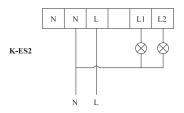# K-Series Keypad

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

Wiring(standard strip length: 6-8mm)

Z-Wave Operation

INCLUSION/EXCLUSION From Z-Wave Network:

1. Set controller into Add/Remove mode. Follow instructions provided by controller manufacturer.
2. Press and hold any key on the panel for 8 seconds or 3 clicks in quick succession.
Note: If the INCLUSION/EXCLUSION is successful, all INDICATION LEDs on the panel will flash 4 times. The exclusion will delete all association data.

Turning On/Off The Device:

The device can be controlled by:
- Pressing any key.
- Sending commands through controller or gateway.（the command classes which support this function are Basic Command Class, Binary Command Class,and Multi Channel Command Class.）

Multi Channel Control:

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

- 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**

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:

1. First key correspond to endpoint 1.
2. 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)

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

Multi Channel Association:

AG Identifier (Root)	Max Node ID	Mapped Endpoint Group	Command Class	Trigger Situation
1	1	all endpoints	COMMAND_CLASS_SWITCH_BINARY_V2, SWITCH_BINARY_REPORT_V2	1. Short press 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
2	5	EP1 group 2	COMMAND_CLASS_BASIC, BASIC_SET_V2	Short press first button, the output state changes
3	5	EP1 group 2	COMMAND_CLASS_BASIC, BASIC_SET_V2	Short press second button, the output state changes
4	5	EP1 group 2	COMMAND_CLASS_SCENE_ACTIVATION, SCENE_ACTIVATION_SET	Parameter 30 set to 1, click third button when parameter 31 is not set to 0.
5	5	EP1 group 2	COMMAND_CLASS_SCENE_ACTIVATION, SCENE_ACTIVATION_SET	Parameter 33 set to 1, click fourth button when parameter 34 is not set to 0.

Root Device:

1.The gateway controls the root device to open, all end points will open

2.The gateway controls the root device to close, all end points will close

3.When End Point 1 opened, it will report opening status to root device.

4.When End Point 1 closed, it will report closing status to root device.

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).
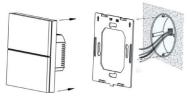- Read all instructions and documentation and save for future reference.

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 junctionbox with screws, and then mount thetouch panel back.
- **Step 4:** Confirm the device is well mounted, power on and it is ready to operate.

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

AG Identifier	Max Node ID	Command Class	Trigger Situation
1	1	COMMAND_CLASS_SWITCH_BINARY_V2 , SWITCH_BINARY_REPORT_V2	1. Short press any key for one time, the output state changes. 2.Receive BASIC_SET or BINARY_SET Command from gateway
		COMMAND_CLASS_DEVICE_RESET_LOCALLY, DEVICE_ RESET_LOCALLY_NOTIFICATION	Touch any key 20 times in succession
2	5	COMMAND_CLASS_BASIC , BASIC_SET_V2	Short press first button, the output state changes
3	5	COMMAND_CLASS_BASIC , BASIC_SET_V2	Short press second button, the output state changes
4	5	COMMAND_CLASS_SCENE_ACTIVATION , SCENE_ACTIVATION_SET	Parameter 30 set to 1, click third button when parameter 31 is not set to 0.
5	5	COMMAND_CLASS_SCENE_ACTIVATION , SCENE_ACTIVATION_SET	Parameter 33 set to 1, click fourth button when parameter 34 is not set to 0.

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

Number (Dec)	Function	Size	Description	Default (Dec)	Possible Values(Dec)
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
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