

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

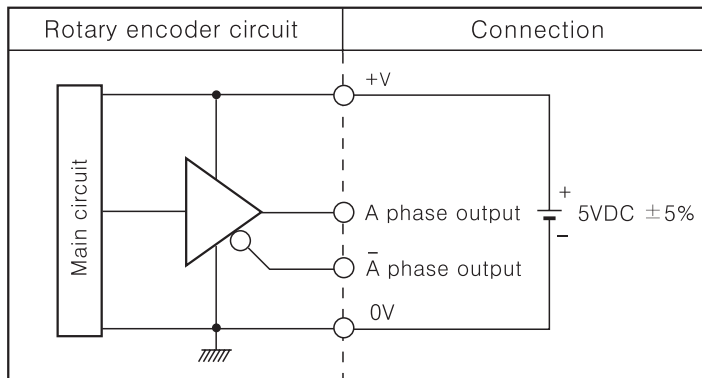
Item		Diameter ϕ 68mm shaft type of Incremental rotary encoder	
Resolution (P/R)		(Note1)	1024
Electrical specification	Output phase	A, $\bar{A}$, B, $\bar{B}$, Z, $\bar{Z}$ phase	
	Phase difference of output	Phase difference between A and B : $\frac{T}{4} \pm \frac{T}{8}$ (T=1 cycle of A phase)	
	Output 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)	
	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. 30G	
Ambient temperature		0 ~ 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 available to customize.

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

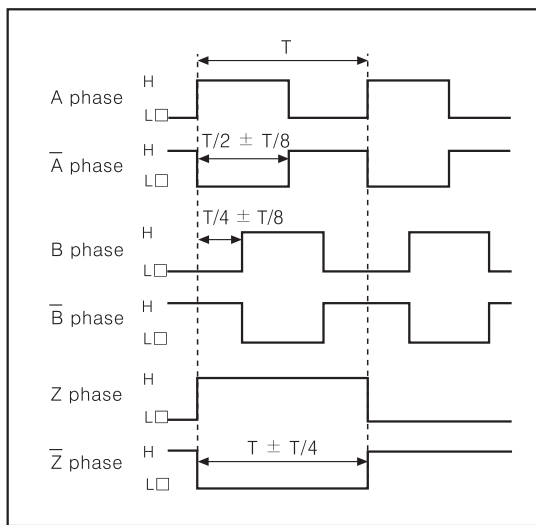
Incremental ϕ 68mm Shaft Type

Control output diagram



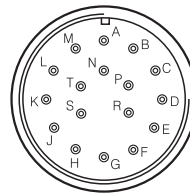
※All output circuit of A, $\bar{A}$, B, $\bar{B}$, Z, $\bar{Z}$ phase is the same.

Output waveform



※CW : In a view of shaft.

Connections

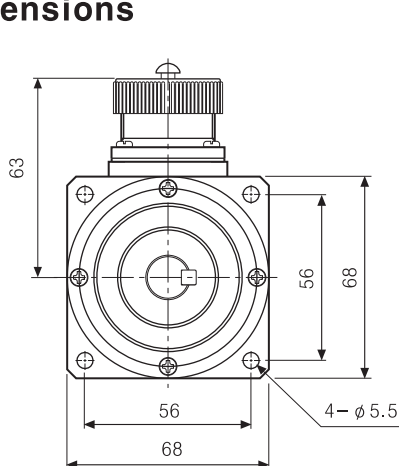


Pin No.	Cable color	Pin No.	Cable color
A	A phase	K	0V
B	Z phase	L	NC
C	B phase	M	0V
D	NC	N	$\bar{A}$ phase
E	5VDC	P	$\bar{Z}$ phase
F	NC	R	$\bar{B}$ phase
G	NC	S	NC
H	5VDC	T	Shield (F.G)
J	NC	—	—

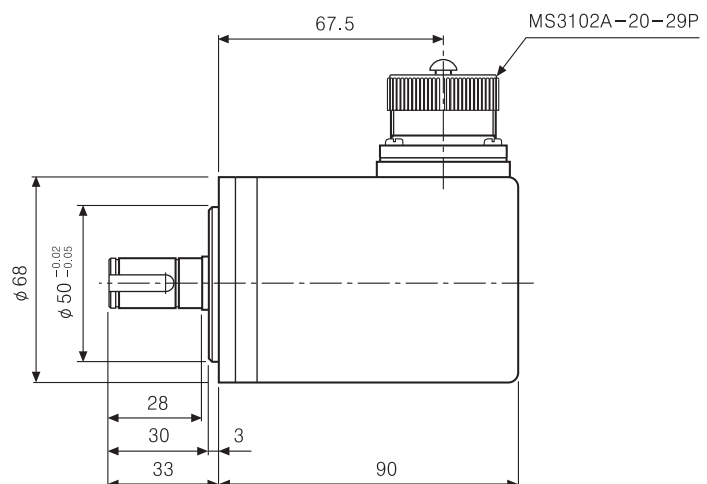
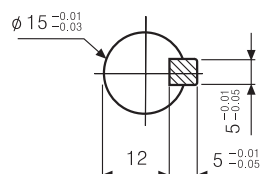
※N.C : Not Connected.

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

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