

HOLLOW SHAFT ENCODER **ERA80B** Series

Product selection guide

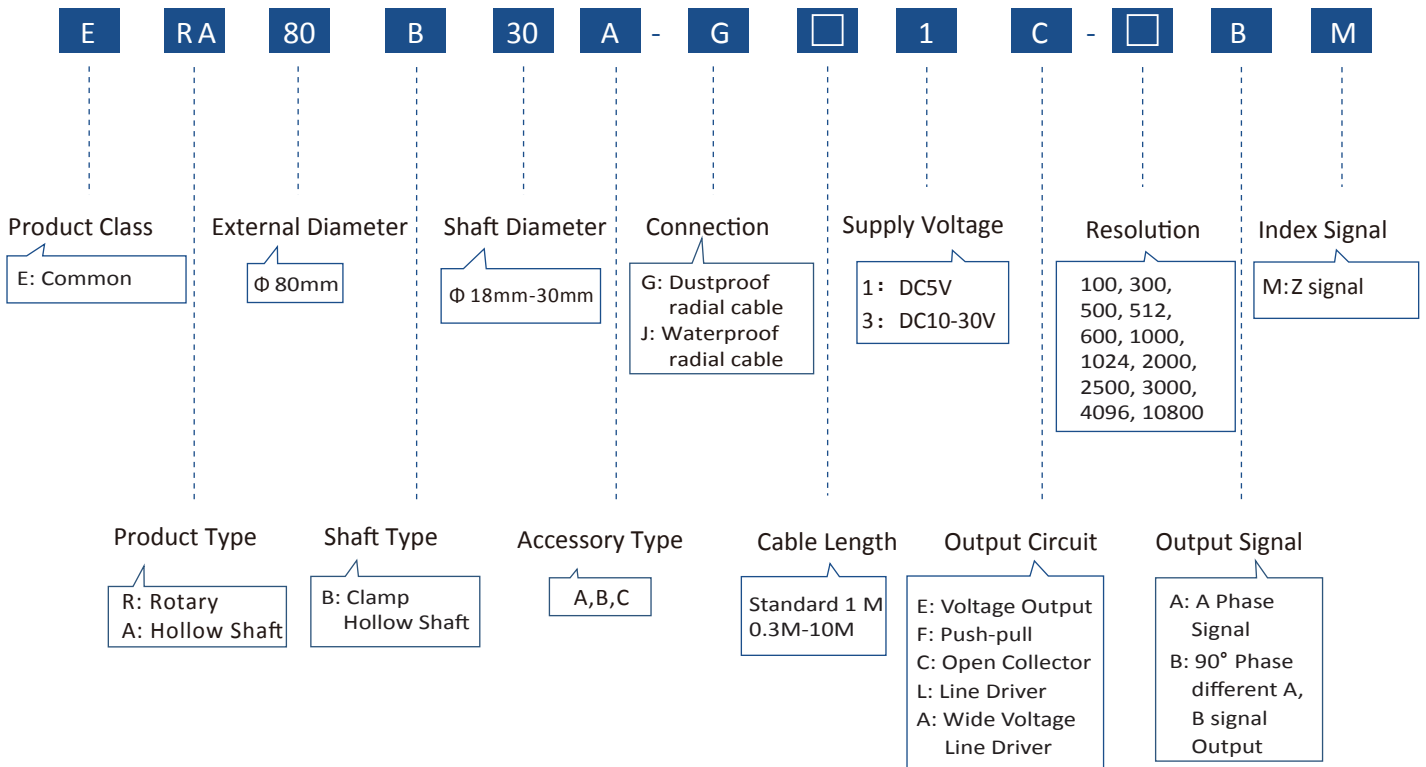


Applications & Features



ERA80B is ultra-thin design to save space. Multiple mounting brackets are available for easy installation. Wide through hollow shaft from 18mm to 30mm. Widely used for elevators, light industrial machinery, displacement and speed measurement. Imported optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

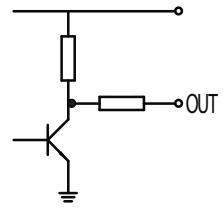
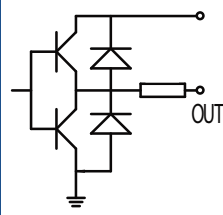
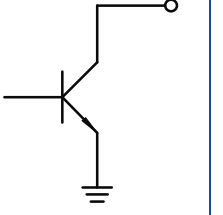
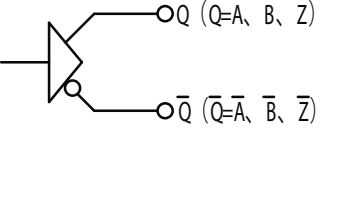
Part Number



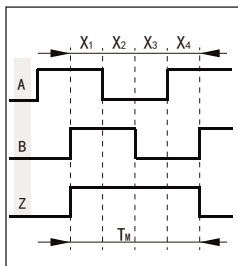
Electrical Specifications

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)	10-30	≤ 120	> VCC-2.5	≤ 0.7	≤ 500	≤ 100	0-300
F (Push-pull)	10-30	≤ 120	> VCC-2.5	≤ 0.7	≤ 500	≤ 100	0-300
C (Open Collector)	5±0.25	≤ 60	> VCC-2.5	≤ 0.7	≤ 500	≤ 100	0-300
	10-30						
L (Line Driver)	5±0.25	≤ 100	> 3.5	≤ 0.7	≤ 200	≤ 200	0-300
A (Wide Voltage Line Driver)	10-30	≤ 60	> VCC-2.5	≤ 0.7	≤ 500	≤ 100	0-300

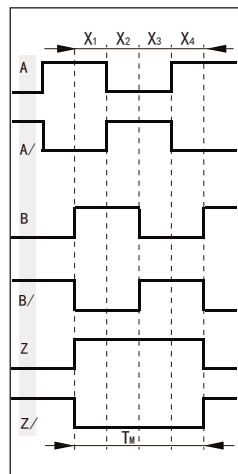
Output Circuit

E (Voltage)	F (Push-pull)	G (Open Collector)	L, A (Line Driver)
10-30 V	10-30 V		
			

Output Waveform



Waveform for C, E, F output



Waveform for L, A, F Output

Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$

$X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

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、 $T_m=0.5T \pm 0.25T$

$T_m=0.25T \pm 0.125T$

$T_m=0.25T \pm 0.125T$

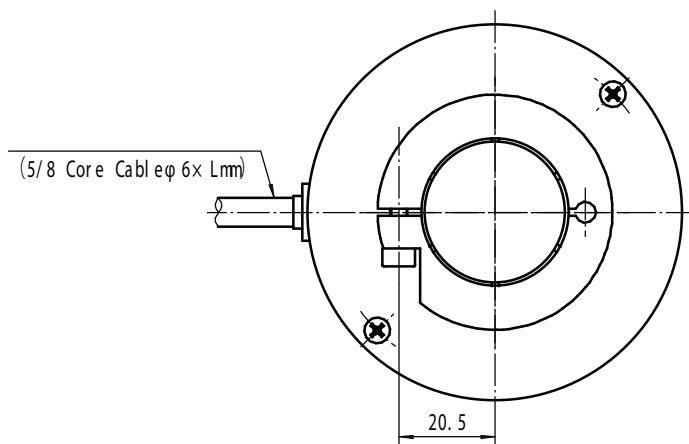
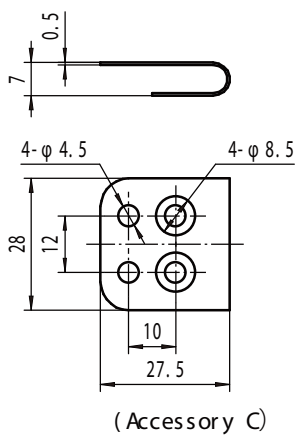
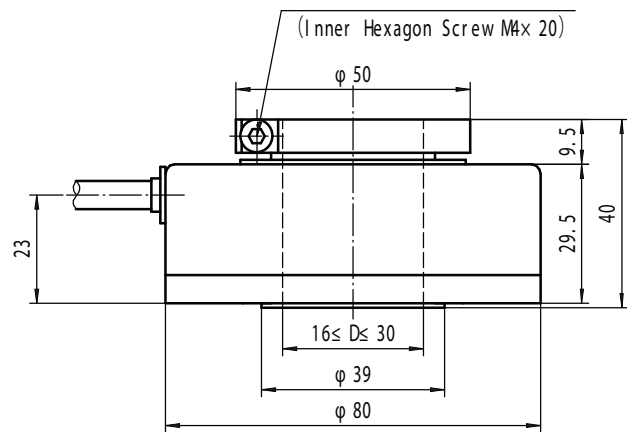
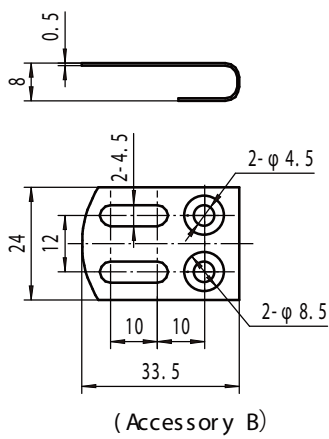
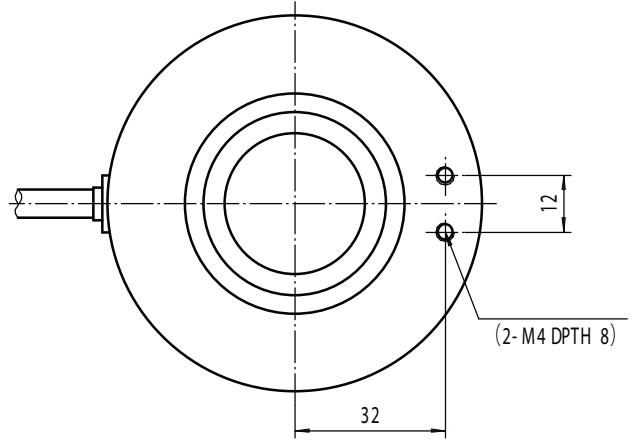
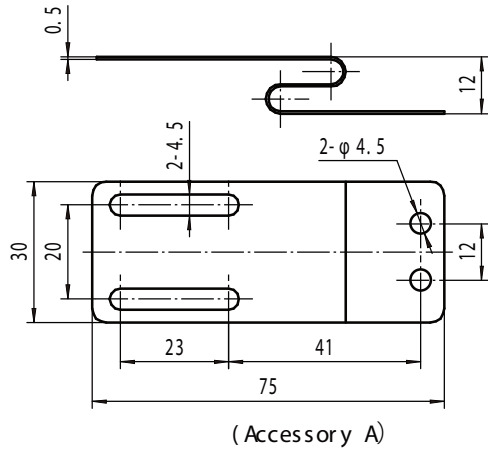
The picture shows the clockwise (CW) waveform from the shaft side

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm^2)	Weight (kg)
		Radial	Axial		
4000	3×10^{-2}	40	20	6×10^{-6}	≈ 0.42

Environmental Specifications

Operating Temperature ($^\circ\text{C}$)	-20~+85
Storage Temperature ($^\circ\text{C}$)	-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



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	A/	B	B/	Z	Z/	G
G (Open Collector)	Vcc	0V	A	/	B	/	Z	/	G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z		G

