
Yeelink™

Yeelight Blue Message Interface

Version <1.0>

Revision History

Date	Revision	Summary	Author
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Yeelight Blue Message Interface

1. Overview

Yeelight Blue provides the smart control for LED with BLE. The document covers the BLE message interface design of this product.

2. BLE Message Interface

The main GATT service UUID of Yeelight Blue is 0xFFFF0 which contains the characters below:

UUID	Character	Length	Permission	Description
0xFFFF1	Control	18	Read/Write	Control the color/light/on/off of LED
0xFFFF2	Delay On/Off	8	Read/Write	Set delay on/off for LED
0xFFFF3	Delay On/Off Status Query	2	Read/Write	Query the status of delay on/off
0xFFFF4	Delay On/Off Status Response	10	Notify	Notify the status of delay on/off
0xFFFF5	Status Query	1	Read/Write	Query the status of LED
0xFFFF6	Status Response	20	Notify	Notify the status of LED
0xFFFF7	ColorFlow	20	Read/Write	Set the color flow for LED
0xFFFF8	LED Name	15	Read/Write	Set the name of LED
0xFFFF9	LED Name Response	15	Notify	Notify the name of LED
0xFFFFC	Effect Setting	2	Read/Write	Set the effect of color change

Note:

1. For all commands, if the length does not exceed to the length of character, fill “,” at the end.
2. All message format uses ASCII.

2.1 Control Character

This character is used to control the on/off/color/lightness of LED. The format is as follows:
<R>,<G>,,<L>,... (Note: if the length of command does not exceed to 18, fill “,” at the end)

Explanation:

- R: number(use ASCII), 0~255, red color
 - G: number(use ASCII), 0~255, green color
 - B: number(use ASCII), 0~255, blue color
 - L: number(use ASCII), 0~100, lightness (Note: 0 means off)
- Note: when R,G,B are all 255, it means white color.

e.g. If we send the message below from character 0xFFFF1:

- 255,0,0,100,,,,, LED turns red color
- 0,255,0,100,,,,, LED turns green color
- 0,0,255,100,,,,, LED turns blue color
- 255,255,255,100,,, LED turns white color
- ,,,100,,,,, LED turns on (R,G,B could be some values or omitted)
- ,,,0,,,,, LED turns off(R,G,B could be some values or omitted)

2.2 Delay On/Off

This character is used to set delay on/off for LED. The format is as follows:

<T>,<S>

Explanation:

T: number(use ASCII), indicate the minutes of delay. (note: 0 is used as cancel)

S: number(use ASCII), 0 – off , 1 - on.

Example:

10,1,,,, LED turns on after 10 minutes

20,0,,,, LED turns off after 20 minutes

0,0,,,, Cancel delay setting

2.3 Delay On/Off Status Query

This character is used to query the status of time delay. The format is as follows:

RT

2.4 Delay On/Off Status Response

This character is used to notify the status of time delay. The format is as follows:

RTB <T>,<S>

Explanation:

T: number(use ASCII), indicate the minutes of delay. (note: 0 indicates no-setting)

S: number(use ASCII), 0 – off , 1 - on.

Example:

App sends “RT” from 0xFFFF3, it will receive notification from 0xFFFF4:

RTB 20,1 Time delay is set, and the LED will turn on after 20 minutes

2.5 Status Query

This character is used to query the status of LED. The format is as follows:

S

2.6 Status Response

This character is used to notify the status of LED. The format is as follows:

<R>,<G>,,<L>,<CF>,<DL>,...

Explanation:

R: number(use ASCII), 0~255, red color

G: number(use ASCII), 0~255, green color

B: number(use ASCII), 0~255, blue color

L: number(use ASCII), 0~100, lightness (Note: 0 means off)

CF: number(use ASCII), 0 – color flow is not set, 1 – color flow is set

DL: number(use ASCII), 0 – time delay is not set, 1 – time delay is set.

Note: when R,G,B are all 255, it means white color.

Example:

App sends “S” from 0xFFFF5, it will receive notification from 0xFFFF6:

255,0,0,100,0,0,,,,, LED is red color with full brightness, delay and colorflow is not set.

2.7 Color Flow

This character is used to set/start/stop the color flow for LED. The format is as follows:

<N>, <R>, <G>, , <L>, <T>, ... (Set color flow)
CB, ... (Start color flow)
CE, ... (Stop color flow)

Explanation:

N: number(use ASCII), 0~9, sequence number
R: number(use ASCII), 0~255, red color
G: number(use ASCII), 0~255, green color
B: number(use ASCII), 0~255, blue color
L: number(use ASCII), 0~100, lightness (Note: 0 means off)
T: number(use ASCII), 0~10, color flow change time(in seconds)

Example:

If we send the message below from 0xFFFF7, LED will turn to red, green, blue, red... every 5 seconds.

```
0,255,0,0,100,5,,,,,  
1,0,255,0,100,5,,,,,  
2,0,0,255,100,5,,,,,  
CB,,,,,,,,,,,,,,,,
```

2.8 LED Name

This character is used to set/query the name of LED. The format is as follows:

N <O>, <V>, ... (Set the name of LED)
NEND, ... (Name Setting Completed)
NF, ... (Query the name of LED)

Explanation:

O: number(use ASCII), 0~5, sequence number(used for segment in case the name is too long)
V: string(use ASCII), 0~255, LED name

2.9 LED Name Response

This character is used to notify the name of LED. The format is as follows:

N <O>, <V>, ... (Notify the name of LED)
NEND, ... (Notification completed)

Explanation:

O: number(use ASCII), 0~5, sequence number(used for segment in case the name is too long)
V: string(use ASCII), 0~255, LED name

2.10 Effect Setting Character

This character is used to set the effect of color change.

Explanation:

TS: color gradual mode (Default) .

In this mode, the LED color will transfer smoothly when we changes the color of LED.

TE: color non-gradual mode.

In this mode, the LED color will transfer immediately when we changes the color of LED.

DF: default color when LED powered on

The current color will be set as default color when LED is powered on.

e.g. If we send the message “TE” from character 0xFFFC, then send “0,255,0,100,,,,,” from 0xFF1, we will see that the LED turns green color immediately.

If we send the message “DF” when the current LED is in red color, we will see that the LED will turn to red color instead of white color during next powered on.