

# Manual Pulse Generator



# RE46 series



## Outline

RE46 series are incremental optical manual pulse generators developed for NC machine tools. The depth of the surface-bottom is mere 8mm which allows you to save space behind the panel.

## Features

- Eco friendly: RoHS compliant
- Fine operability with a large wheel and a weight inside
- Various Options of the input/output circuit: CMOS, open collector, line driver
- Chattering-free and long-life use with optical unit
- Original logos available on the wheel cover

## Specifications

Application	5V input	12V input	Differential line	Photo coupler
Power Voltage	DC5V±10%	DC12V±10%	DC5V±10%	DC10.8V to 26.4V
Current power (pull up)	≤ 80mA	≤ 60mA	≤ 150mA (90mAtyp)	≤ 60mA
Current power(Open collector)	≤ 30mA	≤ 40mA		
Output	330ΩPull-up or Open collector	2.2KΩPull-up or Open collector	RS-422A (Line driver) Terminating register at receiver :100Ω/phrase	Open collector (Current output type)
Output voltage	1 level:(Power voltage -0.5V) ≤			1level:Transistor/ON
Output voltage (pull up)	0 level: ≤ 0.4V (No-load)			0level:Transistor/OFF
Collector voltage	≤ DC30V			≤ 30V
Collector voltage (Open corrector)	≤ 40mA			≤ 50mA
Pulse per revolution	100pulse/100Click or 25pulse/100Click			
Click torque	32 ~ 64mN.m			
Rotational Durability	Over a million rotations			
Operating Temperature	-10°C ~ 60°C (14F ~ 140F)			
Weight	220g			

## Part number designation

<b>RE46</b>	<b>A</b>	<b>1</b>	<b>C</b>	<b>R</b>	<b>5</b>	<b>B</b>
	①	②	③	④	⑤	⑥
① Type				⑤ Supply Voltage		
				5: 5V		
② Number of Pulses				1: 12V		
1: 100PPR				2: 12 ~ 24V		
2: 25PPR						
③ Click				⑥ Dial Knob (color black)		
C: Standard				B: 15mm with Tosoku logo		
				C: 15mm without logo		
				D: 15mm customer logo		
④ Output				H: 24mm with Tosoku logo		
R: Voltage Output				J: 24mm without logo		
O: Open Collector				K: with customer logo		
D: Line Driver						

Models	Supply		Pulse Per Revolution
RE46A1CR5_	5V	5V	100PPR
RE46A1CR1_	12V	12V	100PPR
RE46A1CO5_	5V	OC	100PPR
RE46A1CO1_	12V	OC	100PPR
RE46A1CO2_	24V	OC*	100PPR
RE46A1CD5_	5V	Differential Line*	100PPR
RE46A2CR5_	5V	5V	25PPR
RE46A2CR1_	12V	5V*	25PPR
RE46A2CO5_	5V	OC	25PPR
RE46A2CO1_	12V	OC	25PPR
RE46A2CO2_	24V	OC*	25PPR
RE46A2CD5_	5V	Differential Line*	25PPR

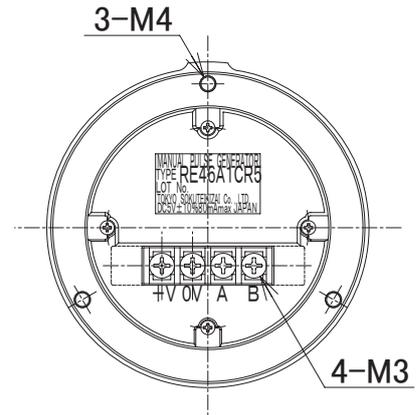
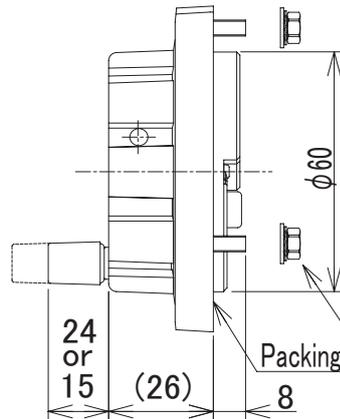
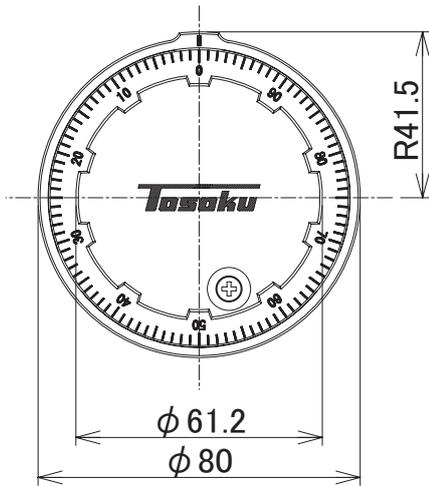
\*Differential Line: Connect with terminating resistance 100Ω(Based on RS-422 line receiver).

\*5V:Supply voltage=12V, Output voltage=5V

\*OC:For photo coupler only, Supply voltage 12 ~ 24V

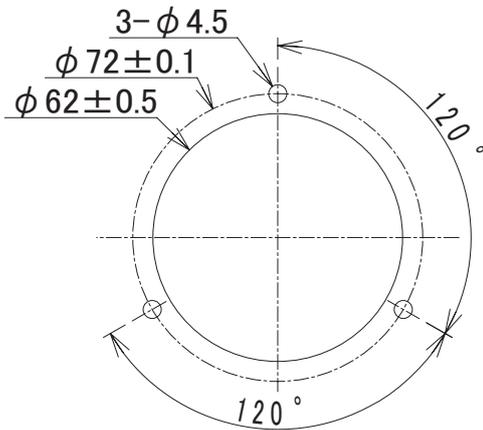
# Dimensions (mm)

\* Line Driver is in the drawing below

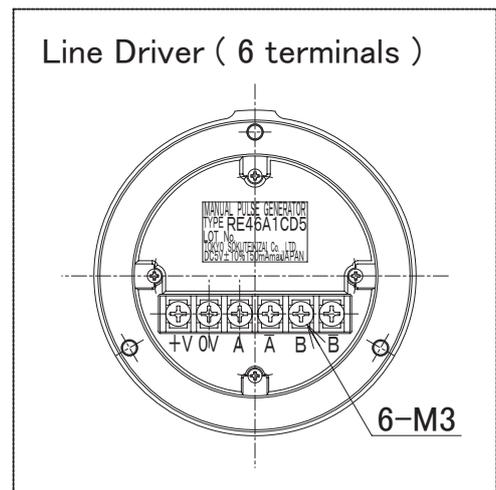


Accessories  
 M4 Nut : t=3.2mm  
 M4 Teeth Washer : t=0.9mm  
 M4 Washer : t=0.8mm

## Panel Mounting Hole

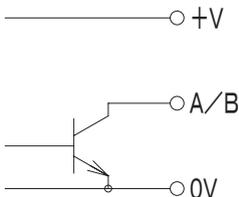


Thickness of the Panel :  $\leq 3$  mm  
 Recommended Torque for fastening the nut : 0.4 ~ 0.5 N·m (4~5 Kgf·m)

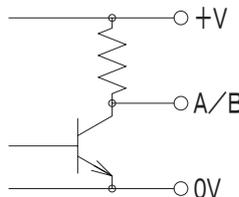


## ■ Circuitry

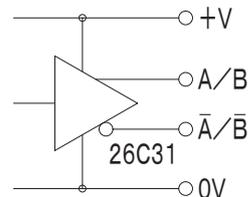
● Open collector (code:O)



● Voltage Output (code:R)



● Line Driver (code:D)



## ■ Output Waveform

- Turning the shaft clockwise would generate the signal A when the signal B outputs a low voltage (0);
- Rotating the shaft counter-clockwise would generate the signal A when the signal B outputs a high voltage (1);

