

E60H Series

Diameter Ø60mm Hollow Shaft Type Incremental Rotary Encoder

■ Features

- Diameter Ø60mm, Inner diameter of shaft Ø20mm
- Easy installation at narrow space
- Suitable for measuring angle, position, revolution, speed, acceleration and distance
- Power supply : 5VDC, 12-24VDC ±5%
- Various output types

⚠ Please read "Caution for your safety" in operation manual before using.



■ Ordering Information

E60H	20	-	8192	-	3	-	N	-	24	-	
Series	Shaft inner diameter	Pulse/1Revolution	Output phase	Control output	Power supply	Cable					
Diameter Ø60mm, hollow shaft type	Ø20mm	100, 1024, 5000, 8192	3: A, B, Z 6: A, $\bar{A}$, B, $\bar{B}$, Z, $\bar{Z}$	T : Totem pole output N : NPN open collector output V : Voltage output L : Line driver output	5 : 5VDC ±5% 24 : 12-24VDC ±5%	No mark: Cable type C: Cable connector type (※)					

※Standard : E60H20-PULSE-3-N-24

※Cable length : 250mm

■ Specifications

Item		Diameter Ø60mm hollow shaft type of incremental rotary encoder	
Resolution (P/R)* ¹		100, 1024, 5000, 8192	
Electrical specification	Output phase		A, B, Z phase (Line driver output A, $\bar{A}$, B, $\bar{B}$, Z, $\bar{Z}$ phase)
	Phase difference of output		Phase difference between A and B : $\frac{T}{4} \pm \frac{T}{8}$ (T=1 cycle of A phase)
	Control output	Totem pole output	• Low - Load current:Max. 30mA, Residual voltage : Max. 0.4VDC • High - Load current:Max. 10mA, Output voltage (Power voltage 5VDC):Min. (Power voltage-2.0)VDC Output voltage (Power voltage 12-24VDC):Min. (Power voltage-3.0)VDC
		NPN open collector output	Load current : Max. 30mA, Residual voltage : Max. 0.4VDC
		Voltage output	Load current : Max. 10mA, Residual voltage : Max. 0.4VDC
		Line driver output	• Low - Load current : Max. 20mA, Residual voltage : Max. 0.5VDC • High - Load current : Max. -20mA, Output voltage (Power voltage 5VDC):Min. 2.5VDC, Output voltage (Power voltage 12-24VDC):Min. (Power voltage-3.0)VDC
	Res- ponse time (rise/ fall)	Totem pole output	Max. 1μs (Cable length : 2m, I sink = 20mA)
		NPN open collector output	
		Voltage output	
		Line driver output	
	Max. Response frequency		300kHz
	Power supply		• 5VDC ±5% (Ripple P-P:Max. 5%) • 12-24VDC ±5% (Ripple P-P:Max. 5%)
	Current consumption		Max. 80mA (disconnection of the load), Line driver output : Max. 50mA (disconnection of the load)
	Insulation resistance		Min. 100MΩ (at 500VDC megger between all terminals and case)
Dielectric strength		750VAC 50/60Hz for 1 minute (Between all terminals and case)	
Connection		Cable type, 250mm cable connector type	
Mechanical specification	Starting torque		Max. 150gf·cm (0.0147 N·m)
	Moment of inertia		Max. 110g·cm ² (11×10 ⁻⁶ kg·m ²)
	Shaft loading		Radial : 5kgf, Thrust : 2.5kgf
	Max. allowable revolution* ²		6000rpm
Vibration		1.5mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each X, Y, Z direction for 2 hours	
Shock		Approx. Max. 100G	
Environment	Ambient temperature	-10 to 70°C, storage : -25 to 85°C	
	Ambient humidity	35 to 85%RH, storage : 35 to 90%RH	
Protection structure		IP50 (IEC standard)	
Cable		Ø5mm, 5-wire, Length : 2m, Shield cable (Line driver output : Ø5mm, 8-wire) (AWG24, Core diameter : 0.08mm, Number of cores : 40, Insulator out diameter : Ø1mm)	
Accessory		Bracket 2EA	
Approval		CE	
Weight* ³		Approx. 397g (approx. 330g)	

※1: Not indicated resolutions are customizable.

※3: The weight includes packaging. The weight in parentheses is for unit only.

※2: Make sure that. Max response revolution should be lower than or equal to max. allowable revolution when selecting the resolution.

[Max. response revolution (rpm)] = $\frac{\text{Max. response frequency}}{\text{Resolution}} \times 60 \text{ sec}$ ※Environment resistance is rated at no freezing or condensation.