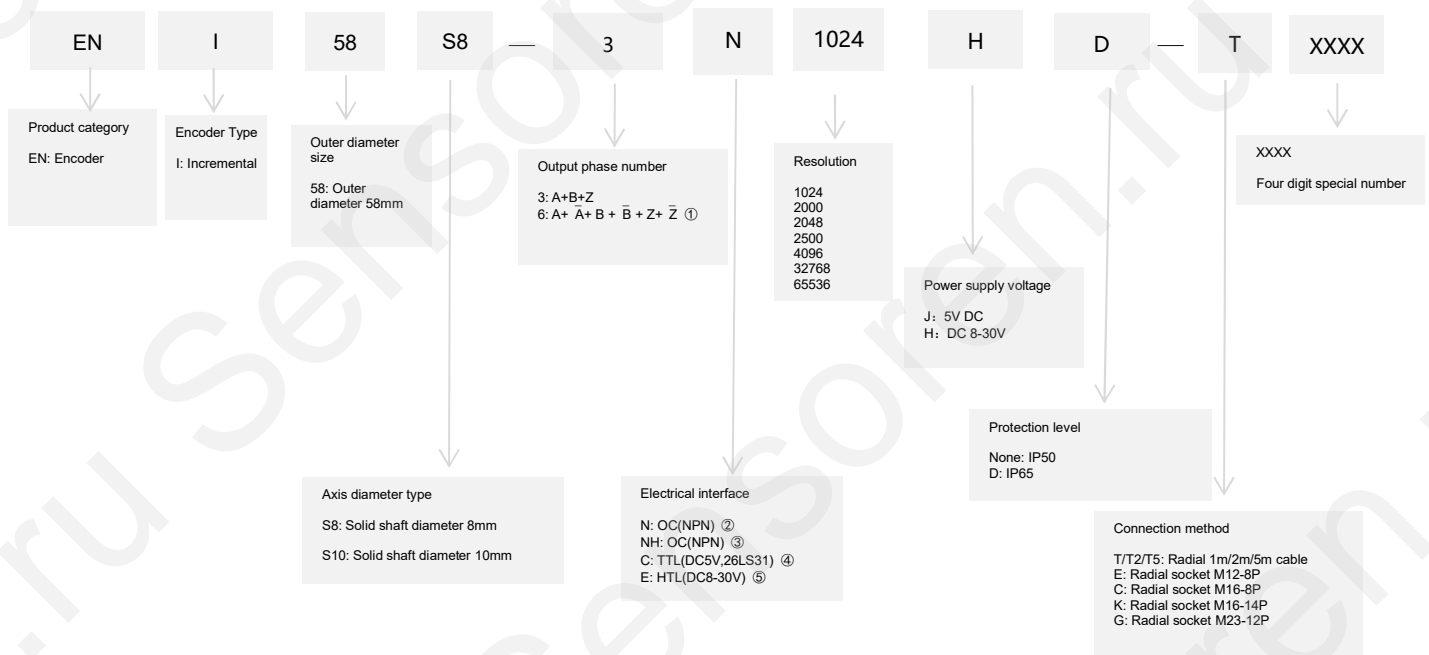


Incremental Optical Encoder **ENI58S** series

Feature

- ◆ Encoder outer cover with a diameter of 58mm and a height of 36-40mm;
- ◆ Available in sizes of 8mm and 10mm;
- ◆ Adopting non-contact photoelectric principle;
- ◆ The highest resolution can reach 65536PPR;
- ◆ Optional alarm/sensing;
- ◆ Polarity reverse protection;
- ◆ Short circuit protection.

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).

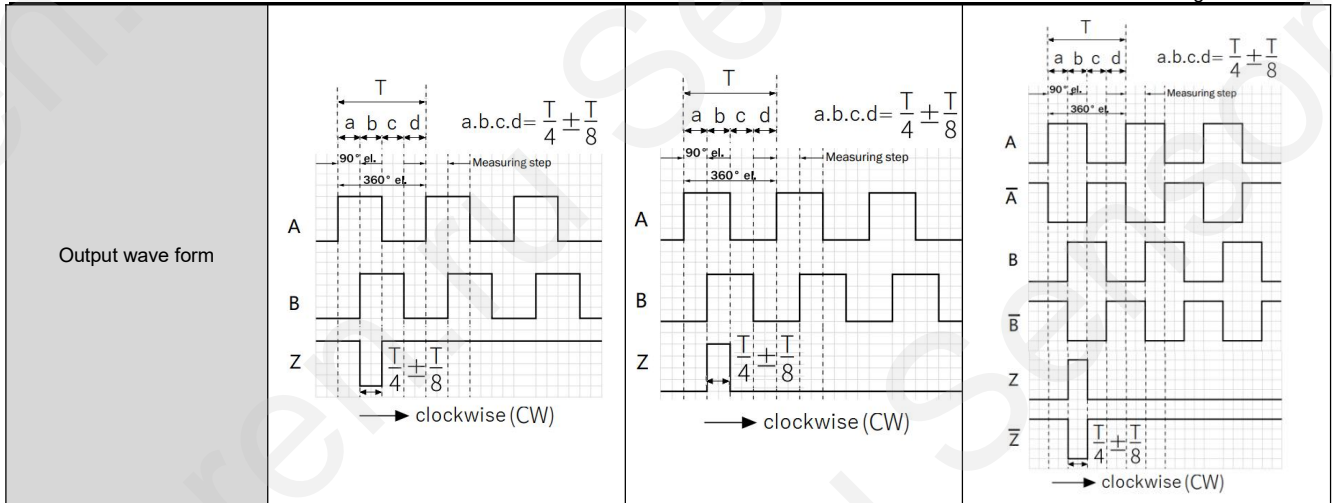
③ Z signal is high level active (The recommended resolution is less than 5000PPR).

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.

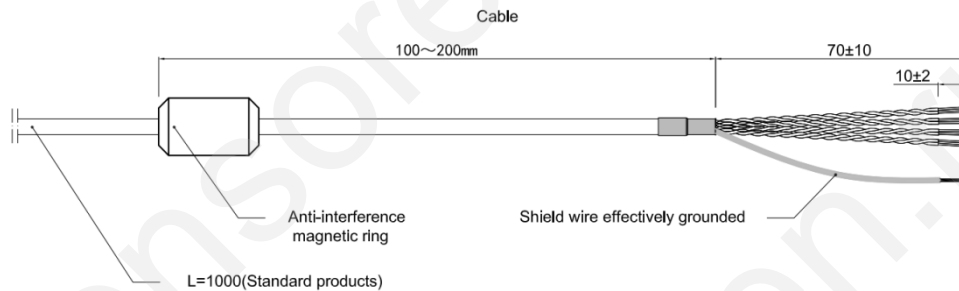
Specification parameters

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		100kHz		300kHz	500kHz
Output capacity	Output current	Input	≤30mA	≤±20mA	≤±50mA
		Output	—		
	Output voltage	"H"	—	≥2.5V	≥V _{cc} -3 VDC
		"L"	≤0.4V	≤0.5V	≤1V VDC
Load voltage		≤DC30V		—	
Rise & Fall time		Less than 2us (cable length: 2m)		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		φ8mm; φ10mm available			
Shaft material		Stainless steel			
Starting torque		at+20°C IP50<0.05 Nm; IP65<0.1 Nm			
Inertia moment		Less than 3×10 ⁻⁶ kg·m ²			
Shaft load		Radial 60N; Axial 40N			
Permissible movement static		±0.3mm(radial); ±0.5mm (axial)			
Permissible movement dynamic		±0.05mm (radial); ±0.1mm (axial)			
Max.angular acceleration		≤500,000 rad/s ²			
Operating speed		6000 r/min②			
Bearing lifetime		3.6×10 ⁹ hrs③			
Housing material		Aluminum alloy			
Weight		Approx.420g			
Shell protection grade		IP65 (Max)			
Permissible relative humidity		90°, condensation not permitted			
Operating temperature range		-40°C...+95°C			
Storage temperature range		-40°C....+95°C			
Resistance to shocks		100g, 6ms (EN60068-2-27) ④			
Frequency range of resistance to vibrations		30g, 10Hz...1,000Hz (EN60068-2-6) ⑤			
Output circuit		<p>Transmission distance: 50m MAX I_c=20mA</p>		<p>Transmission distance: 200m MAX</p>	



- ① Short-circuit to another channel or GND (PNP is effective for Up), permitted for max. 30s.
- ② Allow for self-heating of approx. 3.0K per 1000rpm regarding the permissible operating temperature.
- ③ On maximum operating speed and temperature.
- ④ Checked during operation using vector length monitoring.
- ⑤ Checked during operation using vector length monitoring, including matching plug.

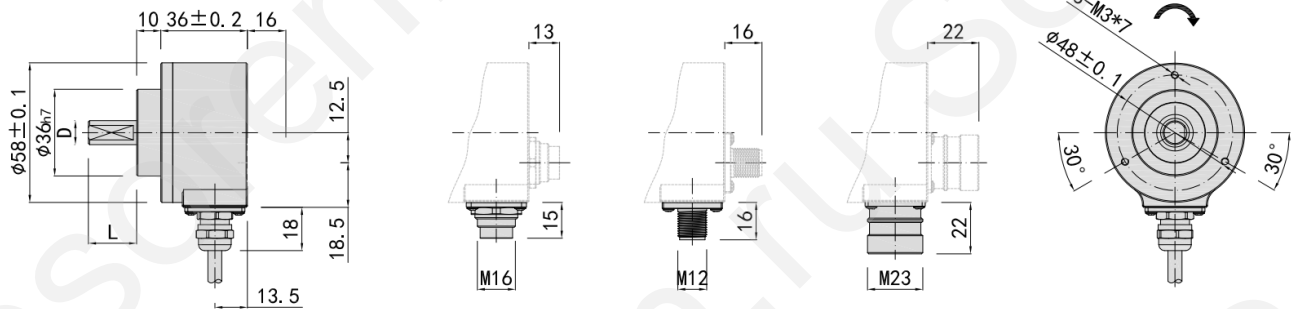
Wiring table



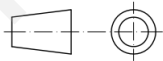
					Signal	Explanation	Twisted wire
E: Radial socket M12-8P	C: Radial socket M16-8P	K: Radial socket M16-14P	G: Radial socket M23-12P	Wire colors (cable connection)	Signal	Explanation	Twisted wire
1	1	A	1	Red	Up	Power positive	
2	2	C	2	Black	Un	Power negative	
3	3	L	3	White	A	Signal wire	
4	4	U	4	White/ BK	\bar{A}	Signal wire	
5	5	J	5	Green	B	Signal wire	
6	6	T	6	Green/ BK	\bar{B}	Signal wire	
7	7	G	7	Yellow	Z	Signal wire	
8	8	S	8	Yellow/ BK	\bar{Z}	Signal wire	
-	-	E	9	Blue	$\bar{\text{Alarm}}$	Explanation	
-	-	R	10	Pink	Sense VCC	Power positive	
-	-	P	11	Gray	Sense OV	Power negative	
-	-	M	12	-	N.C.	Unallocated	

-	-	N	-	-	N.C.	Unallocated	
		0	-	-	N.C.	Unallocated	
GND	Not connect to encoder						

Dimensional drawing



Unit: mm



= Direction of shaft rotation for signal output

D (Shaft diameter)	$\Phi 8_{h7}(\begin{smallmatrix} 0 \\ -0.015 \end{smallmatrix})$	$\Phi 10_{h7}(\begin{smallmatrix} 0 \\ -0.018 \end{smallmatrix})$
L	20	20

Accessories

Coupler	Dimensions	D1	D2	Model
Cross type:M series 	 Main body material:aluminum alloy	$\Phi 6\text{mm}$	$\Phi 8\text{mm}$	LB-M0608
		$\Phi 8\text{mm}$	$\Phi 8\text{mm}$	LB-M0808
		$\Phi 8\text{mm}$	$\Phi 10\text{mm}$	LB-M0810
Diaphragm type:W series 	 Main body material:aluminum alloy	$\Phi 6\text{mm}$	$\Phi 8\text{mm}$	LB-W0608
		$\Phi 8\text{mm}$	$\Phi 8\text{mm}$	LB-W0808
		$\Phi 8\text{mm}$	$\Phi 10\text{mm}$	LB-W0810