

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, \bar{A} , B, \bar{B} , Z, \bar{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, \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)
	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°C, storage: -25 to 85°C
	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.

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

※Environment resistance is rated at no freezing or condensation.

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/ Sockets

(H) Temperature Controllers

(I) SSRs / Power Controllers

(J) Counters

(K) Timers

(L) Panel Meters

(M) Tacho / Speed / Pulse Meters

(N) Display Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

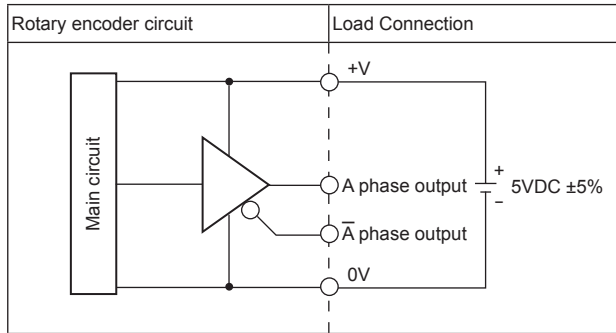
(R) Graphic/ Logic Panels

(S) Field Network Devices

(T) Software

E68S Series

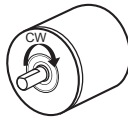
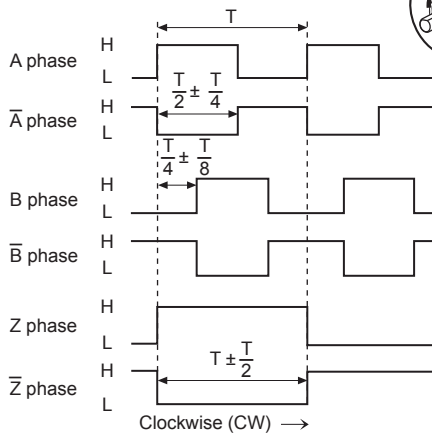
Control Output Diagram



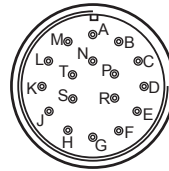
※All output circuits of A, \bar{A} , B, \bar{B} , Z, \bar{Z} phase are same.

Output Waveform

Line Driver output



Connections



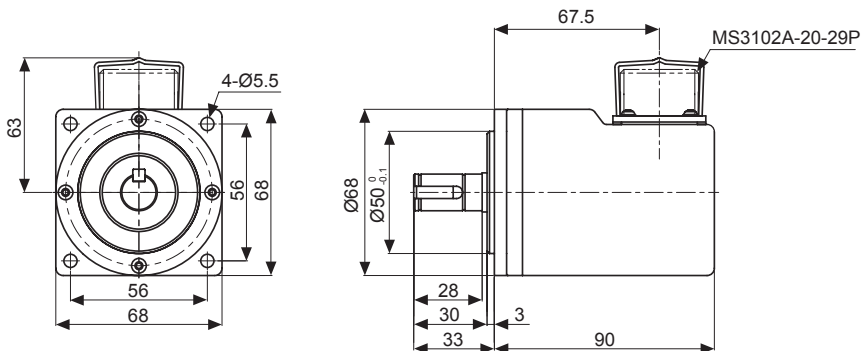
Pin No.	Connection	Pin No.	Connection
A	A phase	K	0V
B	Z phase	L	N-C
C	B phase	M	0V
D	N-C	N	\bar{A} phase
E	5VDC	P	\bar{Z} phase
F	N-C	R	\bar{B} phase
G	N-C	S	N-C
H	5VDC	T	Shield (F.G.)
J	N-C	—	—

※N-C: Not Connected.

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

Dimensions

(unit: mm)



Shaft dimension

