Manual Pulse Generator

RE47 series

Outline

RE47 is an incremental optical manual pulse generator developed mainly for NC machine tools. The series are most compact of all MPGs on our line-up and universally compatible with various sorts of compact MPGs.

Features

- Eco friendly: RoHS compliant
- ϕ60mm diameter
- Less than 10mm in depth (from surface-to-bottom) allows you to save space behind the panel
- Fine operability with a weight inside of the dial.
- 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 dial

Specifications

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	330Ω Pull-up or Open collector	2.2KΩ Pull-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			
Panel water resistance	IP54			
Click torque	8 ～ 16mN.m (80 ～ 160gf.cm)			
Rotational Durability	Over a million rotations			
Operating Temperature	-10℃ ～ 60℃ (14F ～ 140F)			
Weight	85g			

Part number designation

RE47 A 1 S R 5 B
① ② ③ ④ ⑤ ⑥

① Type

② Number of Pulses
1: 100PPR
2: 25PPR

③ Click
S: Soft

④ Output
R: Voltage Output
O: Open Collector
D: Line Driver

⑤ Supply Voltage
5: 5V
1: 12V
2: 12 ～ 24V

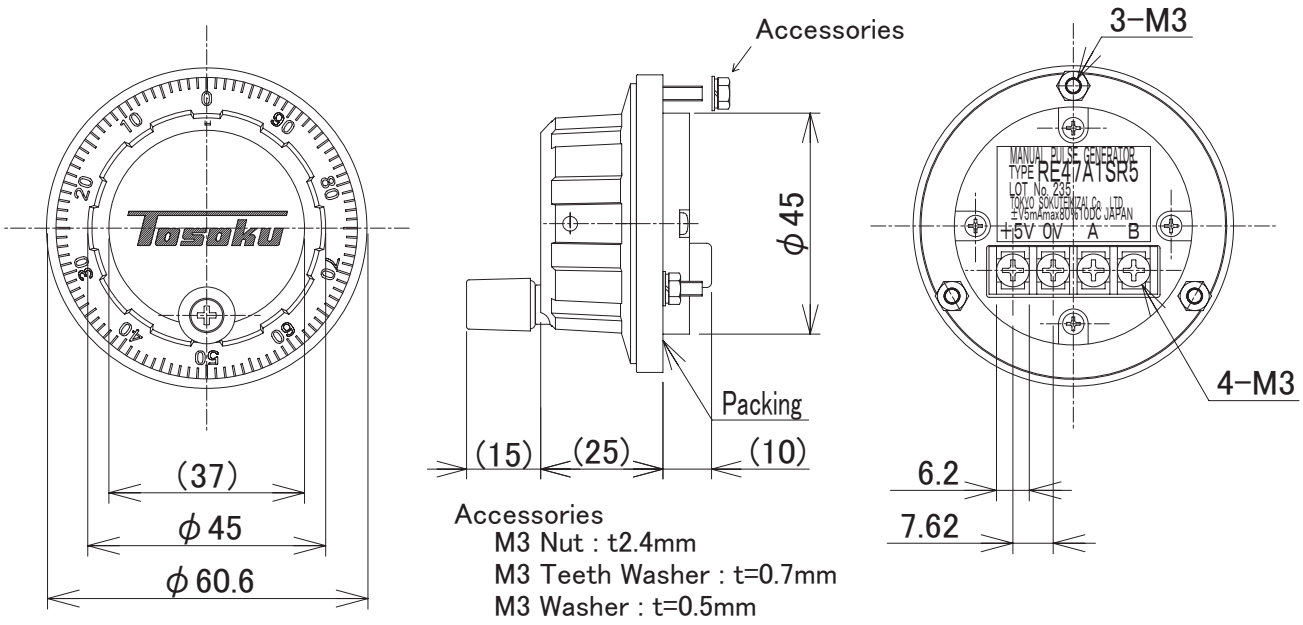
⑥ Dial Knob (color black)
B: 15mm with Tosoku logo
C: 15mm without logo
D: 15mm customer logo

Models	Supply		Pulse Per Revolution
RE47A1SR5_	5V	5V	100PPR
RE47A1SR1_	12V	12V	100PPR
RE47A1SO5_	5V	OC	100PPR
RE47A1SO1_	12V	OC	100PPR
RE47A1SO2_	24V	OC*	100PPR
RE47A1SD5_	5V	Differential Line*	100PPR
RE47A1SR5_	5V	5V	25PPR
RE47A1SR1_	12V	5V*	25PPR
RE47A1SO5_	5V	OC	25PPR
RE47A1SO1_	12V	OC	25PPR
RE47A1SO2_	24V	OC*	25PPR
RE47A1SD5_	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

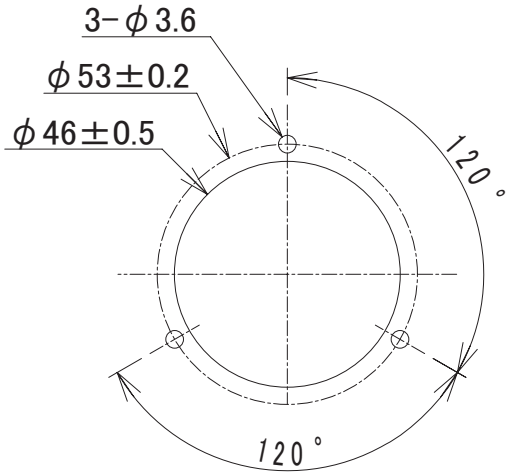
Dimensions (mm)

＊Line Driver is in the drawing below

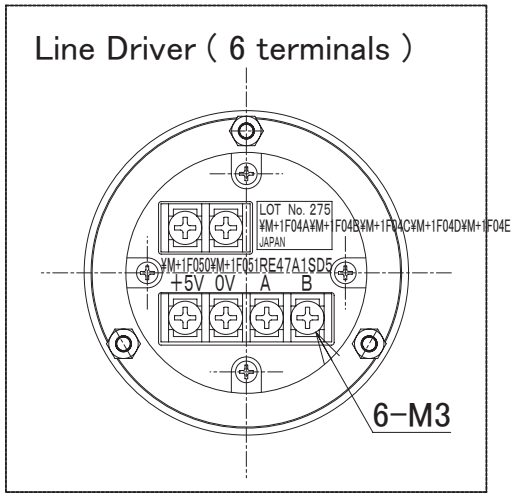


Accessories
M3 Nut : t2.4mm
M3 Teeth Washer : t=0.7mm
M3 Washer : t=0.5mm

Panel Mounting Hole

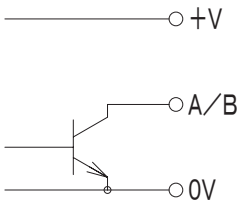


Thickness of the Panel : ≦ 3 mm
Recommended Torque for fastening the nut
: 0.4 ～ 0.5 N･m (4～5 Kgf･cm)

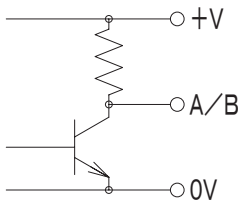


■Circuitry

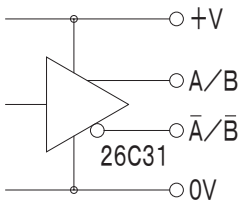
●Open collector (code:O)



●Votage 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);