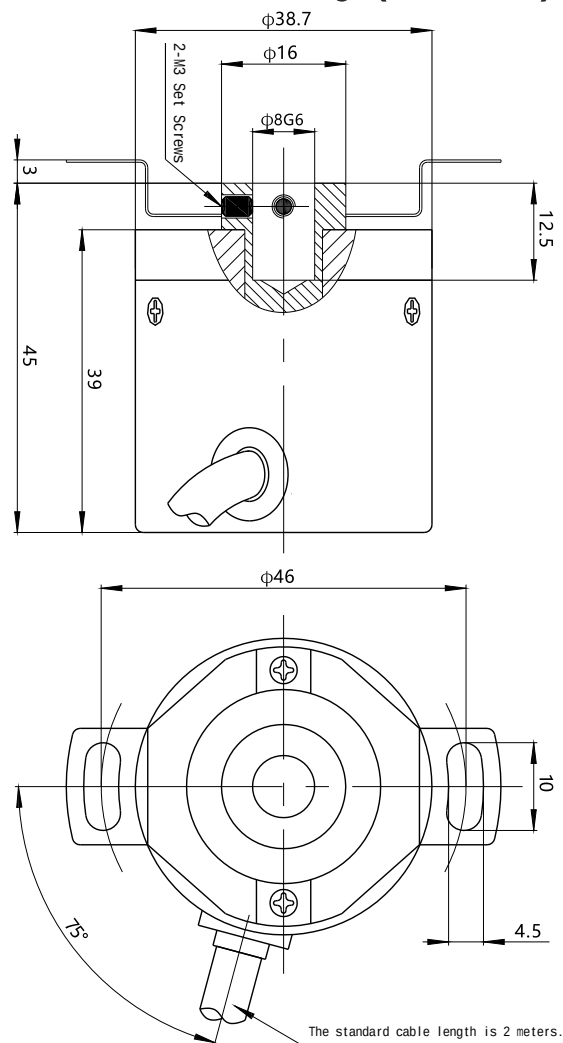


VIII.Outline Dimension Drawing (Unit: mm)



IX.Usage Precautions

- 1.This product is composed of precision components, so please handle it with care and do not drop it.
- 2.When installing this product, if there is excessive eccentricity or angular deviation, its service life will be shortened.
- 3.Do not use it in environments with strong impact, vibration, corrosion, strong magnetic fields, high temperature, high humidity, or acidic/alkaline conditions.
- 4.Errors in pulse count may be caused when the power is turned ON or OFF. It is recommended to allow a delay of 0.5 seconds after the power is turned 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, please sleeve the cable with a conduit.
- 7.When wiring, ensure that the terminals are not short-circuited and the wiring is correct. Incorrect wiring may damage the internal components.

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

X.Order Instructions

When placing an order, the product model, output method, pulse count, cable length, and quantity must be specified;

Example: CHB38H F 1024 2m 500 pieces

Safety Precautions

- Please observe the following points

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

- Warning Labels

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

C-Lin

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RECYCLABLE

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使用说明书
Products Instructions

CHB38H Series

Incremental Rotary Encoder (Three-Channel Signals: ABZ)

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

I. Overview

The CHB38H series photoelectric incremental encoder (hereinafter referred to as "encoder") is a speed and displacement sensor integrating optical, mechanical, and electrical technologies. When the encoder shaft drives the grating disk to rotate, the number of grating lines is converted into pulse count, which can accurately measure length, angle, speed, etc.

This series of encoders complies with the standards SJ/T 11462.1-2013 Encoders for Electronic Equipment and JB/T11498-2013 Grating Rotary Encoders.

II. Model Explanation

CHB-38-H-F-1024-2m

Cable Length: Standard 2m

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

Output Type: **N**: Open Collector Output (NPN); **E**: Voltage Output; **F**: Complementary Output; **L**: Driver Output

Shaft Type: **S**: Solid Shaft; **H**: Semi-Hollow Shaft; **T**: Full Hollow Shaft

Outer Diameter of Main Body: $\phi 38$

Design Code: CHB38H

Note: For model CHB-38-H-F-1024-2m; E, F, N: Voltage DC5~24V; L: Voltage DC5V

III. Main Technical Data

1. Electrical Parameters

Output Type	Supply Voltage	Current Consumption	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 : Driver 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	4×10^{-6}	0.1

3. Environmental Parameters

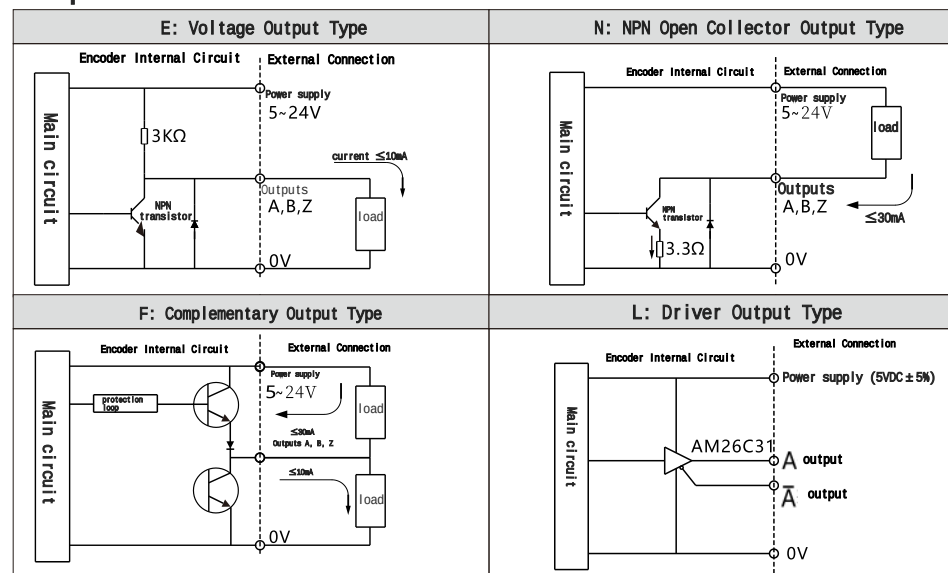
Operating Temperature (°C)	Storage Temperature (°C)	Ambient Humidity	Shock Resistance (m/s ²)	Vibration Resistance (m/s ²)	Protection Class
-10°C ~ +70°C	-25°C ~ +85°C	35~85%RH	980 (x, y, z directions, 3 times each, 6ms each)	50 (10~200Hz, x, y, z directions, 2h each)	IP54

IV. Wiring Table

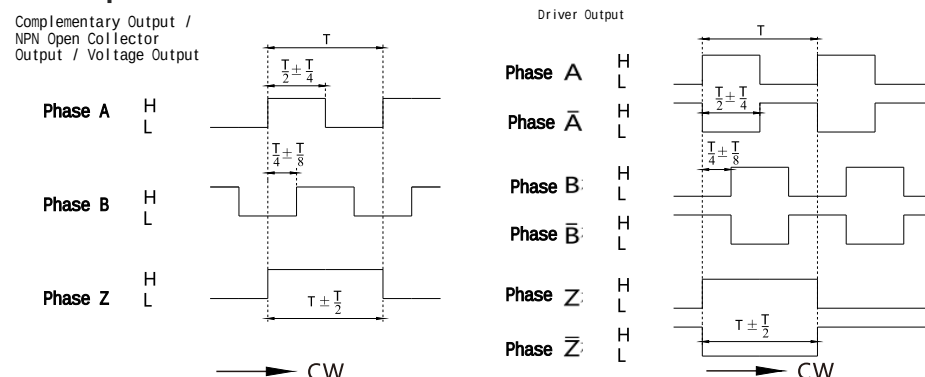
Wire Color	Red	Black	Green	White	Yellow	Shield
Open Output Voltage Output Complementary Output	Vcc	0V	Phase A	Phase B	Z	G (Ground)

Wire Color	Red	Black	Green	White	Yellow	Brown	Gray	Orange	Shield
Driver Output	Vcc	0V	Phase A	Phase B	Z	/Phase A /Phase B /Phase Z	G (Ground)		

V. Output Circuits



VI. Output Waveforms



Note: CW stands for Clockwise rotation direction (viewed from the encoder's main shaft direction).

VII. Working Principle

