

## 1.1. TPBot Introduction

### 1.1.1 Introduction

- TP Bot is a smart coding car for micro:bit. It can be regarded as a toy for its preset functions that do not need a micro:bit; it can also be used as a teaching aid at the same time, you can code it via the micro:bit or make extensions for the other modules and the Lego bricks to develop children's imagination and creativity.

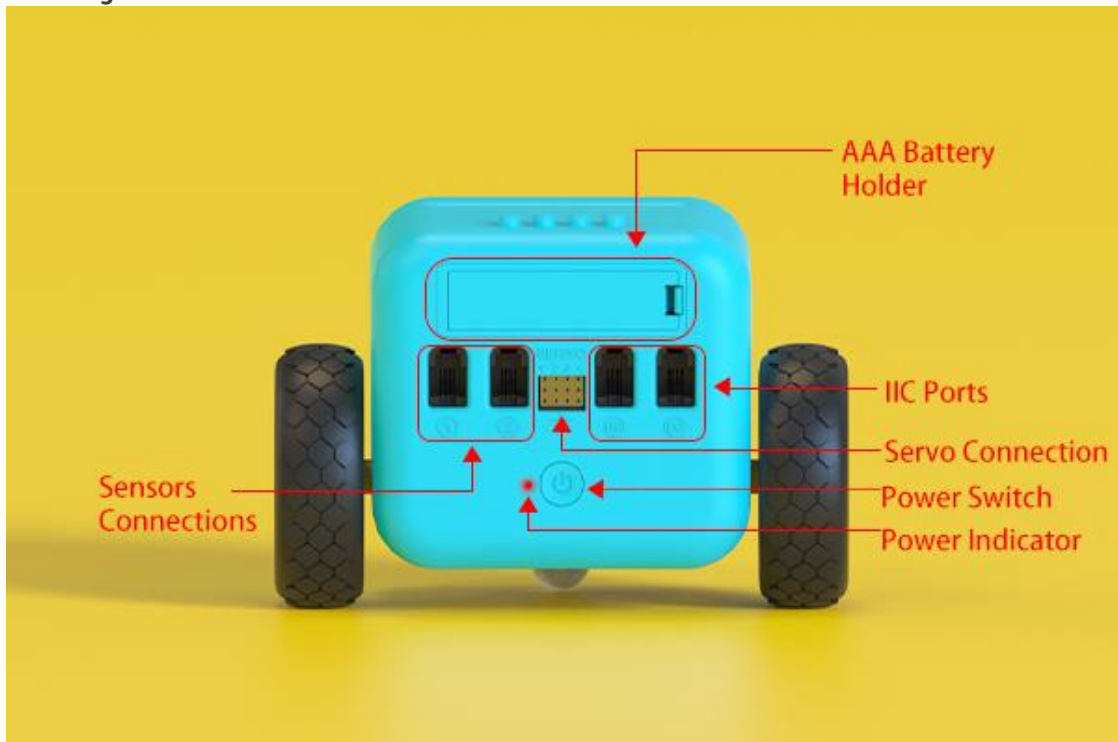
### 1.2. 1.2 Picture

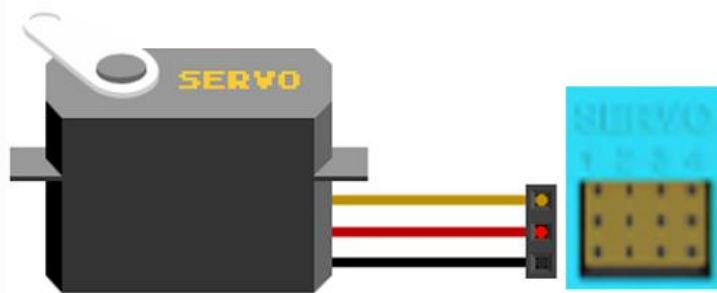


### 1.3. 1.3 Parameter

Technical Items	Parameter
Controller	BBC micro:bit
Coding platform	MakeCode
Dimensions with package	195*145*104mm
Dimensions without package	128 x 113 x 90mm (without micro:bit)
Gross weight with package	766 g
Diameter of wheels	62mm
Diameter of omni wheel	14mm
Net weight without package	363g (Batteries,micro:bit and accessories are not included)
Power supply	4*1.5V AAA batteries
Working voltage	4.5V~6V
Working current	0.1A~1.5A
Battery life	Theoretically run for 1.5 hours in continuously operation
Connections	P1, P8, P2, P12 and 2-way IIC ports
RGB headlights	13 * RGB
Motor type	130 motor(Torque in 55 N*M)
Ultrasonic sound sensor	HCSR04 (2~400CM non-contact distance detecting, accuracy in 3mm)
line-following sensor	ITR20001 photoelectric correlated cell
Compatibility	Lego bricks connections

### 1.5. Connections Diagram

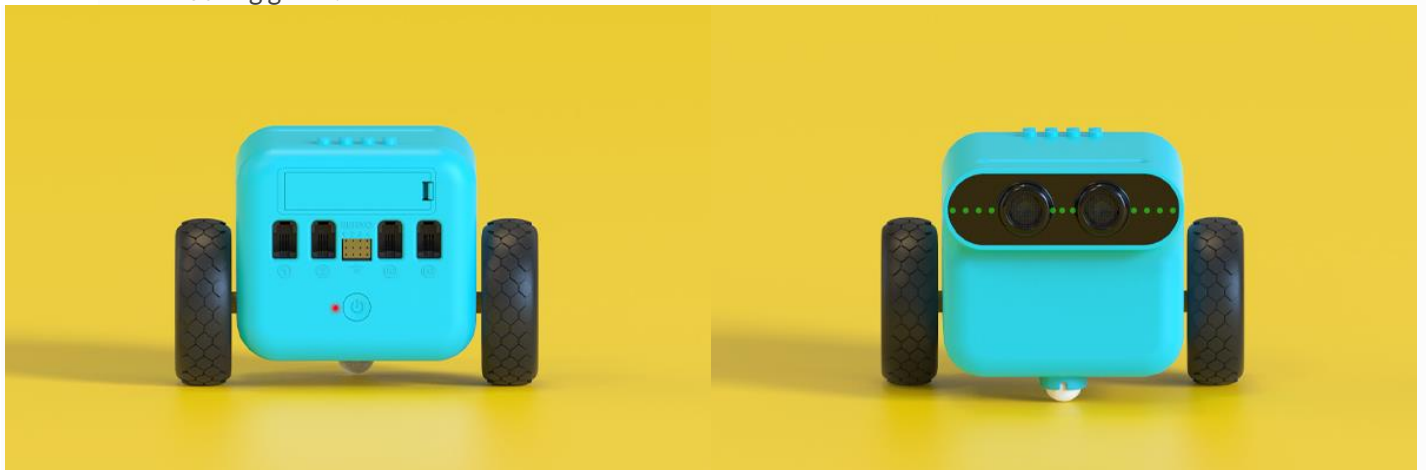




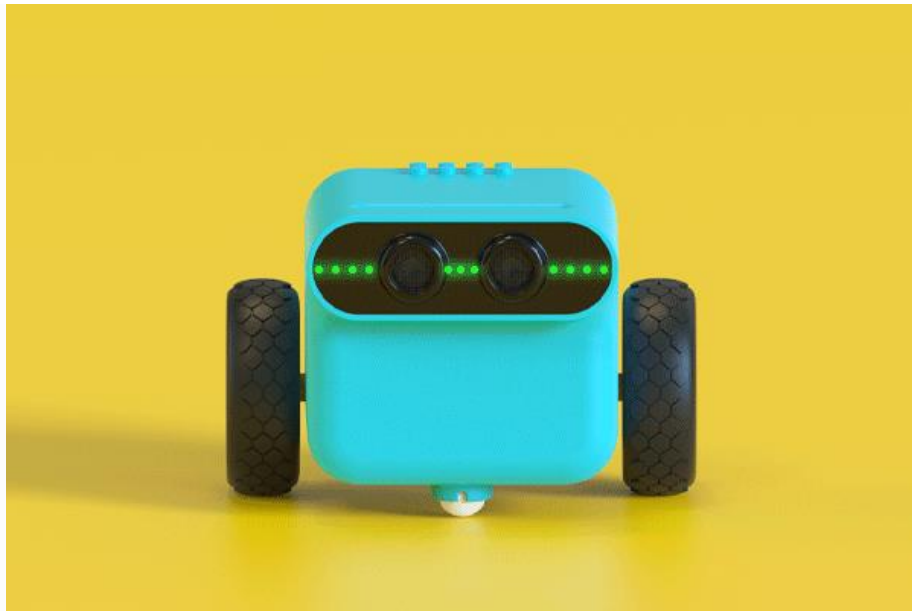
Note: The connection to servos shall be inserted vertically with the Ground wire in the bottom.

### 1.6. User Guide

- TPBot is available to operate even without the micro:bit, here are the instructions:
- Press the power button to enter into its standby mode, here lights on the power indicator and the LEDs in breathing green.



- While in its standby mode, press the power button to enter into the line-tracking & obstacles-avoidance mode, here lights on the LEDs in rainbow mode at the same time.



- While in its line-tracking & obstacles-avoidance mode, the headlights turn to red and it stops moving if an obstacle was detected.



- While in its line-tracking & obstacles-avoidance mode, press the power button to get back to the standby mode.
- No matter in its line-tracking & obstacles-avoidance mode or the standby mode, double click the power button to power off the TPBot.