# MZ-ASW1 / ASW2
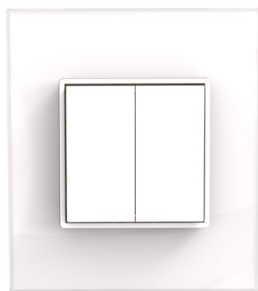## Self Powered Wireless Switch

## Product Images
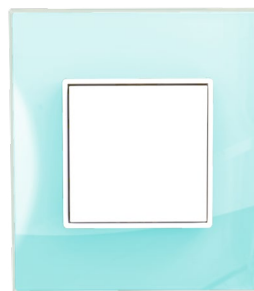
**Proudly Made In America**

| MZ-ASW2-WW | MZ-ASW1-GW | MZ-ASW1-MW | MZ-ASW2-GB |

## Product Overview

### Description

The light switch is a battery free wireless transmitter that communicates with a wide variety of receivers. Every time the light switch is pressed, a small micro generator produces a small electrical current that powers a built in transmitter. This transmitter sends wireless signals that command the relay/receiver to turn a device ON or OFF. With an appropriate receiver, the switch can even be used to control the dimming of lights.
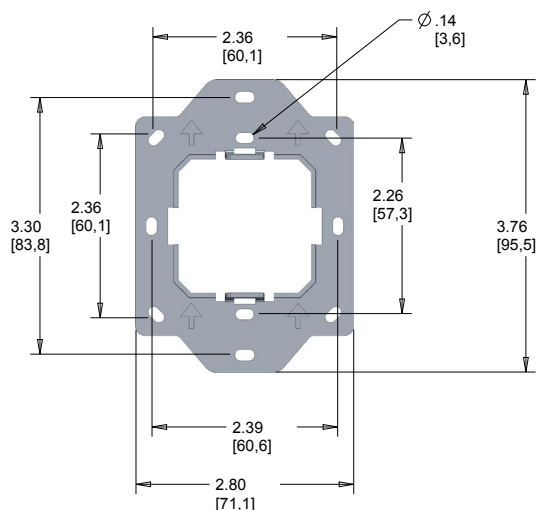
### Planned Radio Certifications

R&TTE (Europe) / FCC (US) / IC (Canada)

### Security Advice

**CAUTION:** The installation and assembly of electrical equipment may only be performed by a skilled electrician. The modules must not be used in any relation with equipment that supports, directly or indirectly, human health or life or with applications that can result in danger for people, animals or real value.

### Base Plate Dimensional Drawings

## Technical Specifications

| | |
|---|---|
| Part Numbers | **SINGLE SWITCH PART NUMBERS:**<br>MZ-ASW1-WW (exterior white acrylic frame and interior white switch)<br>MZ-ASW1-WB (exterior white acrylic frame and interior black switch)<br>MZ-ASW1-GB (exterior gun metal acrylic frame with interior black switch)<br>MZ-ASW1-GW (exterior gun metal acrylic frame with interior white switch)<br>MZ-ASW1-MB (exterior mint green acrylic frame with interior black switch)<br>MZ-ASW1-MW (exterior mint green acrylic frame with interior white switch)<br>MZ-ASW1-BW (exterior black acrylic frame with interior white switch)<br>MZ-ASW1-BB (exterior black acrylic frame with interior black switch)<br><br>**DOUBLE SWITCH PART NUMBERS:**<br>MZ-ASW2-WW (exterior white acrylic frame and interior white switch)<br>MZ-ASW2-WB (exterior white acrylic frame and interior black switch)<br>MZ-ASW2-GB (exterior gun metal acrylic frame with interior black switch)<br>MZ-ASW2-GW (exterior gun metal acrylic frame with interior white switch)<br>MZ-ASW2-MB (exterior mint green acrylic frame with interior black switch)<br>MZ-ASW2-MW (exterior mint green acrylic frame with interior white switch)<br>MZ-ASW2-BW (exterior black acrylic frame with interior white switch)<br>MZ-ASW2-BB (exterior black acrylic frame with interior black switch) |
| Integrated Radio Transmitter | PTM215ZE |
| Energy Harvesting Source | Electrodynamic energy generator, maintenance free |
| Transmission Range | typ. 328 ft (100 m) free field / 32.8 ft (10 m) indoor |
| Dimensions | 3.69" (W)  x  4.19" (H)  x  .56" (H)<br>(93.73 mm  x  106.43 mm  x  14.22 mm)<br>*Base plate dimensional drawing are on page  1* |
| Total Installation Height | .55" (14 mm) Frame lies directly against the wall |
| Installation | Glued (double-sided mounting film enclosed) or screwed onto flat surface |
| Color Variants | White, Anthracite, Aluminum Varnished |
| Rocker Variants | 2 channel (= 1 rocker with medial position),<br>4 channel (= 2 rockers) |
| Labeling Variants | Light („0" and „1")<br>Roller Blind („>" and „<")<br>w/o label |
| Operating Travel / Operating Force | Approx. 2mm / 7N (at room temp.) |
| Switching Cycles | > 50.000 operations according to EN 60669 / VDE 0632 |
| Humidity | 0-95% r.h., no condensing (for dry environment only) |
| Temperature Range (operation): | from -13°F to 149°F (-25 to + 65°C) |

## Installation

### Mounting Advice

The wireless switch can be combined with frames of Berker (S1, B1, B3, B7 Glas), Gira (Standard55, E2, Event, Esprit), Jung (A500, Aplus) and Merten (M-Smart, M-Arc, P-Plan).

The switch frames can be attached directly to the wall by means of the base plate or they can be mounted to existing deep installation boxes.

- Mount base plate to the wall. Note the marking "this side up"
- snap switch frame, intermediate frame, radio module and actuating rocker(s) one after the other in the base plate.

When mounting, take notice that the alignment of the markings "O" and "I" on the radio module and probable printings on the actuating rocker are the same!



1        2        3        4        5
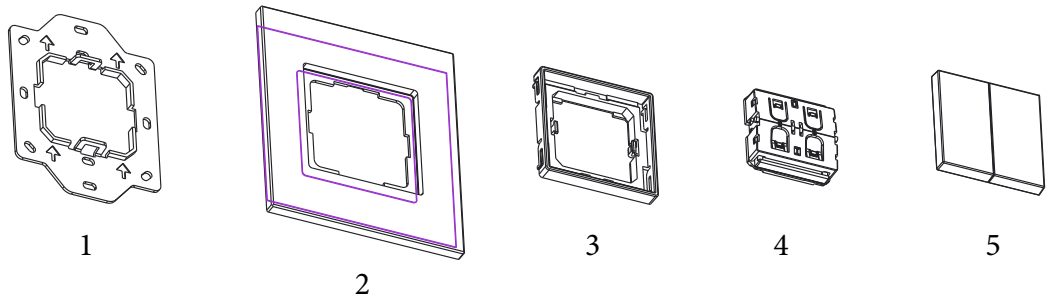
**WE SUGGEST MOUNTING ON A SOLID SURFACE:** Depending on the ground (brick plaster, glass...) the base plate can be glued or screwed. In any case, the ground must be smooth. Unevenness can lead to malfunctions! Watch that no dust is getting inside the housing.

**Screwing:**
- Use screws only, that can be easily put into the mounting holes, e.g. 3 mm countersunk screws together with 5 mm dowels.
- Remove base plate from the radio switch and use the same as a template for marking the boreholes.
- Bore dowel holes
- Mount base plate and wireless insert as described

**Gluing:**
- The wireless switch inserts can be glued to smooth surfaces such as glass, painted walls, tiles, mobile partition walls made of plastics etc. by means of the adhesive foil included.

## Installation (continued)

### Mounting Advice (continued)

When mounting the wireless switch to glass surfaces at which the sensor can also be seen from the back side, a decoration foil (not supplied) in the size of the switch frame could first be glued to the glass in order to cover the back of the frame and the wireless switch. Glue the decoration foil to the glass surface first. Afterwards, glue the wireless switch by means of the attached adhesive foil as described in the chapter "Mounting".

Switch frames of the series carat® in stainless steel shall always been screwed due to the high weight.

**Disassembly**
- Lever the rocker together with the radio module.
- Ease the intermediate frame by releasing the latching crochet at the left and right.

## Commissioning

### Part 1

**Activate commissioning (or linking) mode for a system compatible with the switch.**
If you don't know how to do this, consult the manual for the compatible system or contact the manufacturer for assistance.

### Part 2

**Put the switch into commissioning mode.**
To enter commissioning mode, start by selecting one button on the switch. (Use the same button for the entire sequence. Pressing any other button will exit the commissioning mode.)

**Next, execute the following long-short-long sequence:**
1. Press and hold the selected button for more than 7 seconds before releasing it
2. Press the selected button quickly (hold for less than 2 seconds)
3. Press and hold the selected button again for more than 7 seconds before releasing it
**The switch has now entered commissioning mode.**

### Part 3

**Linking the switch to the compatible system.**
A radio signal needs to be sent from the switch to the compatible system on the correct ZigBee channel. The system uses one of sixteen possible channels, automatically set by the system. Using the switch, a signal will be sent on each channel until the channel used by the compatible system is found.

## Commissioning
### (continued)

### Part 3

Upon entering commissioning mode, the switch sends a signal on the currently selected channel. The signal is sent on the default channel 11, unless the switch had been put on another channel previously. (This allows linking additional devices without changing the currently used radio channel.)

**Here is a chart of the ZigBee channels and the corresponding radio frequencies (in MHz).**

| Channel ID | Lower Frequency | Center Frequency | Upper Frequency |
|---|---|---|---|
| 11 | 2404 | 2405 | 2406 |
| 12 | 2409 | 2410 | 2411 |
| 13 | 2414 | 2415 | 2516 |
| 14 | 2419 | 2420 | 2421 |
| 15 | 2424 | 2425 | 2426 |
| 16 | 2429 | 2430 | 2431 |
| 17 | 2434 | 2435 | 2436 |
| 18 | 2439 | 2440 | 2441 |
| 19 | 2444 | 2445 | 2446 |
| 20 | 2449 | 2450 | 2451 |
| 21 | 2454 | 2455 | 2456 |
| 22 | 2459 | 2460 | 2461 |
| 23 | 2464 | 2465 | 2466 |
| 24 | 2469 | 2479 | 2471 |
| 25 | 2474 | 2475 | 2476 |
| 26 | 2479 | 2480 | 2481 |

### Cycle through the sixteen channels

**To change the switch's channel, short press the selected switch button (less than 7 seconds) once** after entering commissioning mode. This will reset the channel used by the switch to channel 11.
*If the switch was already operating on channel 11 (default condition) then the radio channel will remain unchanged. This ensures that the switch will always use channel 11 as the starting point for the channel adjustment.*

**Short press the selected button (less than 7 seconds) again to move to the next channel. For each such button press, the switch transmits on the next channel.** If channel 26 has been reached then channel 11 will be used next.

**When the switch is on the correct channel, the compatible system will provide a link confirmation indication.** Consult the instructions for the compatible system for details of the link confirmation indication. There should be a visible or audible exchange indicated on the system, and the switch will be linked to the system.

**Exit linking mode on the switch by pressing any other button on the switch.**
For problems with the compatible system, please contact the system provider.

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