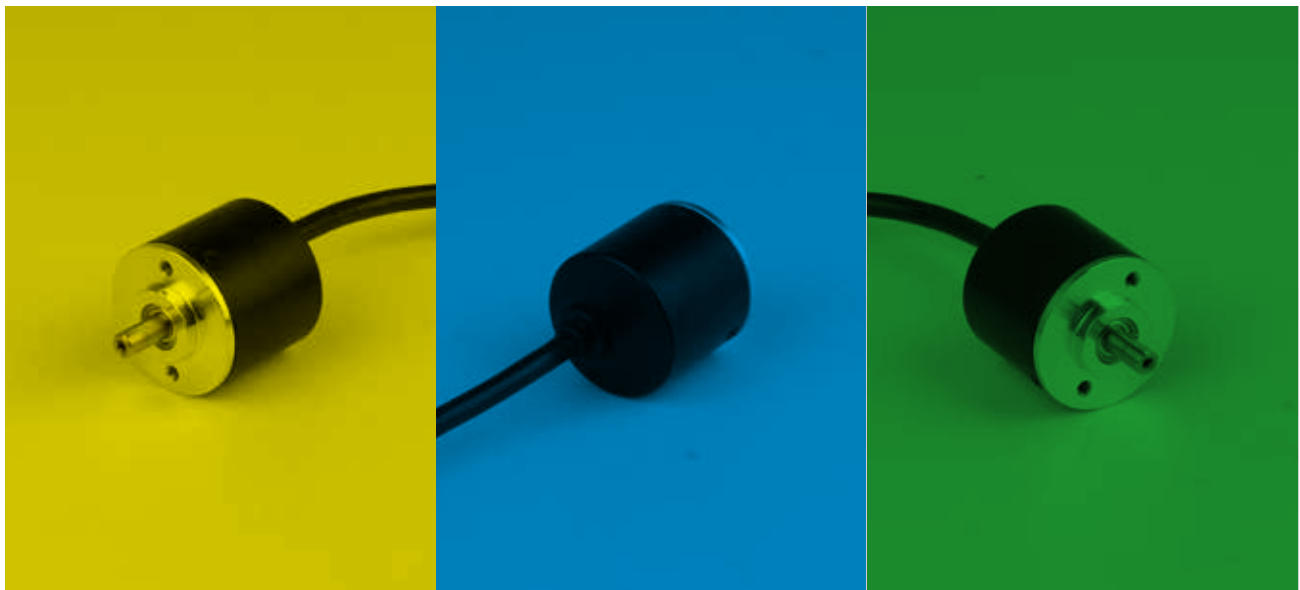
Electrical Connections

Cable Color	Red	Black	Green	White	Yellow	Shield
E (Voltage)	Vcc	0V	A	B	Z	G
C (Open Collector)						

Order Information

S Product Class	A Product Type	30 Outer Diameter	S Shaft Type	4 Shaft Diameter	E Termination
S:Common	Incremental	Φ30mm	S:Solid	Φ4mm	E: Dustproof Axial Cable K: Waterproof Axial Cable
1M Cable Length	2 Supply Voltage	C Output Type	100 Resolution (can be customized)	B Output Signal	M Index Signal
Standard 1M 0.3M-10M	1:DC5V 2:DC8-26V	E:Voltage Output C:Open Collector	20、36、60、100、200、300、360、 400、500、600、800、1000、1024、 1200	A: A phase signal B: 90° phase different A、B signals output	M:Z signal

E.g: SA30S4-E1M1E-1000BM



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