


E100H Series

Diameter Ø100mm Hollow Shaft Type Incremental Rotary Encoder

■ Features

- Great environmental resistance
- High stability of output
- Exclusive for Elevator

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



■ Ordering Information

E100H	35	10000	6	L	5
Series	Shaft diameter	Pulse/1Revolution	Output phase	Control output	Power supply
Diameter Ø100mm hollow shaft type	Ø35mm	512, 1024, 10000	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%

■ Specifications

Item	Diameter Ø100mm hollow shaft type of incremental rotary encoder		
Resolution (P/R) ^{※1}	512, 1024, 10000		
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
	Response 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	Connector type		
Mechanical specification	Starting torque	Max. 300gf·cm (0.03N·m)	
	Moment of inertia	Max. 800g·cm ² (8×10 ⁻⁵ kg·m ²)	
	Shaft loading	Radial: 5kgf, Thrust: 2.5kgf	
	Max. allowable revolution ^{※2}	3600rpm	
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. 75G		
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: Ø6mm, 8-wire) (AWG24, Core diameter: 0.08mm, Number of cores: 40, Insulator out diameter: Ø1mm)		
Accessory	Bracket 2EA		
Approval	CE (Except for line driver output)		
Weight ^{※3}	Approx. 1400g (approx. 1130g)		

※1: Not indicated resolutions are customizable.

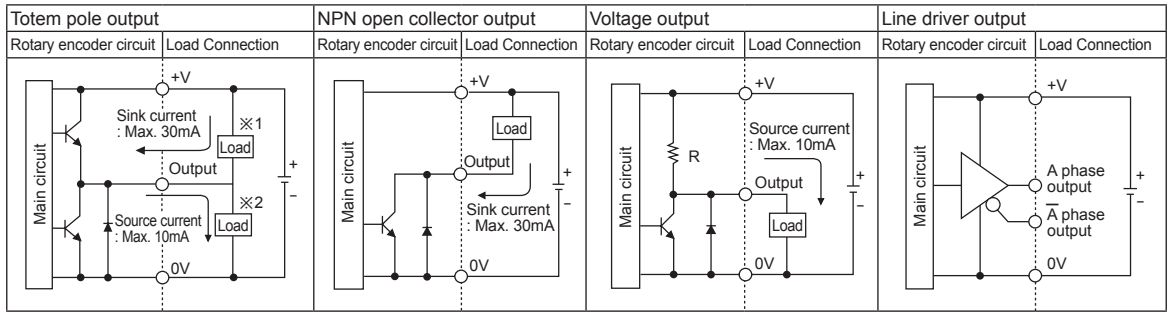
※2: Make sure that. Max response revolution should be lower than or equal to max. allowable revolution when selecting the resolution.

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

※3: The weight includes packaging. The weight in parentheses is for unit only. ※Environment resistance is rated at no freezing or condensation.

Incremental Ø100mm Hollow Shaft Type

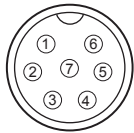
Control Output Diagram



- Totem pole output type can be used for NPN open collector output type (×1) or Voltage output type (×2).
- All output circuits of A, B, Z phase are same. (Line driver output is A, \bar{A} , B, \bar{B} , Z, \bar{Z})

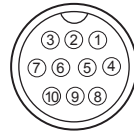
Connections

- Totem pole output / NPN open collector output / Voltage output



SCN-16-7P

Pin No.	Function	Cable color
①	+V	Brown
②	GND	Blue
③	OUT A	Black
④	OUT B	White
⑤	OUT Z	Orange
⑥	F.G.	Shield
⑦	N-C	N.C



SCN-20-10P

Pin No.	Function	Cable color
①	+V	Brown
②	GND	Blue
③	OUT A	Black
④	OUT \bar{A}	Red
⑤	F.G.	Shield
⑥	OUT B	White
⑦	OUT \bar{B}	Gray
⑧	OUT Z	Orange
⑨	OUT \bar{Z}	Yellow
⑩	N-C	N-C

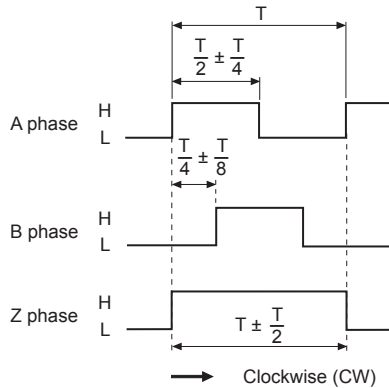
※N-C (Not Connected)

※Unused wires must be insulated.

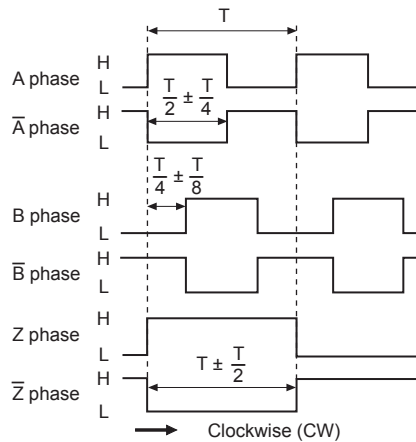
※The metal case and shield cable should be grounded (F.G.).

Output Waveform

- Totem pole output / NPN open collector output / Voltage output



- Line driver output

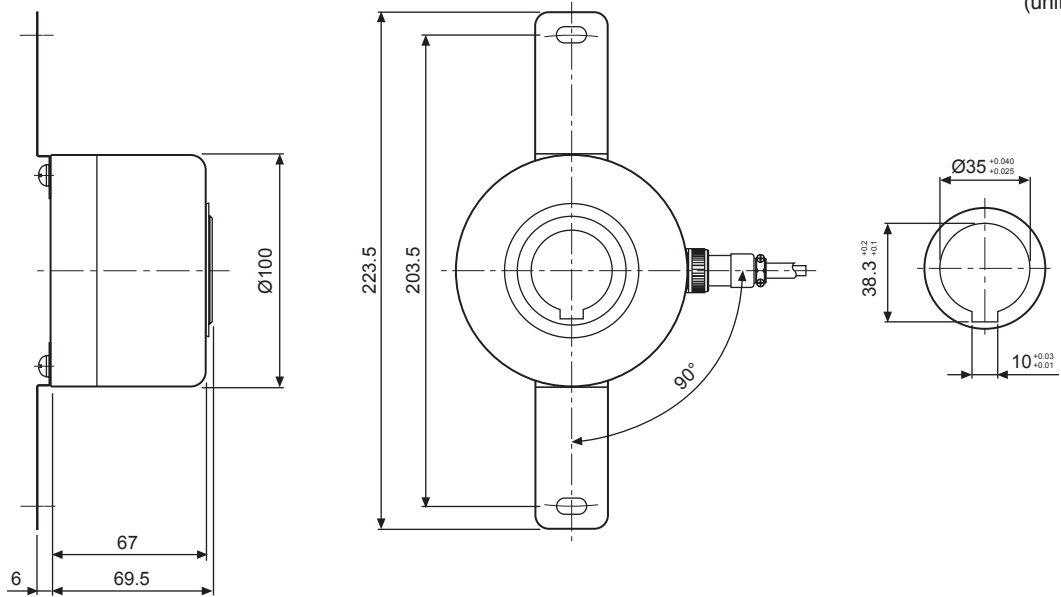


(A)	Photoelectric Sensors
(B)	Fiber Optic Sensors
(C)	Door/Area Sensors
(D)	Proximity Sensors
(E)	Pressure Sensors
(F)	Rotary Encoders
(G)	Connectors/ Sockets
(H)	Temperature Controllers
(I)	SSRs / Power Controllers
(J)	Counters
(K)	Timers
(L)	Panel Meters
(M)	Tacho / Speed / Pulse Meters
(N)	Display Units
(O)	Sensor Controllers
(P)	Switching Mode Power Supplies
(Q)	Stepper Motors & Drivers & Controllers
(R)	Graphic/ Logic Panels
(S)	Field Network Devices
(T)	Software

E100H Series

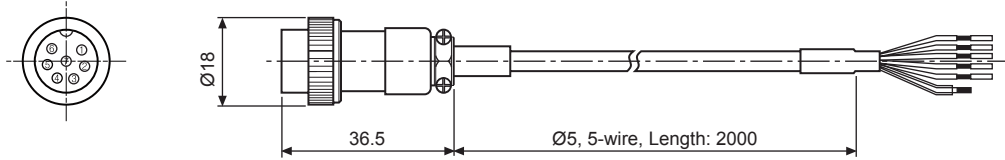
■ Dimensions

(unit: mm)

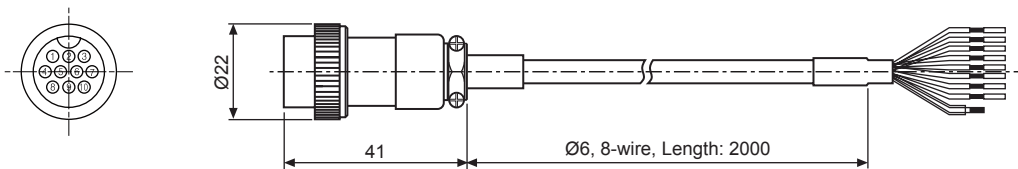


◎ Connector cable

- Totem pole output / NPN open collector output / Voltage output



- Line driver output



※10m connector cable is customizable.

※Cable type is customizable.

- Bracket

