E100H Series

Diameter ϕ100mm hollow type INCREMENTAL Rotary encoder

▣Features

- ●Great endurance
- ●Stable output
- ●Only for elevator system

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

▣Ordering information

E100H	35	–	1024	–	6	–	2	–	5	–	

Series	Shaft diameter	Pulse/1Revolution	Output phase	Output	Power supply	Cable
Diameter ϕ100mm hollow type	ϕ35mm	See resolution	3 : A, B, Z 6 : A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	1 : Totem pole output 2 : NPN open collector output 3 : Voltage output L : Line driver output(※)	5 :5VDC ±5% 24:12-24VDC ±5%	No mark:Normal type (※) 2C:Cable outgoing connector type

※The power of Line driver is only for 5VDC

※Cable length:200mm

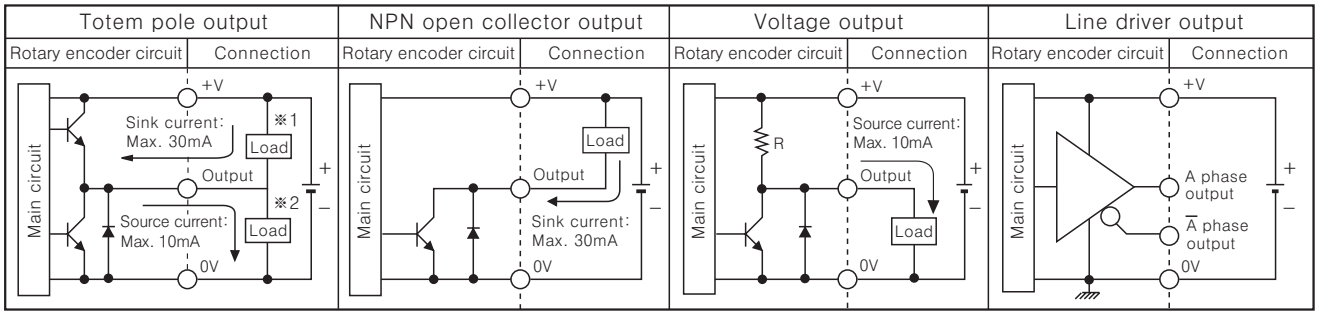
▣Specifactions

Item			Diameter ϕ100mm hollow type Incremental Rotary encoder	
Resolution(P/R)			60, 100, 360, 500, 512, 1024 (Not indicated type is available to customize)	
Electrical specification	Output phase		A, B, Z phase (Line driver output A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$ 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	• Low ☞ Load current : Max. 30mA, Residual voltage : Max. 0.4VDC • High ☞ Load current : Max. 10mA, Output voltage : Min. (Power voltage-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 (Rese/ Fall)	Totem pole output	Max. 1μs	• 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)	
	Moment of 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℃(at non-freezing status), Storage:-25 ~ 85℃	
Ambient humidity			35~85%RH, Storage:35~90%RH	
Protection			IP50(IEC specification)	
Cable			7P, ϕ5mm, Length:5m, Shield cable(Line driver output:10P, ϕ7mm, Length:5m)	
Accessory			Spring bracket 2EA	
Weight			Approx. 1200g	
Approval			CE (Except Line driver output)	

※**(★Note1)** Max. allowable revolution ≧ Max. response revolution 【Max. response revolution(rpm) = $\frac{\text{Max. response frequency}}{\text{Resolution}} \times 60$ sec】

Please select the resolution to make lower max. revolution than max. allowable revolution.

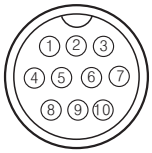
▣Control output diagram



☞ Totem pole output type can be used for NPN open collector output type(※1) or Voltage output type(※2).
☞ All output circuits are the same A, B, Z phase(Line driver output is A, Ā, B, B̄, Z, Z̄)

▣Connections

■Normal type

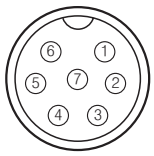


DC-20-10-RN

Pin No.	Cable color	Totem pole output NPN open collector output Voltage output	Line driver outut
①	Black	OUT A	OUT A
②	Red	N.C	OUT Ā
③	Brown	+V	+V
④	Blue	GND	GND
⑤	White	OUT B	OUT B
⑥	Gray	N.C	OUT B̄
⑦	Orange	OUT Z	OUT Z
⑧	Yellow	N.C	OUT Z̄
⑨	Shield	F.G	F.G
⑩	Purple	N.C	N.C

※N.C(Not Connected)
※F.G(Field Ground)

■Elevator(Option)



SCN-16-7P

Pin No.	Cable color	Function
①	Red	+V
②	Black	0V
③	White	OUT A
④	Yellow	OUT A GND
⑤	Orange	OUT B
⑥	Green	OUT B GND
⑦	Shield	F.G

※Un used wires must be insulated.
※The shield wire and metal case of encoder must be grounded(F.G).

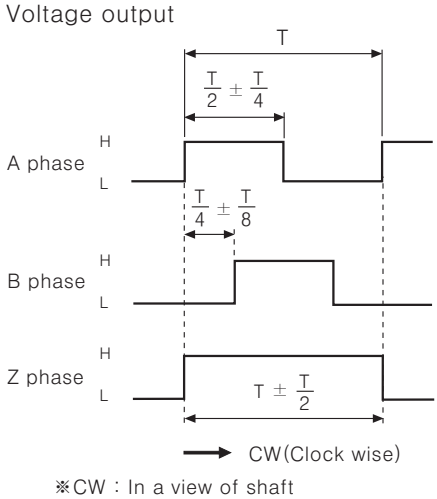
■Cable outgoing connector type

Pin No.	Cable color	Totem pole output NPN open collector output Voltage output	Line driver outut
①	Black	OUT A	OUT A
②	Red	N.C	OUT Ā
③	Brown	+V	+V
④	Blue	GND	GND
⑤	White	OUT B	OUT B
⑥	Gray	N.C	OUT B̄
⑦	Orange	OUT Z	OUT Z
⑧	Yellow	N.C	OUT Z̄
⑨	Shield	F.G	F.G
⑩	Purple	N.C	N.C

※N.C(Not Connected)
※F.G(Field Ground)

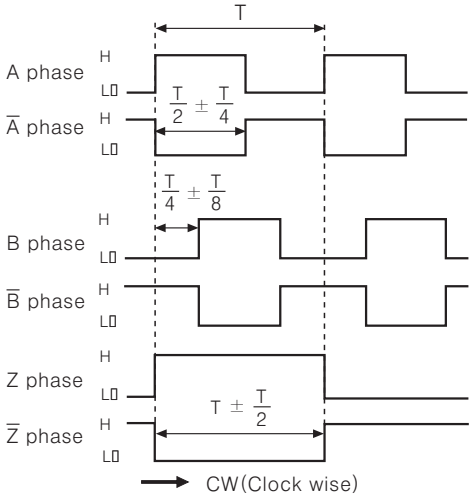
▣Output waveform

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



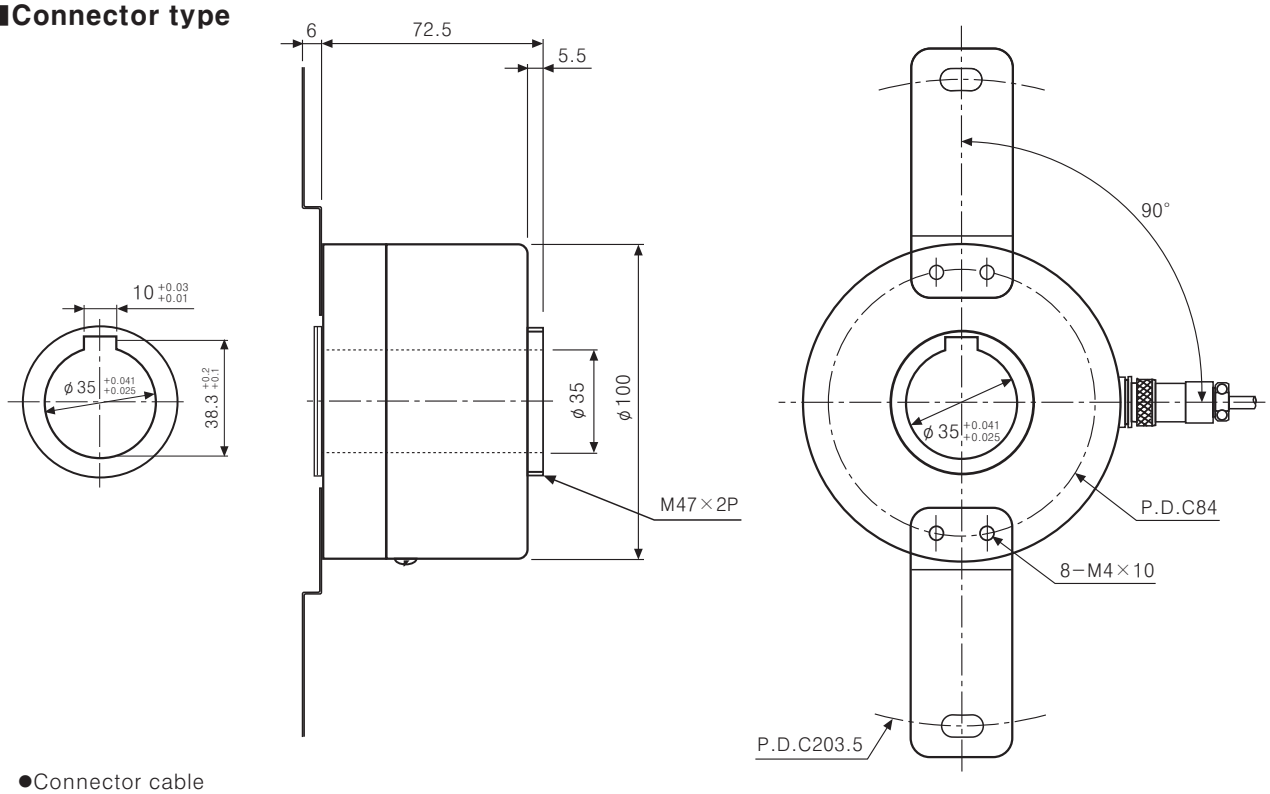
※CW : In a view of shaft

●Line driver output

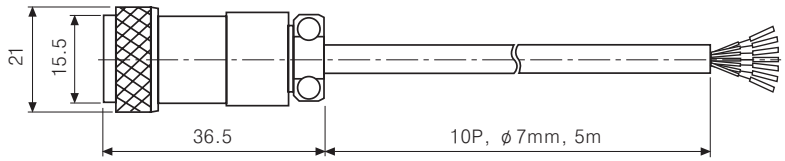


▣Dimensions

■Connector type

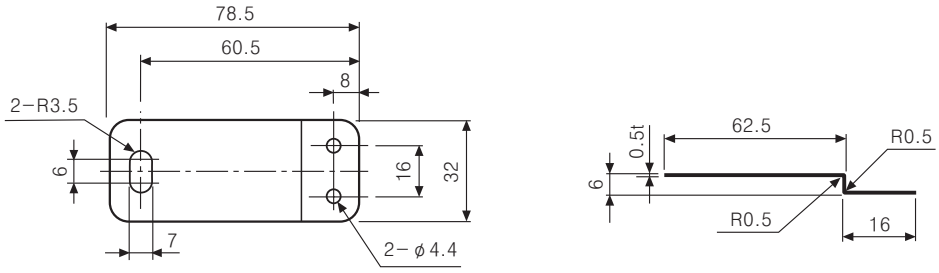


●Connector cable



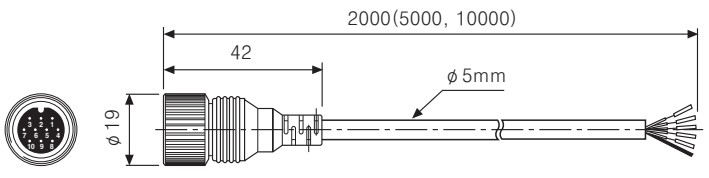
※When it is for elevator, connector cable is 7P, ϕ7mm, 5m.
※Connector cable is 10m(Option).
※Cable outgoing type is optional.

●Spring bracket



■Cable outgoing connector type

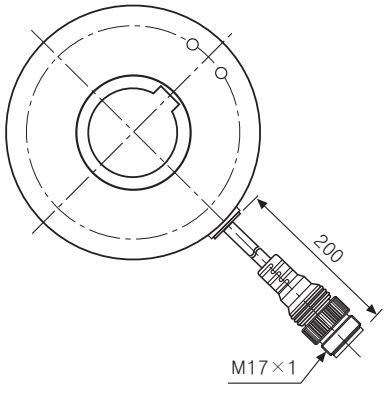
●Connector cable(Accessory)



Connector cable model	
Line driver output	**EC8-2(Standard), EC8-5, EC8-10**
Etc.	**EC5-2(Standard), EC5-5, EC5-10**

Connector cable model
EC 5 - 2
2: Cable length(m)
5: The number of cables
EC: Connector cable of Encoder

※A cable length is optional.



Unit:mm