F3-M(WT)+RC3

WiFi & Infrared remote RGB LED Dimmer

● WiFi & infrared remote control 3 channels constant voltage RGB LED dimmer.

● DC power socket input, 1.5A per channel, output connects with 5 meters RGB LED strip.

● Tuya Smart APP cloud control, support on/off, RGB color, brightness adjust, delay turn on/off light, timer run, scene edit and music play function.

● Voice control, support for Amazon Alexa, Google Assistant, Tmall Genie and Xiaodu voice assistant.

● Color and dynamic mode setting, brightness and speed adjustment by IR remote or SET key.

● 4096 levels dimming smoothly without any flash.

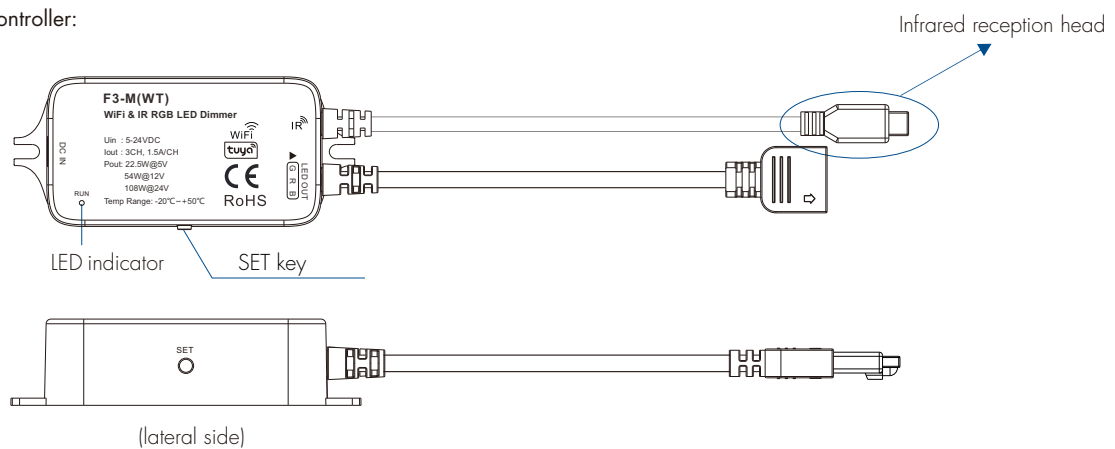● Built in 10 dynamic modes, include jump or gradual change style.

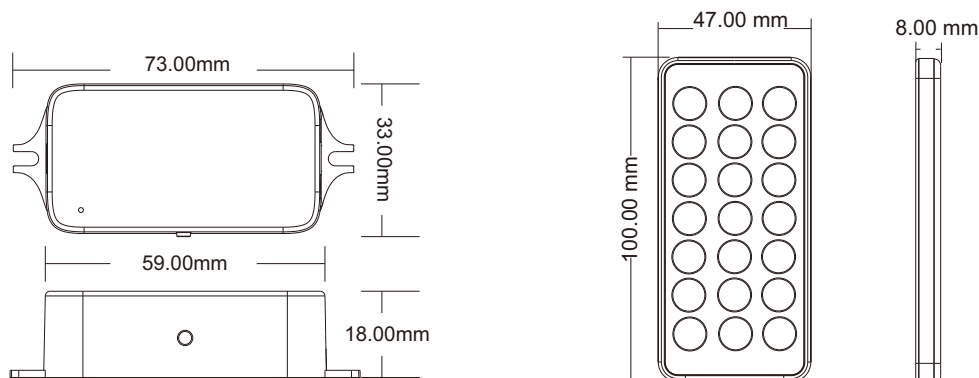CE RoHS emc

Technical Parameters

Input and Output

Input voltage	5-24VDC
Output voltage	5-24VDC
Output current	3CH, 1.5A/CH
Output power	22.5W@5V 54W@12V 108W@24V

Environment

Operation temperature	Ta: -20°C ~ +50°C
Case temperature (Max.)	Tc: +85°C

Dimming data

Input signal	WiFi + IR + key
Control distance	10m(Barrier-free space)
Dimming gray scale	4096 level
Dimming range	10-100%
Dimming curve	Logarithmic
PWM Frequency	2000Hz (default)
Warranty	5 years
Protection	Over heat

Safety and EMC

EMC standard (EMC)	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-17 V3.2.4
Safety standard	EN 61348-1:2015+A1:2021 EN 61348-2-13:2014+A1:2017
Certification	CE, EMC

Package

Size	L110x W57x H32mm
Gross weight	0.090kg

Mechanical Structures and Installations

Controller:

Infrared reception head

F3-M(WT)
WiFi & IR RGB LED Dimmer

Uin : 5-24VDC
Iout : 3CH, 1.5A/CH
Pout 22.5W@5V
54W@12V
108W@24V
Temp Range: -20℃~+50℃

WiFi
tuya

RoHS

DC IN

IR

LED OUT
G R B

LED indicator   SET key

(lateral side)

SET

IR Remote:

73.00mm

33.00mm

59.00mm

18.00mm

47.00 mm

8.00 mm

100.00 mm

Wiring Diagram

Inner diameter 2.1mm

Outer diameter 5.5mm

Power Adapter 5-24VDC

IR remote

5m RGB LED strip

+
G
R
B

System Wiring

—— Wired connection

······· Wireless connection

3G/4G/5G WiFi

Tuya Cloud

WiFi

Mobile Phone

WiFi Router

15m

Smart Speaker

F3-M(WT)

RGB

F3-M(WT)

RGB

10m

IR remote

Note:

1. The above distance is measured in spacious (no obstacle) environment, Please refer to the actual test distance before installation.

2. Please check if the WiFi router net in 2.4G band, the 5G band is not available, and do not hide your router network.

3. Please keep the distance between F3-M(WT) devices and router close, and check the WiFi signals.

4. WiFi signal strength detection: open the main interface of social security, click ✎ enter the device interface, click "check device network" for testing.

SET Key Function of Dimmer

Short press: Sequentially switch 8 kind of static colors (red - orange - yellow - green - cyan - blue - purple - white) and 10 dynamic modes.

Long press: For static mode, long press 1-6s to adjust brightness, with every other long press, the light level goes to the opposite direction.

For dynamic mode, long press 2s to adjust the dynamic mode speed, 10 levels.

Tuya Smart APP Network Connection

Please download the corresponding Tuya Smart/Smart life APP according to your region.

Three methods to clear the previous network connection,
enter WiFi Smart config mode, and the output LED will flash 10 times.
1. Long press the SET key for 12s.
2. Double click the SET key within 10s of the dimmer powering up.
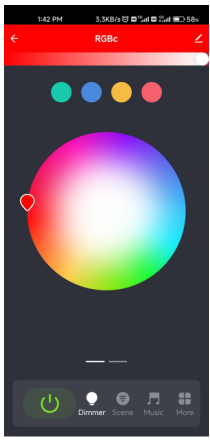3. Dimmer power on and off for 5 consecutive times.

In Tuya Smart APP, you can find RGBc device.
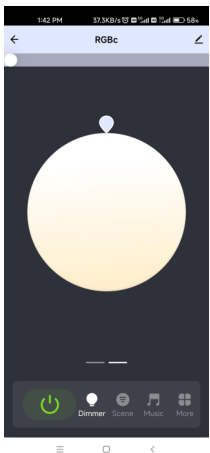If Tuya Smart APP network connection succeed, the output LED will stop flash.
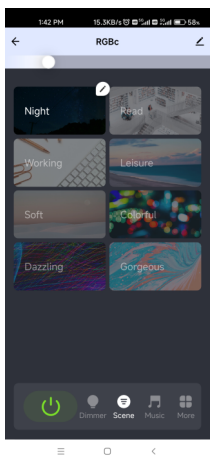
Smart life APP

Tuya Smart APP

Tuya Smart APP Interface

Colour interface

Touch color circle to adjust static RGB color.
Touch brightness slide to adjust color brightness.

White interface
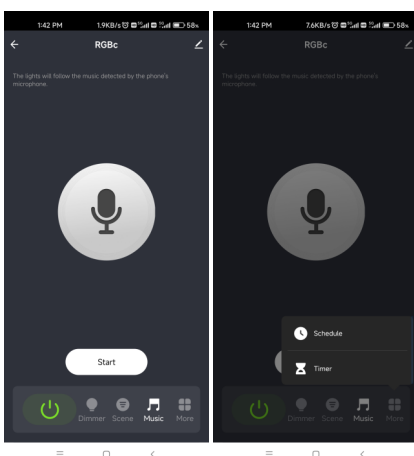
Touch brightness slide, get RGB mixed white firstly, then to adjust white brightness.

Scene interface

The 1-4 scene is static color.
the inner color of these scene can be editable.

The 5-8 scene is dynamic mode,
such as green fade in and fade out, RGB jump, 6 color jump, 6 color smooth.

Music, Timer, Schedule

The music play can use smart phone music player or micro-phone as music signal input.

The Schedule key can add multiple timers to turn on or turn off light according to different time periods.

The Timer key can turn on or turn off light in the next 24 hours.

Key Function of IR Remote Controller
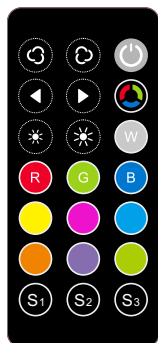
On/Off : Turn on/off light.

Mode+ : Short press run the next dynamic mode, long press 2s run mode cycle.

Mode - : Short press run the previous dynamic mode, long press 2s run the first mode.

Color : Short press get 24 kinds static RGB color, long press for continuous static color adjustment.

1	9	17	25(1)
R 100%	G 100%	B 100%	R 100%

5	13	21
R 100%	G 100%	R 100%
G 100%	B 100%	B 100%
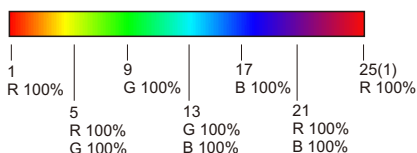
Speed -/+: For static mode, adjust the color saturation. Short press 11 levels;
Long Press 1-6 seconds for 256 consecutive levels of adjustment.
For dynamic mode, increase speed, short press 10 levels, long press 2s get the fastest/slowest speed.

W+/-: Short press turn on/off white (RGB mix);
Long press 1-6s adjust saturation continuously, namely change current static RGB color to mixed white slowly.

Bright -/+ : short press 10 levels; Long press 1-6 seconds for 256 consecutive levels for adjustment.

R/G/B : Short press get red, green or blue color directly,
long press 1-6s adjust R/G/B brightness continuously to achieve millions of colors.

Yellow/Purple/Cyan : Short press get static yellow, purple, cyan color directly.

Orange/Grape/Grass green: Short press get static orange, grape, grass green color directly.

S1/S2/S3 : Short press recall the scene, long press 2s save the current color into the S1/S2/S3.

Dynamic Mode List

Use the controller's SET button or the IR remote control's Mode +/- keys to switch between 10 dynamic modes:

No.	Name	No.	Name
1	RGB jump	6	RGB fade in and out
2	RGB smooth	7	Red fade in and out
3	6 color jump	8	Green fade in and out
4	6 color smooth	9	Blue fade in and out
5	Yellow cyan purple smooth	10	White fade in and out

Dimming Curve

Gamma=1.6

(PWM duty(%) vs Brightness(%))