ENC

Wheel type the encoder (INCREMENTAL TYPE)

▣Features

- Length & speed measurement of target which is transporting continually.
- Output wave for detecting distance can be indicated each unit(mm, cm, m, etc) as a constant.
- wide power voltage 5 to 24VDC ±5%.

▣Ordering information

ENC	—	1	—	1	—	1

Series	Output phase	Min. measuring unit	Output mothod	Power supply
Wheel type the Encoder (INCREMENTAL Type)	1:A, B phase	1 : 1mm 2 : 1cm 3 : 1m 4 : 0.01yd 5 : 0.1yd 6 : 1yd	1:Totem Pole output 2:NPN open collector output 3:Voltage output	1, 2:5 to 24VDC ±5% 3:5VDC, 12VDC, 24VDC ±5%

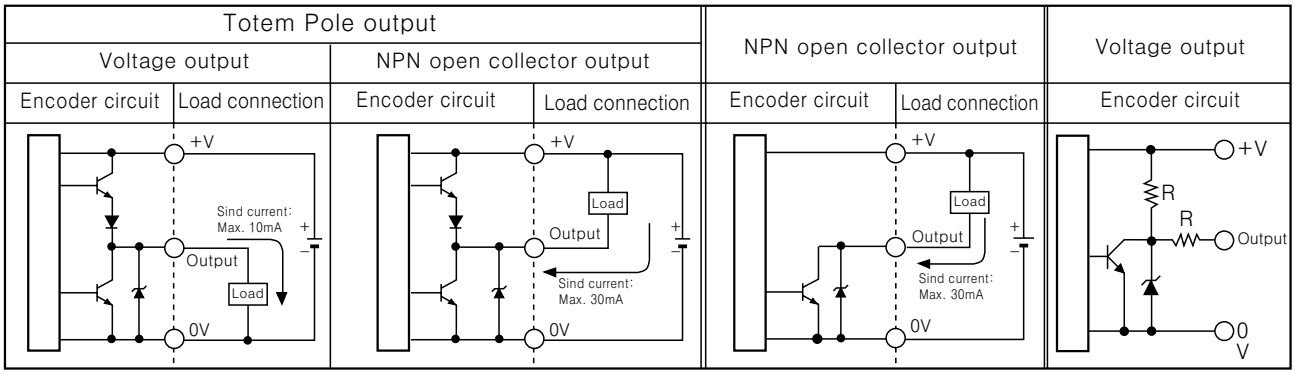
▣Specification

Item			Wheel type the encoder(INCREMENTAL TYPE)
Model	Totem Pole output		**ENC-1-1-1, ENC-1-2-1, ENC-1-3-1, ENC-1-4-1, ENC-1-5-1, ENC-1-6-1**
	NPN open collector output		**ENC-1-1-2, ENC-1-2-2, ENC-1-3-2, ENC-1-4-2, ENC-1-5-2, ENC-1-6-2**
	Voltage output		**ENC-1-1-3, ENC-1-2-3, ENC-1-3-3, ENC-1-4-3, ENC-1-5-3, ENC-1-6-3**
Pulses/revolution			Slit gear specification (Page I-23)
Electrical specification	Output phase		A phase, B phase
	Output of phase difference		Phase difference between A and B phase: $\frac{T}{4} \pm \frac{T}{8}$ (T=1cycle of A phase) ★(Note 1)
	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 time (rise & fall)	Totem Pole output	Max. 1㎲(cable:2m, at Isink=10mA)
		NPN open collector output	Max. 1㎲(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		Cable connection
Mechanical specification	Starting torque		Max. 250gf · cm(24500㎌ · m)
	Moment of inertia		Max. 80g · cm² (8×10^{-6} kg · m²)
	Deviation of shaft position		Radial:Max. 0.1mm, Thrust:Max. 0.2mm
	Mechanical revolution(rpm)		5000rpm ★(Note 2)
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			5P, ϕ5mm, length:2m, shield cable
Cable			IP50(IEC specification)
Weight			About 513g

※Option except above spec. & rate.
※The weight of above chart is not weight.

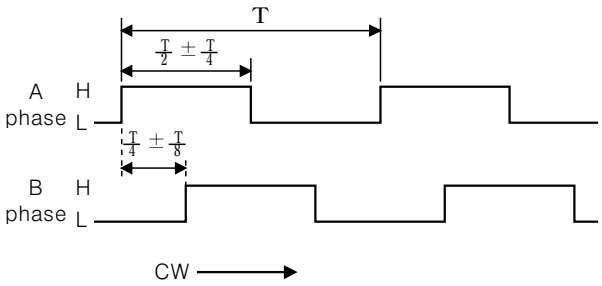
★(note1) phase difference between A and B phase for 1 pulse Encoder is $\frac{T}{4} \pm \frac{T}{5}$ (T=1cycle of A phase)
★(note2) Max. response frequency(rpm) = $\frac{\text{Max. rpm}}{\text{Revolution}}\times 60$(but max. rpm ≦ max. allowable rotation)

▣Control output circuit

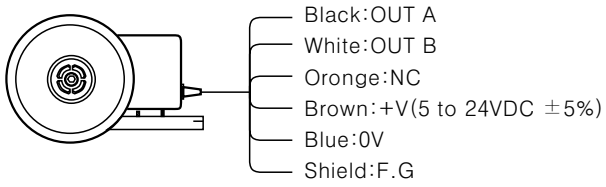


※The output circuit of A, B phase is the same.

▣Output waveform



▣Connection

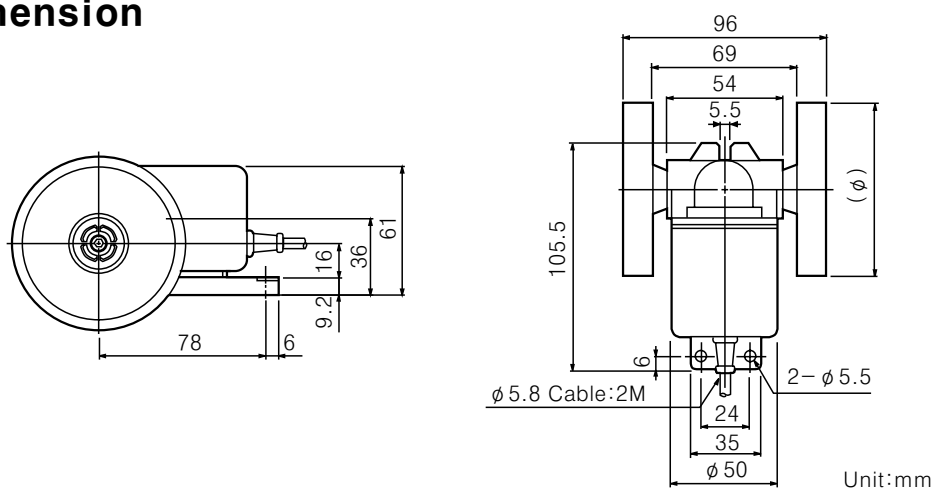


※Non-using wires must be insulated.
※Encoder case must be earth.

▣Slit gear specification

Number	Max. measuring unit	Pulse/distance	Gear duty	Wheel diameter	Pulse/slit
1	1mm	1mm/P	2 : 1	250mm	500Pulse
2	1cm	1cm/P	4 : 1	250mm	100Pulse
3	1m	1m/P	4 : 1	250mm	1Pulse
4	0.01yd	0.01yd/P	4 : 1	228.6mm(0.25/yd)	100Pulse
5	0.1yd	0.1yd/P	4 : 1	228.6mm(0.25/yd)	10Pulse
6	1yd	1yd/P	4 : 1	228.6mm(0.25/yd)	1Pulse

▣Dimension



※A diameter(ø) of wheel can be changed by application.