

Manual Handle Type Incremental Rotary Encoder

■ Features

- Suitable for manual pulse input type such as numerically controlled or milling machinery
- Terminal connection type
- Power supply: 5VDC ±5%, 12-24VDC ±5%

■ Applications

- Industrial tooling machinery



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

■ Ordering Information

ENH	-	100	-	1	-	T	-	24
Series		Pulses/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 ±5% 24: 12-24VDC ±5%

※The power of Line driver is only for 5VDC.

■ Specifications

Item	Manual Handle Type Incremental Rotary Encoder		
Resolution (PPR) ^{※1}	25,100		
Electrical specification	Output phase	A, B phase (line driver output A, \bar{A} , B, \bar{B} phase)	
	Phase difference of output	Phase difference between A and B: $\frac{T}{4} \pm \frac{T}{8}$ (T= 1 cycle of A phase)	
	Control output	Totem pole output	• [Low] - Load current: Max. 30mA, Residual voltage: Max. 0.4VDC • [High] - Load current: Max. 10mA Output voltage (power voltage 5VDC): Min. (power voltage-2.0)VDC, Output voltage (power voltage 12-24VDC): Min. (power voltage-3.0) VDC
		Voltage output	Load current: Max. 10mA, Residual voltage: Max. 0.4VDC
		Line driver output	• [Low] - Load current: Max. 20mA, Residual voltage: Max. 0.5VDC • [High] - Load current: Max. -20mA, Output voltage: Min. 2.5VDC
	Response time (rise/fall)	Totem pole output	Max. 1μs (cable length: 1m, I sink = 20mA)
		Voltage output	
		Line driver output	
	Power supply	• 5VDC ±5% (ripple P-P: max.5%) • 12-24VDC ±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	Over 100MΩ (at 500VDC megger between all terminals and case)	
	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 ^{※2}	Max. 200rpm (normal), 600rpm (peak)	
Vibration	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours		
Shock	Approx. max. 50G		
Environment	Ambient temperature	-10 to 70°C, storage: -25 to 85°C	
	Ambient humidity	35 to 85%RH, storage: 35 to 90°C	
Protection structure	IP50 (IEC standard)		
Weight ^{※3}	Approx. 330g (approx. 260g)		

※1: Not indicated resolutions are customizable.

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

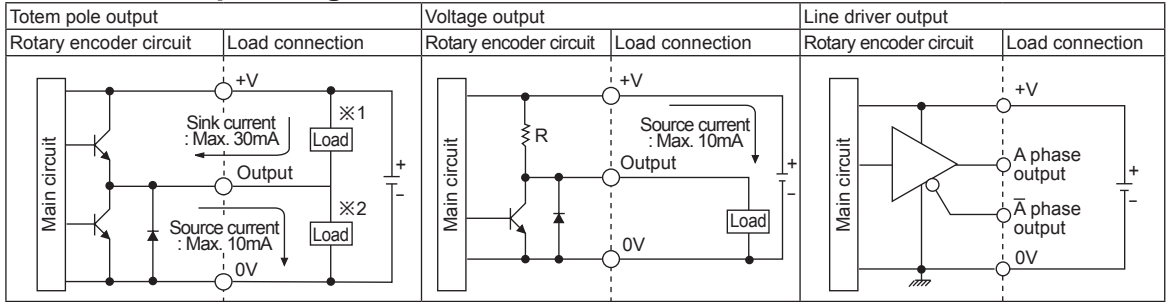
$$[\text{Max. response revolution (rpm)}] = \frac{\text{Max. response frequency}}{\text{Resolution}} \times 60 \text{ sec}$$

※3: The weight includes packaging. The weight in parenthesis is for unit only.

※Environment resistance is rated at no freezing or condensation.

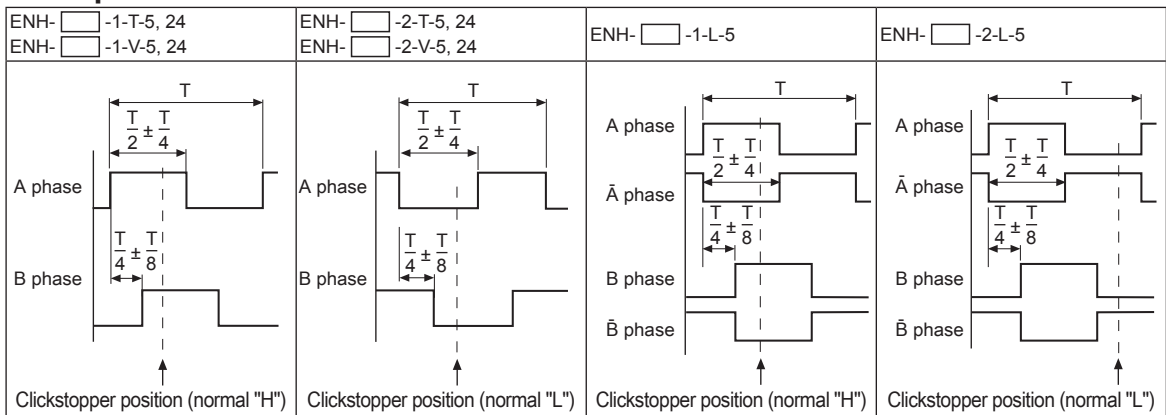
Manual Handle Incremental Type

Control Output Diagram



- The output circuits for A, B phase (line driver output is A, \bar{A} , B, \bar{B} phase) are same.
- Totem pole output can be used for NPN open collector type (※1) or voltage output type (※2).

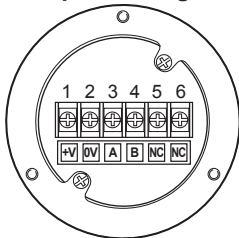
Output Waveform



※Clickstopper position Normal "H" or Normal "L": It shows the waveform when the handle is stopped.

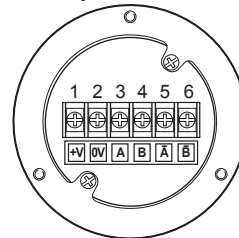
Connections

•Totem pole output / Voltage output

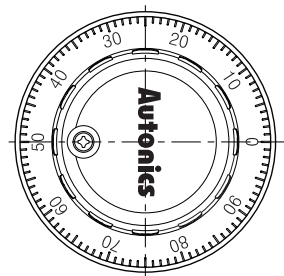
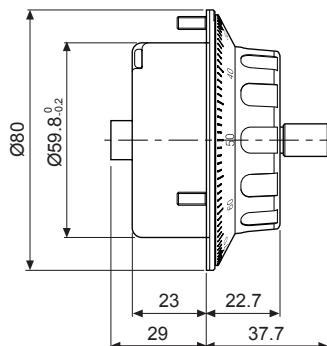
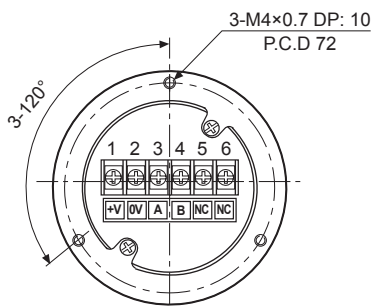


※Do not use terminal No. 5, 6.

•Line driver output



Dimensions



※Ø70mm PCD mounting hole type is customizable.

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors / Connector Cables / Sensor Distribution Boxes/Sockets

(H) Temperature Controllers

(I) SSRs / Power Controllers

(J) Counters

(K) Timers

(L) Panel Meters

(M) Tacho / Speed / Pulse Meters

(N) Display Units

(O) Sensor Controllers

(P) Switching Mode Power Supplies

(Q) Stepper Motors & Drivers & Controllers

(R) Graphic / Logic Panels

(S) Field Network Devices

(T) Software