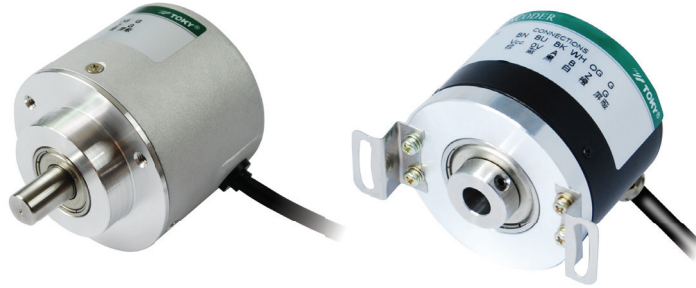


4. HY50 Series Rotary Encoder

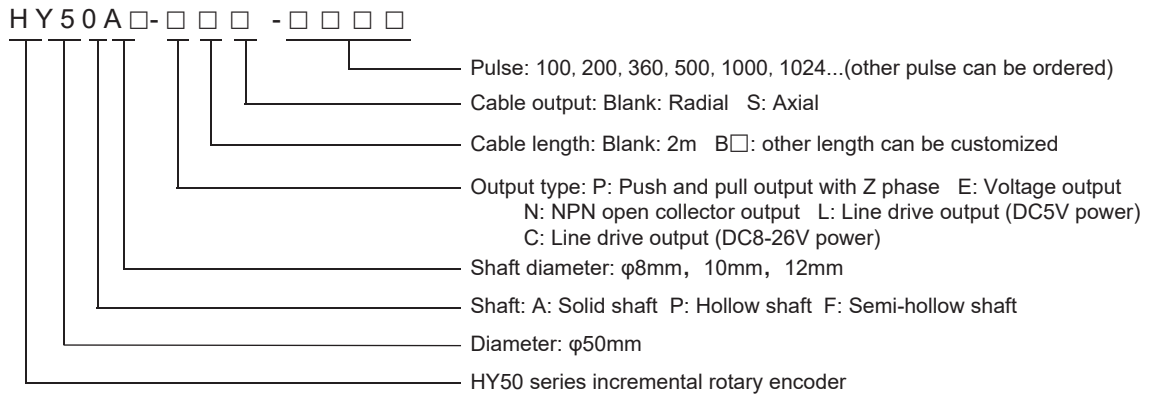
■ Photos and Features



Features:

- ★ Out diameter $\Phi 50$
- ★ Shaft $\Phi 8 \times 10 \text{mm}$
- ★ Sideward cable, 2m length
- ★ Different output types for option
- ★ Max output frequency 300KHz
- ★ Max speed 6000rpm
- ★ Protection: IP54

■ Model Illustration



■ Ordering Information

Model	Shaft	Output and power supply	Pulse	Code
HY50A8-□-□	Solid shaft $\phi 8 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0420HY01
HY50A8-□-□	Solid shaft $\phi 8 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0490HY01
HY50A8-□-□	Solid shaft $\phi 8 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	3000-5000	D0555HY01
HY50F8/10/12-□-□	Semi-hollow shaft $\phi 8 \text{mm}, 10 \text{mm}, 12 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0440HY01
HY50F8/10/12-□-□	Semi-hollow shaft $\phi 8 \text{mm}, 10 \text{mm}, 12 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0525HY01
HY50F8/10/12-□-□	Semi-hollow shaft $\phi 8 \text{mm}, 10 \text{mm}, 12 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	3000-5000	D0600HY01
HY50P8-□-□	Hollow shaft $\phi 8 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	10-1800	D0485HY01
HY50P8-□-□	Hollow shaft $\phi 8 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	2000-2500	D0570HY01
HY50P8-□-□	Hollow shaft $\phi 8 \text{mm}$	P/E/N/C (DC 8~26V), L (DC5V)	3000-5000	D0650HY01

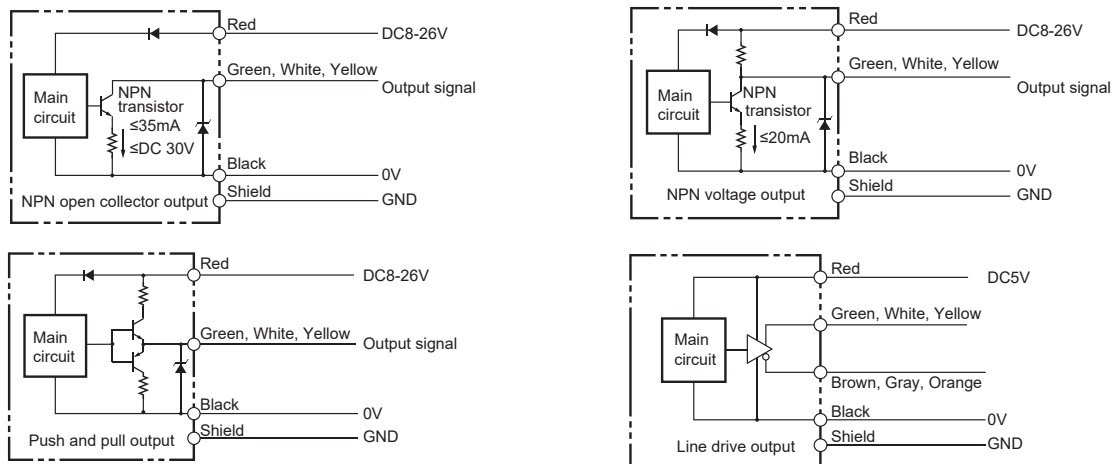
For example: HY50A6-P-1000, solid shaft $\phi 6 \text{mm}$, pulse 1000, push and pull output, power supply DC 8~26V.

■ Technical Specifications

Power supply	Voltage	Line drive output DC 5V $\pm 5\%$ Other output DC 8~26V $\pm 5\%$	Input and Output	Response time	$\leq 1\mu\text{s}$ (when cable length is 1m)
	Ripple wave	$\leq 3\% \text{rms}$		NPN open collector output	Negative logic (for low-level) Load currents $\leq 30 \text{mA}$
	Current consumption	$\leq 120 \text{mA}$, DC 5V power $\leq 80 \text{mA}$		Push and pull output	Output voltage $\geq$ power voltage - 3V DC Load current $\leq 30 \text{mA}$ output current $\leq 10 \text{mA}$
Output wave	Signal mode	A, B phase+Z phase (zero position)		Voltage output	Output voltage $\geq$ power voltage - 3V DC Output currents $\leq 30 \text{mA}$
	Max response frequency	300kHz		Line drive output	Output voltage $\geq 2.5 \text{V DC}$ Load/output current $\leq 20 \text{mA}$
	Max speed	(Max frequency/resolution) $\times 60$		Residual voltage	$\leq 0.5 \text{V DC}$
	Duty ratio	50 $\pm 25\%$			
	Phase difference width	25 $\pm 12.5\%$			
	Z phase signal width	100 $\pm 50\%$			

Mechanical specification	Starting torque		$\leq 0.01\text{N} \cdot \text{m} \text{ (+20}^{\circ}\text{C)}$	Ambient specification	Short-circuit protection		Output and power supply	
	Rotor inertia		$0.3 \times 10^{-6} \text{ kg} \cdot \text{m}^2$		Ambient temperaure		$-20 \sim +85^{\circ}\text{C}$	
	Shaft loading	Radial	20N		Store temperature		$-30 \sim +95^{\circ}\text{C}$	
		Thrust	15N		Ambient humidity		35~85%RH (Non Condensing)	
	Max revolution		6000rpm		Dielectric strength		AC 500V (50/60Hz) for 1 min	
	Cable	Material	PVC		Insulation resistance		$\geq 50\text{M}\Omega$	
		Length	2m		Anti-vibration		0.75mm amplitude at 10~55Hz ²	
		Diameter	$\Phi 5\text{mm}$		Anti-impact		$490\text{m/S}^2 \quad 11\text{ms}^{-3}$	
	Weight		About 200g		Protection		IP54	

Connection



Cable color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
NPN open collector output	Vcc	OV	A	—	B	—	Z	—	G
Push and pull output	Vcc	OV	A	—	B	—	Z	—	G
Voltage output	Vcc	OV	A	—	B	—	Z	—	G
Line drive output	Vcc	OV	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	G

Dimension (units: mm)

