Diameter Ø68mm Shaft Type Incremental Rotary Encoder

■ Features

- Diameter Ø68mm, shaft diameter Ø15mm
- High speed response frequency: 180kHz
- Connector type
- Suitable for tooling machinery
- Protection structure IP65 (IEC standard) (tentative water-proof/oil)
- 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/1Revolution	Output phase	Control output	Power supply
Diameter Ø68mm, shaft type	Ø15mm	500, 600, 1024	6: A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$	L: Line driver output	5VDC ±5%

■ Specifications

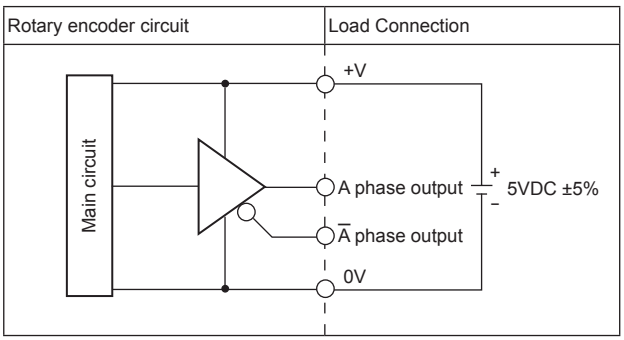
Item		Diameter Ø68mm shaft type of incremental rotary encoder
Resolution (P/R)※1		500, 600, 1024
Electrical specification	Output phase	A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$ phase
	Phase difference of output	Phase difference between A and B: $\frac{T}{4} \pm \frac{T}{8}$ (T=1 cycle of A phase)
	Control output	• Low - Load current: Max. 20mA, Residual voltage: Max. 0.5VDC • High - Load current: Max. -20mA, Output voltage: Min. 2.5VDC
	Response time (Rise/Fall)	Max. 0.5μs (Cable: 1m, I sink = 20mA)
	Power supply	5VDC ± 5% (Ripple P-P: Max. 5%)
	Max. Response frequency	180kHz
	Current consumption	Max. 50mA (disconnection of the load)
	Insulation resistance	Min. 100MΩ (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	Max. 1.5kgf·cm (0.15N·m)
	Shaft loading	Radial: 20kgf, Thrust: 10kgf
	Max. allowable revolution※2	6500rpm
Vibration		1.5mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each X, Y, Z direction for 2 hours
Shock		Approx. Max. 50G
Environment	Ambient temperature	-10 to 70℃, storage: -25 to 85℃
	Ambient humidity	35 to 85%RH, storage: 35 to 90%RH
Protection structure		IP65 (IEC standard)
Unit weight		Approx. 550g

※1: Not indicated resolutions are available customizable.
※2: Make sure that. Max response revolution should be lower than or equal to max. allowable revolution when selecting the resolution.

[Max. response revolution (rpm)= $\frac{\text{Max. response frequency}}{\text{Resolution}}$ × 60 sec]

※Environment resistance is rated at no freezing or condensation.

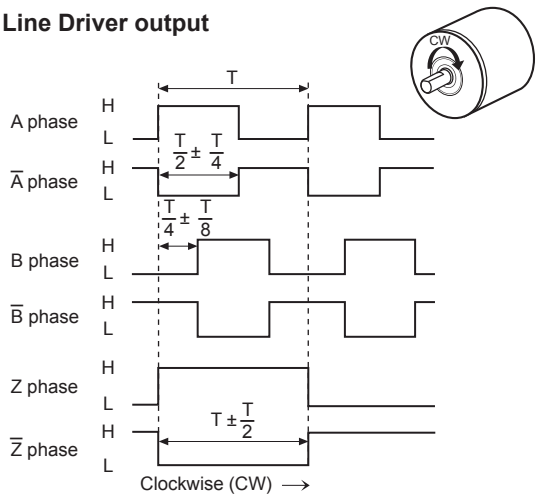
■ Control Output Diagram



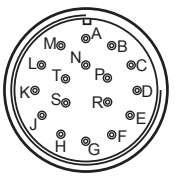
※All output circuits of A, Ā, B, B̄, Z, Z̄ phase are same.

■ Output Waveform

● Line Driver output



■ Connections

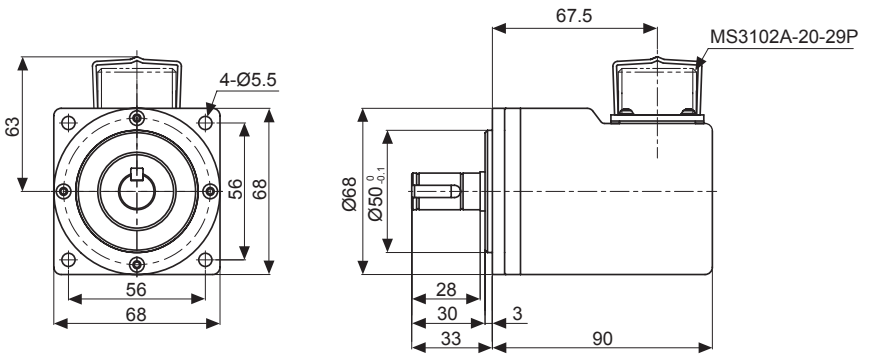


Pin No.	Connection	Pin No.	Connection
A	A phase	K	0V
B	Z phase	L	N·C
C	B phase	M	0V
D	N·C	N	Ā phase
E	5VDC	P	Z̄ phase
F	N·C	R	B̄ phase
G	N·C	S	N·C
H	5VDC	T	Shield (F.G.)
J	N·C	—	—

※N·C: Not Connected.
※E and H terminals, K and M terminals are connected internally.

■ Dimensions

(unit: mm)



● Shaft dimension