

Tosoku

Pulse Generator

RE45T series

Outline

RE45T/V series are compact optical manual pulse generators that allow accurate and smooth manual motion for NC machine tools, industrial machines etc.

Features

- Eco friendly: RoHS compliant
- Various Options
 - terminal block mounted type/direct moulding type
 - output circuit: CMOS, open collector, line driver
- Enclosed structure design
- Protection from flux
- 100PPR, 25PPR available
- Long life use

Specifications

Model	RE45T***5	RE45T***1	RE45T***D	RE45***T2
Application	5V input	12V input	Differential line	Photo coupler
Power Voltage	DC5V±10%	DC12V±10%	DC5V±10%	DC10.8V to 26.4V
Current Power	≤ 80mA	≤ 60mA	≤ 150mA (90mA typ)	≤ 60mA
Current Power (Open collector)	≤ 30mA	≤ 40mA		
Out put	CMOS (45T) 330Ω pull-up or open collector	2.2KΩ pull-up or open collector	RS-422A (Line driver) Receiver's terminator : 100Ω for each signal	Open collector (Current out put type)
Out put voltage	level 1: (Power voltage -0.5V) ≤			level 1: TR is ON
Out put voltage (Pull up)	level 0: ≤ 0.4V (No-load)			level 0: TR is OFF
Collector voltage (Open collector)	not more than DC30V or 50mA			not more than DC30V or 50mA
Pulse per revolution	100pulse/100Click or 25Pulse/100Click			
Click torque	S: (Soft torque) 8 ~ 16mN.m C: (Standard) 32 ~ 64mN.m			
Rotational Durability	Over a million times			
Protection against water	2m water resistant (2h) (Do not push or rotate under the water)			
Operating Temperature	-10℃ 14℉		~	60℃ 140℉

Part number designation

RE45T ① ② ③ ④ ⑤ ⑥

① Number of pulses
1: 100PPR
2: 25PPR

② Click
C: Standard
S: Soft
Blank: without click

③ Output
M: CMOS
O: Open Collector
D: Line Driver
R: Pull up

④ Supply Voltage
1: 12V
2: 24V
5: 5V

⑤ Dial Knob
B: 15mm, with Tosoku logo
C: 15mm, without logo
D: 15mm, with customer logo
H: 25mm with Tosoku logo
J: 25mm without logo
K: 25mm, with customer logo

⑥ Dial base / Shaft length
Blank: W/O dial base, 16mm
0: W/O dial base, 18mm
1: With dial base, 18mm

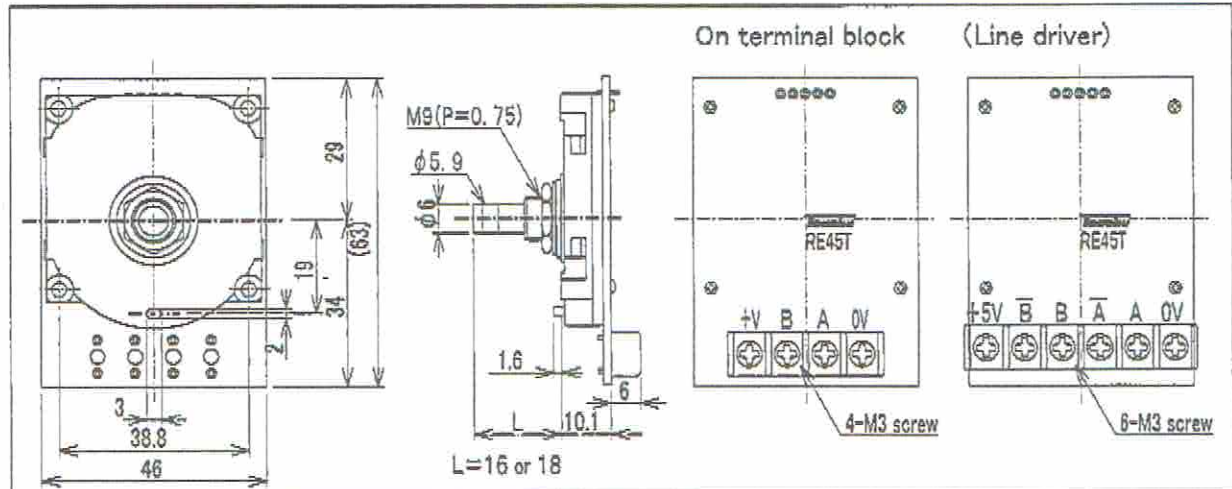
Models	Supply	Out-put	Pulse Per Revolution
RE45T1_M5	5V	5V	100PPR Standard Model for 5V
RE45T1_R1	12V	12V	100PPR Standard Model for 12V
RE45T1_O5	5V	OC	100PPR
RE45T1_O1	12V	OC	100PPR
RE45T1_O2	24V	OC*	100PPR 12V ~ 24V input, photo coupler only
RE45T1_D5	5V	Differential Line*	100PPR Special model for noise resistance
RE45T2_M5	5V	5V	25PPR
RE45T2_M1	12V	5V*	25PPR 12V input, 5V output
RE45T2_O1	12V	OC	25PPR
RE45T2_O2	24V	OC*	25PPR 12V ~ 24V input, photo coupler only
RE45T2_D5	5V	Differential Line*	25PPR Special model for noise resistance

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

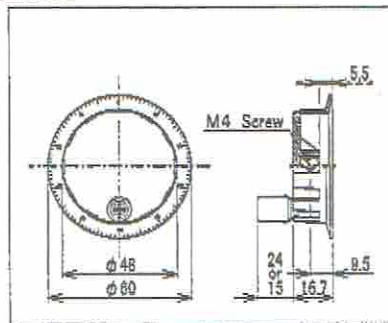
*5V: power voltage = 12V. Output voltage = 5V

*OC (For photo coupler): Out put voltage/level-transistor /OFF-Current/0

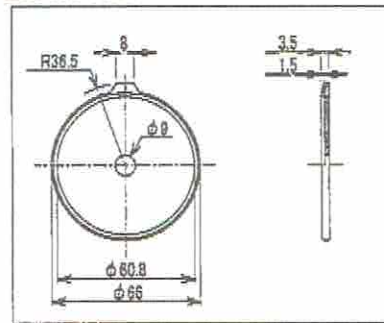
Dimensions (mm)



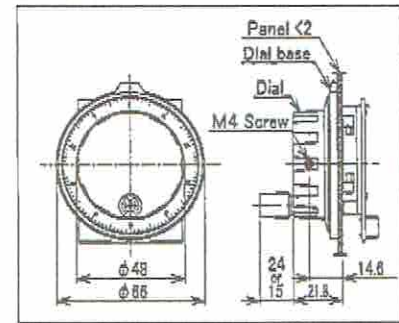
■ Dial



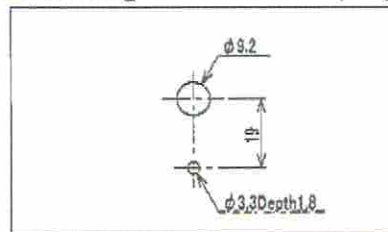
■ Dial base



■ Dial attached on the dial base



■ Mounting hole dimensions (mm)



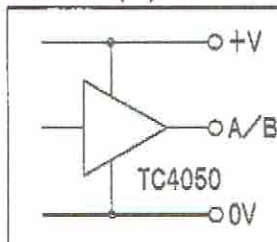
Precautions

Soldering	Temperature	Time
Manual Soldering	Up to 350°	Within 3 seconds for each terminal
Flow soldering	Up to 260°	Within 5 seconds for each terminal

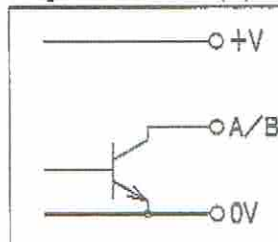
NOTE: Do not put pressure on terminal during heating or soon after.

■ Circuitry

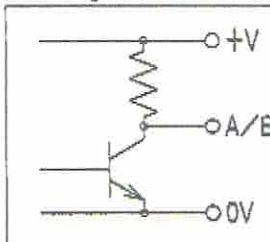
● CMOS (M)



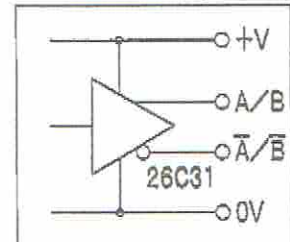
● Open Collector (O)



● Pull up (R)



● Line driver (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);

