

Z-Wave Knob Dimmer Switch User Manual



FCC

Federal Communications Commission (FCC) Statement FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

WARNING

RISK OF FIRE

RISK OF ELECTRICAL SHOCK

RISK OF BURNS

CONTROLLING APPLIANCES:

EXERCISE EXTREME CAUTION WHEN USING Z-Wave™ DEVICES TO CONTROL APPLIANCES. OPERATION OF THE Z-Wave™ DEVICE MAY BE IN A DIFFERENT ROOM THAN THE CONTROLLED APPLIANCE, ALSO ANUNINTENTIONAL ACTIVATION MAY OCCUR IF THE WRONG BUTTON ON THE REMOTE IS PRESSED. Z-Wave™ DEVICES MAY AUTOMATICALLY BE POWERED ON DUE TO TIMED EVENT PROGRAMMING. DEPENDING UPON THE APPLIANCE, THESE UNATTENDED OR UNINTENTIONAL OPERATIONS COULD POSSIBLY RESULT IN A HAZARDOUS CONDITION. FOR THESE REASONS, WE RECOMMEND DO NOT RETURN THIS PRODUCT TO THE STORE THE FOLLOWING: DO NOT USE Z-Wave™ DEVICES TO CONTROL ELECTRIC HEATERS OR ANY OTHER APPLIANCES WHICH MAY PRESENT A HAZARDOUS CONDITION DUE TO UNATTENDED OR UNINTENTIONAL OR AUTOMATIC POWER ON CONTROL.

Specifications

ITEM	INFORMATION
Model	ZKS31
Power Supply	AC 125V 60HZ
Signal(Frequency)	908.42MHz
Range	Up to 100 feet line of sight between the Wireless Controller and the closest Z-Wave™ receiver module.
Operating Temperature Range	5-104° F (-10-40° C)

- Specifications subject to change without notice due to continuing product improvement
- Website:

Introduction

This product can be operated in any Z-Wave network with other Z-Wave Plus™ certified devices from other manufacturers.

All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network. Each module is designed to act as a repeater,which will re-transmit a radio frequency (RF) signal by routing the signal around obstacles and radio dead spots to ensure that the signal is received at its intended destination.

ZKS31 is a security enabled Z-Wave Plus™ device. A security Enabled Z-Wave Plus™ Controller must be used in order to fully utilize the product.

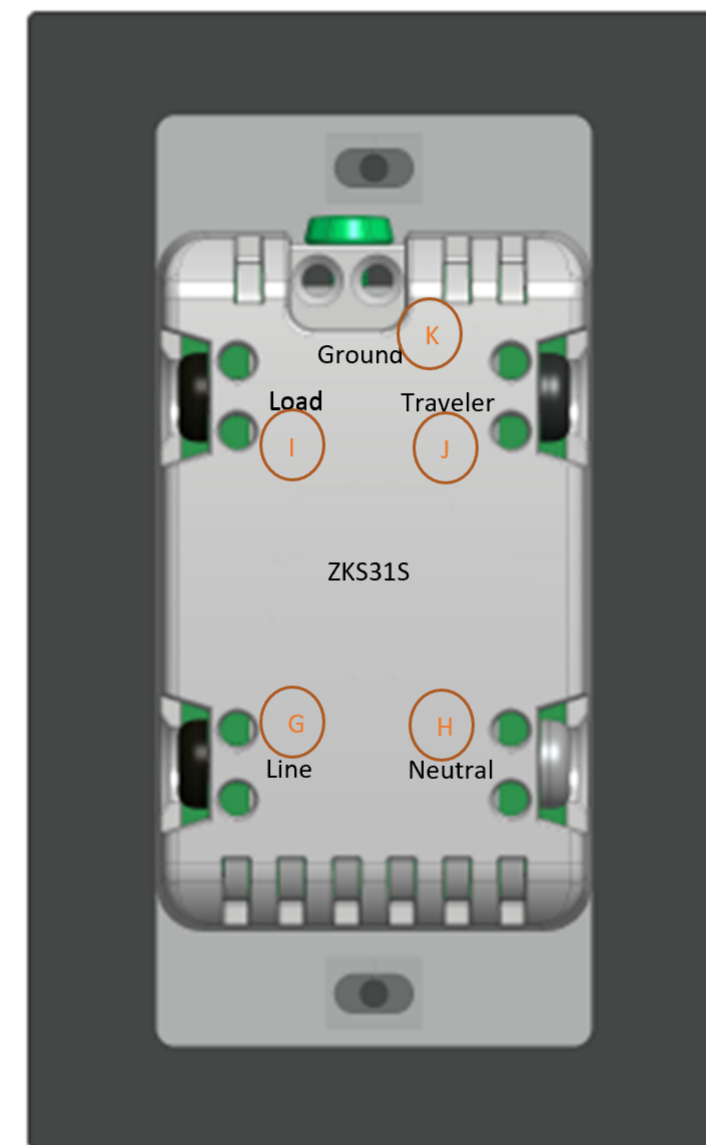
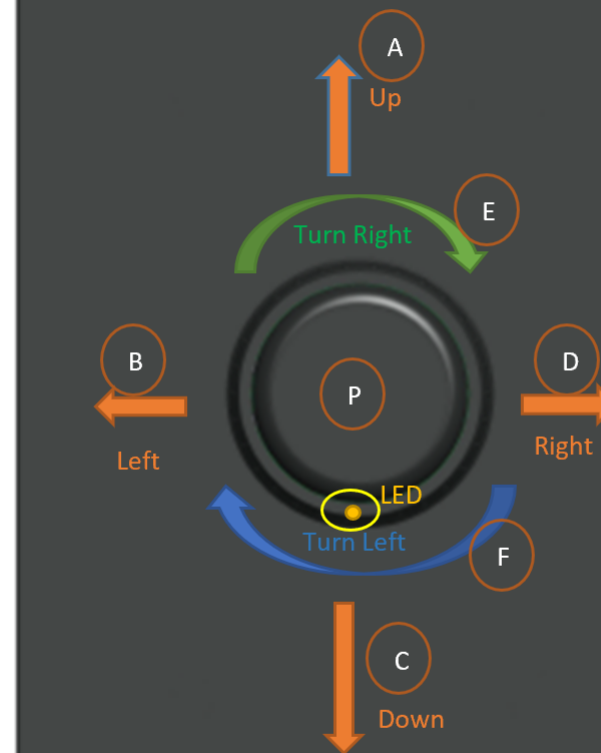
- GENERIC_TYPE: GENERIC_TYPE_SWITCH_MULTILEVEL(0x11)
- SPECIFIC_TYPE: SPECIFIC_TYPE_NOT_USED(0X00)

Key Features

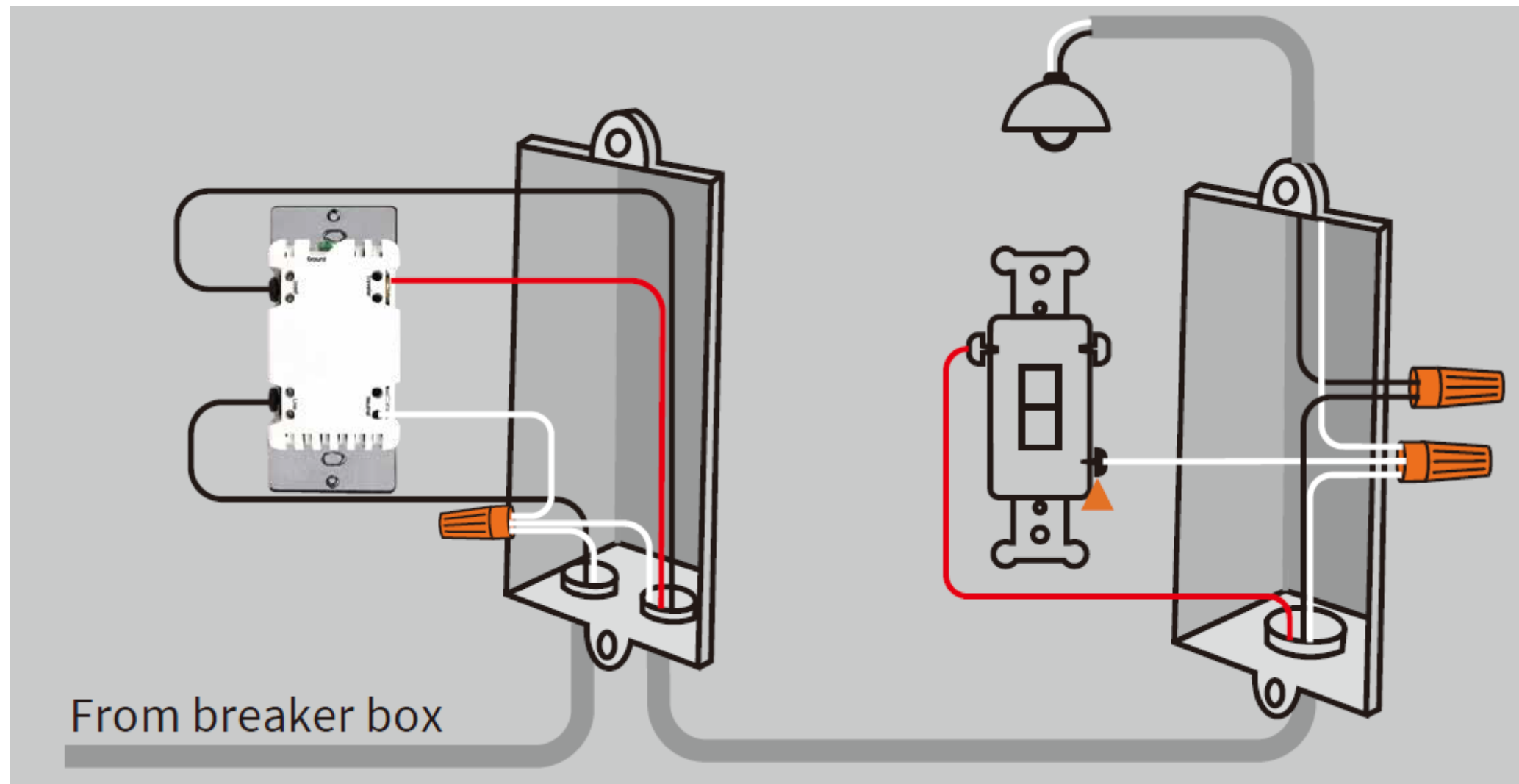
- Remote ON/OFF control via the Z-Wave™ controller
- Manual ON/OFF control with the front panel push button
- Support Association Group and Auto Report switch status
- Support firmware upgrades via Over-the-air (need Gateways support)
- Support Scenes
- Support Smart Start

Product Overview

- A. Up button
- B. Left button
- C. Down button
- D. Right button
- E. Turn Right
- F. Turn Left
- G. Lin (Black) - Line in
- H. Nin (White) - Neutral in
- I. Load
- J. Traveler-3-way (RED)
- K. Ground
- P. Center Button
- LED. Indicator LED



Installation Wiring Diagram



Button Function Description

- press 1x Center button: ON/OFF Load
- Rotate the knob anticlockwise or clockwise : Adjust brightness up/down
- press 3x Center Button : ADD-Inclusion/REMOVE-exclusion.
- Central Scene :
 - Center Button 1x/2x/3x/4x/5x tap/Hold/Release -----scene 1
 - Up Button 1x/2x/3x/4x/5x tap/Hold/Release -----scene 2
 - Down Button 1x/2x/3x/4x/5x tap/Hold/Release -----scene 3
 - Left Button 1x/2x/3x/4x/5x tap/Hold/Release -----scene 4
 - Right Button 1x/2x/3x/4x/5x tap/Hold/Release -----scene 5
- Factory Reset : Press the knob(center) twice and hold for 10 seconds (Tap -> Tap -> Press and hold for 10 seconds) to reset the device. Indicate: RED led will flashes, and then the GREEN led be solid for 2 seconds.

- Node: Please use this procedure only when the network primary controller is missing or otherwise inoperable.

Adding Your Device To Hub

- The device support two methods of inclusion, When using a Z-Wave Plus™ certified controller choose Network Wide Inclusion or Smart Start.
- Network Wide Inclusion To A Z-Wave™ Network
 - Refer to your primary controller instructions to process the inclusion / exclusion setup procedure.
 - When prompted by your primary controller, click the z-wave button one times .
- The device is compatible with Smart Start.

Smart Start enabled products can be added into a Z-Wave™ network by scanning the Z-Wave QR Code found on the top of the outlet or the back of the box with a controller providing Smart Start inclusion. No further action is required and the Smart Start product will be added automatically within 10 minutes of being switched on and in the network vicinity.

QR Code and DSK

- The QR code are stocked to the side of the case, DSK is included in the QR code.
- The DSK code can be found on the DSK label which is attached on the packaging box.

PACKAGE	DEVICE
	

Command Class

Command Class Name	Version	Required Security Class
Z-Wave Plus Info	V2	none
Security 2	V1	none
Supervision	V1	none
Transport Service	V2	none

Command Class Name	Version	Required Security Class
Security	V1	none
Association	V2	highest granted
Association Group Information	V3	highest granted
Multi Channel Association	V3	highest granted
Version	V3	highest granted
Manufacturer Specific	V2	highest granted
Device Reset Locally	V1	highest granted
Power Level	V1	highest granted
Indicator	V3	highest granted
Firmware Update Meta Data	V5	highest granted
Configuration	V4	highest granted
Central Scene	V3	highest granted
Switch Multilevel	V4	highest granted
Basic	V2	highest granted

Basic Set Mapping

- Basic CC is mapped to Switch Multilevel Command Class
 - Basic Set is mapped to Switch Multilevel Set.
 - Basic Report is mapped to Switch Multilevel Report.

Indicator Command Class

- The indicator (blue color) will flashes according the indicator set command received from HUB.

Indicator ID	Property ID
0x50 (NODE IDENTIFY)	0x03(ON OFF PERIOD)
0x50 (NODE IDENTIFY)	0x04(ON OFF CYCLES)
0x50 (NODE IDENTIFY)	0x05(ONE TIME ON OFF PERIOD)

Association Group

Name	Node Count	Profile	Function
Lifeline	5	General: Lifeline	Device Reset Locally Notification: Issued when Factory Reset is performed. Switch Multilevel Report: Issued when output level is changed. Central Scene Notification: Issued when button press or hold or release. Central Scene Configuration Report Indicator Report: Issued when included successfully.
BASIC SET Group 1	5	Profile Control: Control Key 01	Basic Set: Send BASIC_SET to control other device when local device output change.

Configuration Parameters

N u m b e r	Name	Information	Format / Size	Re ad Onl y	Al te ri n g	Ad va nc ed	M I N	M A X	D e f a u l t	Value Description	Change
1	Led Function	Led behavior for output	1 byte unsigned integer	NO	N O	NO	0	3	0	0 - Inverse: Indicator on when output off and off when output on 1 - Synchronize: Same as output 2 - Always Off 3 - Always On	Only can be changed by HUB
2	Led Color	Set led's color	1 bytes unsigned integer	NO	N O	NO	0	6	0	0 - Blue 1 - Green 2 - Red 3 - White 4 - Yellow 5 - Cyan 6 - Magenta	Only can be changed by HUB
3	Led Brightne ss	Set led's brightness	1 bytes unsigned integer	NO	N O	NO	1 0	1 0 0	5 0	10 - 10% 50 - 50% 100 - 100%	Only can be changed by HUB
4	Knob Step	Step value when rotate knob	1 byte unsigned integer	NO	N O	NO	1	1 0	2	1 ~ 10: Rotate once to adjust 1% ~10%	Only can be changed by HUB
5	Up Press Value	Brightness when press up	1 byte unsigned integer	NO	N O	NO	0	2 5 5	1 0 0	0 -Turn off 1~99 -Custom Brightness 100 -Maximum Brightness 101 -Minimum Brightness Others -Turn on	Only can be changed by HUB NOTE: This parameter will be invalid when PARAM#10 value is 0 or 1
6	Down Press Value	Brightness when press down	1 byte unsigned integer	NO	N O	NO	0	2 5 5	2 0	0 -Turn off 1~99 -Custom Brightness 100 -Maximum Brightness 101 -Minimum Brightness Others -Turn on	Only can be changed by HUB NOTE: This parameter will be invalid when PARAM#11 value is 0 or 1

N u m b e r	Name	Information	Format / Size	Re ad Onl y	Al te ri n g	Ad va nc ed	M I N	M A X	D e f a u l t	Value Description	Change
7	Left Press Value	Brightness when press left	1 byte unsigned integer	NO	N O	NO	0	2 5 5	0	0 -Turn off 1~99 -Custom Brightness 100 -Maximum Brightness 101 -Minimum Brightness Others -Turn on	Only can be changed by HUB NOTE: This parameter will be invalid when PARAM#12 value is 0 or 1
8	Right Press Value	Brightness when press right	1 byte unsigned integer	NO	N O	NO	0	2 5 5	2 5 5	0 -Turn off 1~99 -Custom Brightness 100 -Maximum Brightness 101 -Minimum Brightness Others -Turn on	Only can be changed by HUB NOTE: This parameter will be invalid when PARAM#12 value is 0 or 1
9	Center Behavio r	Behavior when press the knob	1 byte unsigned integer	NO	N O	NO	0	1	1	0 -Disable scene 1 -Enable scene	Can be changed by HUB and press button multiple times(See Button Function Description)
10	Up Behavio r	Behavior when push knob up	1 byte unsigned integer	NO	N O	NO	0	3	2	0 -Disable 1 -Only enable scene 2 -Only enable #PARAM 5 3 -Enable both	Only can be changed by HUB NOTE: Default value is 2, user can push the knob down to brightness determined by #PARAM5.
11	Down Behavio r	Behavior when push knob down	1 byte unsigned integer	NO	N O	NO	0	3	2	0 -Disable 1 -Only enable scene 2 -Only enable #PARAM 6 3 -Enable both	Only can be changed by HUB NOTE: Default value is 2, user can push the knob down to brightness determined by #PARAM6.
12	Left Behavio r	Behavior when push knob left	1 byte unsigned integer	NO	N O	NO	0	3	1	0 -Disable 1 -Only enable scene 2 -Only enable #PARAM 7 3 -Enable both	Only can be changed by HUB
13	Right Behavio r	Behavior when push knob right	1 byte unsigned integer	NO	N O	NO	0	3	1	0 -Disable 1 -Only enable scene 2 -Only enable #PARAM 8 3 -Enable both	Only can be changed by HUB
14	Auto Turn Off Timer	Minutes automatically turn off once turned on	4 byte unsigned integer	NO	N O	NO	0	6 5 5 3 5	0	0 -Disable Others -Minutes	Only can be changed by HUB

N u m b e r	Name	Information	Format / Size	Re ad Onl y	Al te ri n g	Ad va nc ed	M I N	M A X	D e f a ul t	Value Description	Change
15	Auto Turn On Timer	Minutes automatically turn on once turned off	4 byte unsigned integer	NO	NO	NO	0	6 5 5 3 5	0	0 -Disable Others -Minutes	Only can be changed by HUB
16	Restore State	State restored when power failure	1 byte unsigned integer	NO	NO	NO	0	2	0	0 -Always Off 1 -Always On 2 -Memory state	Only can be changed by HUB
17	Level Min	Minimum brightness	1 byte unsigned integer	NO	NO	NO	0	9 9	0	0 -Disabled Others -Minimum value	Only can be changed by HUB NOTE: If minimum brightness is more than maximum brightness, this parameter will be invalid.
18	Level Max	Maximum brightness	1 byte unsigned integer	NO	NO	NO	0	9 9	0	0 -Disabled Others -Minimum value	Only can be changed by HUB NOTE: If minimum brightness is more than maximum brightness, this parameter will be invalid.
19	External Switch Type	External switch type	1 byte unsigned integer	NO	NO	NO	0	1	0	0 -Toggle switch 1 -Momentary button	Only can be changed by HUB NOTE: When the external switch is set to be a momentary button, user call dimmer the light by press and hold the button.
20	Rate For Physical On	Rate when turn on manually	1 byte unsigned integer	NO	NO	NO	0	9 9	1	0 -Instantly 1 -1 second Others -other seconds	Only can be changed by HUB
21	Rate For Physical Off	Rate when turn off manually	1 byte unsigned integer	NO	NO	NO	0	9 9	2	0 -Instantly 1 -1 second Others -other seconds	Only can be changed by HUB
22	Rate For Hub On	Rate when turn on by HUB	1 byte unsigned integer	NO	NO	NO	0	2 5 5	2 5 5	0 -Instantly 1 -1 second 255 -Same as #PARAM 20 Others -other seconds	Only can be changed by HUB
23	Rate For Hub Off	Rate when turn off by HUB	1 byte unsigned integer	NO	NO	NO	0	2 5 5	2 5 5	0 -Instantly 1 -1 second 255 -Same as #PARAM 20 Others -other seconds	Only can be changed by HUB

N u m b e r	Name	Information	Format / Size	Re ad Onl y	Al te ri n g	Ad va nc ed	M I N	M A X	D ef a ul t	Value Description	Change
24	Single Tap behavior	Single TAP behavior when turn on the device	1 byte unsigned integer	NO	NO	NO	0	3	0	0 – Turn on to custom brightness determined by PARA#25 1 - Always turn on to 100% 2 - Always turn on to maximum brightness determined by PARA#18 3 -Turn on to last brightness before power off.	Only can be changed by HUB
25	Custom brightness	Custom brightness for TAP behavior	1 byte unsigned integer	NO	NO	NO	1	99	80	Brightness that when turn on the device when PARA#24 set to be 0. NOTE: If the parameter#17 is greater than this parameter's value, the device will be turned on to minimum brightness.	Only can be changed by HUB