



SANSHENG
SENSOR



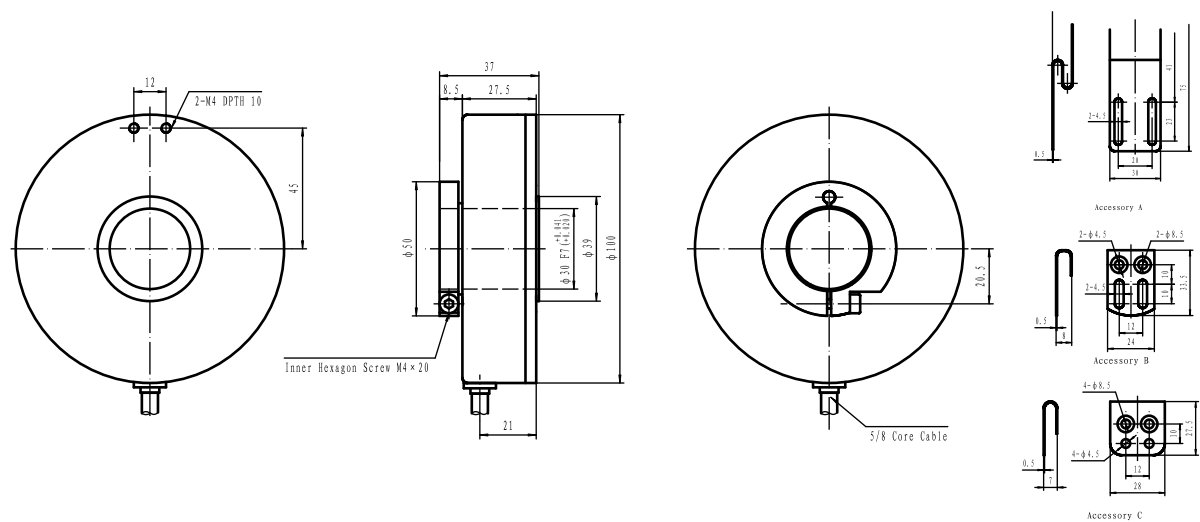
Product Selection Guide

SA100B30 Applications & Features

Ultra-thin design, saving mounting space.
Large hollow shaft from 20mm to 30mm.
Multiple mounting brackets are available.
Mainly used in elevators, motors, light
industrial machinery for
displacement, speed measurement.
Imported optoelectronic components with
high reliability and anti-interference.
Long life and wide temperature range.



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
	10-30						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						

Mechanical Specifications

Max. Speed (r/min)	Start Torque(25℃) (N·M)	Max. Load on Shaft (N)		Moment of Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1*10 ⁻³	40	20	4*10 ⁻⁶	≈0.65

Enviromental Specifications

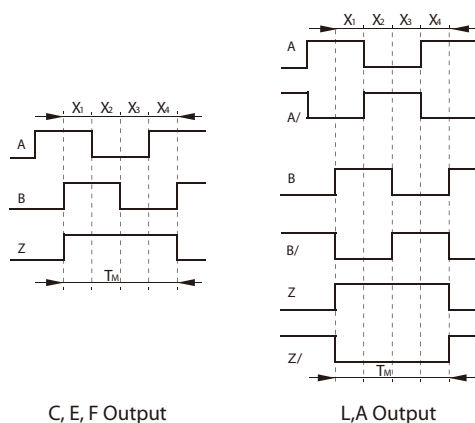
Operating Temp. (℃)	-20 ~ +85	Impact Resistance (m/s ²)	50 (3 times on x,y,z direction, each time last for 6ms)
Storage Temp. (℃)	-30 ~ +95	Anti-vibration (m/s ²)	20 (10 ~ 200Hz 2 hours on X,Y,Z direction)
Relative Humidity	35% ~ 85%RH No Condensation	Protection Class	Common IP54

Output Circuits

E(Voltage)		F(Push-pull)		C(Open Collector)	L、 A(Line Driver)
5V	8- 26V	5V	8- 26V		

Note: C,F output is shorted to ground protection diode

Output Waveform



Wave Ratio : $X1 + X2 = 0.5T \pm 0.1T$ $X2 + X3 = 0.5T \pm 0.1T$

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

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

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

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

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

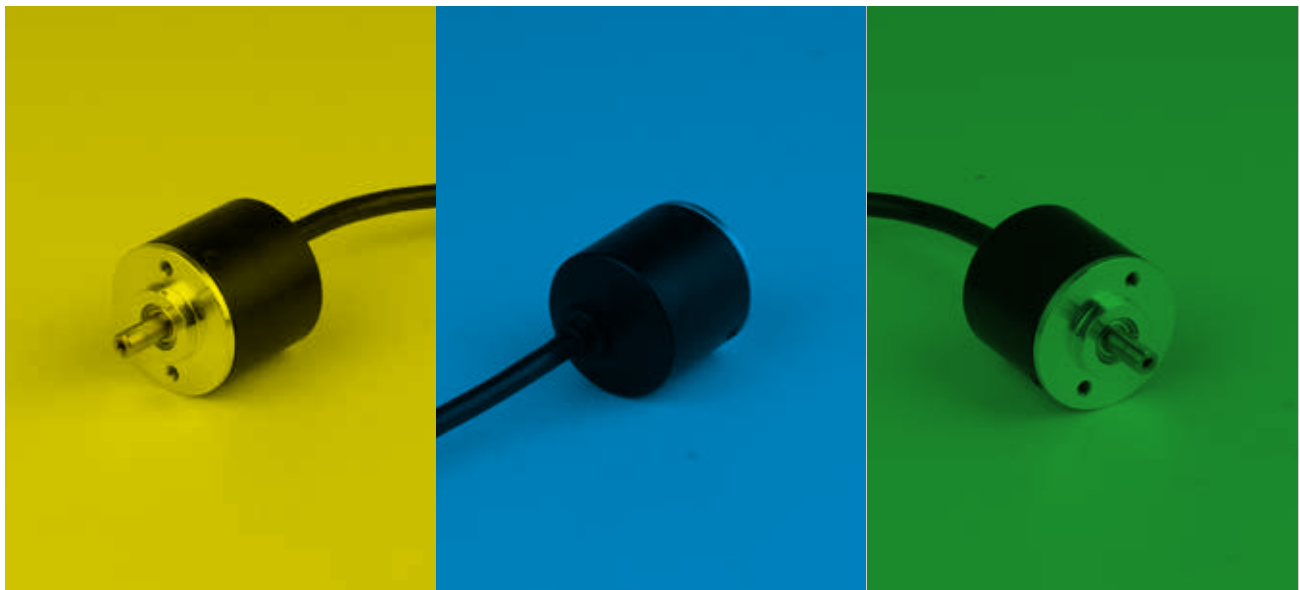
Electrical Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0 V	A		B		Z		G
F (Push-pull)	Vcc	0 V	A		B		Z		G
C (Open Collector)	Vcc	0 V	A		B		Z		G
L、 A (Line Driver)	Vcc	0 V	A	A/	B	B/	Z	Z/	G

Order Information

S	Product Class	A	Product Type	100	Outer Diameter	B	Shaft Type	30	Shaft Diameter	A	Accessory	-	G	Termination
S:Common	Incremental	Φ100mm	B:Clamping Hollow Shaft	Φ20-30mm	A,B,C type	G:Dustproof Radial Cable J:Waterproof Radial Cable 15N:15 pin computer connector								
1M	Cable Length	1	Supply Voltage	C	Output Type	-	Resolution (can be customized)	B	Output Signal	M	Index Signal			
Standard 1M 0.3M-10M	1:DC5V 2:DC8-26V 3:DC10-30V	E:Voltage F:Push-Pull C:Open Collector L:Line Driver A:Wide Voltage Line Driver	120\200\360\500\512\600\720 1000\1024\1200\2048\2500\4096 5400	B:90° phase different A、B signals output	M:Z signal									

E.g: SA100B30A-G1M1L-500BM



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