

# Portable Incremental Type with Handle

## Portable incremental type of Rotary encoder with handle

### ■ Features

- Suitable for manual pulse input type such as Numerically controlled or Milling machinery
- Emergency stop switch, enable switch are available
- Rotary switch for 6 Position, 4 Position

### ■ Application

- Industrial tooling machinery

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



### ■ Ordering information

ENHP	100	1	L	5
Series	Pulse/1 Revolution	Clickstopper position	Control output	Power supply
Portable encoder with handle	100	1 : Normal "H" 2 : Normal "L"	L : Line driver output	5 : 5VDC ±5%

### ■ Specifications

Item		Portable incremental type of Rotary encoder with handle
Resolution (P/R)		<b>(Note1)</b> 100P/R
Electrical specification	Output phase	A, $\bar{A}$ , B, $\bar{B}$
	Phase difference of output	Phase difference between A and B : $\frac{T}{4} \pm \frac{T}{8}$ (T=1 cycle of A phase)
	Rotary switch output	BCD Code output • Axis (X, Y, Z, A, B) • Rate (R1, R2, R3)
	Control output	• Low $\Rightarrow$ Load current : Max. 20mA, Residual : Max. 0.5V • High $\Rightarrow$ Load current : Max. -20mA, Output voltage : Min. 2.5V
	Line driver output	
	Response time (Rise/Fall)	Max. 0.5 $\mu$ s (Measuring condition $\Rightarrow$ I sink = Max. 20mA)
	Power supply	5VDC $\pm$ 5% (Ripple P-P : Max. 5%)
	Current consumption	Max. 50mA (disconnection of the load)
	Max. Response frequency	10kHz
	Insulation resistance	Min. 100M $\Omega$ (at 500VDC mega between all terminals and case)
Dielectric strength	750VAC 50/60Hz for 1 minute (Between all terminals and case)	
Connection	25Pin D-SUB of connector type	
Mechanical specification	Starting torque	Max. 1kgf $\cdot$ cm (0.098N $\cdot$ m)
	Shaft loading	Radial : 2kgf, Thrust : 1kgf
	Max. allowable revolution	<b>(Note2)</b> 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 $^{\circ}$ C (at non-freezing status), Storage: -25 ~ 85 $^{\circ}$ C	
Ambient humidity	35~85%RH, Storage: 35~85%RH	
Protection	IP67 (IEC standard)	
Cable	$\phi$ 5mm, 18P, Length : 8m, Spring code cable	
Unit weight	Approx. 730g	

※ **(Note1)** Not indicated type is customizable.

※ **(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**

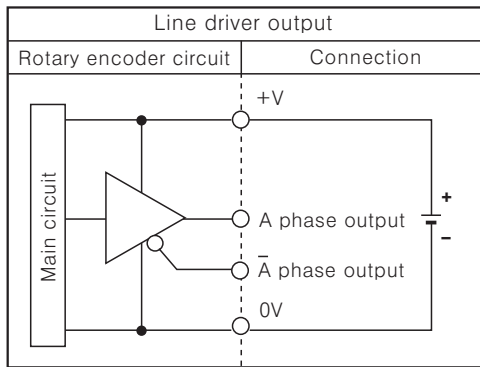
(N) Stepping motor & Driver & Controller

(O) Graphic panel

(P) Production stoppage models & replacement

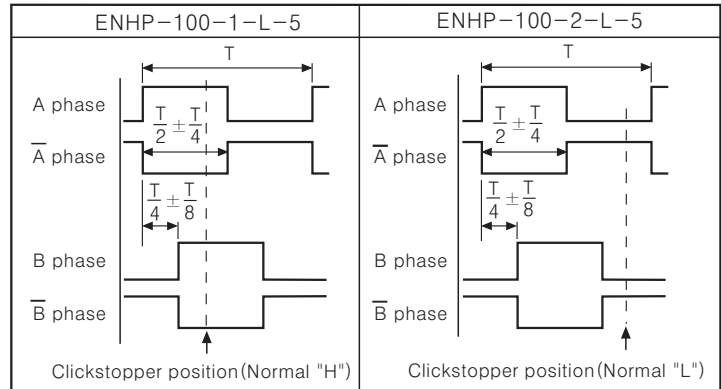
# ENHP Series

## Control output diagram



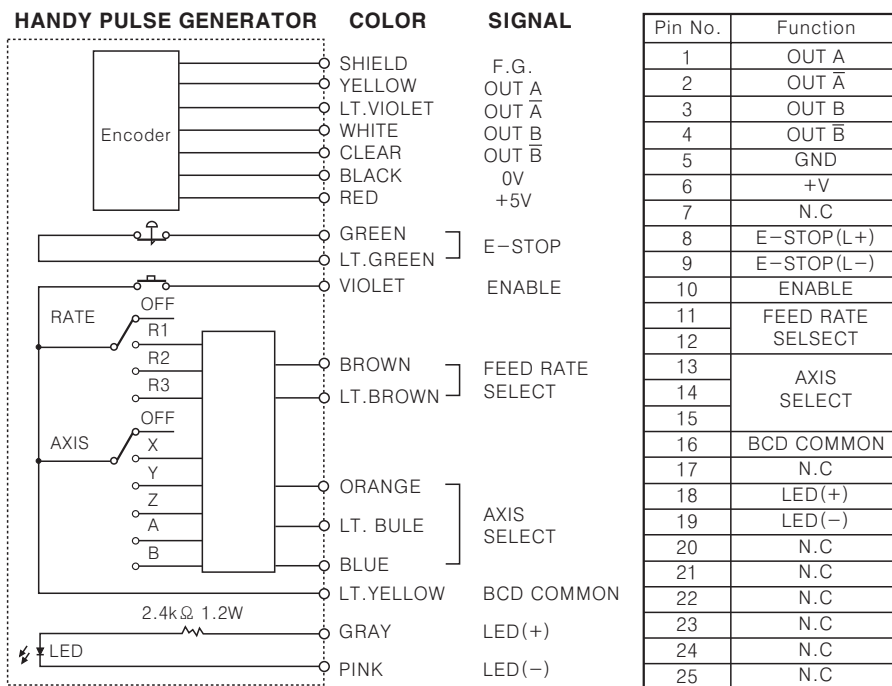
※The output circuit of A,  $\bar{A}$ , B,  $\bar{B}$  phase is same.

## Output waveform



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

## Connections



### AXIS SELECT

AXIS	OUTPUT		
	15	14	13
OFF	0	0	0
X axis	0	0	1
Y axis	0	1	0
Z axis	0	1	1
A axis	1	0	0
B axis	1	0	1

### FREE RATE SELECT

RATE	OUTPUT	
	12	11
OFF	0	0
R1	0	1
R2	1	0
R3	1	1

## Dimensions

