

E68S Series

Diameter ϕ 68mm Shaft type Incremental Rotary encoder

■ Features

- Diameter ϕ 68mm, Shaft ϕ 15mm
- High speed response frequency : 180kHz
- Connector type
- Suitable for tooling machinery
- IP64 structure (Partial waterproof, Oil proof)
- High shaft loading capabilities (Allowable load weight 10kgf)



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

■ Ordering information

E68S	15	1024	6	L	5
Series	Shaft diameter	Pulse/1 Revolution	Output phase	Output	Power supply
Diameter ϕ 68mm, shaft type	ϕ 15mm	1024 P/R	6 : A, \bar{A} , B, \bar{B} , Z, \bar{Z}	L : Line driver output	5VDC \pm 5%

■ Specifications

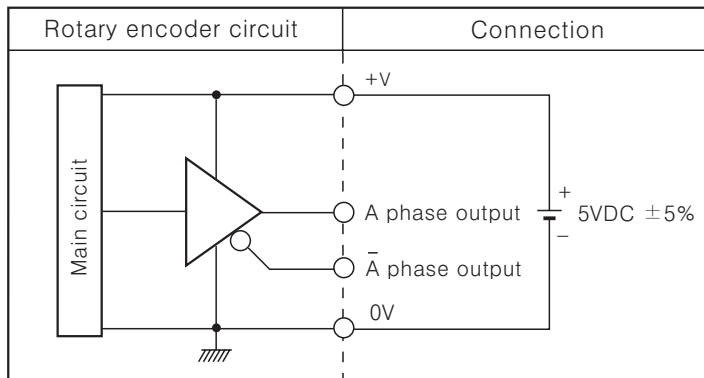
Item	Diameter ϕ 68mm shaft type of Incremental rotary encoder	
Resolution(P/R)	(Note1)	1024
Electrical specification	Output phase	A, \bar{A} , B, \bar{B} , Z, \bar{Z} phase
	Phase difference of output	Phase difference between A and B : $\frac{T}{4} \pm \frac{T}{8}$ (T=1cycle of A phase)
	Output Duty ratio	• A, B phase Duty ratio : $\frac{T}{2} \pm \frac{T}{8}$ • Z phase Duty ratio : $T \pm \frac{T}{4}$
	Control output	• Low \Rightarrow Load current : Max. 20mA, Residual voltage : Max. 0.5VDC • High \Rightarrow Load current : Max. -20mA, Output voltage : Min. 2.5VDC
	Response time(Rise/Fall)	Max. 0.5 μ s (Cable:1m, I sink = 20mA)
	Power supply	5VDC \pm 5% (Ripple P-P : Max. 5%)
	Max. Response frequency	180kHz
	Current consumption	Max. 50mA
	Insulation resistance	Min. 100M Ω (at 500VDC mega between all terminals and case)
	Dielectric strength	750VAC 50/60Hz for 1 minute (Between all terminals and case)
Connection	Connector type (MS3102A20-29P)	
Mechanical specification	Starting torque	1.5kgf \cdot cm (Max. 0.15N \cdot m)
	Shaft loading	Radial : 20kgf, Thrust : 10kgf
	Max. allowable revolution	(Note2) 6,500rpm
Vibration	1.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours	
Shock	Max. 50G	
Ambient temperature	-10 ~ 70 $^{\circ}$ C (at non-freezing status), Storage: -25 ~ 85 $^{\circ}$ C	
Ambient humidity	35~85%RH, Storage: 35~90%RH	
Protection	IP64 (IEC standard)	
Unit weight	Approx. 550g	

※ **(Note1)** Not indicated type is customizable.

※ **(Note2)** Max. allowable revolution \geq Max. response revolution **[Max. response revolution (rpm) = $\frac{\text{Max. response frequency}}{\text{Resolution}} \times 60 \text{ sec}$]**

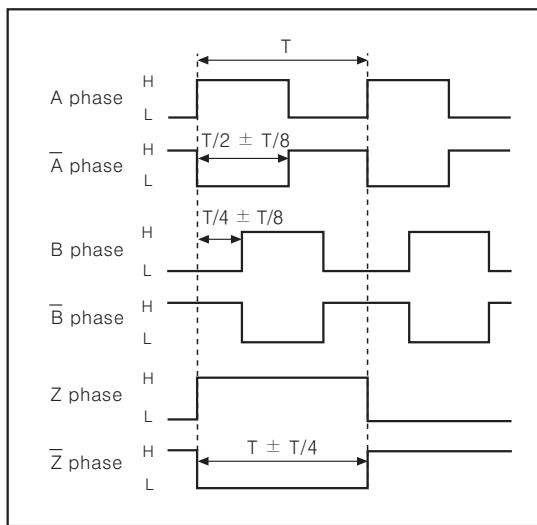
Incremental ϕ 68mm Shaft Type

Control output diagram



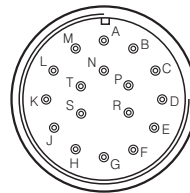
※All output circuit of A, \bar{A} , B, \bar{B} , Z, \bar{Z} phase is the same.

Output waveform



※CW : As viewed from the shaft

Connections



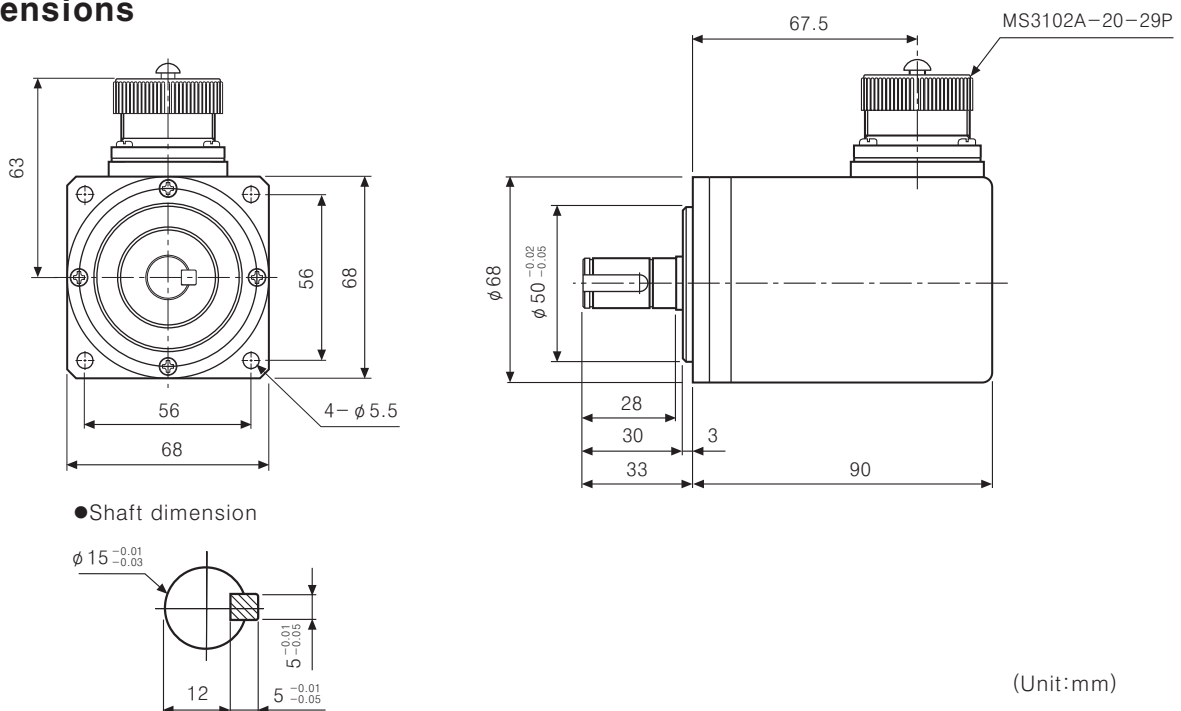
Pin No.	Cable color	Pin No.	Cable color
A	A phase	K	0V
B	Z phase	L	NC
C	B phase	M	0V
D	NC	N	\bar{A} phase
E	5VDC	P	\bar{Z} phase
F	NC	R	\bar{B} phase
G	NC	S	NC
H	5VDC	T	Shield (F.G)
J	NC	—	—

※N.C : Not Connected.

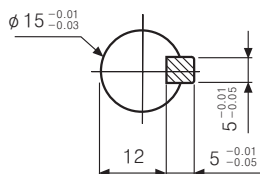
※Terminals E and H, K and M are connected internally.

※Cable sold separately.

Dimensions



●Shaft dimension



(Unit:mm)

(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

(N) Stepping motor & Driver & Controller

(O) Graphic panel

(P) Production stoppage models & replacement