



SANSHENG
SENSOR



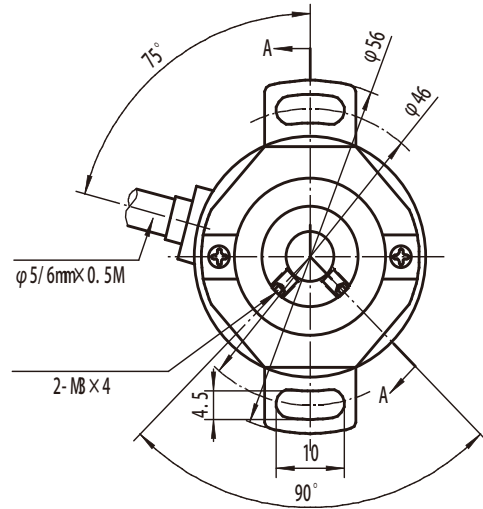
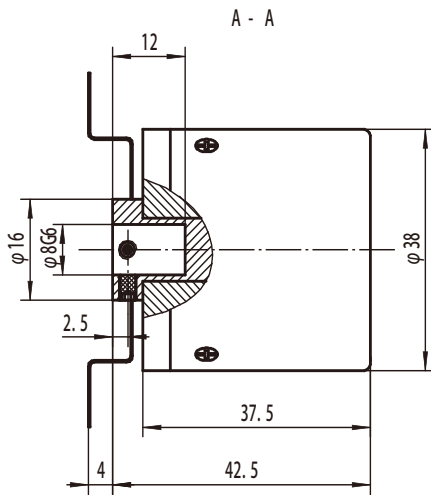
Product Selection Guide

SA38H Applications & Features

SA38H is widely used to measure the speed and position of CNC machines such as embroidery machine.
Small outer diameter of 38mm, shaft hole 6/8mm optional.
Rugged construction, high reliability.
Strong anti-jamming performance.
Long service life.



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	≤ 5.00	≤ 1.00	0-300
	8-26	≤ 1.20	> VCC-2.5	≤ 0.7	≤ 5.00	≤ 1.00	0-300
	10-30						
F (Push-pull)	5±0.25	≤ 80	> 3.5	≤ 0.7	≤ 5.00	≤ 1.00	0-300
	8-26	≤ 1.20	> VCC-2.5	≤ 0.7	≤ 5.00	≤ 1.00	0-300
	10-30						
C (Open Collector)	5±0.25	≤ 60	> VCC-2.5	≤ 0.7	≤ 5.00	≤ 1.00	0-300
	8-26						
	10-30						
L (Line Driver)	5±0.25	≤ 1.00	> 3.5	≤ 0.7	≤ 2.00	≤ 2.00	0-300
A (Wide Voltage Line Driver)	8-26	≤ 60	> VCC-2.5	≤ 0.7	≤ 5.00	≤ 1.00	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	20	15	4*10 ⁻⁶	≈0.135

Environmental Specifications

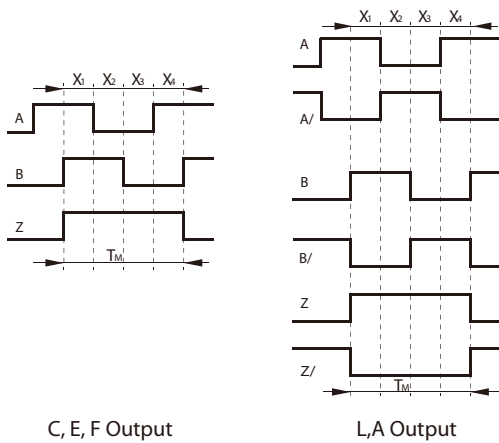
Operating Temp. (C)	-20 ~ +85	Impact Resistance (m/s ²)	50 (3 times on x,y,z direction, each time last for 6ms)
Storage Temp. (C)	-30 ~ +95	Anti-vibration (m/s ²)	20 (10 ~ 200Hz 2 hours on X,Y,Z direction)
Relative Humidity	35% ~ 85%RH No Condensation	Protection Class	Common IP54

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、 $Tm = 1T \pm 0.5T$ $Tm = nT \pm 0.1T$ ($n \geq 2$)
 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	0V	A	/	B	/	Z	/	G
F (Push-pull)	Vcc	0V	A	/	B	/	Z	/	G
C (Open Collector)	Vcc	0V	A	/	B	/	Z	/	G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

Order Information

S	Product Class	A	Product Type	38	Outer Diameter	H	Shaft Type	6	Shaft Diameter	G	Termination
S:Common		Incremental		Φ38mm		H:End Hollow Shaft		Φ6mm Φ8mm		G:Dustproof Radial Cable J:Waterproof Radial Cable E:Dustproof Axial Cable K:Waterproof Axial Cable	

1M	Cable Length	1	Supply Voltage	C	Output Type	100	Resolution	B	(can be customized)	M	Index Signal	Output Signal
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		30\60\100\120\127\128\150\200\250\256 300\360\400\500\512\600\640\720\800 900\960\1000\1200\1250\1440\1500 1600\1800\2000\2048\2500\2540\2560 3000\3600\4000\5000		A: A phase signal B: 90° phase different A、B signals output		M:Z Signal		

E. g SA38H8-G1M1L-2500BM



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