WHEEL TYPE ROTARY ENCODERS

Wheel type Incremental rotary encoder (EW Series)

EW-E-01-003002

※ It is an encoder of reliable and excellent quality that is applicable to the automated control industry.
※ The above specifications are subject to change without notice.

Ordering Information

EW	1mm	T	24

Series	Min. measuring unit (1Pulse)	Control output	Power supply
EW: Incremental	1㎜, 2㎜, 2.5㎜, 5㎜ 1㎝, 2㎝, 2.5㎝, 5㎝, 10㎝ 1m, 0.01yd, 0.1yd, 1yd	T:Totem pole output N:NPN NPN O.C output V:Voltage output L:Line driver output	5 :5VDC 24:12~24VDC

Connections

■ **T**:Totem pole Output **N**:NPN O.C Output **V**:Voltage Output

Function	Color	Function	Color
OUT A	Green	+V	Red
OUT B	White	GND(0V)	Black
OUT Z	Blue	Shield	F.G.

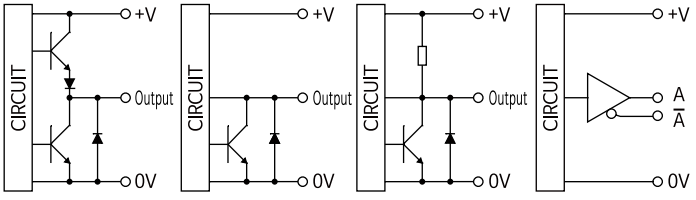
■ **L**:Line driver Output

Function	Color	Function	Color
OUT A	Green	OUT $\overline{A}$	Brown
OUT B	White	OUT $\overline{B}$	Orange
OUT Z	Blue	OUT $\overline{Z}$	Yellow
+V	Red	Shield	F.G.
GND(0V)	Black	-	

※ Unused wires must be insulated.
※ The encoder and shield cable must be grounded (F.G.).
※ F.G. (Frame Ground) must be grounded separately.

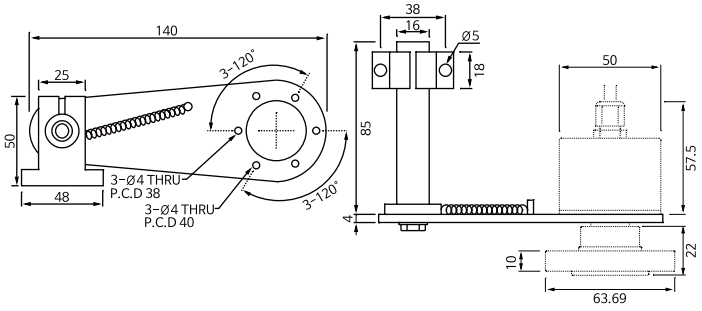
Control output diagram

■ Totem pole Output ■ NPN O.C Output ■ Voltage Output ■ Line driver Output



Dimensions

※Unit:㎜



※ Wheel circumference : 200mm

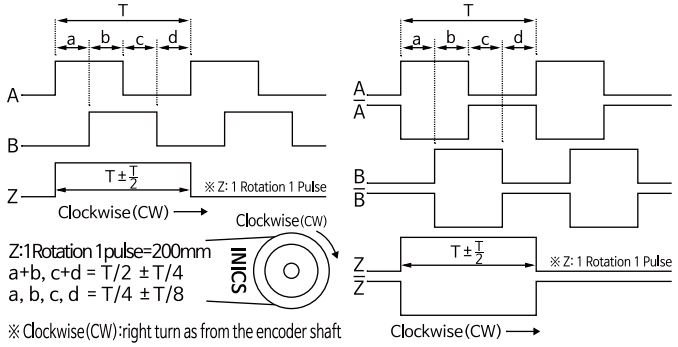
Specifications

Model		Wheel type Incremental rotary encoder
Power supply		5VDC±5%, 5VDC~24VDC±5% (Ripple P-P : Max. 5%)
Current consumption		Max. 100㎃(no load)
Resolution(P/R)		1㎜, 2㎜, 2.5㎜, 5㎜, 1㎝, 2㎝, 2.5㎝, 5㎝, 10㎝, 1m, 0.01yd, 0.1yd, 1yd
Control Output	Totem pole output	「L」Level - Load current: Max.10㎃, Residual voltage: Max. 0.5VDC 「H」Level - Load current: Max.10㎃ Power voltage: Min.(Power voltage-2.5VDC)
	NPN O.C output	Load current: Max. 20㎃, Residual voltage: Max. 0.5VDC
	Voltage output	Load current: Max. 10㎃, Residual voltage: Max. 0.5VDC
	Line driver output	Load current : 「H」Level Io = Max. -20㎃, 「L」Level Is = Max. 20㎃ Output voltage: Min.(Power voltage-2.5VDC), Vs = Max. 0.5VDC
Response time	Totem pole output	Max. 1㎲ (Cable length : 1.5m, I sink=20㎃)
	NPN O.C output Voltage output	Max. 2㎲ (Cable length : 1.5m, I sink=20㎃)
	Line driver output	Max. 1㎲ (Cable length : 1.5m, I sink=20㎃)
Max. Response frequency		10㎑
Max. Allowable revolution		5,000rpm
Shaft loading		Radial: Max. 2㎏·f, Thrust: Max. 1㎏·f
Shock		Max. 50G
Vibration		Max. 5G
Protection		IP50(IEC standard)
Environment	Ambient temperature	-10 ~ 70℃ (no freezing or condensation)
	Storage temperature	-20 ~ 85℃ (no freezing or condensation)
	Ambient humidity	35% ~ 85% RH
	Storage humidity	35% ~ 90% RH
Cable		Shield cable, Length: 1.5m
Accessory		Product, Bracket, Bolt, Instruction manual
Approval		CE

※ Select resolution to satisfy Max. allowable revolution ≥ Max.response revolution
※ Max.response revolution(rpm) = (Max.response frequency / resolution) X 60 sec

Output Waveform

■ Totem pole Output, NPN O.C Output, Voltage Output ■ Line driver Output



Cautions during use

■ **Environment**
Please do not use this unit with below environment, or it may cause malfunction.
1) Place where this unit or component may be damaged by strong vibration or impact.
2) Place where there is a lot of flammable or corrosive gases.
3) Place where strong magnet field or electric noise occurs.
4) Place where strong acids or alkali near and direct ray of the sun.

■ **Cautions during installation**
1) Do not load overweight on the shaft.
2) Do not put strong impact when insert a coupling into shaft.
3) If the coupling error (parallel misalignment, angular misalignment) between the shaft increases while installation, the life cycle of the coupling and the encoder can be shorten.
4) Do not connect, repair, or inspect the unit while connected to a power source.
5) If a big impact or strong vibration applies to the product it may cause pulse errors.

■ **Wire Connection**
1) Do not pull out the wire with over 20N strength after fixing the unit and wiring the cable.
2) if wire encoder cable with high voltage line or power cable in the same conduit, it may cause a malfunction or mechanical problem. Please wire it separately or use separated conduit.

■ **Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.**
1) medical equipment, ship, vehicle, railways, aircraft, safety equipment, etc
2) Failure to follow this instruction may result in personal injury, economic loss or fire