
Application Note

Description of 2.4G Lighting Control

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Key Words:

2.4G Lighting Control

Brief:

This document provides the description for 2.4G lighting control.



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Revision History

Version 1.0.1 (2019-12-11)

Section	Change Description
2	Revised the description for functions pairing and memory clearance to 'within 6s after a LED is powered on' (previous '5s').

Version 1.0.0 (2019-12-10)

This is the initial release.

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1. Overview

2.4G lighting control consists of a remote and a LED controller, the remote advertises information, the LED controller executes commands after receiving information from the remote.

The remote has 14 keys, including chroma increase and chroma decrease (2 keys), luminance increase and luminance decrease (2 keys), all-on and all-off (2 keys), power on and power off of 4 groups (8 keys in total). When the power key on the remote is pressed, the system will keep its group ID for later chroma and luminance adjustment. For example: if the power key of Group 1 is pressed and no other power key is pressed, when press chroma or luminance adjustment, the group ID 1 will be assigned to the key value. The command the remote advertises is to adjust chroma or luminance of Group 1. If the power off of a group is long pressed, the related group will enter nightlight mode, the luminance is 2%.

After the LED controller is powered on, the system is in pairing state, if no packet is received within 6s, the system will exist the pairing state and enter normal state. If only one power on command is received within 6s and no data is received within the next 500ms, the system will take it as a pairing command. If one power on command is received within 6s and over four power on commands are received within the next 500ms, the system will take it as a memory clearance command.

When the system enter the normal state, it will check every packet it receives to see if the remote ID, and group ID match the saved information. If not match, the system will discard the packet; if match, the system will execute commands.

2. Description of Functions

1. Pairing

Within 6s after a LED is powered on, if the power key on the remote is pressed one time, the remote will be paired with the LED. If the pairing succeeds, the LED will flash three times. After the pairing is completed, the system will enter the normal state.

2. Memory clearance

Within 6s after a LED is powered on, if the power key on the remote is pressed five times successively, the system will clear saved pairing information, the LED will flash five times. The LED can be controlled until next power on and pairing.

3. Power on

When the power key on the remote is pressed, if a LED that has been paired with the remote is powered on, it will keep power on. After power on is pressed, the group ID will be kept for later chroma or luminance commands.

4. Power off/Nightlight mode

If the power off on the remote is pressed less than 2s then bounces, the system will take it as a power off command, if the power off is pressed more than 2s, the system will take it as a nightlight command.

5. Chroma adjustment

For chroma increase and chroma decrease, their group is the group of which the power key is pressed before. When the chroma reaches the maximum value, it's invalid to press chroma increase; when the chroma reaches the minimum value, it's invalid to press chroma decrease.

6. Luminance adjustment

For luminance increase and luminance decrease, their group is the group of which the power key is pressed before. When the luminance reaches the maximum value, it's invalid to press luminance increase; when the luminance reaches the minimum value, it's invalid to press luminance decrease.