

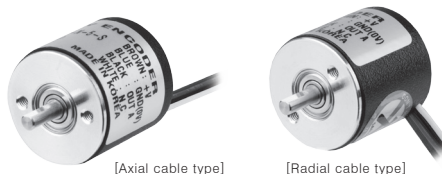
E18S Series

Diameter ø18mm Shaft type Incremental Rotary Encoder

■ Features

- Diameter ø18mm of miniature and weight 10g of ultra-light rotary encoder
- Easy installation at narrow space
- Small moment of inertia
- Power supply: 5VDC ±5%

NEW



[Axial cable type]

[Radial cable type]

■ Applications

- Suitable for office machine such as ATMs, bill counters, copy machines

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



■ Ordering information

E18S	2.5	-	200	-	1	-	N	-	5	-	R
Series	Shaft diameter		Pulse/1Revolution		Output phase		Output		Power supply		Cable
Diameter ø18mm, shaft type	2 : ø2mm 2.5 : ø2.5mm		100, 200, 300, 400		1 : A		N: NPN open collector output V: Voltage output		5 : 5VDC ±5%		R: Axial cable type S: Radial cable type

■ Specifications

Item	Diameter ø18mm shaft type of incremental rotary encoder		
Resolution (P/R)	100, 200, 300, 400 (not indicated resolutions are customizable)		
Electrical specification	Output phase	A phase	
	Control output	NPN open collector output	Load current: Max. 30mA, Residual voltage: Max. 0.4VDC
		Voltage output	Load current: Max. 10mA, Residual voltage: Max.0.4VDC
	Response time (rise/fall)	NPN open collector output	Max. 1µs
		Voltage output	Max. 1µs
	Max. response frequency	25kHz	
	Power supply	5VDC ±5%(ripple P-P: max. 5%)	
	Current consumption	Max. 50mA (disconnection of the load)	
	Insulation resistance	Min. 100MΩ(at 500VDC megger between all terminals and case)	
	Dielectric strength	500VAC 50/60Hz for 1 min.(between all terminals and case)	
Connection	Cable type(axial cable, radial cable)		
Mechanical specification	Starting torque	Max. 10gf·cm(10×10 ⁻⁴ N·m)	
	Moment of inertia	Max. 0.5g·cm ² (5×10 ⁻⁸ kg·m ²)	
	Shaft loading	Radial : 200gf, Thrust : 200gf	
	Max. allowable revolution ^{※1}	6000rpm	
Vibration	1.5mm amplitude at frequency of 10 to 55Hz(for 1 min.) in each of X, Y, Z directions for 2 hours		
Shock	Max. 50G		
Environment	Ambient temperature	-10 to 70°C, storage: -20 to 80°C	
	Ambient humidity	35 to 85%RH, storage: 35 to 90%RH	
Protection	IP50(IEC standard)		
Cable	ø0.98mm, 4-wire, Length: 150mm, flat ribbon cable (AWG26, Core diameter: 0.16mm, Number of cores: 7, Insulator out diameter: ø0.98mm)		
Accessory	ø2mm coupling(supplied only for ø2mm shaft diameter model)		
Approval	CE		
Unit weight	Approx. 34.2g(approx. 12g) ^{※2} / Accessory: Approx. 1.2g		

※1: Make sure that. Max response revolution should be lower than or equal to max. allowable revolution when selecting the resolution.

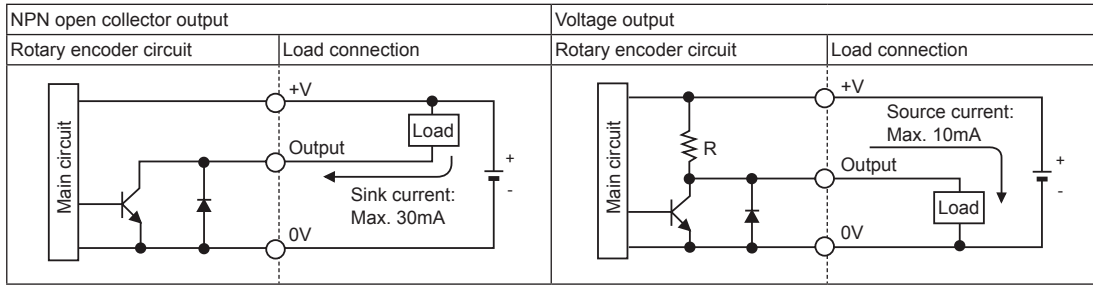
$$[\text{Max. response revolution}(\text{rpm}) = \frac{\text{Max. response frequency}}{\text{Resolution}} \times 60 \text{ sec}]$$

※2: The weight with packaging and the weight in parentheses is only unit weight.

※Environment resistance is rated at no freezing or condensation.

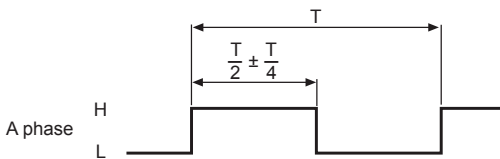
Incremental ø18mm Shaft type

Control output diagram

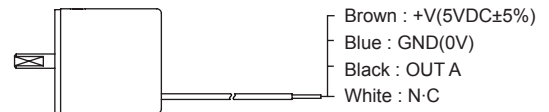


Output waveform

• NPN open collector output / Voltage output

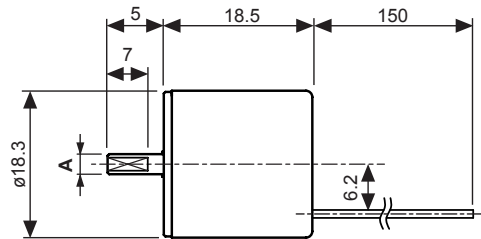
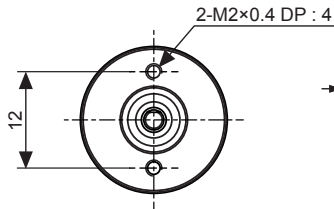


Connections



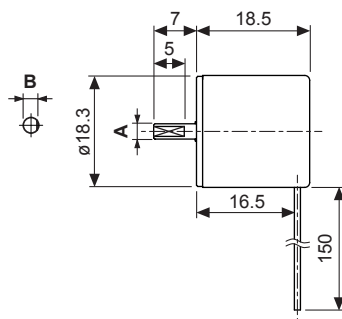
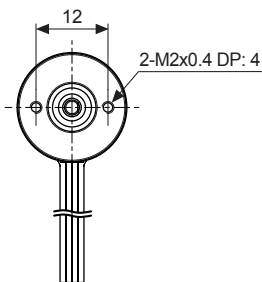
Dimensions

◎ Axial cable type



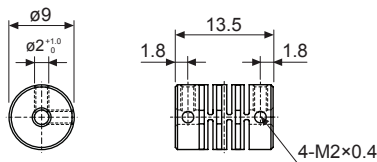
(unit : mm)

◎ Radial cable type



Model	A	B
E18S-2	Ø2.0 ^{-0.004} _{-0.02}	1.7
E18S-2.5	Ø2.5 ^{-0.004} _{-0.02}	2.2

• Coupling(E18S)



- Parallel misalignment: Min. 0.15mm
- Angular misalignment: Min. 2°
- End-play: Min. 0.2mm

※ For terminology of parallel, angular misalignment, and end-play, refer to the F-77 page.

(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 mode power supply

(Q) Stepper motor& Driver&Controller

(R) Graphic/ Logic panel

(S) Field network device

(T) Software

(U) Other