

BFi5EWSSB / BFi5EWSDB

Product Specification

v1.5

Battery-free Bluetooth LE wall switch

A BANFi Semiconductor Co., Ltd. product



BFi5EWSSB / BFi5EWSDB features

Features:

- Battery-free and wireless: each press harvests kinetic energy — no wiring, no battery, no maintenance
- Bluetooth LE broadcast, received by BFi53 dimmers and the BFi53ER0 gateway
- BFi5EWSSB: single rocker, 2 channels (press / release)
- BFi5EWSDB: double rocker, 4 channels (press / release)
- 50 × 50 mm, white
- Mounts with an adhesive pad or a standard frame, on glass, tile or partitions
- Range within one room: up to 15 m line of sight (guidance only, per the radio module's specification)
- Operating temperature –20 to +40 °C
- Radio module certifications: NCC · CE · UKCA · FCC · ISCED · ARIB · RCM
- Each rocker set in the BANFi ONE iOS app: On/Off, Toggle or Scene

Applications:

- Retail and hospitality
- Glass and partition mounting
- Wireless retrofit
- Scene control
- Meeting rooms

1 Product overview

The BFi5EWSSB and BFi5EWSDB are self-powered, battery-free Bluetooth LE wall switches. Each press of a rocker harvests kinetic energy and broadcasts a Bluetooth LE control signal — no wiring, no battery, no maintenance.

The switch is a trigger: a powered BFi53 dimmer or the BFi53ER0 gateway receives the signal and carries out On/Off, dimming or scene selection. A Bluetooth Mesh network or the gateway extends the reach across a space.

It comes as a single rocker (BFi5EWSSB, 2 channels) or a double rocker (BFi5EWSDB, 4 channels) in a slim 50 × 50 mm white housing. It mounts with an adhesive pad or a standard frame — on glass, tile or partitions — and can be moved at any time without re-wiring.



BFi5EWSSB (single rocker, left) and BFi5EWSDB (double rocker, right)

1.1 How it works

Press, harvest, broadcast, control: the energy of the press powers the Bluetooth LE broadcast, and a powered receiver does the switching.

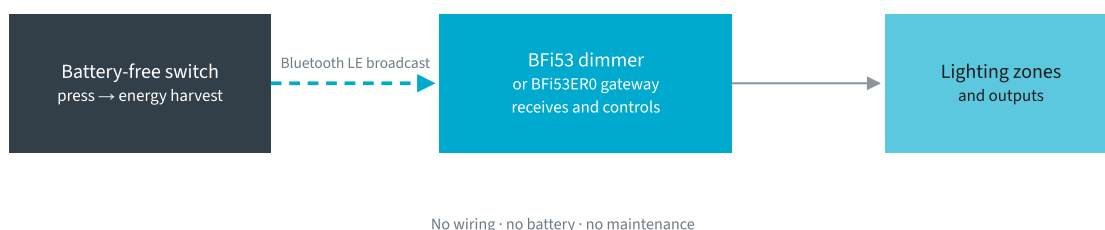


Figure 1: How the switch works

2 Specifications

2.1 Models

Item	BFi5EWSSB	BFi5EWSDB
Rockers	1 (single)	2 (double)
Channels	2 (press / release)	4 (press / release)
Control	single zone: On/Off and dimming	two zones: control and scene selection
Best for	one area: toggle and dim	two zones, or scenes
Colour	white	white

Table 1: Models

2.2 Radio and power

Item	Description
Wireless	Bluetooth Low Energy (BLE) broadcast
Power source	Kinetic energy harvested on each press; battery-free
Range	Within one room: up to 15 m line of sight (guidance only, per the radio module's specification). Walls and ceilings shorten it: see 3.2. A Bluetooth Mesh network or the gateway extends the reach
Received by	BFi53CVD / BFi53CCD dimmers; BFi53ER0 gateway
Maintenance	None: no battery to change, no wiring
Radio module certifications	NCC · CE · UKCA · FCC · ISCED · ARIB · RCM

Table 2: Radio and power



Figure 2: Radio module certification marks

2.3 Mechanical and environmental

Item	Description
Dimensions	50 × 50 mm
Colour	White
Mounting	Adhesive pad or standard frame; no back box
Operating temperature	−20 to +40 °C, non-condensing

Table 3: Mechanical and environmental

3 Installation and commissioning

3.1 Installation

- **No back box, no wiring.** Fix the switch with an adhesive pad or a standard frame, on glass, tile or a partition.
- **Relocate any time.** The switch can be moved without re-wiring, which suits retrofits and changing layouts.
- Observe local building and electrical guidelines for the fixing method.

3.2 Range

The range depends on the receiver and its antenna, on what lies between switch and receiver, on interference and on reflections from metal nearby. The figures below are a rough guide from the radio module's documentation; test the range on site before the installation is finalised.

Situation	Typical range
Line of sight	about 15 m in corridors, up to 30 m in halls
Plasterboard walls, dry wood	about 10 m, through at most 2 walls
Reinforced-concrete walls and ceilings	about 5 m, through at most 1 ceiling, depending on thickness
Fire walls, lift shafts, stairwells	treat as shielded
Switch mounted on metal	up to 30 % less range

Table 4: Range guide (guidance only)

3.3 Commissioning in the BANFi ONE app

Each rocker is set in the BANFi ONE iOS app over Bluetooth: choose a mode (On/Off, Toggle or Scene), a publication target (a group such as ROOM or DOOR, or ALL) and a transition time, and build a scene list.

Item	Description
App	BANFi ONE, iOS (Bluetooth LE)
Commissioning	add the device, assign the buttons, publish to groups or scenes
Button modes	On/Off · Toggle · Scene, per rocker
Targets	a group (ROOM, DOOR ...) or ALL
Scenes	scene list with a transition time, immediate or fade
Works with	BFi53CVD / BFi53CCD dimmers · BFi53ER0 gateway

Table 5: BANFi ONE settings

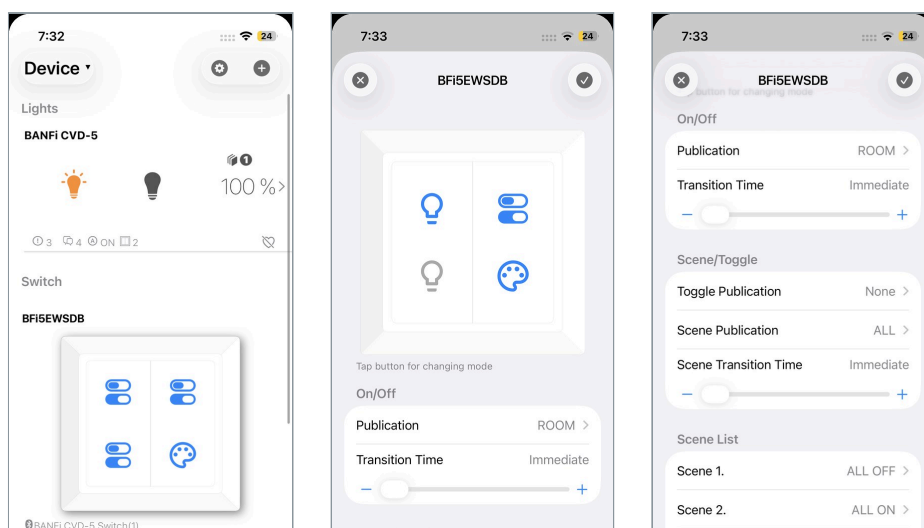


Figure 3: BANFi ONE: the switch in the device list, the per-button mode, and the scene list

App screens are for reference and may differ between app versions.

4 Ordering information

Part number	Description
BFi5EWSSB	Battery-free Bluetooth LE wall switch, single rocker, 2 channels, 50 × 50 mm, white
BFi5EWSDB	Battery-free Bluetooth LE wall switch, double rocker, 4 channels, 50 × 50 mm, white

Table 6: Ordering information

The switch is sold in white only. Part numbers and quotation: BANFi Semiconductor Co., Ltd. · banfiww.com.

4.1 Revision history

Version	Date	Description
1.0 – 1.2	2026-07 – 2026-10-01	Earlier datasheet format; white only since 1.2
1.3	2026-10-04	Rebuilt as a product specification in the format of the BFi53CCD/CVD specifications; values unchanged; BANFi edition in Traditional Chinese and English
1.4	2026-10-04	Range and certifications attributed to the radio module's specification; the range is no longer described as measured on site
1.5	2026-10-04	Range given as within one room, up to 15 m line of sight (guidance only); range guide for walls and ceilings (3.2)

Table 7: Revision history

4.2 Notices

Specifications are typical and subject to change without notice; confirm against the latest version before design-in.

Product ownership. The BFi5EWSSB and BFi5EWSDB are products of BANFi Semiconductor Co., Ltd. (Taiwan), which owns the products and their hardware design.

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