

Diameter Ø58mm Shaft Type/Hollow Type/Built-In Type Incremental Rotary Encoder

■ Features

- Diameter Ø58mm flange type
- Suitable for measuring angle, position, revolution, speed, acceleration and distance
- Power supply: 5VDC, 12-24VDC ±5%

■ Applications

- Various tooling machinery, packing machine and general industrial machinery, etc.

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



■ Ordering Information

E58SC	10		8000	3	N	24		
Series Diameter Ø58mm	Shaft diameter		Pulse/ 1 Revolution	Output phase	Control output	Power supply	Cable ^{※1}	
SC: Shaft Clamping	External	10	Refer to resolution	2: A, B 3: A, B, Z 4: A, $\bar{A}$, B, $\bar{B}$ 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: Axial/Radial cable type C: Axial/Radial cable connector type CR: Axial connector type CS: Radial connector type	
SS: Shaft Synchro		6						Ø10mm Ø6mm
H: Hollow	Inner	12						Ø12mm
HB: Hollow Built-in								

*1: E58H (hollow shaft) has only radial cable type, radial cable connector type.

■ Specifications

Item	Diameter Ø58mm incremental rotary encoder	
Resolution (P/R)*1	*1, *2, *5, 10, *12, 15, 20, 23, 25, 30, 35, 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, 3000, 3600, 5000, 6000, 8000	
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	Output between A and B phase: $\frac{T}{4} \pm \frac{T}{8}$ (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	Line driver output
		• [Low] - Load current: Max. 20mA, Residual voltage: Max. 0.5VDC • [High] - Load current: Max. -20mA, Output voltage (power voltage 5VDC): Min. (power voltage-2.5)VDC, Output voltage (power voltage 12-24VDC): Min. (power voltage-3.0)VDC
	Response time (rise, fall)	Totem pole output
		NPN open collector output
		Max. 1μs (cable length: 2m, I sink = 20mA)
		Voltage output
		Max. 0.5μs (cable length: 2m, I sink = 20mA)
	Max. Response frequency	300kHz
Mechanical specification	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	Over 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, Axial cable connector type, Axial/Radial connector type
	Starting torque	• SC/SS type: Max. 40gf·cm (0.004N·m) • H/HB type: Max. 90gf·cm (0.009N·m)
	Moment of inertia	• SC/SS type: Max. 15g·cm ² (1.5×10 ⁻⁶ kg·m ²) • H/HB type: Max. 20g·cm ² (2×10 ⁻⁶ kg·m ²)
	Shaft loading	• SC/SS type-Radial: Max. 10kgf, Thrust: Max. 2.5kgf • H/HB type-Radial: Max. 2kgf, Thrust: Max. 1kgf
	Max. allowable revolution*2	5,000rpm
	Vibration	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours
Environment	Shock	Approx. Max. 75G
	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 (line driver output: 8-wire), 2m, Shield cable (AWG24, core diameter: 0.08mm, number of cores: 40, insulator out diameter: Ø1mm)	
Accessory	Coupling (SC type: Ø10mm, SS type: Ø6mm), Fixing bracket	
Approval	CE (except for line driver output)	
Unit weight	Cable type, Cable connector type	• SC type: Approx. 310g, SS type: Approx. 285g, H type: Approx. 270g, HB type: Approx. 270g
	Connector type	• SC type: Approx. 230g, SS type: Approx. 205g, HB type: Approx. 200g

*1: *1: pulse is only for A, B phase. (line driver output is for A, $\bar{A}$, B, $\bar{B}$ phase) [In case of hollow shaft type, 6000, 8000 P/R excluded]
 *2: Make sure that Max. response revolution should be lower than or equal to max. allowable revolution when selecting the resolution.
 Not indicated resolutions are customizable.

*Environment resistance is rated at no freezing or condensation.

$$[\text{Max. response revolution (rpm)}] = \frac{\text{Max. response frequency}}{\text{Resolution}} \times 60 \text{ sec}$$