

Selection Guide

ROTARY ENCODER(E80H SERIES)

Ordering information

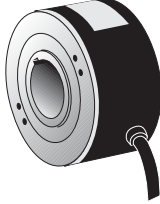
E80H	30	-	1024	-	3	-	N	-	24	-	
Series	Shaft diameter	Pulse/1Revolution	Output phase	Output		Power supply	Cable				
Diameter ø 80mm, hollow type	ø 30mm ø 32mm	60, 100, 360, 500, 512, 1024, 3200	3 : A, B, Z 6 : A, \bar{A} , B, \bar{B} , Z, \bar{Z}	T : Totem pole output N : NPN open collector output V : Voltage output L : Line driver output(*)		5 : 5VDC ±5% 24 : 12~24VDC ±5%	No mark:Normal type (*) C:Cable outgoing connector type				

☞ Shaft inside diameter ø 32mm an option.

*The power of Line driver is only for 5VDC

*Cable length :250mm

Specifications

Item		Diameter ø 80mm hollow type Incremental Rotary encoder		
Model	Totem Pole output	E80H30 - □ - 3 - T - 5 - □	E80H30 - □ - 3 - T - 24 - □	
	NPN open collector output	E80H30 - □ - 3 - N - 5 - □	E80H30 - □ - 3 - N - 24 - □	
	Voltage output	E80H30 - □ - 3 - V - 5 - □	E80H30 - □ - 3 - V - 24 - □	
	Line Driver output	E80H30 - □ - 6 - L - 5 - □	—————	
Appearances		 <p>CE (Except for Line driver output)</p> <p>[ø 80mm, L45mm]</p>		
Resolution(P/R)		60, 100, 360, 500, 512, 1024, 3200 (Not indicated type is available to customize)		
Electrical specification	Output phase		A, B, Z phase (Line driver output \bar{A} , \bar{B} , \bar{Z} , \bar{Z} phase)	
	Phase difference of output		Output between A and B phase : $\frac{T}{4} \pm \frac{T}{8}$ (T=1cycle of A phase)	
	Control output	Totem pole output	<ul style="list-style-type: none"> • Low ☞ Load current : Max. 30mA, Residual voltage : Max. 0.4VDC • High ☞ Load current : Max. 10mA, Output voltage : Min. (Power supply - 1.5)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 : Max. 0.5V High ☞ Load current : Max. -20mA, Output voltage : Min. 2.5V	
	Response time (Rise/Fall)	Totem pole output	Max. 1μs	<ul style="list-style-type: none"> • Measuring condition ☞ Cable length : 2m, I sink = Max. 20mA
		NPN open collector output	Max. 1μs	
		Voltage output	Max. 1μs	
		Line driver output	Max. 0.5μs	
Max. Response frequency		150kHz		
Power supply		• 5VDC ±5% • 12~24VDC ±5%		
Current consumption		Max. 60mA (disconnection of the load), Line driver output: Max. 50mA (disconnection of the load)		
Insulation resistance		Min. 100MΩ (at 500VDC)		
Dielectric strength		750VAC 50/60Hz for 1 minute (Between all terminals and case)		
Connection		Cable outgoing type, 200mm cable outgoing connector type		
Mechanical specification	Starting torque		Max. 200gf · cm (0.02N · m)	
	Rotor inertia		Max. 800g · cm ² (8 × 10 ⁻⁵ kg · m ²)	
	Shaft loading		Radial : 5kgf, Thrust : 2.5kgf	
	Max. allowable revolution		(★Note1) 3600rpm	
Vibration		1.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours		
Shock		Max. 75G		
Ambient temperature		-10 ~ 70°C (at non-freezing status), Storage : -25 ~ 85°C		
Ambient humidity		35~85%RH, Storage : 35~90%RH		
Protection		IP50(IEC standard)		
Cable		5P, ø 5mm, Length : 2m, Shield cable (Line driver output : 8P, ø 5mm)		
Accessory		Spring bracket		
Unit weight		Approx. 560g		

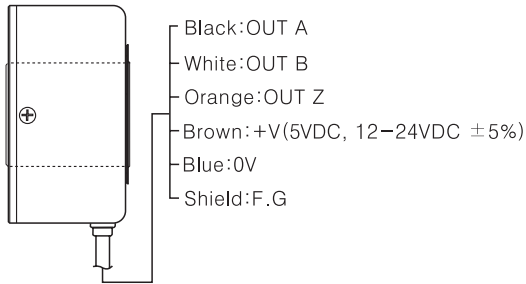
※(★Note1) Max. allowable revolution ≥ Max. response revolution 【Max. response revolution(rpm) = $\frac{\text{Max. response frequency}}{\text{Resolution}} \times 60 \text{ sec}$ 】
Please select the resolution to make lower max. revolution than max. allowable revolution.

ROTARY ENCODER(E80H SERIES)

■Connections

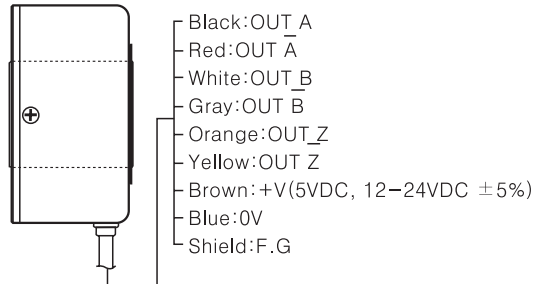
○Normal type

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



- ※ Unused wires must be insulated.
- ※ The metal case and shield cable should be grounded(F.G).

- Line driver output



○Cable outgoing connector type

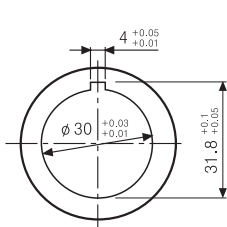
Totem pole output NPN open collector output Voltage output			Line driver outut		
Pin No.	Cable color	Function	Pin No.	Cable color	Function
①	Black	OUT A	①	Black	OUT A
②	White	OUT B	②	Red	OUT A-bar
③	Orange	OUT Z	③	Brown	+V
④	Brown	+V	④	Blue	GND
⑤	Blue	GND	⑤	White	OUT B
⑥	Shield	F.G	⑥	Gray	OUT B-bar
			⑦	Orange	OUT Z
			⑧	Yellow	OUT Z-bar
			⑨	Shield	F.G

※ F.G(Field Ground)

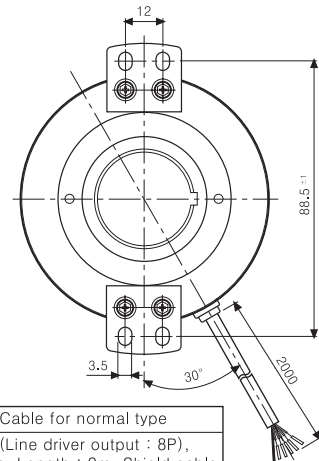
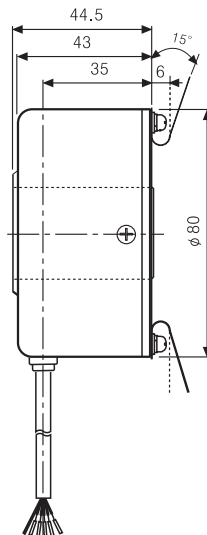
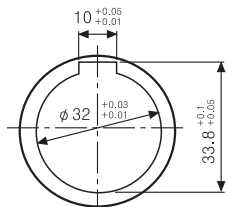
■Dimensions

○Normal type

- Shaft inner diameter standard



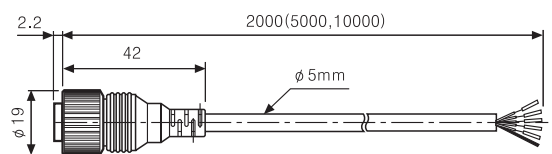
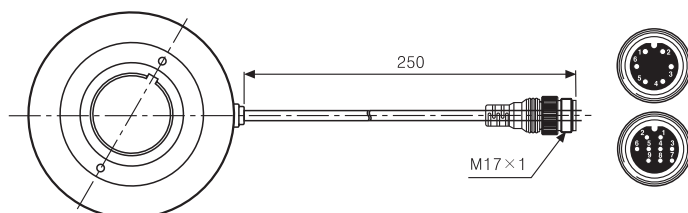
- Shaft inner diameter(Option)



Cable for normal type
5P(Line driver output : 8P),
ø 5mm, Length : 2m, Shield cable

○Cable outgoing connector type

- Connector cable(Accessory)



Connector cable model	
Line driver output	CID9S-2(Standard), CID9S-5, CID9S-10
Etc.	CID6S-2(Standard), CID6S-5, CID6S-10

Unit:mm