

Incremental Manual Handle Type

Incremental manual handle type Rotary encoder

■ Features

- Suitable for manual pulse input type such as numerically controlled or Milling machinery
- Terminal connection type
- Power supply : 5VDC $\pm 5\%$, 12–24VDC $\pm 5\%$

■ Application

- Industrial tooling machinery

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

■ Ordering information

ENH	–	100	–	1	–	T	–	24
Series		Pulse/1 Revolution		Clickstopper position		Control output		Power supply
Handle type		25 100		1 : Normal "H" 2 : Normal "L"		T : Totem pole output V : Voltage output L : Line driver output(※)		5 : 5VDC $\pm 5\%$ 24 : 12–24VDC $\pm 5\%$

※The power of Line driver is only for 5VDC

■ Specifications

Item			Incremental manual handle type of rotary encoder		
Resolution(P/R)			(Note1) 25, 100		
Electrical specification	Output phase		A, B phase (Line driver output A, $\overline{A}$, B, $\overline{B}$ phase)		
	Phase difference of output		Phase difference between A and B : $\frac{T}{4} \pm \frac{T}{8}$ (T=1cycle of A phase)		
	Control output	Totem pole output	• Low $\Rightarrow$ Load current:Max. 30mA, Residual voltage : Max. 0.4VDC • High $\Rightarrow$ Load current:Max. 10mA, Output voltage(Power supply 5VDC):Min. (Power supply−2.0)VDC, Output voltage(Power supply 12−24VDC):Min. (Power supply−3.0)VDC		
		Voltage output	Load current : Max. 10mA, Residual voltage : Max. 0.4VDC		
		Line driver output	• Low $\Rightarrow$ Load current : Max. 20mA, Residual : Max. 0.5V • High $\Rightarrow$ Load current : Max. −20mA, Output voltage : Min. 2.5V		
	Response time (Rise/Fall)	Totem pole output	Max. 1 μ s		• Measuring condition $\Rightarrow$ I sink = Max. 20mA
		Voltage output	Max. 1 μ s		
		Line driver output	Max. 0.2 μ s		
	Power supply		• 5VDC $\pm$ 5% (Ripple P−P : Max. 5%) • 12−24VDC $\pm$ 5% (Ripple P−P : Max. 5%)		
	Current consumption		Max. 40mA (disconnection of the load), Line driver output:Max. 50mA (disconnection of the load)		
	Max. Response frequency		10kHz		
	Insulation resistance		Min. 100M Ω (at 500VDC)		
	Dielectric strength		750VAC 50/60Hz for 1 minute (Between all terminals and case)		
	Connection		Terminal block type		
Mechanical specification	Starting torque		Max. 1kgf • cm (0.098N • m)		
	Shaft loading		Radial : 2kgf, Thrust : 1kgf		
	Max. allowable revolution		(Note2) Max. 200rpm (Normal), 600rpm (Peak)		
Vibration			1.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 2 hours		
Shock			Max. 50G		
Ambient temperature			−10 ~ 70℃ (at non−freezing status), Storage: −25 ~ 85℃		
Ambient humidity			35~85%RH, Storage: 35~90%RH		
Unit weight			Approx. 300g		

※ (Note1) Not indicated type is available to customize.

※ (Note2) Max. allowable revolution $\geq$ Max. response revolution 【Max. response revolution (rpm) = $\frac{\text{Max. response frequency}}{\text{Resolution}} \times 60 \text{ sec}$ 】



(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/Speed/Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

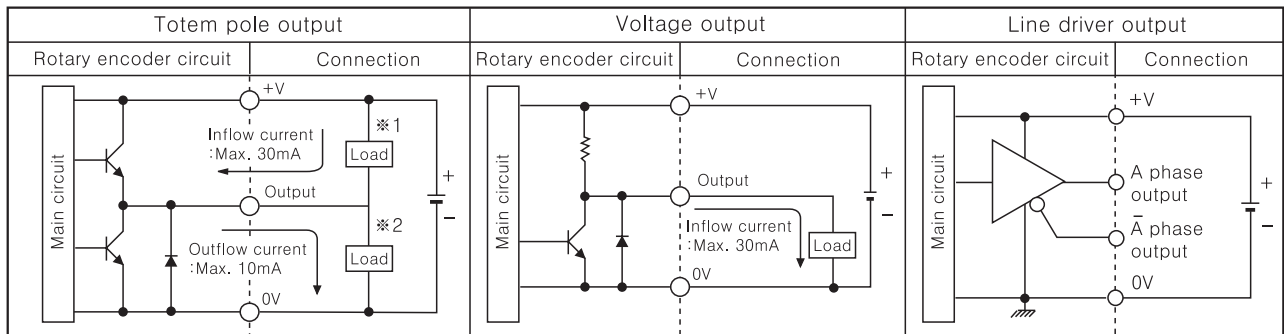
(N) Stepping motor & Driver & Controller

(O) Graphic panel

(P) Production stoppage models & replacement

ENH Series

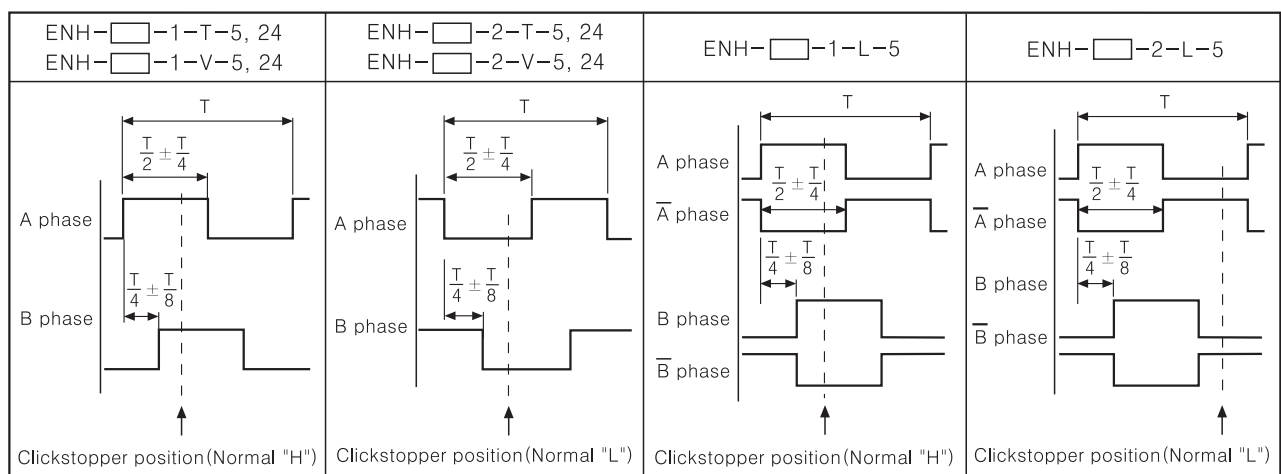
Control output diagram



The output circuit of A, B phase (Line driver output) is A, $\bar{A}$, B, $\bar{B}$ phase.

Totem pole output can be used for NPN open collector type (※1) or voltage output type (※2).

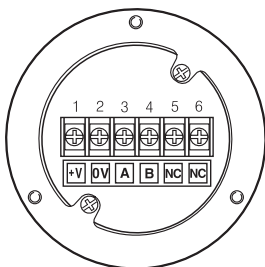
Output waveform



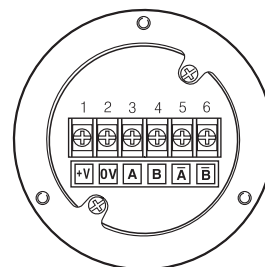
※Clickstopper position Normal "H" or Normal "L": It shows the waveform when the handle is not stopped.

Connections

●Totem pole output / Voltage output



●Line driver output



※Do not use terminal No. 5, 6.

Dimensions

