Portable incremental type of Rotary encoder with handle

▣Features

- ●Suitable for manual pulse input type such as Numerically controlled or Milling machinery
- ●Emergency ground 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/1Revolution	Clickstopper position	Control output	Power supply
Portable encoder with handle	100	1 : Normal "H" 2 : Normal "L"	L : Line driver output	5 : 5VDC ±5%

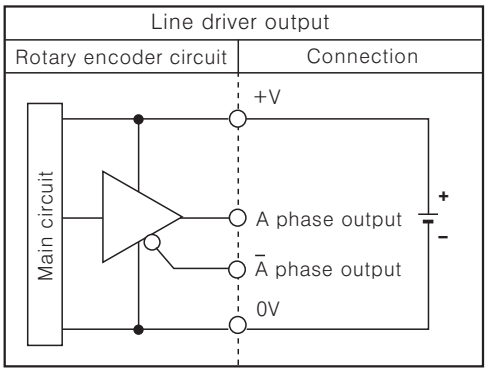
▣Specifications

Item			Portable incremental type of Rotary encoder with handle
Resolution(P/R)			**(Note1)** 100P/R
Electrical specification	Output phase		A, $\overline{A}$, B, $\overline{B}$
	Phase difference of output		Phase difference between A and B : $\frac{T}{4} \pm \frac{T}{8}$ (T=1cycle of A phase)
	Rotary switch output		BCD Code output • Axis (X, Y, Z, A, B) • Rate (R1, R2, R3)
	Control output	Line driver output	• Low ☞ Load current : Max. 20mA, Residual : Max. 0.5V • High ☞ Load current : Max. −20mA, Output voltage : Min. 2.5V
	Response time(Rise/Fall)		Max. 0.5μs (Measuring condition ☞ I sink = Max. 20mA)
	Power supply		5VDC ±5% (Ripple P−P : Max. 5%)
	Current consumption		Max. 50mA (disconnection of the load)
	Max. Response frequency		10kHz
	Insulation resistance		Min. 100MΩ (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 • 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: 35~85%RH
Protection			IP67 (IEC standard)
Cable			ϕ5mm, 18P, Length : 8m, Spring code cable
Unit weight			Approx. 730g

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

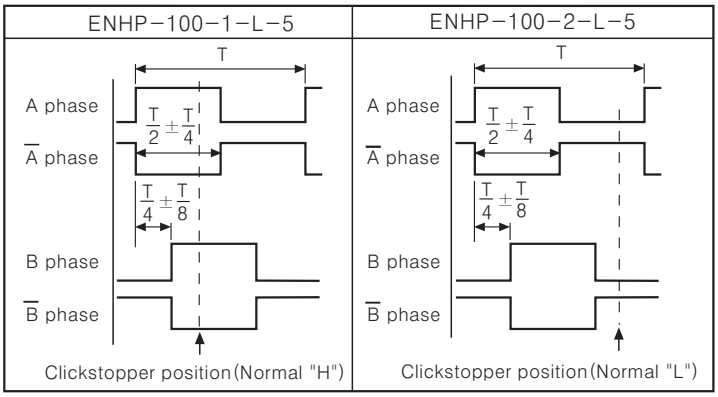
※**(Note2)** Max. allowable revolution ≧ Max. response revolution 【Max. response revolution(rpm) = $\frac{\text{Max. response frequency}}{\text{Resolution}} \times 60$ sec】

▣Control output diagram



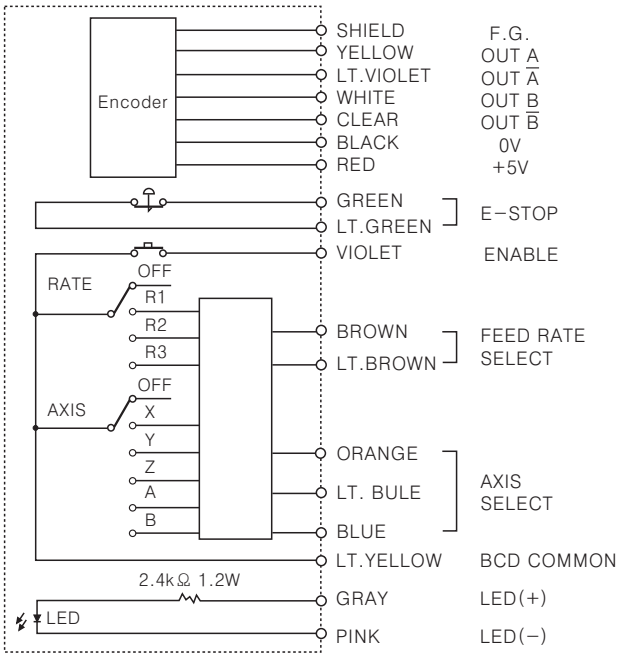
※The output circuit of A, Ā, B, B̄ phase is same.

▣Output waveform



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

▣Connections



Pin No.	Function
1	OUT A
2	OUT Ā
3	OUT B
4	OUT B̄
5	GND
6	+V
7	N.C
8	E-STOP(L+)
9	E-STOP(L-)
10	ENABLE
11	FEED RATE SELSECT
12	
13	AXIS SELECT
14	
15	
16	BCD COMMON
17	N.C
18	LED(+)
19	LED(-)
20	N.C
21	N.C
22	N.C
23	N.C
24	N.C
25	N.C

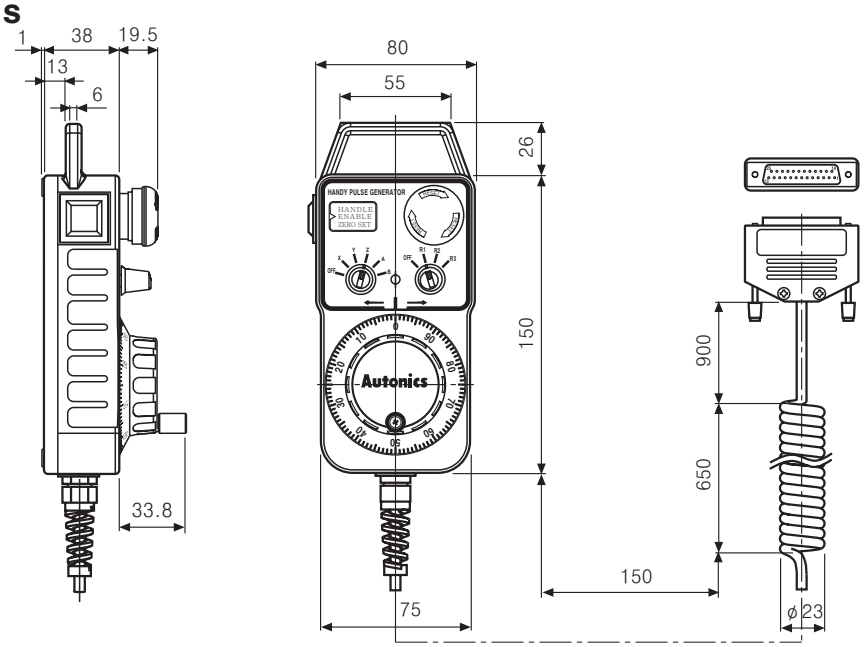
●AXIS SELECT

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



(Unit:mm)