



SANSHENG
SENSOR



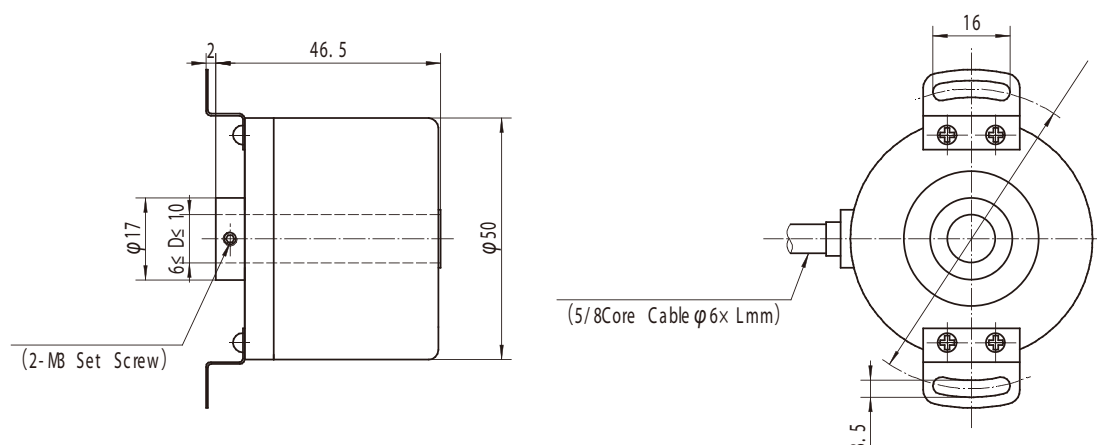
Product Selection Guide

SA50T Applications & Features

Widely used in automatic control,
automatic measurement, remote control,
computer technology and other industries.
Resolutions up to 6000 pulses.
Special requirements can be customized.
Optoelectronic devices with high reliability,
long life, anti-interference ability.
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 $\pm$ 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 $\pm$ 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 $\pm$ 0.25	≤ 60	$> VCC-2.5$	≤ 0.7	≤ 500	≤ 100	0-300
	8-26						
	10-30						
L (Line Driver)	5 $\pm$ 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						

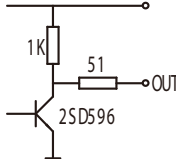
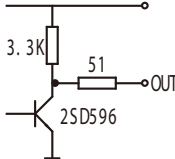
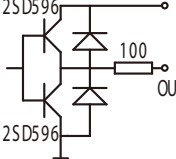
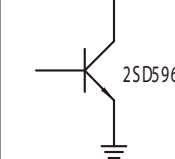
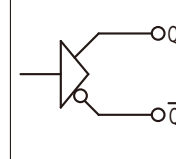
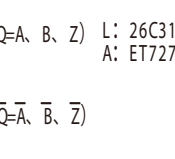
Mechanical Specifications

Max. Speed (r/min)	Start Torque(25 °C) (N. M)	Max. Load on Shaft (N)		Moment of Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1*10 ⁻³	25	20	4*10 ⁻⁶	≈0.28

Enviromental Specifications

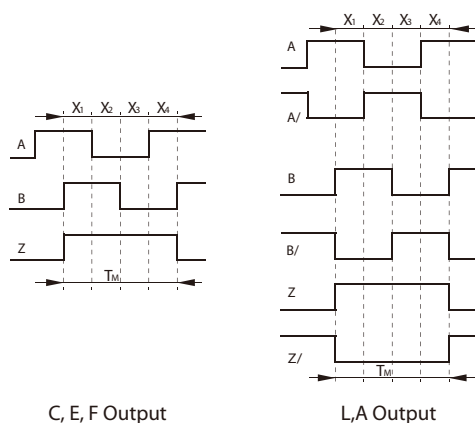
Operating Temp. (°C)	-20 ~ +85	Impact Resistance (m/s ²)	50 (3 times on x,y,z direction, each time last for 6ms)
Storage Temp. (°C)	-30 ~ +95	Anti-vibration (m/s ²)	20 (10 ~ 200Hz 2 hours on X,Y,Z direction)
Relative Humidity	35% ~ 85%RH No Condensation	Protection Class	Common IP54

Output Circuits

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

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

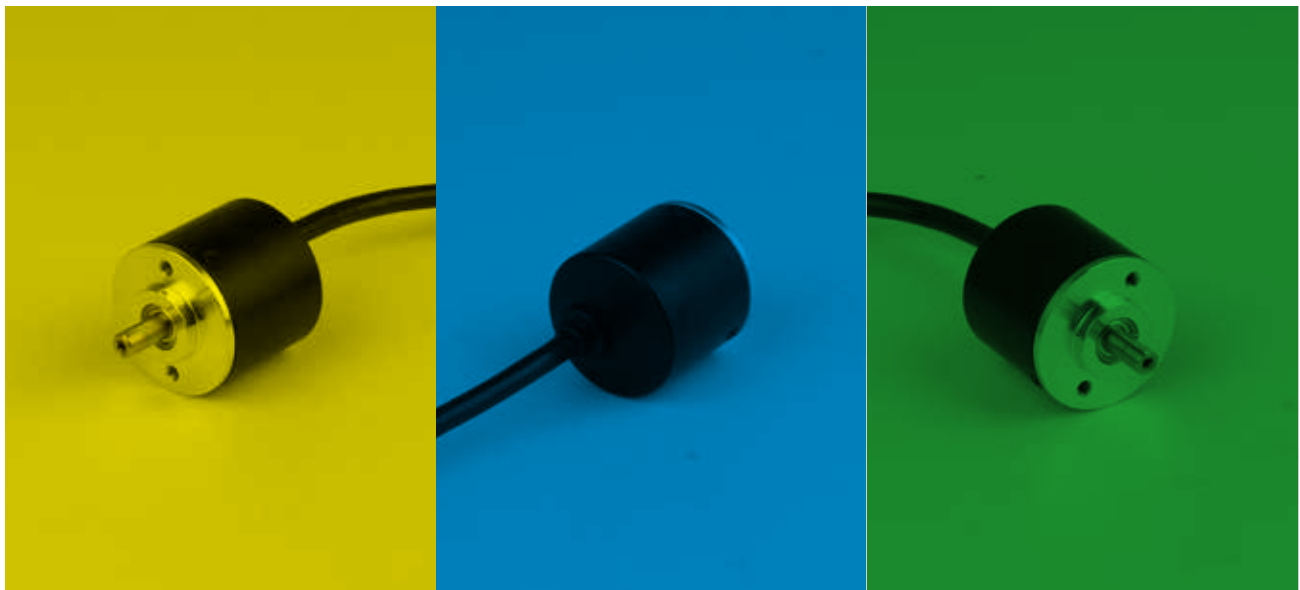
Electrical Connections

Cable Color	Red	Black	Green	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	38 Outer Diameter	T Shaft Type	8 Shaft Diameter	G Termination
S:Common	Incremental	Φ38mm	T:Through Hollow Shaft	Φ8mm Φ10mm Φ12mm	G:Dustproof Radial Cable J:Waterproof Radial 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 3:DC10-30V	E:Voltage F:Push-Pull C:Open Collector L:Line Driver A:Wide Voltage Line Driver	100\120\200\300\360\400\500\600 720\800\900\960\1000\1024\1200 1440\1500\1600\1800\2000\2048 2400\2500\3000\3600\4000\4096 5000\6000	A: A phase signal B: 90° phase different A、B signals output	M:Z signal

E.g: SA50T8-G1M1C-100BM



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