

# RE46 series



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.

- 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

Application	5V input	12V input	Differential line	Photo coupler(12 ~ 24V)
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 (pull up)	1 level:(Power voltage –0.5V) ≤ 0 level: ≤ 0.4V (No-load)			1level:Transistor/ON 0level:Transistor/OFF
Collector voltage (Open corrector)	≤ DC30V ≤ 50mA			≤ 30V ≤ 50mA
Pulse per revolution	100pulse/100Click or 25pulse/100Click			
Click torque	32 ~ 64mN.m (320 ~ 640gf.cm)			
Rotational Durability	Over a million rotations			
Operating Temperature	-10℃ ~ 60℃ (14F ~ 140F)			
Weight	220g			

RE46	A ①	1 ②	C ③	R ④	5 ⑤	B 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

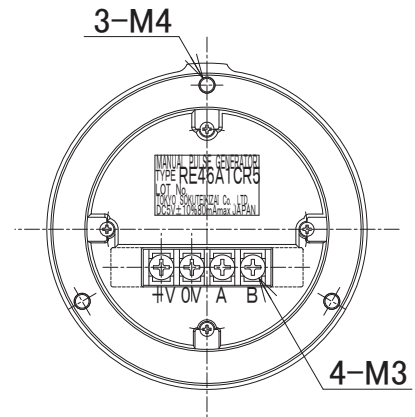
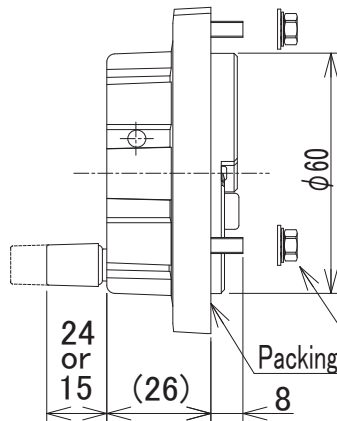
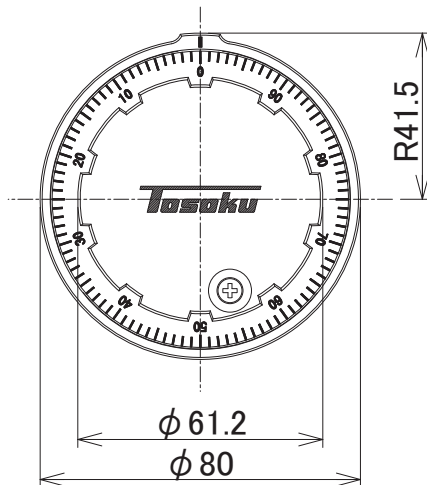
\*Differential Line: Connect with terminating resistance 100Ω(Based on RS-422 line receiver).

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

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

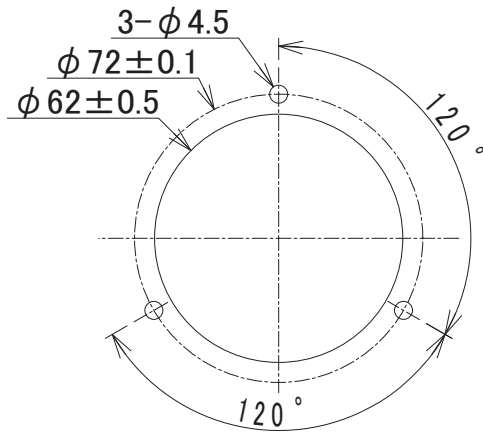
## Dimensions (mm)

\* Line Driver is in the drawing below

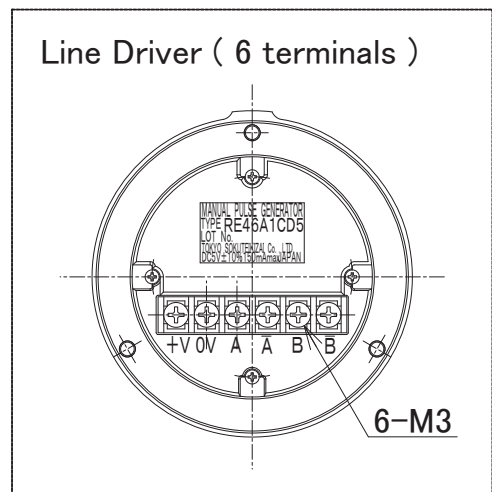


Accessories  
M4 Nut : t=3.2mm  
M4 Teeth Washer : t=0.9mm  
M4 Washer : t=0.8mm

### Panel Mounting Hole

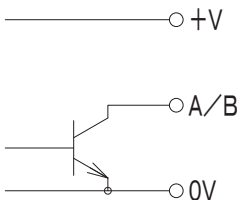


Thickness of the Panel :  $\leq 3$  mm  
Recommended Torque for fastening the nut  
: 0.4 ~ 0.5 N·m (4~5 Kgf·cm)

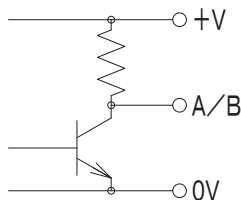


### ■ Circuitry

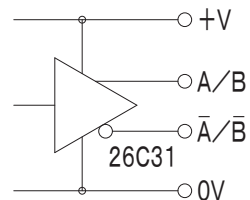
#### ● Open collector (code:O)



#### ● Voltage Output (code:R)



#### ● Line Driver (code:D)



### ■ Output Waveform

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

