

Shaft type the encoder to be mounted at the side(INCREMENTAL TYPE)

■ Features

- Die casting case.
- Easy—to monut in the frame.
- Connector cable type.
- Wide power voltage 5 to 24VDC ±5%.



■ Ordering information

ENA	100	2	1	
Series	Pulses/revolution	Output phase	Output method	Power supply
Shaft type the Encoder to be mounted at the side (INCREMENTAL TYPE)	1, 2, 5, 10, 15, 20, 25 30, 40, 50, 60, 100, 75 120, 150, 200, 240, 300 360, 400, 500, 512, 600 700, 1000, 1024, 1200 2000, 2048	2:A phase, B phase (Standard type) 3:A, B, Z phase (option)	1:Totem Pole output 2:NPN open collector output 3:Voltage output	1:5 to 24VDC ±5% 3:5VDC, 12VDC, 24VDC ±5%

■ Specification

Item	Shaft type the Encoder to be mounted at the side(INCREMENTAL TYPE)		
Model	Totem Pole output	ENA-□□□-2-1 ENA-□□□-3-1	
	NPN open collector output	ENA-□□□-2-2 ENA-□□□-3-2	
	Voltage output	ENA-□□□-2-3 ENA-□□□-3-3	
Pulses/revolution	1,2,5,10,15,20,25,30,40,50,60,75,100,120,150,200,240,300,360,400,500,512,600,700,1000,1024,1200,2000,2048		
Electrical specification	Output phase	A phase, B phase, Z phase	
	Output of phase difference	Phase difference between A and B phase: $\frac{T}{4} \pm \frac{T}{8}$ (1 cycle=T of A phase) ★(Note1)	
	Control output	Totem pole output	Low ⇨ load current:Max. 30mA, residual voltage:Max. 0.4V High ⇨ load current:Max. 10mA, output voltage:Min. (power supply-1.5)V
		NPN open collector output	Load voltage:Max. 30V, load current:Max. 30mA, residual voltage:Max. 0.4V
	Response (rise & fall)	Totem pole output	Max. 1 μs (cable:2m, at Isink=10mA)
		NPN open collector output	Max. 1 μs (cable:2m, at Isink=30mA)
	Max.response frequency	100KHz	
	Power supply	5 to 24VDC ±5%(ripple P-P:Max. 3%)	
	Current consumption	Max. 50mA(disconnection of the load)	
	Connection	Connector connection/Cable connection(option)	
Mechanical specification	Starting torque	Max. 250gf · cm(24500 μN · m)	
	Moment of inertia	Max. 80g · cm ² (8×10 ⁻⁶ kg · m ²)	
	Shaft loading	Radial:10Kg, Thrust:2.5Kg	
	Deviation of shaft position	Radial:Max. 0.1mm, Thrust:Max. 0.2mm	
	Mechanical revolution (rpm)	5000rpm ★(Note2)	
Insulation resistance	Min. 50MΩ (at 500VDC)		
Dielectric strength	500VAC 50/60Hz for 1 minute		
Vibration	1.5mm amplitude at frequency of 10 to 55Hz in each of X,Y,Z directions for 2 hours		
Shock	Max. 75G		
Ambient temperature	Operating:-10 to 60℃(non-freezing condition), storage:-25 to 85℃		
Ambient Humidity	Operating:35 to 85%RH, storage:35 to 90%RH		
Protection	IP50(IEC specification)		
Cable	4P, φ5mm, length:2m, shield cable		
Weight	About 695g		
Accessories	φ10mm coupling		

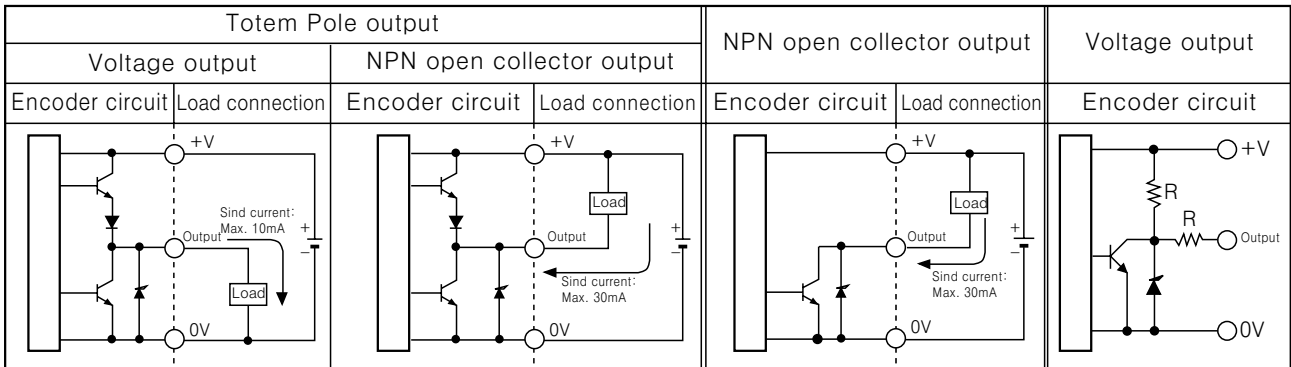
※Option except above spec. & rate.

※The weight of above chart is not weight.

★(note1) phase difference between A and B phase for 1 pulse Encoder is $\frac{T}{4} \pm \frac{T}{8}$ (T=1 cycle of A phase)

★(note2) Max. response frequency(rpm) = $\frac{\text{Max. rpm}}{\text{Revolution}} \times 60$ (but max. rpm ≤ max. allowable rotation) □

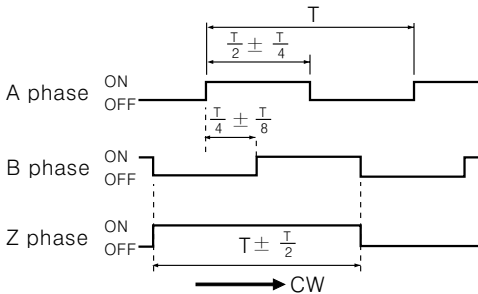
Control output circuit



*The output circuit of A, B phase is the same.

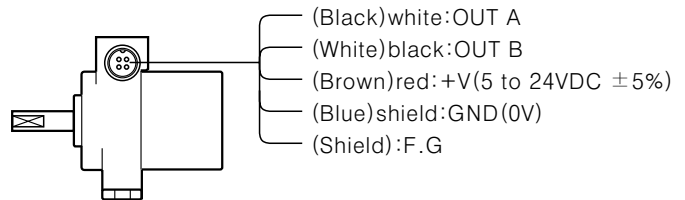
Output waveform

•Totem Pole/Open collecto/Voltage output



*ON/OFF means that of output transistor.
*The output waveform of NPN open collector is opposit of above waveform.

Connection



* () cable colors are followed to IEC specification.
*Non-using wires must be insulated.
*Encoder case must be earth.

Dimension

