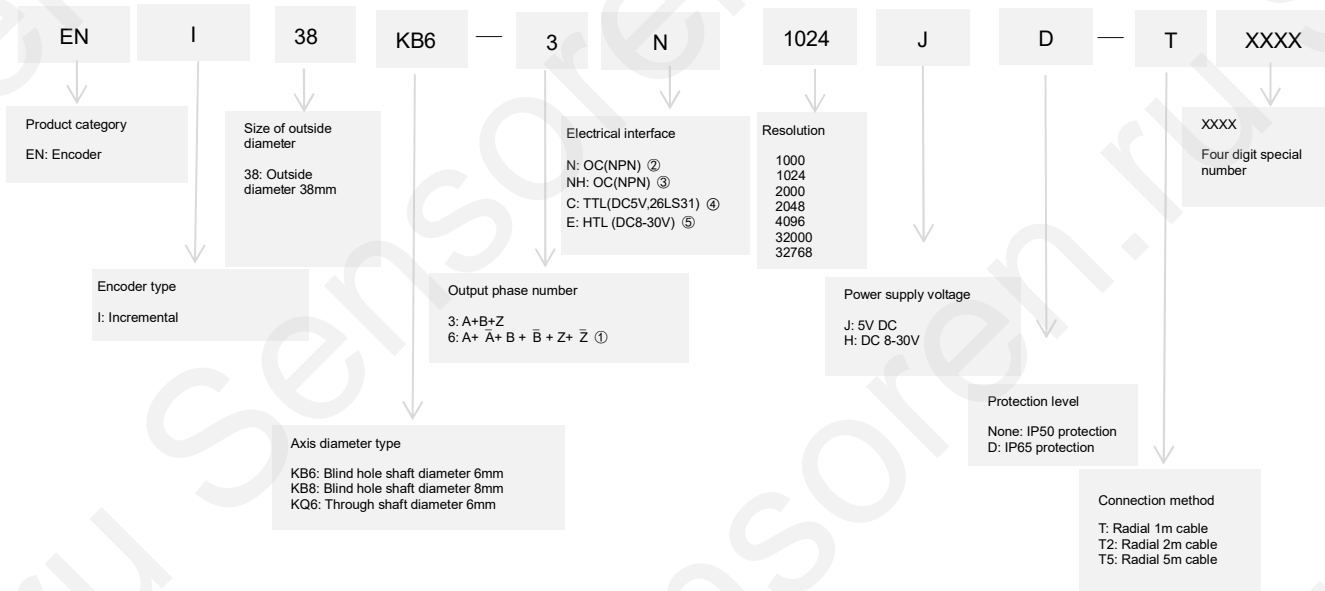


Incremental Optical Encoder **ENI38K** series

**Feature**

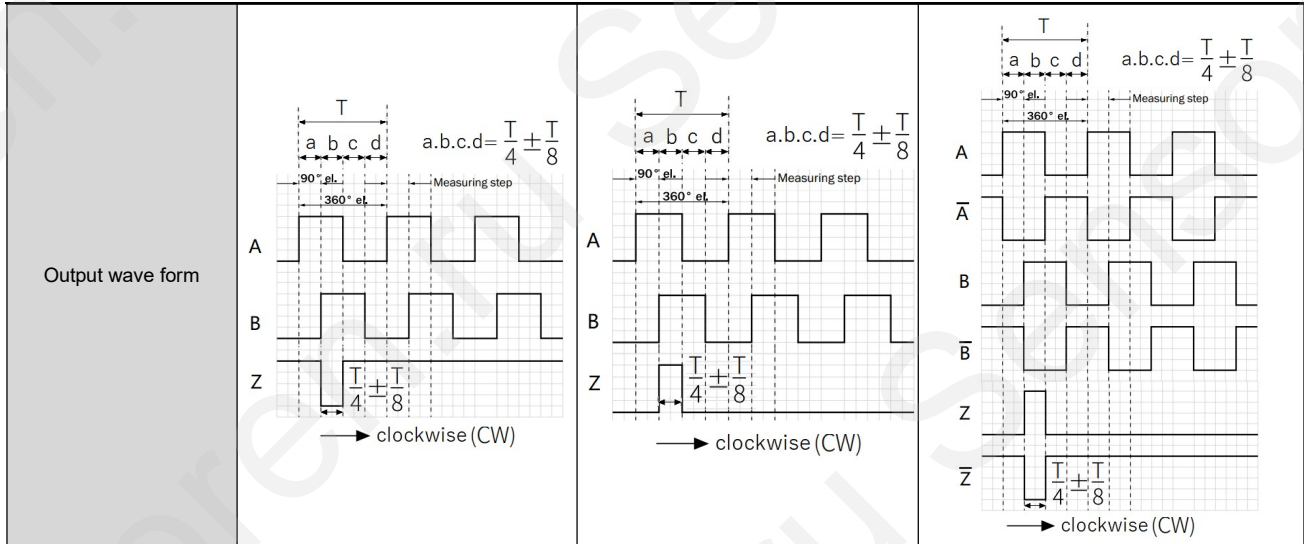
- ◆ Encoder external diameter  $\varnothing 38\text{mm}$ , thickness 38mm, diameter of shaft up to  $\varnothing 8\text{mm}$ ;
- ◆ Ring locking structure;
- ◆ Adopt non-contact photoelectric principle;
- ◆ Reverse polarity protection;
- ◆ Short circuit protection;
- ◆ Multiple electrical interfaces available;
- ◆ Resolution per turn up to 32768PPR.

**Naming rules**


- ① When the output phase number is 6: A+  $\bar{A}$ + B +  $\bar{B}$  + Z+  $\bar{Z}$ , the electrical interface can only choose C: TTL(DC5V, 26LS31) or E: HTL (DC8-30V).
- ② Z signal is low level active (The recommended resolution is less than 5000PPR).
- ③ Z signal is high level active (The recommended resolution is less than 5000PPR).
- ④ If the electrical interface is TTL(DC5V, 26LS31), the corresponding power supply voltage type can only be 5V DC.
- ⑤ If the electrical interface is HTL(DC8-30V), the corresponding power supply voltage type can only be 8-30V DC.

## Specification parameters

Parameter		OC(N)	OC(NH)	TTL	HTL	
Supply voltage		DC+5V±5%; DC8V-30V±5%		DC+5V±5%	DC8-30V±5%	
Consumption current		100mA Max		120mA Max		
Allowable ripple		≤3%rms				
Top response frequency		100 kHz		300 kHz	500 kHz	
Output capacity	Output current	Input	≤30mA	≤±20mA	≤±50mA	
		Output	—			
	Output voltage	“H”	—	≥2.5V	≥V <sub>CC</sub> -3 VDC	
		“L”	≤0.4V	≤0.5V	≤1V VDC	
Load voltage		≤DC30V		—		
Rise & Fall time		Less than 2us (cable length: 2m)		≤100ns Less than 1us (cable length: 2m)		
Insulation strength		AC500V 60s				
Insulation resistance		10MΩ				
Mark to space ratio		45% to 55%				
Reverse polarity protection		√				
Short-circuit protection		—		√①		
Phase shift between A & B		90°±10° (frequency in low speed)				
		90°±20° (frequency in high speed)				
GND		Not connect to encoder				
Diameter of shaft		φ6mm; φ8mm (optional)				
Starting torque		Less than 9.8×10 <sup>-3</sup> N·m				
Inertia moment		Less than 6.5×10 <sup>-6</sup> kg·m <sup>2</sup>				
Shaft load		Radial 30N; Axial 20N				
Slew speed		≤6000 rpm(IP50); ≤4000 rpm (IP65)				
Bearing Life		1.5X10 <sup>9</sup> revs at rated load (100000hrs at 2500RPM)				
Shell		Aluminium alloy				
Weight		about 140g				
Environmental temperature		Operating:-20~+90°C (repeatable winding cable:-10°C); Storage: -25~+95°C				
Environmental humidity		Operating and storage: 35~85%RH (non-condensing)				
Vibration (Endurance)		Amplitude 0.75mm, 5~55Hz, 2h for X, Y, Z direction individually				
Shock (Endurance)		490m/s <sup>2</sup> 11ms three times for X, Y, Z direction individually				
Protection		IP50; IP65				
Output circuit		<p>Transmission distance: 50m MAX I<sub>c</sub>=20mA</p>		<p>Transmission distance: 200m MAX</p>		



① Short-circuit to another channel or GND permitted for max 30s.

## Wiring table

OC(Wiring table for cable connection)

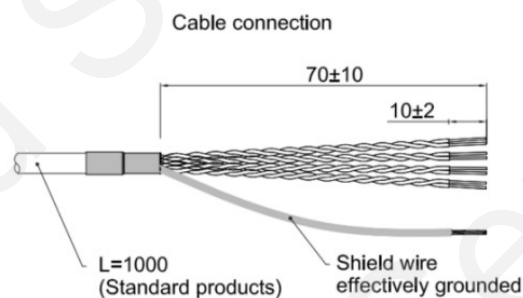
Wire color	Supply voltage		Incremental signal		
	Red	Black	White	Green	Yellow
Function	Up	0V	A	B	Z

TTL/HTL (Wiring table for cable connection)

Wire color	Supply voltage		Incremental signal					
	Red	Black	White	White/BK	Green	Green/BK	Yellow	Yellow/ BK
Function	Up	0V	A+	A-	B+	B-	Z+	Z-
Twisted-paired cable								

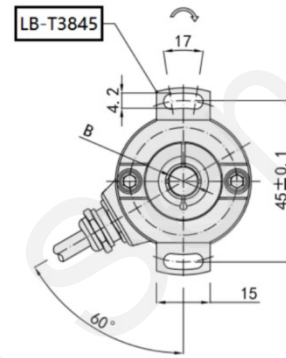
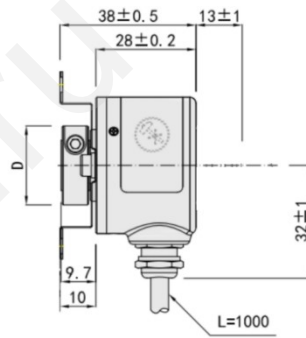
Up=Supply voltage.

Shield wire is not connected to the internal circuit of encoder



Dimensional drawing

B (Blind shaft)	Q (Through shaft)	D
Φ6mm	Φ6mm	φ20
Φ8mm	/	φ22

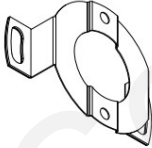
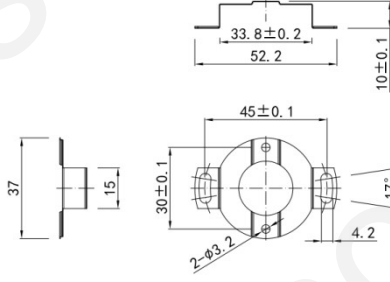
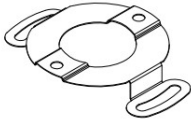
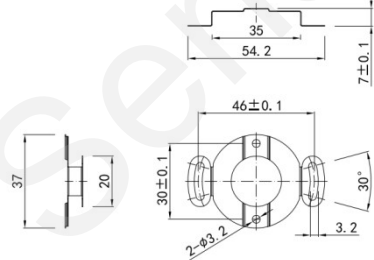


Unit: mm



= Shaft rotation direction of the signal output

Accessories

Spring plate options	Dimensions	Model
		LB-T3845
		LB-T3846