

K-Series Keypad

K-ES2 (European Switch Series)



Introduction

The K-Series Keypad is a wall panel built-in with Z-Wave Plus module. With its stylish design and stable performance, the panel can be used to control house-hold electrical appliances like lamp, motor, coffee machine, TV set etc. It supports basic command class, multi channel command class and multi channel association command class, also works as a repeater in a Z-Wave network. The device can be included and operated in any Z-Wave network with other Z-Wave certified devices from any other manufacturers.

Specification

- Premium PC finish

- Dimensions: 86*86*37mm
- Push-button, natural and comfortable push feedback
- Led indicator and icon backlight
- Arctic white, Space gray, Dark black
- Power Supply: AC85~260V, 50/60Hz
- 700 series, S2 security
- Z-Wave Frequency: Operating frequency range, defined by the regulatory bodies (for Z-wave in Europe: 868.0 - 868.6 MHz, 869.7 - 870.0 MHz)
- Maximum Transmitting Power: +3dBm
- Active Element: Relay switch μ
- Over Current Protection: K-ES2 required external 15A circuit breaker

Item	Model	Max Load (Resistive)	Max Load (Capacitive/Inductive)
K-Series	K-ES2	2*5A	2*2A



- Declaration of Conformity



Hereby, we declare that the device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

- WEEE Directive Compliance



The device marked with this symbol should not be disposed of with household waste. It is the user's responsibility to deliver the used appliance to a designated recycling point.

- Z-Wave Compliance



K-Series keypad is a fully compatible Z-Wave Plus device.

Important Safety Instruction

- Read the instructions before starting up the unit!
- This product is not a toy. Keep out of reach of children and animals!
- Do not expose the device to moisture, water or other liquids. Do not place liquids near or on the device!
- Do not attempt to disassemble, repair or modify the device yourself!
- This product is for indoor use only. Do not use outdoors!

CAUTIONS!

- Flush-mount only into a UL/ETL/CE certified plastic junction box. The minimum size should be 65*65*45mm, minimum Volume is 190cm³. Use Copper Conductors Only.

CAUTIONS!

- Risk of Electric Shock - More than one disconnect switch may be required to de-energize the equipment before servicing.

Installation

IMPORTANT:

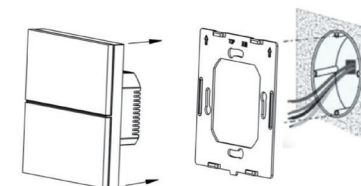
- A qualified electrician with the understanding of wiring diagrams and knowledge of electrical safety should complete the installation inside the main circuit box (normally outside your house).
- Read all instructions and documentation and save for future reference.

Preparing

CAUTIONS!

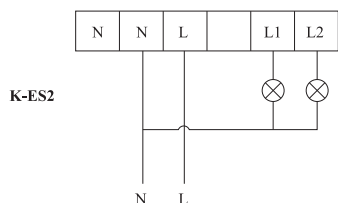
- Cut off power supply at circuit breaker or fuse before installation to avoid fire, shock or death!

Installation



- Step 1:** Separate the device into two parts: the touch panel and the bottom.
- Step 2:** Insert all wires into the right terminals by following the wiring diagrams as below, and tighten screws.
- Step 3:** Secure the bottom part onto a junction box with screws, and then mount the touch panel back.
- Step 4:** Confirm the device is well mounted, power on and it is ready to operate.

Wiring(standard strip length: 6-8mm)



Device Type	GENERIC_TYPE_SWITCH_BINARY
Supported command class	COMMAND_CLASS_ZWAVEPLUS_INFO COMMAND_CLASS_ASSOCIATION COMMAND_CLASS_ASSOCIATION_GRP_INFO COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION COMMAND_CLASS_SWITCH_BINARY

Correspondence between key and endpoint number:

- First key correspond to endpoint 1.
- Second key correspond to endpoint 2.

Multi endpoint command format:

Byte	Name
1	COMMAND_CLASS_MULTI_CHANNEL
2	MULTI_CHANNEL_CMD_ENCAP
3	Source EndPoint
4	Destination EndPoint
5	COMMAND_CLASS_SWITCH_BASIC or COMMAND_CLASS_SWITCH_BINARY
6	BASIC_SET/BASIC_GET or BINARY_SET/BINARY_GET
7	Value (0xFF -- ON 0x0 - OFF)

Multi Channel Association:

AG Identifier (Root)	Max Node	Mapped Endpoint Group	Command Class	Trigger Situation
1	1 (EPs Max node is 0)	all endpoints	COMMAND_CLASS_SWITCH_BINARY, SWITCH_BINARY_REPORT	1. Shortpress any key for one time, the output state changes. 2.Receive BASIC_SET or BINARY_SET Command from gateway
		all endpoints	COMMAND_CLASS_DEVICE_RESET_LOCALLY, DEVICE_RESET_LOCALLY_NOTIFICATION	Touch any key 20 times in succession
		all endpoints	COMMAND_CLASS_CENTRAL_SCENE, CENTRAL_SCENE_NOTIFICATION	Short press any key for one time
2	5	EP1 group 2	COMMAND_CLASS_BASIC, BASIC_SET	Short press first button
3	5	EP1 group 2	COMMAND_CLASS_BASIC, BASIC_SET	Short press second button

Root Device:

- The gateway controls the root device to open, all end points will open
- The gateway controls the root device to close, all end points will close
- When End Point 1 opened, it will report opening status to root device.
- When End Point 1 closed, it will report closing status to root device.

Association: K-ES2 supports 3 association groups (AG):

AG Identifier	Max Node	Command Class	Trigger Situation
1	1	COMMAND_CLASS_SWITCH_BINARY, SWITCH_BINARY_REPORT	1.Short press any key for one time, the output state changes. 2.Receive BASIC_SET or BINARY_SET Command from gateway
		COMMAND_CLASS_CENTRAL_SCENE, CENTRAL_SCENE_NOTIFICATION	Short press any key for one time
		COMMAND_CLASS_DEVICE_RESET_LOCALLY, DEVICE_RESET_LOCALLY_NOTIFICATION	Touch any key 20 times in succession
2	5	COMMAND_CLASS_BASIC, BASIC_SET	Short press first button
3	5	COMMAND_CLASS_BASIC, BASIC_SET	Short press second button

Multi Channel Control:

The switch can be controlled by command "MULTI_CHANNEL_ENCAP" in the command class "COMMAND_CLASS_MULTI_CHANNEL".

Multi-Panels (up to 5) Controlling 1-Load :

For example: Five K-ES2 and their Node IDs are: A-012, B-013, C-014, D-015, E-016

1. Wire the load to any of the panel.
2. Put all the other 4 panels NIDs: 013,014,015,016 into **A's** AG2
3. Put all the other 4 panels NIDs: 012,014,015,016 into **B's** AG2
4. Put all the other 4 panels NIDs: 012,013,015,016 into **C's** AG2
5. Put all the other 4 panels NIDs: 012,013,014,016 into **D's** AG2
6. Put all the other 4 panels NIDs: 012,013,014,015 into **E's** AG2

Scene Function:

1. Scene Response Device

As a Scene Response device, it supports "Scene Activation CC" and "Scene Actuator Conf CC" ,which make the device can be added into any scene , and supports 100 Scene ID. In parameter item 50-55, users can configure which external switch button will respond the scene CC.

2. Scene Activate Device

As a Scene Activate device, when pressing the switch button, it will send "Scene Activation" to Association Group 1 (normally associated to the gateway) to activate corresponding scenes, and the scene ID is set by configuration parameter. This function is disabled by default, to activate it, please refer to the configuration parameter table item 30-35.

3. Central Scene Activate Device

As a Central Scene Activate device, it supports "Central Scene CC". When pressing the switch button, it will send "Central Scene Notification" to Association Group 1 (normally associated to gateway). This function is always being activated and cannot be disabled.

Parameter Setting:

Number (Dec)	Function	Size	Description	Default (Dec)	Possible Values(Dec)
1	Switch State Saved Or Not When Power Failure	1	0: Not saved , switch will be offwhen powered again 1: Saved , switch will keep the same state when powered again	1	0-1
2	White LED Backlit Brightness Level	1	0: LED disabled 1~10: Min level-Max level	10	0-10
3	Blue LED Backlit Brightness Level	1	0: LED disabled 1~10: Min level-Max level	10	0-10
4	Disable Local Control	1	0: All keys are valid for local control 1: All keys are invalid for local control	0	0-1
5	Disable Remote Control	1	0: All keys are valid for remote(gateway) control 1: All keys are invalid for remote(gateway) control	0	0-1
6	All Keys Mode	1	0: Single click to switch on/off state 1: Key default as OFF state. When it is turned on, it will be turned off automatically after a time period, which can be set from Parameter 11. 2: Key default as ON state. When it is turned off,it will be turned on automatically after a time period, which can be set from Parameter 11. 3: Hold the key then key is on, and off once released 4: Hold the key>3s then switch on/off state	0	0-4
7	Key1 Mode	1	0: Single click to switch on/off state 1: Key default as OFF state. When it is turned on, it will be turned off automatically after a time period, which can be set from Parameter 11,12 2: Key default as ON state. When it is turned off, it will be turned on automaticallyafter a time period, which can be set from Parameter 11,12 3: Hold the key then key is on, and off once released 4: Hold the key>3s then switch on/off state	0	0-4
8	Key2 Mode	1	0: Single click to switch on/off state 1: Key default as OFF state. When it is turned on,it will be turned off automatically after a time period , which can be set from Parameter 11, 13 2: Key default as ON state. When it is turned off,it will be turned on automatically after a time period, which can be set from Parameter 11, 13 3: Hold the key then key is on, and off once released 4: Hold the key>3s then switch on/off state	0	0-4
11	All Keys On/Off State Duration	2	0: Infinite 1~32767 Unit "sec"	0	0~32767
12	Key1 On/Off State Duration	2	0: Infinite 1~32767 Unit "sec"	0	0~32767
13	Key2 On/Off State Duration	2	0: Infinite 1~32767 Unit "sec"	0	0~32767
30	Key3 Mode Setting	1	0: All ON/OFF switching 1: For activate Scene	0	0-1
31	Single Click Key3 To Activate Scene ID1	1	0: Disabled 1~100: Scene ID	0	0-100
32	Key3 Activate Scene Duration	1	0: Instantly 1~127: Delay n*1 sec to activate scene -1 ~ -127: Delay (n+128) min to activate scene	0	0-127 , -1 ~ -127
33	Key4 Mode Setting	1	0: All ON/OFF switching 1: For activate Scene	0	0-1
34	Single Click Key4 To Activate Scene ID1	1	0: Disabled 1~100: Scene ID	0	0-100

Number (Dec)	Function	Size	Description	Default (Dec)	Possible Values(Dec)
35	Key4 Activate Scene Duration	1	0: Instantly 1~127: Delay n*1 sec to activate scene -1 ~ -127: Delay (n+128) min to activate scene	0	0-127 , -1 ~ -127
50	Scene Respond (ID 1-100)	1	0: Scene respond disabled 1: Key1 respond scene:Key2Key3 Key4 not respond scene 2: Key2 respond scene:Key1 Key3 Key4 not respond scene 3: Key1 and Key2respond scene:Key3 Key4not respond scene	0	0-3,
51	Scene Respond (ID 1-20)	1			
52	Scene Respond (ID 21-40)	1			
53	Scene Respond (ID 41-60)	1			
54	Scene Respond (ID 61-80)	1			
55	Scene Respond (ID 81-100)	1			
255	Factory setting	1	85 Restore factory setting	0	85

Restoring Factory Settings

Restoring Factory Settings Press 20 times of any button or exclude the device from Z-Wave network, the factory setting will be restored.

1-Year Limited Warranty

We warrant this product to be free from defects in material and workmanship under normal and proper use for one year from purchase date of the original purchaser. We will, at its option, either repair or replace any part of its products that prove defective by reason of improper workmanship or materials. THIS LIMITED WARRANTY DOES NOT COVER ANY DAMAGE TO THIS PRODUCT THAT RESULTS FROM IMPROPER INSTALLATION, ACCIDENT, ABUSE, MISUSE, NATURAL DISASTER, INSUFFICIENT OR EXCESSIVE ELECTRICAL SUPPLY, ABNORMAL MECHANICAL OR ENVIRONMENTAL CONDITIONS, OR ANY UNAUTHORIZED DISASSEMBLY, REPAIR OR MODIFICATION. This limited warranty shall not apply if: (i) the product was not used in accordance with any accompanying instructions, or (ii) the product was not used for its intended function. This limited warranty also does not apply to any product on which the original identification information has been altered, obliterated or removed, that has not been handled or packaged correctly, that has been sold as second-hand or that has been resold contrary to Country and other applicable export regulations.