

VIII.Outline Dimension Drawing (Unit: mm)

Standard Cable Length:
2 Meters

3-1/32 holes, depth 6

30°

P.C.D30

P.C.D28

3-30°

0.5

51

27

5

12.5

38.7

20

6

10

4

1. This product is composed of precision components. Please handle it with care and do not drop it.
2. If there is excessive eccentricity or deviation angle during installation, its service life will be shortened.
3. Do not use it in environments with strong impact, vibration, corrosion, strong magnetic field, high temperature, high humidity, or acid-base conditions.
4. Pulse count errors may be caused by power ON or OFF. It is recommended to allow a 0.5-second delay after power ON before use.
5. Do not pull the cable with a force exceeding 29.4N after the product is fixed.
6. When there are high-voltage lines or power lines nearby, use a conduit to sleeve the cable.
7. When wiring, ensure there is no short circuit between terminals and that the wiring is correct. Incorrect wiring will damage internal components.

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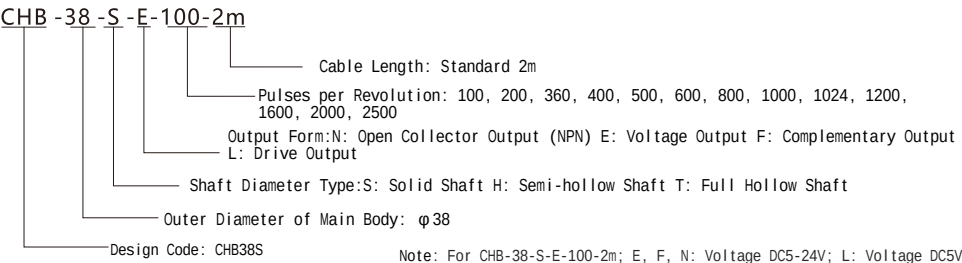


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I.Overview

The CHB38S series photoelectric incremental encoder (hereinafter referred to as the encoder) is a speed and displacement sensor integrating optical, mechanical, and electrical technologies. When the encoder shaft drives the grating disk to rotate, parameters such as length, angle, and speed can be accurately measured by converting the number of grating lines into pulse numbers.
This series of encoders complies with the standards SJ/T 11462.1-2013 Encoders for Electronic Equipment and JB/T 11498-2013 Grating Rotary Encoders.

II.Model Meaning



III.Main Technical Data

1.Electrical Parameters

Output Form	Supply Voltage	Consumption Current	Output Voltage		Rise Time (ns)	Fall Time (ns)	Response Frequency (kHz)
			V_H	V_L			
E: Voltage Output	DC5~24V(+15% -5%)	$\leq 60\text{mA}$	$\geq V_{CC}-2.5\text{V}$	$\leq 0.5\text{V}$	≤ 1500	≤ 300	0~100
N: Open Collector Output (NPN Output)	DC5~24V(+15% -5%)	$\leq 60\text{mA}$	—	—	—	—	0~100
F: Complementary Output	DC5~24V(+15% -5%)	$\leq 60\text{mA}$	—	—	—	—	0~100
L: Drive Output	DC5V $\pm 5\%$	$\leq 100\text{mA}$	$\geq 2.5\text{V}$	$\leq 0.5\text{V}$	≤ 200	≤ 200	0~100

2.Mechanical Parameters

Maximum Speed (r/min)	Starting Torque (25°C) · (N·m)	Allowable Angular Acceleration (rad/s ²)	Maximum Load (N)		Moment of Inertia (kg·m ²)	Weight (kg)
			Radial	Axial		
6000	1.5×10^{-3}	10000	20	10	4×8^{-6}	0.1

3.Environmental Parameters

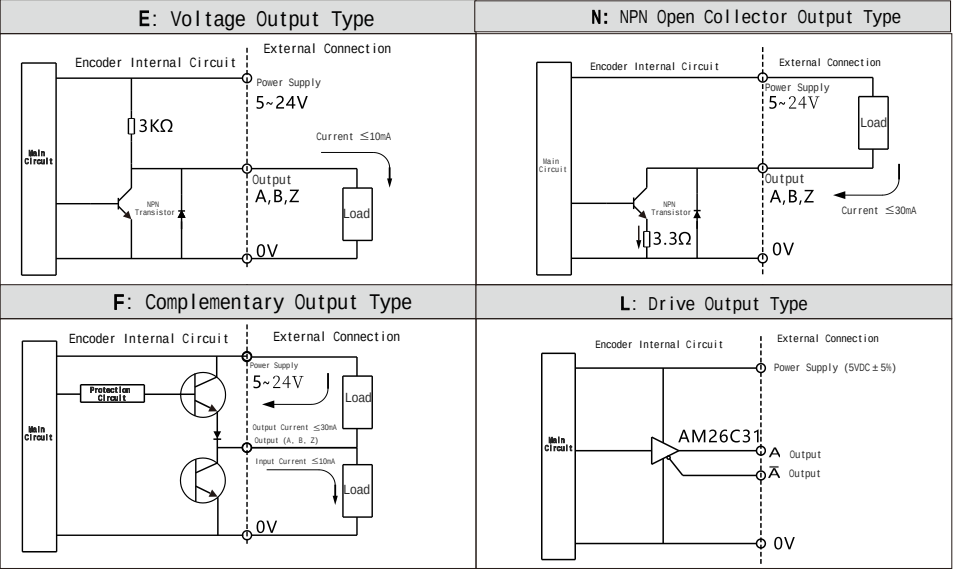
Operating Temperature (°C)	Storage Temperature (°C)	Shock Resistance (m/s ²)	Shock Resistance (m/s ²)	Vibration Resistance (m/s ²)	Protection Class
-10°C ~ +70°C	-25°C ~ +85°C	35~85%RH	980(x,y,z three directions, three times each, 6ms each)	50(10~200Hz, x,y,z three directions, 2h each)	IP54

IV.Wiring Table

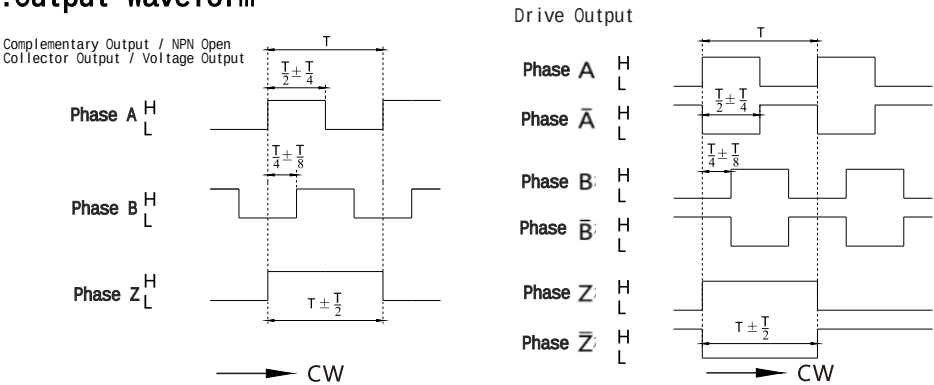
Wire Color	Red	Black	Green	White	Yellow	Shield
Open Circuit Output Voltage Output Complementary Output	V _{CC}	0V	Phase A	Phase B	Z	G (Ground)

Wire Color	Red	Black	Green	White	Yellow	Brown	Gray	Orange	Shield
Drive Output	V _{CC}	0V	Phase A	Phase B	Z	/Phase A /Phase B /Phase Z	G (Ground)		

V.Output Circuit



VI.Output Waveform



*Note: CW is the clockwise rotation direction (viewed from the encoder's main shaft direction)

VII.Working Principle

