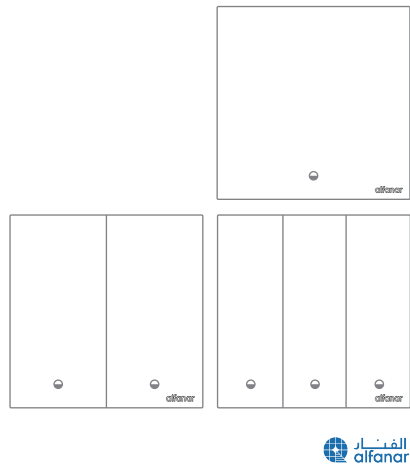


MASA SMART SWITCH 1G/2G/3G

SZWRBF101 / SZWRBF201 / SZWRBF301



INTRODUCTION

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

This user guide is designed for the alfanar MASA SMART range of smart switches, including 1G, 2G, and 3G models with push-button operation. These switches connect to the alfanar Smart platform for remote monitoring and control.

A MASA smart switch is a wireless switch that uses Z-Wave communication topology to connect and control lighting devices in smart home or building automation systems.

All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

PRODUCT FEATURES

MASA smart switches are designed primarily for lighting control applications and can be used with a variety of light sources, including conventional incandescent, halogen, LED and fluorescent lamps. Operation can be performed via a physical push (toggle) button or remotely through alfanar Smart Home (mobile application) connected to an alfanar Z-Wave enabled gateway (or alfanar listed gateway).

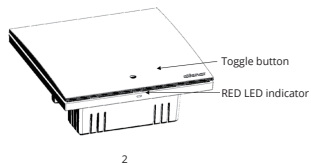
The switches use Z-Wave 800-series communication technology, operating on a mesh network with AES-128 encryption, ensuring a secure connection with an indoor range of up to 30 meters.

This product includes built-in features such as short circuit protection, input overvoltage protection, thermal protection, and surge protection. Additionally, it is equipped with SmartStart for easy installation and Zero Crossing Detection for enhanced performance.

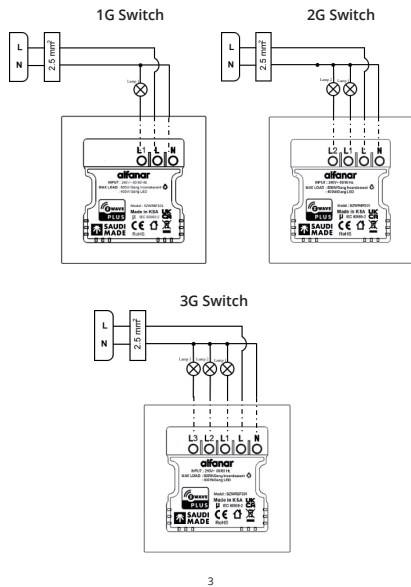
TECHNICAL SPECIFICATIONS

Power supply	AC 240V~50/60 Hz
Standby power consumption	<1 W
Product Category	Smart Switch - Lighting Application
Radio Protocol	Z-Wave® (800 Series)
Certifications	CE, Z-Wave Plus & RoHS
Relay Type	1G: - 1X High Power Relay (16A) 2G: - 2X High Power Relay (16A) 3G: - 3X High Power Relay (16A)
Z-Wave frequency	868.4 MHz
Z-Wave Network Type	Mesh
Encryption method	AES128
Network security	S0, S2 Unauthenticated, S2 Authenticated
Range	Up-to 30m Indoor
Inbuilt Protection	Short Circuit / Input Overvoltage / Thermal / Surge
Rated LOAD (@240V)	800W /gang - Incandescent 400W /gang - LED
Dimension (L*W*H)	86 × 87 × 35 mm
Operating Condition	Temp: -20°C to 60°C, Humid: 20% ~ 85%

DEVICE LAYOUT



WIRING DIAGRAM



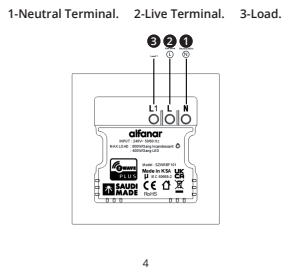
INSTALLATION

IMPORTANT: Refer to safety instruction before commencing work.

1. Turn off the mains electricity supply.
2. Select an appropriate flush-mounting wall box for the module (minimum depth of 35 mm required).

NOTE When using a box with four mounting lugs, you may need to flatten the top and bottom lugs.

3. Ensure the product is mounted on a flat, even surface in the vertical orientation.
4. The recommended conductor size is 2.5 mm². Strip back the outer cable sheath and trim the inner cables to the appropriate length so the cable ends can reach the terminals. Carefully strip the inner cable insulation to expose 8 mm of wire.
5. Make the connection as per the wiring diagram provided w.r.t switch gang.



6. Dismantle rocker clip-on from the product by using screwdriver to mount. (shown in image below).
7. Screw the product in the Mounting box as shown in below picture. Screw size: M3.5 x 30mm.
8. For module inclusion refer. device configuration.
9. Check the working operation of the Switch module.

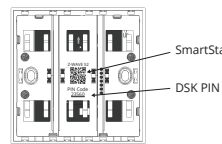
DEVICE CONFIGURATION

1. Z-Wave Inclusion (Adding switch module to the network)

To add the device to the Z-Wave network manually:

- a. Place the device within the range of Z-Wave gateway.
- b. Power ON the device.

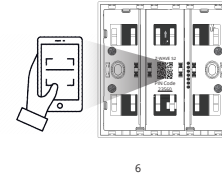
- c. Set the main gateway to (Security/Non-Security Mode) and enable the Add/Inclusion mode (refer to the gateway's manual for instructions).
- d. Press push button for 3 consecutive clicks.
- e. If adding Security S2 Authenticated mode, enter the DSK PIN or scan the SmartStart QR code (located on the as shown below image).



- f. The Indicator LED will blink (1 second ON & 1 second OFF simultaneously) until the inclusion process complete or timeout.
- g. Successful inclusion will be confirmed by Z-Wave gateway. (Check update in the gateway APP).

1.2 SmartStart

SmartStart enabled products can be added into a Z-Wave network by scanning the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion.



SmartStart product will be added automatically within 10 minutes of being switched on in the network range.

To add the device to the Z-Wave network using SmartStart:

- a. The gateway must support Security S2 (refer to the gateway's manual).
- b. Enter the full DSK string code into your gateway. If your gateway supports QR scanning, scan the SmartStart QR code on the switch device.
- c. Ensure power supply for the switch module.
- d. Wait for the inclusion process to begin (this may take a few minutes). The switch device will automatically connect to the gateway.
- e. Successful inclusion will be confirmed by Z-Wave gateway. (Check update in the gateway APP).

Note:

In case of any issue to include the device with Z-Wave network, factory reset the switch device and include again in the network.

2. Z-Wave Exclusion (Removing switch module from the network)

To remove the device from the Z-Wave network:

- a. Set the main Z-Wave Gateway into exclusion/remove mode (see the gateway's manual).
- b. Press push button for 3 consecutive clicks.
- c. The indicator LED will blink (1 second ON & 1 second OFF simultaneously) until the exclusion process to complete or timeout.
- d. The Z-Wave gateway will confirm successful exclusion.

Also, Factory Reset will remove devices from the Z-Wave Network.

3. Factory Reset

To do a factory reset, press any button for 10 consecutive clicks.

The indicator LED will blink three times to show the successful Reset.

After successful completion of Reset, the switch device will exclude from the Z-Wave network & all configuration parameters set to default value (factory setting).

Note:

In the event of an issue with Inclusion, reset the switch to its factory settings. Please use this procedure only when the network's primary controller is missing or otherwise inoperable.

4. Switch Operations

4.1 Switch Control

The switch can be locally controlled using the toggle (rocker) switch. Any local actions performed on the switch will be communicated to the gateway via the Z-Wave network.

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- During the power restart, the LED indicator will blink 3 times.
 - The respective toggle switch is used to control the ON and OFF state of connected load.
- 4.2 Over Input Voltage Protection**
- If AC input voltage exceeds the threshold value, the switch will turn

OFF the load & start blinking the Indicator LED followed by sending input-over voltage command to the Gateway.

For more details, refer to the command class and parameter documentation.

4.3 Over Temperature Protection

If internal temperature exceeds the threshold value, the switch will turn OFF the load & start blinking the Indicator LED followed by sending over temperature notification command to the Gateway (Refer user guide document for more details for configuration parameters).

For more details, refer to the command class and parameter documentation.

4.4 Notification

Value	Type	EVENT	EVENT/STATE
0x0	NOTIFICATION_EVENT_POWER_MANAGEMENT	NOTIFICATION_EVENT_POWER_MANAGEMENT_NO_EVENT	State
0x7	NOTIFICATION_EVENT_POWER_MANAGEMENT	NOTIFICATION_EVENT_POWER_MANAGEMENT_OVERVOLTAGE_DETECTION	State
0x0	NOTIFICATION_EVENT_HEAT_ALARM	NOTIFICATION_EVENT_HEAT_ALARM_NO_EVENT	State
0x2	NOTIFICATION_EVENT_HEAT_ALARM	NOTIFICATION_EVENT_HEAT_ALARM_OVERHEAT_DETECTED	State
0x5	NOTIFICATION_EVENT_SYSTEM	NOTIFICATION_EVENT_SYSTEM_HEARTBEAT	Event

4.5 Command Classes

• Root Devices

Command Class	Version	Required Security Class
Association	2	Highest granted
Association Group Information (AGI)	3	Highest granted
Basic	2	Highest granted
Configuration	4	Highest granted
Device Reset Locally	1	Highest granted
Firmware Update Meta Data	5	Highest granted
Indicator	3	Highest granted
Manufacturer Specific	2	Highest granted
Multi Channel	4	Highest granted
Multi Channel Association	3	Highest granted
Notification	8	Highest granted
Powerlevel	1	Highest granted
Security	1	None
Security 2	1	None
Supervision	1	None
Binary Switch	2	Highest granted
Transport Service	2	None
Version	3	Highest granted
Z-Wave Plus Info	2	None

• EP1- EP3

Command Class	Version	Required Security Class
Association	2	Highest granted
Association Group Information (AGI)	3	Highest granted
Multi Channel Association	3	Highest granted
Notification	8	Highest granted
Security	1	None
Security 2	1	None
Supervision	1	None
Binary Switch	2	Highest granted
Z-Wave Plus Info	2	None

4.6 Association Information

• Root Devices

ID	Name	Node Count	Profile	Function
1	Lifeline	5	General:Lifeline	Device Reset Locally Notification Indicator Report Switch Binary Report

• EP1- EP3

ID	Name	Node Count	Profile	Function
1	Lifeline	0	General:Lifeline	Notification Switch Binary Report

4.7 Configuration Information

Parameter Number	Function	Byte	Default	Options
1	AC zero-crossing detection	1	1	Switch operates at zero crossing 0: Disable 1: enable
2	Over-Temp Protection Threshold	4	100	Over-Temp Protection Threshold in °C 0: Disable 1, 120: Over-Temp Protection Threshold
3	Over-Voltage Protection Threshold	4	270	Over-Voltage Protection Threshold in volt 0: Disable 1, 280: Over-Voltage Protection Threshold
4	Restore state after power failure	1	0	0: Disable 1: Enable
5	Indicator LED Enable / Disable	1	1	0: Disable 1: Enable
6	LED Indicator Mode	1	0	0: Switch state (Turn On LED when Load is On, Turn Off LED when Load is Off) 1: 1-Locator Mode(Turn On LED when the load is Off, Turn Off LED when the load is On)
7	Factory Reset switch	1	0	Write 0x55(85) to restore factory setting
8	Disable Local Control	1	0	0: Local Control Active 1: Local control Disable
9	Disable Remote control	1	0	0: Remote Control Active 1: Remote control Disable
10	Key Mode	1	0	0:Single click to switch on/off state 1: Key default as off state. When it is turned on, then it will be turned off automatically after a time period, which can be set in item 14 3: Hold the key is on, off once released.
11	Key1 Mode	1	0	1G/2G/3G 0:Single click to switch on/off state 1: Key default as off state. When it is turned on, then it will be turned off automatically after a time period, which can be set in item 14 3: Hold the key is on, off once released.

12	Key2 Mode	1	0	time period, which can be set in item 15. 2: Key default as on state. When it is turned off, then it will be turned on automatically after a time period, which can be set in item 15 3: Hold the key is on, off once released. 4: If key is off, hold>3s then key is ON, and it remains ON after release. If key is on, hold>3s then key is OFF, and it remains OFF after release.
13	Key3 Mode	1	0	2G/3G 0:Single click to switch on/off state 1: Key default as off state. When it is turned on, then it will be turned off automatically after a time period, which can be set in item 16 2: Key default as on state. When it is turned off, then it will be turned on automatically after a time period, which can be set in item 16 3: Hold the key is on, off once released. 4: If key is off, hold>3s then key is ON, and it remains ON after release. If key is on, hold>3s then key is OFF, and it remains OFF after release.
14	On/Off State Duration	2	0	0x00:Infinite 1-32767 unit "sec"
15	On/Off State Duration for Key1	2	0	1G/2G/3G 0x00:Infinite 1-32767 unit "sec"
16	On/Off State Duration for Key2	2	0	2G/3G 0x00:Infinite 1-32767 unit "sec"
17	On/Off State Duration for Key3	2	0	3G 0x00:Infinite 1-32767 unit "sec"

4.8 Indicator Command Class

The indicator (red 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)

4.9 BASIC Command Class Mapping

For the 1G Switch

Basic Command Class is set to endpoint channel map to the binary switch command class

For the 2G&3G Switch

The Basic Command Class set to Endpoint 0 indicates an 'All ON/OFF' command. The Basic Command Class is set to the endpoint channel mapped to the binary switch command class

SAFETY INSTRUCTIONS

WARNINGS (Electrical Shock Hazard) Read the instructions before installing the unit.

1. To reduce the risk of electrocution, always turn OFF the mains electricity supply before starting any installation work on this product.
2. This product is intended for indoor use only. Do not expose it to moisture, water or other liquids. Avoid direct sunlight and heat exposure.

3. To ensure safe installation, a qualified electrician must install this product in accordance with the following instructions and be familiar with wiring regulations.

- If the mounting box includes an earth terminal, it must be connected to the circuit's protective (earth) wire. All bare earth wires must be covered with insulating tape.
- It is essential that all connections are made as instructed, the cable is not under stress, and the terminal screws are fully tightened.

CAUTION (Improper Use Can Cause Product Failure)

4. The use of non-standard cables and connectors may lead to device malfunctions. Always use original, high-quality cables and connectors to prevent issues.

5. Failure to follow the recommendations in this manual may result in safety hazards or legal violations. The manufacturer, importer, distributor, and seller are not responsible for any loss or damage caused by non-compliance with the instructions in this manual or any other provided materials.

Use this equipment only for its intended purpose. Follow proper disposal guidelines and do not dispose of electronic equipment in fire or near open heat sources.

MAINTENANCE AND DISPOSAL

The product may be cleaned with a dry soft lint free cloth. Do not use water or any abrasive, solvent based or aerosol cleaners as this may damage, discolor or affect the finish and safety of the product. At the end of their useful life the packaging, product should be disposed of via a suitable recycling center. Do not dispose of with your normal household waste. Do not burn.

The symbol indicates that the product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.

WARRANTY

The company undertakes to replace or repair, at its discretion, this product should it become defective within a period of 2 years after delivery, solely because of faulty materials and /or workmanship. Understandably, if the product has not been installed or maintained in accordance with the company's instructions, it has not been used appropriately, or if any attempt has been made to rectify, dismantle or alter the product in any way, the warranty will be invalidated.

