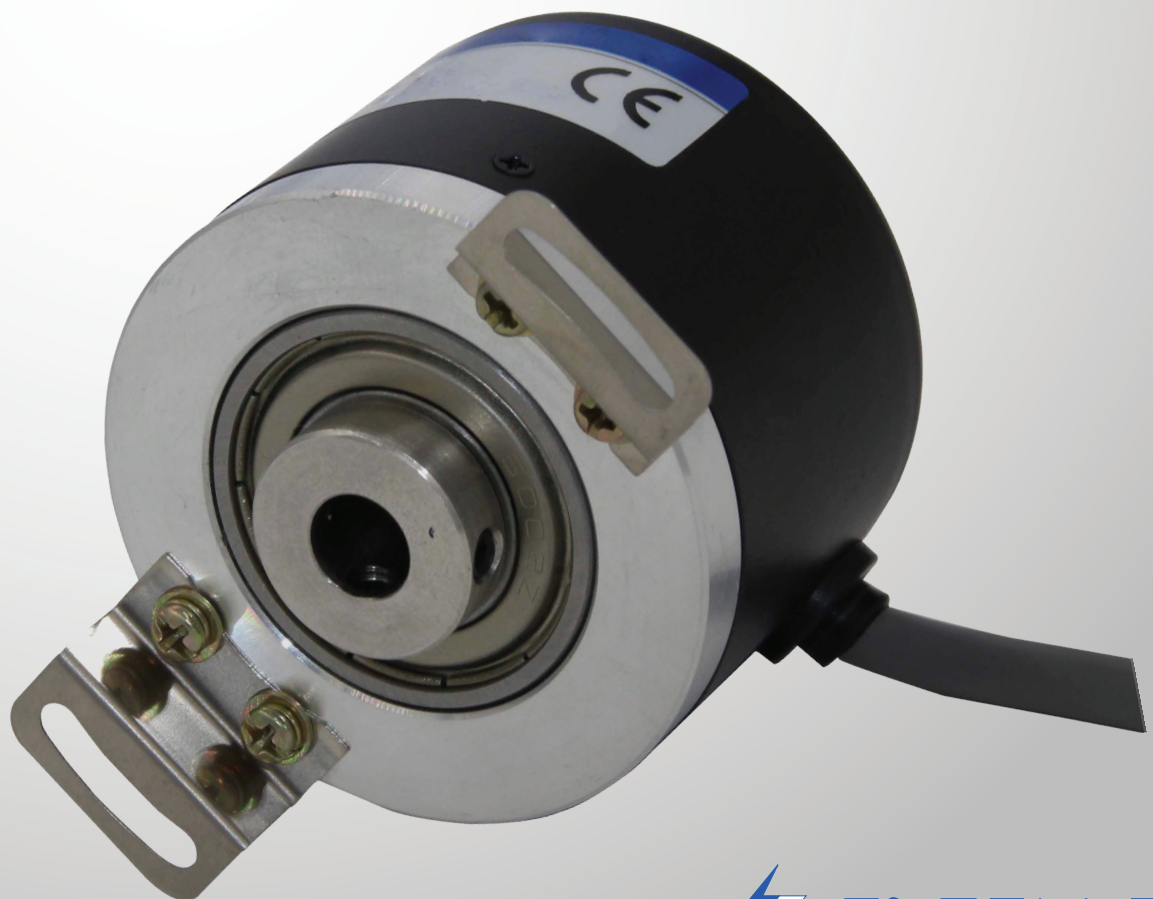


HOLLOW SHAFT ENCODER **ERA-50-B** Series

Product selection guide

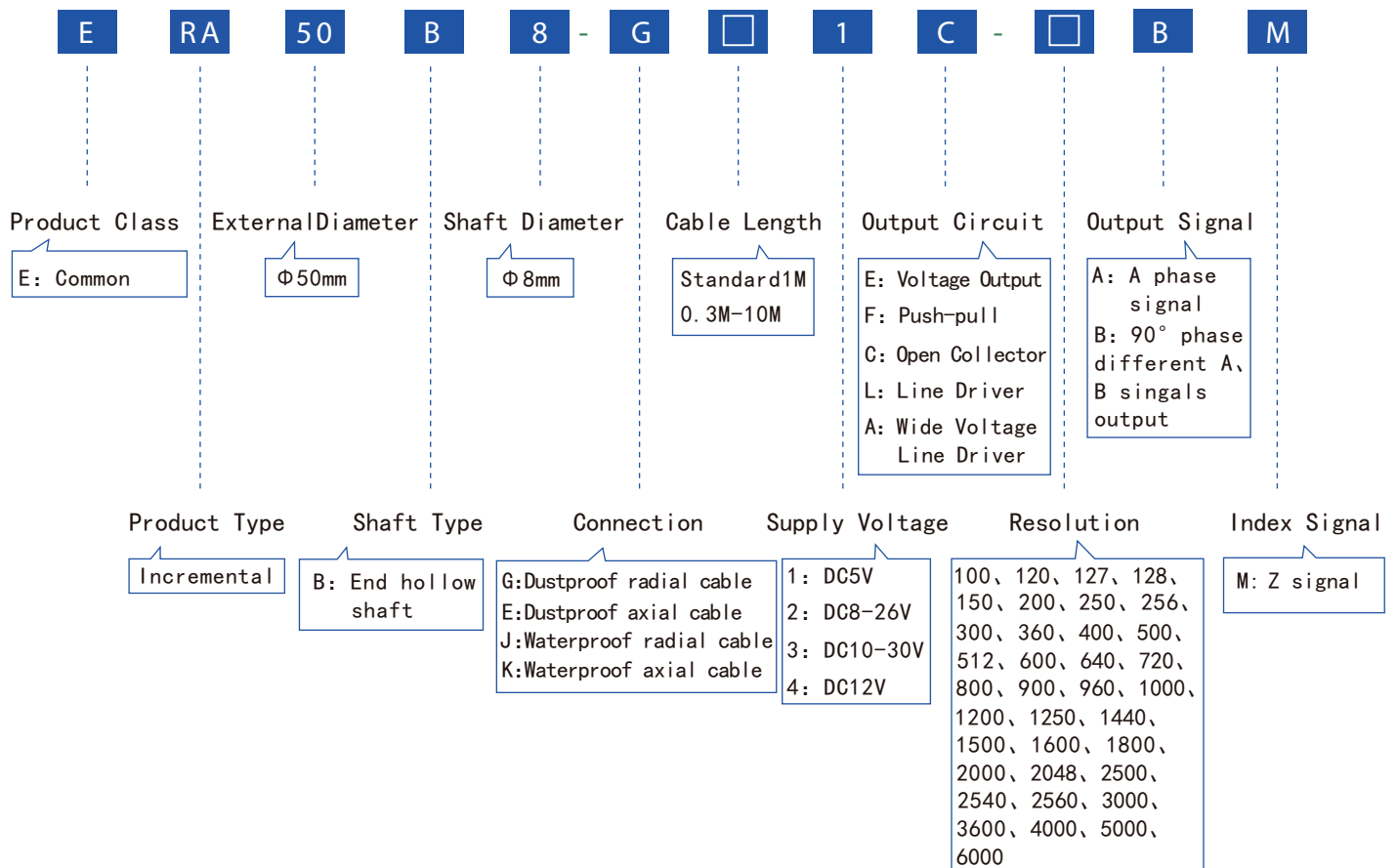


Applications & Features



ERA-50B, 50mm External Diameter; Various kinds of termination;
Wide application range.
The grating divided into metal grating and glass grating,
the max resolution up to 6000ppr.
Optoelectronic devices with high reliability, long life, strong
anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5 ± 0.25	≤ 80	> 3.5	≤ 0.7	≤ 500	≤ 100	0-300
	8-26	≤ 120	> VCC-2.5	≤ 0.7	≤ 500	≤ 100	0-300
	10-30						
	12						
F (Push-pull)	5 ± 0.25	≤ 80	> 3.5	≤ 0.7	≤ 500	≤ 100	0-300
	8-26	≤ 120	> VCC-2.5	≤ 0.7	≤ 500	≤ 100	0-300
	10-30						
	12						

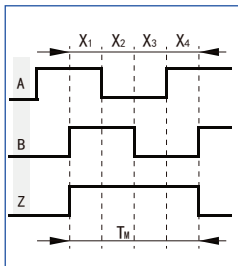
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

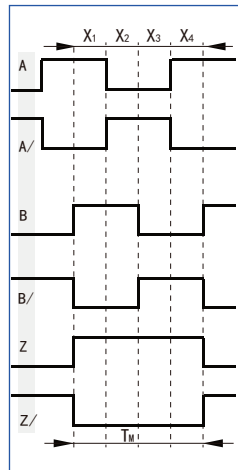
E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					L : 26C31 A : ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Waveform for C, E, F output



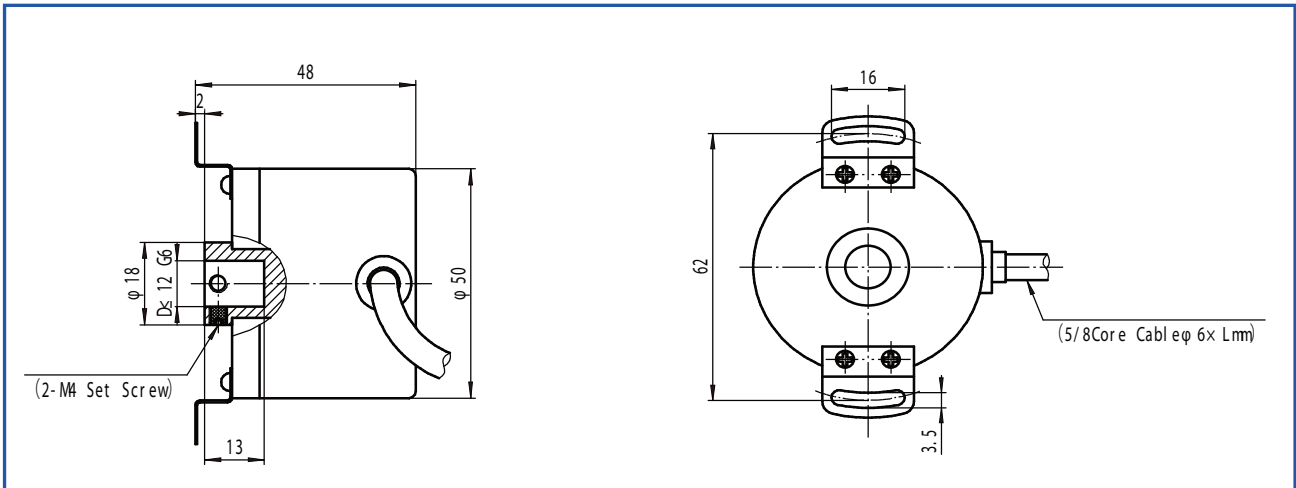
Waveform for L, A output

- Wave Ratio : $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$
- Phase Different : $Xn \geq 0.125T$ ($n=1, 2, 3, 4$)
- Absolute Angle Error: $\leq 0.2T$
- Cycle Error : $\leq 0.05T$
- $T=360^\circ / N$ (N =lines count per revolution)
- Width of Z signal
- 1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)
- The phase relationship of Z signal and A, B signal is not stipulated.
- 2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1×10^{-2}	30	20	3.5×10^{-6}	≈0.28



Environmental Specifications

Operating Temperature (°C)	-20~+85
Storage Temperature (°C)	-30~+95
Relative Humidity	35~85%RH no condensation
Impact Resistance (m/s ²)	50 (Three times each on x, y, z directions, each time lasts 6ms)
Vibration Resistance (m/s ²)	20 (10~200Hz, 2h on x, y, z directions)
Protection Class	Common IP54

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A	/	B	/	Z	/	G
F (Push Pull)	Vcc	0V	A	/	B	/	Z	/	G
C (Open Collector)	Vcc	0V	A	/	B	/	Z	/	G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

