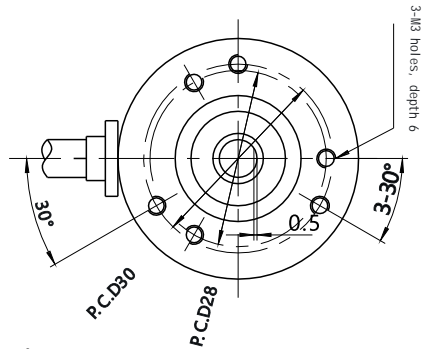
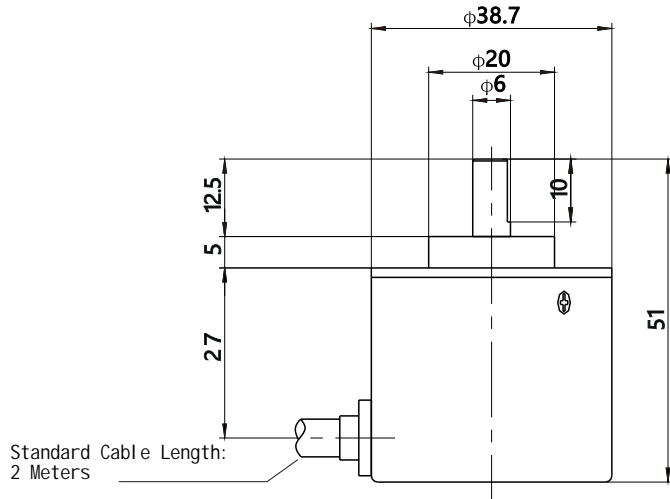


VIII. Outline Dimension Drawing (Unit: mm)



IX. Usage Precautions

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.

③

8. For circuit design, it is recommended to insulate and protect unused wire ends. The shielded wire should be grounded.
9. Do not disassemble the product by yourself.

X. Ordering Instructions

When placing an order, specify the product model, output method, pulse count, cable length, and quantity:

Example: CHB38S E 100 2m 500pcs

Attention to Safety

- Please follow the following points

Caution If used incorrectly, it may cause minor injuries, moderate injuries, and significant material damage.

- Warning Signs

Caution Do not disassemble this product when it is powered on. Touching the interior may cause electric shock or personal injury.

④

C-Lin

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RECYCLABLE

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使用说明书
Products Instructions

CHB38S Series

Incremental Rotary Encoder (ABZ Three-Channel Signals)

Thank you very much for using C-Lin brand encoders. Please read the instruction manual before using the product!

16A014E1

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

CHB-38-S-E-100-2m

Cable Length: Standard 2m

Pulses per Revolution: 100, 200, 360, 400, 500, 600, 800, 1000, 1024, 1200, 1600, 2000, 2500

Output Form: N: Open Collector Output (NPN) E: Voltage Output F: Complementary Output L: Drive Output

Shaft Diameter Type: S: Solid Shaft H: Semi-hollow Shaft T: Full Hollow Shaft

Outer Diameter of Main Body: 38

Design Code: CHB38S

Note: For CHB-38-S-E-100-2m; E, F, N: Voltage DC5~24V; L: Voltage DC5V

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%)	≤60mA	≥V _{CC} -2.5V	≤0.5V	≤1500	≤300	0~100
N: Open Collector Output (NPN Output)	DC5~24V(+15%/-5%)	≤60mA	—	—	—	—	0~100
F: Complementary Output	DC5~24V(+15%/-5%)	≤60mA	—	—	—	—	0~100
L: Drive Output	DC5V±5%	≤100mA	≥2.5V	≤0.5V	≤200	≤200	0~100

2. Mechanical Parameters

Maximum Speed (r/min)	Starting Torque (25°) (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

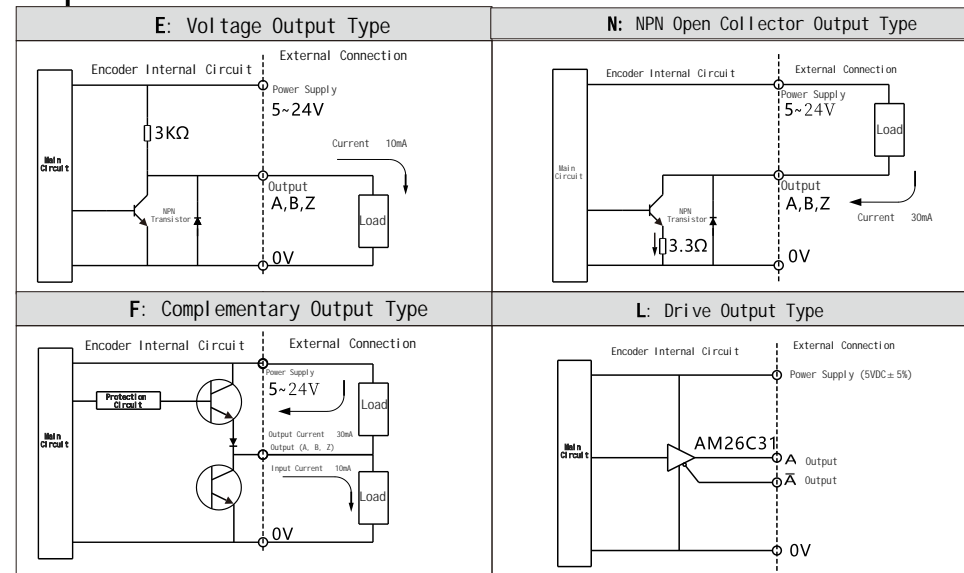
Operating Temperature (°C)	Storage Temperature (°C)	Shock Resistance (m/s ²)	Shock Resistance (m/s ²)	Vibration Resistance (m/s ²)	Protection Class
-10°C ~ +70°C	-25°C ~ +85°C	35~85%RH	980(x, y, z three directions, three times each, 6ms each)	50(10-200Hz, x, y, z three directions, 2h each)	IP54

IV. Wiring Table

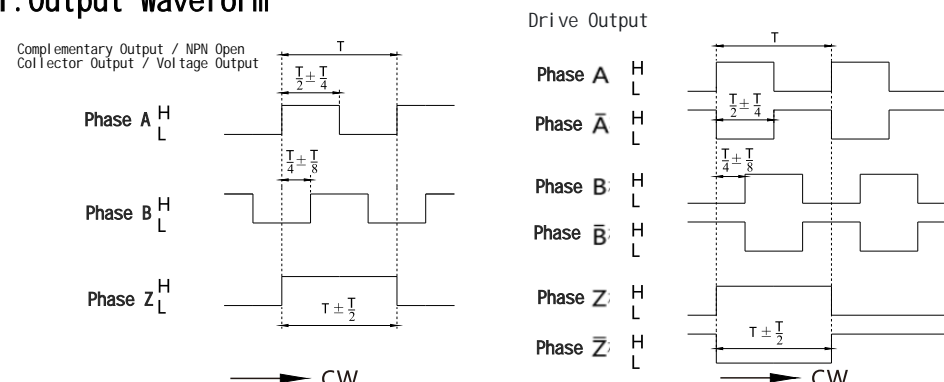
Wire Color	Red	Black	Green	White	Yellow	Shield
Open Circuit Output Voltage Output Complementary Output	V _{CC}	0V	Phase A	Phase B	Z	G (Ground)

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

