

E68S Series Incremental ϕ 68mm Shaft Type

Diameter ϕ 68mm Shaft type Incremental Rotary encoder

■ Features

- Diameter ϕ 68mm, shaft diameter ϕ 15mm
- High speed response frequency : 180kHz
- Connector type
- Suitable for tooling machinery
- Protection structure IP64 (Partial waterproof, Oil proof)
- High shaft loading capabilities (Allowable load weight is 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	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 megger 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 to 55Hz in each of X, Y, Z directions for 2 hours		
Shock	Max. 50G		
Ambient temperature	-10 to 70 $^{\circ}$ C (at non-freezing status), Storage : -25 to 85 $^{\circ}$ C		
Ambient humidity	35 to 85%RH, Storage : 35 to 90%RH		
Protection	IP64 (IEC standard)		
Unit weight	Approx. 550g		

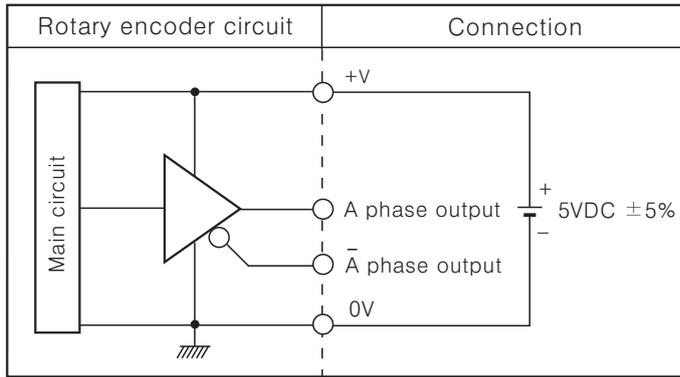
※ **(Note1)** Not indicated type is customizable.

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

- (A) Photo electric sensor
- (B) Fiber optic sensor
- (C) Door/Area sensor
- (D) Proximity sensor
- (E) Pressure sensor
- (F) Rotary encoder**
- (G) Connector/Socket
- (H) Temp. controller
- (I) SSR/Power controller
- (J) Counter
- (K) Timer
- (L) Panel meter
- (M) Tacho/Speed/Pulse meter
- (N) Display unit
- (O) Sensor controller
- (P) Switching power supply
- (Q) Stepping motor & Driver & Controller
- (R) Graphic/Logic panel
- (S) Field network device
- (T) Production stoppage models & replacement

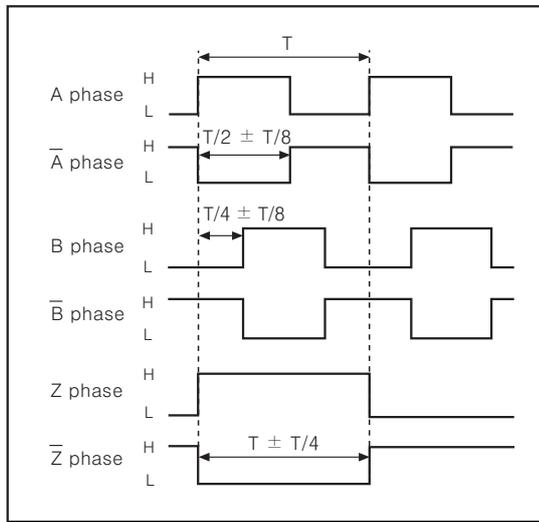
E68S Series

Control output diagram



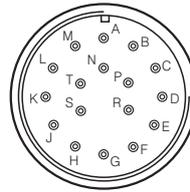
*All output circuits of A, \bar{A} , B, \bar{B} , Z, \bar{Z} phase are the same.

Output waveform



*CW : Right turn as from the shaft

Connections



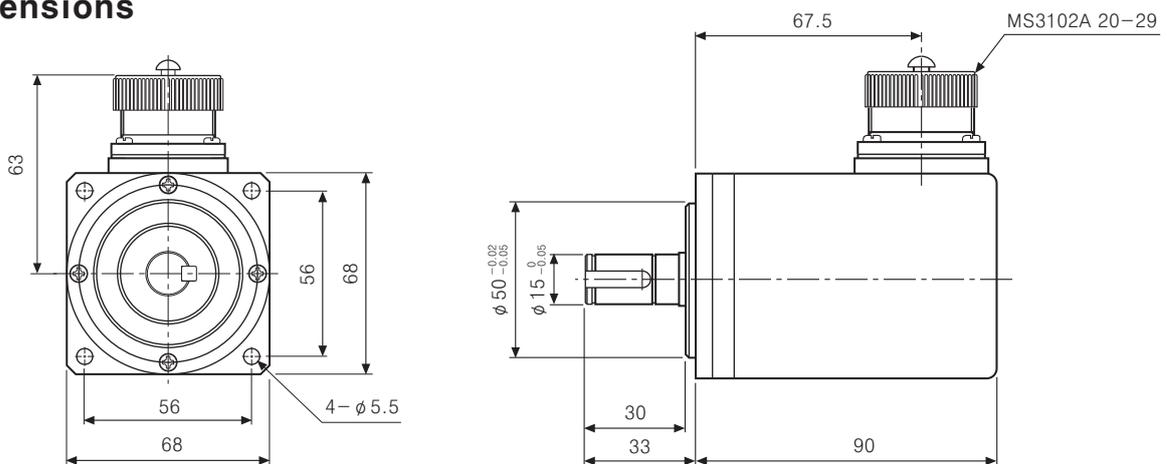
Pin No.	Cable color	Pin No.	Cable color
A	A phase	K	0V
B	Z phase	L	NC
C	B phase	M	0V
D	NC	N	\bar{A} phase
E	5VDC	P	\bar{Z} phase
F	NC	R	\bar{B} phase
G	NC	S	NC
H	5VDC	T	Shield(F.G)
J	NC	—	—

*N.C : Not Connected.

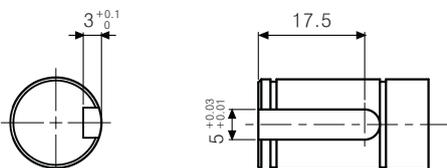
*Terminals E and H, K and M are connected internally.

*Cable sold separately.

Dimensions



●Shaft dimension



(Unit:mm)