



# RGB Line follower

Introduction of Line following sensor in Mblock5

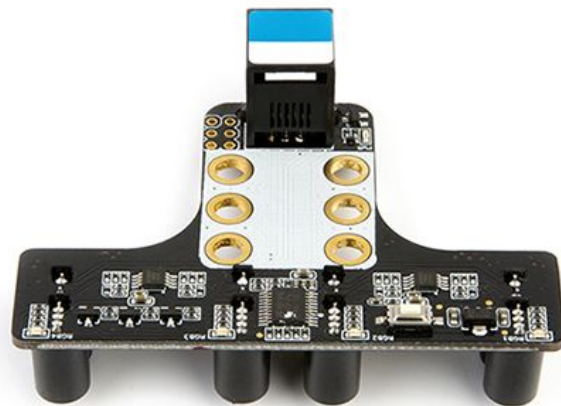
Design and Applied Technology  
INSTITUTO SALESIANO MACAU

Form 3  
2021-2022

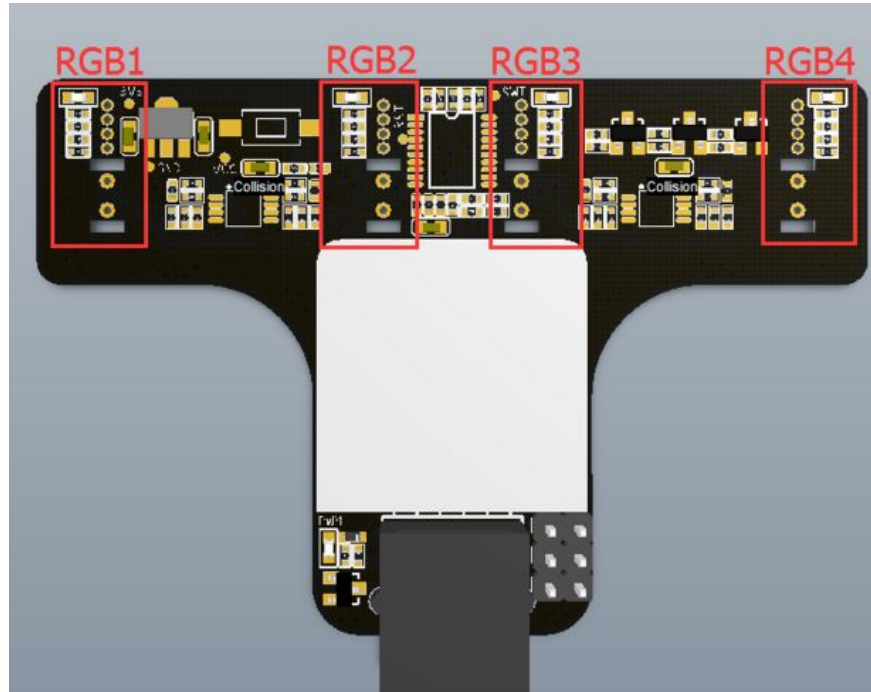
# RGB Line Follower

RGB line follower is designed for line-following. It has **4 RGB supplement lights** and **4 light-sensitive receivers**. The module applies to line following for either **light-colored tracks on dark backgrounds**, or **dark tracks on light-colored backgrounds**.

All kinds of RGB line following modules are applicable, as long as the grey scale of the chromatic aberration between the background and the track is higher than the threshold. The module is characterized by fast detection, field learning function through keys and excellent adaptability. A blue-white labeled interface is equipped, indicating that it is a dual-digital, I2C interface that needs to be connected to the mainboard with a blue-white marking interface.



# Principle

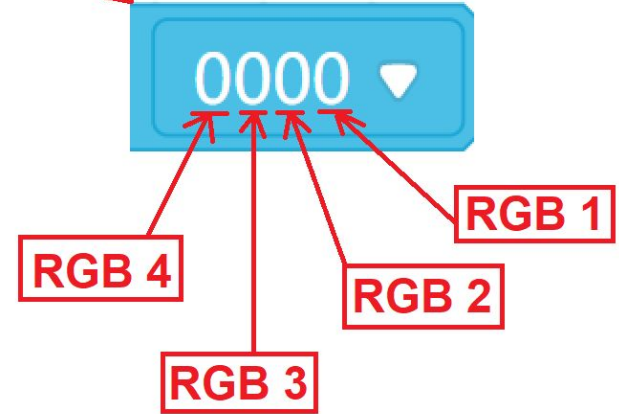
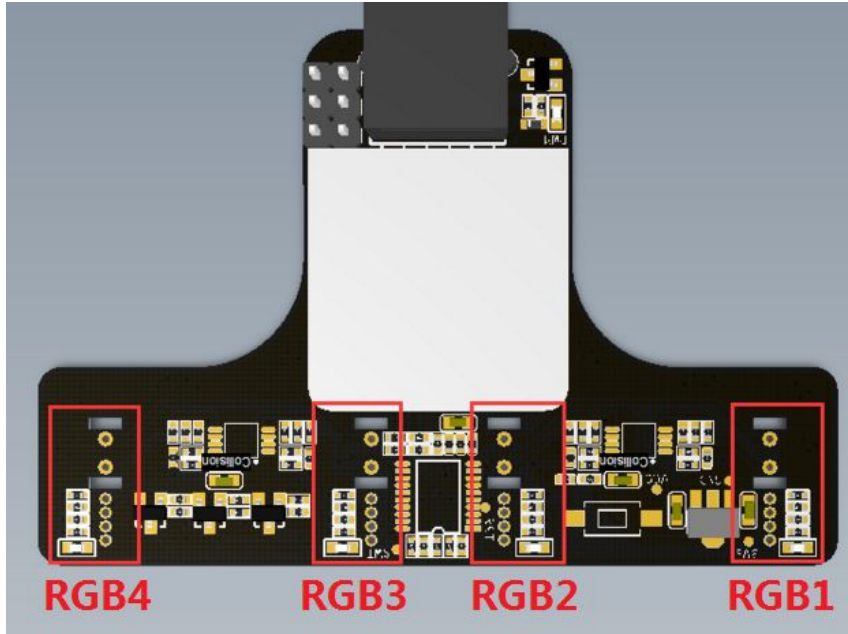


**This RGB line follower provides 4 pairs of RGB transmitters and light-sensitive receivers, as shown in the above figure.**

# In Mblock 5...

RGB line follower 1 ▾ : probe status as (RGB4~RGB1)

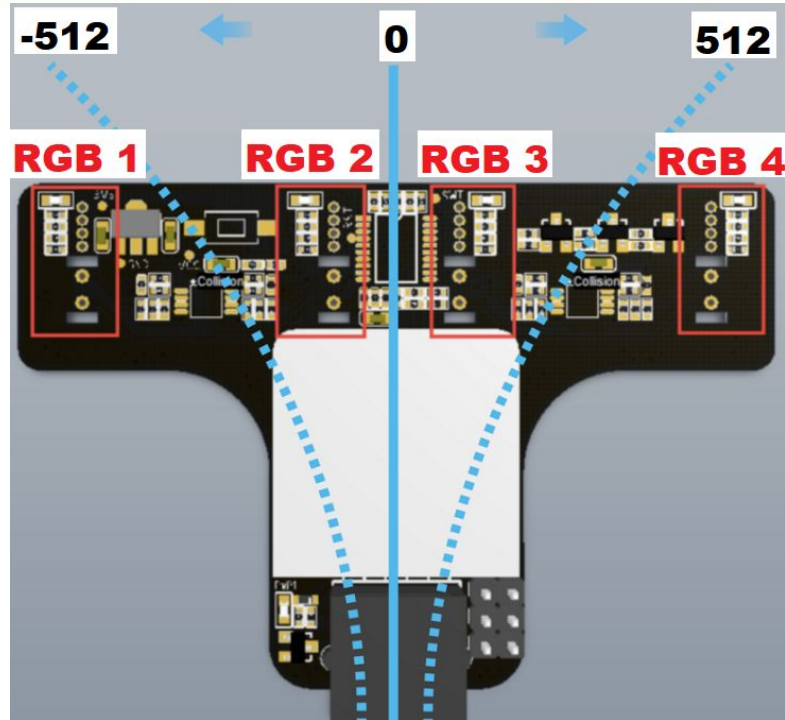
0000 ▾



- "1" means that the background is detected.
- "0" means that the line is detected (Black color).

# In Mblock 5...

RGB line follower 1 ▾ : (default line following) motor differential speed



# In Mblock 5...

RGB line follower

1 ▼

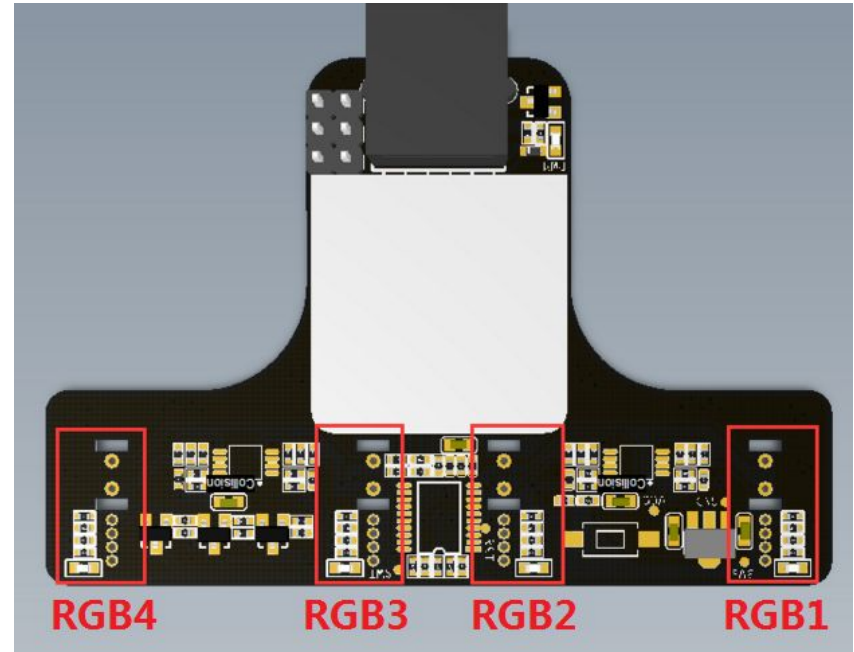
: probe

RGB1 ▼

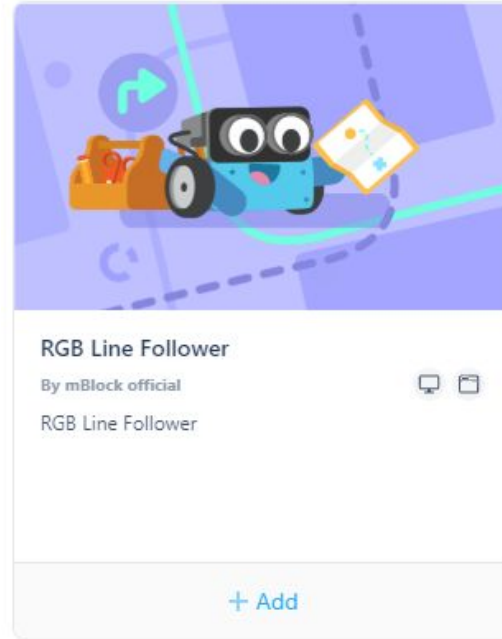
detects background color?

Obtaining the state of a probe, determining whether it detects a background or track.

- If it detects the **background**, the value **"True"** is returned
- If it detects the **track**, **"False"** is returned.



# Extension



**Add “RGB” Line Follower extension**

# program

when mBot(mcore) starts up

initialize RGB line follower 1 ▼ : at port2 ▼

RGB line follower 1 ▼ : set target color and fill light to green ▼

RGB line follower 1 ▼ : (default line following) set turning sensitivity to 0.3

set initial\_speed ▼ to 60

forever

if when on-board button pressed ▼ ? then

forever

set L\_speed ▼ to initial\_speed + RGB line follower 1 ▼ : (default line following) motor differential speed

set R\_speed ▼ to initial\_speed - RGB line follower 1 ▼ : (default line following) motor differential speed

left wheel turns at power L\_speed %, right wheel at power R\_speed %