

HE(Shaft type)

- Incremental type
- Wide power voltage
- Simple installation structure
- Various of output specifications



Suffix code

Model		Code					Information
HE	□-	□	□	□	□	□	Shaft rotary encoder (Incremental)
Dimension	40B	6					Outer diameter : \varnothing 40 mm axis : \varnothing 6 mm
		8					Outer diameter : \varnothing 40 mm axis : \varnothing 8 mm optional : (Option)
	50B	8					Outer diameter : \varnothing 50 mm axis : \varnothing 8 mm
Number of pulse		*					\varnothing 6 (External Dia \varnothing 40), \varnothing 8 (External Dia \varnothing 50)
Output signal				2			A , B phase
				3			A , B , Z phase
				3C			A , B , /Z phase
				4			A , B , /A , /B phase
				6			A , B , Z , /A , /B , /Z phase
Output circuit				N	12		NPN voltage output (5 - 12 V DC)
					24		NPN voltage output (12 - 24 V DC)
				O	12		NPN open collector output (5 - 12 V DC)
					24		NPN open collector output (12 - 24 V DC)
				T	12		Totem pole output (5 - 12 V DC)
					24		Totem pole output (12 - 24 V DC)
				L	5		Line Driver output (5 V DC)
					12		Line Driver output (12 V DC)- Apply only for HE40B, HE50B
		24			Line Driver output (24 V DC)- Apply only for HE40B, HE50B		

Model	Number of pulse per 1 revolution
HE40B / HE50B	*1, *2, *5, 10, *12, 15, 20, 25, 30, 40, 45, 50, 60, 75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500, 1800, 2000, 2048, 2500 (38 Types)

※ A and B phase only can be generated with "*" mark (Line drive output : A, /A, B, /B phase)

※ Pulses other than pulses in the chart are order made product

· Specification

Mode		HE□□ B-□-□-□-□-□-□-□	HE□□ B-□-□-□-□-□-□-□	HE□□ B-□-□-□-□-□-□-□	HE□□ B-□-□-□-□-□-□-□
Output type		NPN Voltage output	NPN Open collector output	Totem Pole Output	Line Driver Output
Electrical Specification	Output signal	A, B, Z phase			A, B, Z, /A, /B, /Z phase
	Phase difference on Output	Phase difference between A. B phase : $T/4 \pm T/8$ (Cycle of A phase = T)			
	Max. Response Frequency	300 kHz			
	Power voltage	5 - 12 V d.c / 12 - 24 V d.c \pm 5%			5/12/24 V d.c \pm 5%
	Current Consumption	60 mA Max.(No - load)			
	Connection method	WIRE			

	Control output	Load voltage : 30 V Max. Load current : 30 mA Max. Residual voltage : 0.4 V Max.	For Low Load current:30mA max. Residual voltage: 0.4 V max. For High Load current:10mA max. Remaining voltage: Power Voltage2.5Vmin.	For Low Load current:20mAmax. Residual voltage: 0.4 V max. For High Load Current 20mAmax. Remaining voltage: 0.4 V max.
	Response Time	1μs Max. (Cable length 2.0 m / sink = 30 mA)	1μs Max. (Cable length 1.5 m / sink = 10 mA)	1μs Max. (Cable length 1.5 m / sink = 30 mA)
Mechanical Specification	Starting Torque	Ø40 : 4 x 10 ⁻³ N . m Max. / Ø50 : 7 x 10 ⁻³ N . m Max.		
	Moment of inertia	Ø40 : 4 x 10 ⁻⁶ kg . m ² Max. / Ø50 : 7 x 10 ⁻⁶ kg . m ² Max.		
	Permissible Shaft Loading	Ø40 : Radial : Within 30N, Thrust : Within 20N / Ø50 : Radial : Within 50N, Thrust : Within 30N		
	Max. Permissible Revolution	5000 r/min		
Insulation Resistance		Over 100 MΩ(Base on 500 V d.c mega between terminal and case)		
Dielectric Strength		800 V a.c(Between terminal and case at 60 Hz for 1 minute)		
Vibration Resistance		10 - 55Hz(Cycle for 1 minute), Double amplitude width: 1.5mm, Each X Y Z direction for 2 hours		
Shock Resistance		Ø40 : Max 490 m/s ² , Ø50 :Max 735 m/s ²		
Ambient Temperature		-10 ~ 70 °C(Without condensation), Storage Temperature : -25 ~ 85 °C		
Ambient Humidity		35 ~ 85% R.H.		
Protection		Protection IP 50(IEC Standard)		
Wire Specification		5 P, Ø5.0 mm, length: 1.5 m, shield cable(HE40B, HE50B cable length option : 2 m, 8 m, 10 m) (Line drive type : 8P, Ø5.0 mm, length : 1.5 m, shield cable)		
Weight		Ø40 : 170 g, Ø50 : 200 g		
Accessory		Ø 40 : Ø 6.0 mm / Ø 8.0 mm coupling, Ø 40 : Ø 8.0 mm coupling, bracket		