

Optical Rotary Encoder

ISC5208 SERIES



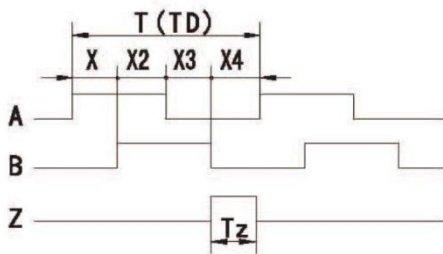
Shaft diameter $\Phi 8$ mm, clamping flange, housing diameter $\Phi 52$ mm. Low price at high performance, small volume, light weight, easy for installing.

◆ Applications:

Measure the distance, angle, position, acceleration molding machines, packing machines, machine tool and other digital control equipment.

Output waveform:

90° Output phase difference, CW rotation (CW rotation as seen from fit surface)



Square-wave accuracy:

$$X_1 + X_2 = 1/2T \pm 1/12T$$

$$X_3 + X_4 = 1/2T \pm 1/12T$$

Pitch error of period: $\pm 0.01T$

Pitch error of phase position: $\leq 1/18T$

Z Phase: $T_z = 1/4T$ (1T, 1/2T, 1/4T...)

Period of pulses: $T = 360^\circ / N$ (N: output pulses)

Signal accuracy: $X_n = 1/4T \pm 1/12T$ (n=1, 2, 3, 4)

A leads B clockwise when viewing the encoder shaft end.

The position of Z phase against A, B phase is not specified.

◆ Technical Specifications

Electrical Specifications	
Output Wave	Square Wave
Output signals	A, B, Z (Line driver output A, \bar{A} , B, \bar{B} , Z, \bar{Z} phase)

Current Consumption	≤150mA
Response Frequency	0~100KHz
Output Phase Difference	90° ± 45°
Supply voltage	5V DC, 5-12V DC, 12-24V DC
Signal Level	$V_H \geq 85\%V_{CC}$, $V_L \leq 0.3V$
Number of pulses	100, 120, 125, 150, 180, 200, 250, 256, 300, 360, 400, 500, 512, 600, 720, 800, 900, 1000, 1024, 1200, 1800, 2000, 2048, 2500 (Other number of pulse available on request)
Output circuit	Open collector NPN. Push pull, Voltage, Line Driver

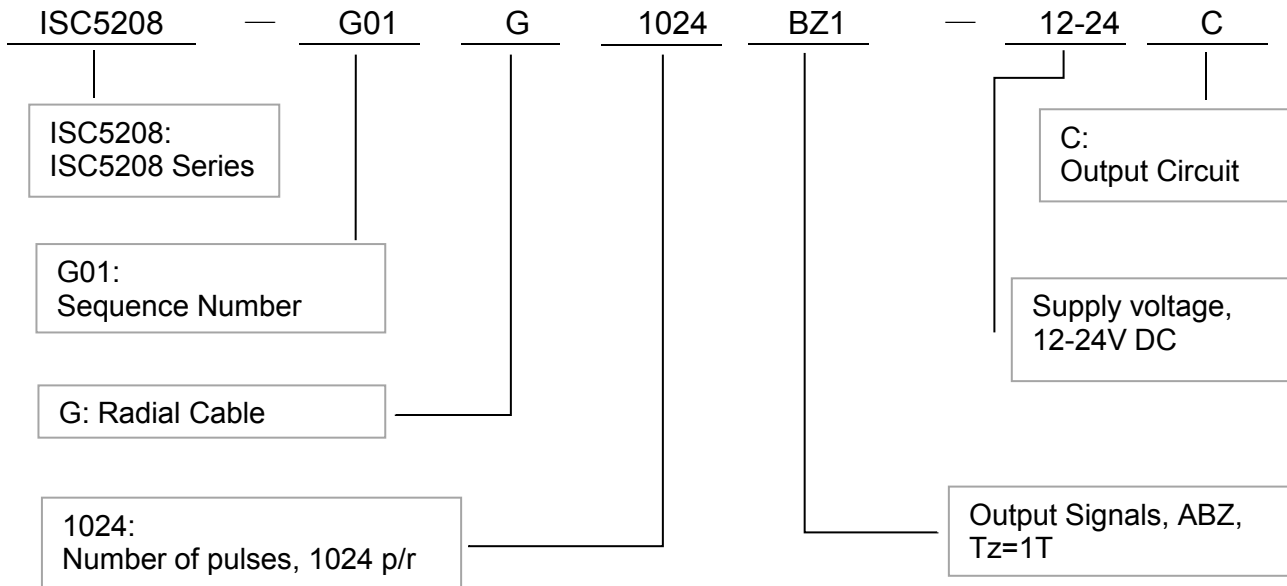
Mechanical Specifications	
Speed without Sealing	6000rpm
Rotor Moment of Inertial	Appr. $6.0 \times 10^{-6} \text{Kg} \cdot \text{m}^2$
Starting Torque without Sealing	$\leq 5.0 \times 10^{-3} \text{Nm}$ (+25°C)
Maximum load permitted on shaft	Radial 35N, Axial 25N
Shock Resistance	980m/s ² , 6ms, 2 times each on XYZ
Vibration Proof	50m/s ² , 10~200Hz, 2 hours each on XYZ
Working Life	MTBF ≥ 25000h(+25°C,2000rpm)
Weight	Appr. 210g (with 1 meter cable)

Environmental Specifications	
Working Humidity	30~85% (no condensation)
Storage Temperature	-40°C~100°C
Working Temperature	-25°C~85°C
Protection Class	IP54

◆ Terminal Assignment

Signal	+5V	0V	Sig A	Sig \bar{A}	Sig B	Sig \bar{B}	Sig Z	Sig \bar{Z}	Shield
Cable Color	Red	Black	Green	Brown	White	Grey	Yellow	Orange	N.C
Note: Shield is attached to connector housing, One meter cable lengths (other cable lengths on order).									

◆ Ordering Information



◆ Dimension Diagram

