

WB2501B & WB5501B(RB/LB) Wireless Touch-Free Wave Switches

INSTALLATION INSTRUCTIONS

ACCESSORIES AND PARTS INCLUDED

- (1) WB2501B/WB5501B(RB/LB)
- (1) Parts bag (Contents: #6-32 X 1/2" flat head phillips ss screws, #10 X 1" pan head self-tapping phillips ss screws, twist-on wire connectors, allen key)
- (1) User/Installation Manual
- (1) Mounting Box 25B/55B



WB5501B(RB)



WB2501B



WB5501B(LB)

1. DESCRIPTION

The MZE Wireless Touch-Free Switches offer a modern and reliable solution for contactless door activation. They combine hygiene, convenience, and dependable wireless performance, making them ideal for a wide range of applications.

Powered by battery or external 12/24V AC/DC, these wireless models provide flexible installation without cabling.

Adjustable sensor range and delay timing ensure smooth, stable operation in all lighting conditions, both indoors and outdoors.

2. SPECIFICATION

Voltage	12/24 VDC ± 12%
Current	100mA-MAX @ DC 12V
Contact Rating	1A @ DC 30V
Contacts	Common/ N.O.
Temperature Range	-40°F to 131°F (-40 to 55°C)
Response Time	≤100ms

Dimensions

Narrow:

1 3/4" W x 4 1/2" H x 63/64" D
(44 mm x 114 mm x 25 mm)

Double Gang:

4 1/2" W x 4 1/2" H x 63/64" D
(114 mm x 114 mm x 25 mm)

3. FEATURES

- Adjustable sensor detection range from 3 to 10cm
- Wide voltage input range: auto-adapts to 12/24V DC ± 12% or battery powered
- Illuminated LED ring in green, activated on swipe
- IP65-rated weather resistance and water resistance
- Narrow and double-gang stainless steel faceplates available
- Durable laser-etched graphics, resistant to wear and cleaning chemicals
- (1) Form 'C' contact rated 1A @ DC 30V

4. OVERVIEW OF OPERATION

In a typical application, as you approach to it, the LED will be blue. When you wave your hand in front, it will change the LED to green, and trigger its relay to change state and unlock your door, or trigger the door operator to open the door.

The toggle feature can be used to trigger the door to remain in the unlocked position, until you wave your hand a second time to relock it.

5. OPERATING MODES

5.1 Wireless Mode (Battery Powered)

When only the battery connector is connected:

- Unit operates in RF transmission mode
- Relay does NOT activate LED ring remains OFF
- Each activation:
 - RF transmits once
 - Buzzer beeps 100ms
 - Green LED flashes 100ms
- After 2 seconds of inactivity → enters low power sleep

Battery Feedback Function

If IR detection is continuously triggered for more than 5 seconds, the unit enters battery status reporting mode.

Battery Level Indication:

Battery Voltage	Status	Buzzer Beeps	LED Flashes
< 2.6V	Low (≤30%)	4	4
2.6–2.8V	30–50%	3	3
2.8–3.0V	50–80%	2	2
≥3.0V	≥80%	1	1

5.2 Wired Mode (External Power Connected)

When 12/24V is connected:

- Unit automatically switches to hardwired mode
- LED ring active
- Standby LED: Red or Blue (Selectable via DIP switch)
- Activation LED: Green

Operation Sequence:

1. Hand detected
2. Relay ON
3. LED changes to Green
4. Hand removed → Relay OFF
5. LED returns to standby colour

If both battery and external power are connected, the unit prioritizes DC external power and does NOT consume battery.

6. DETECTION ADJUSTMENT

The switch uses 940nm infrared reflection technology.

Detection distance is adjustable via PCB potentiometer:

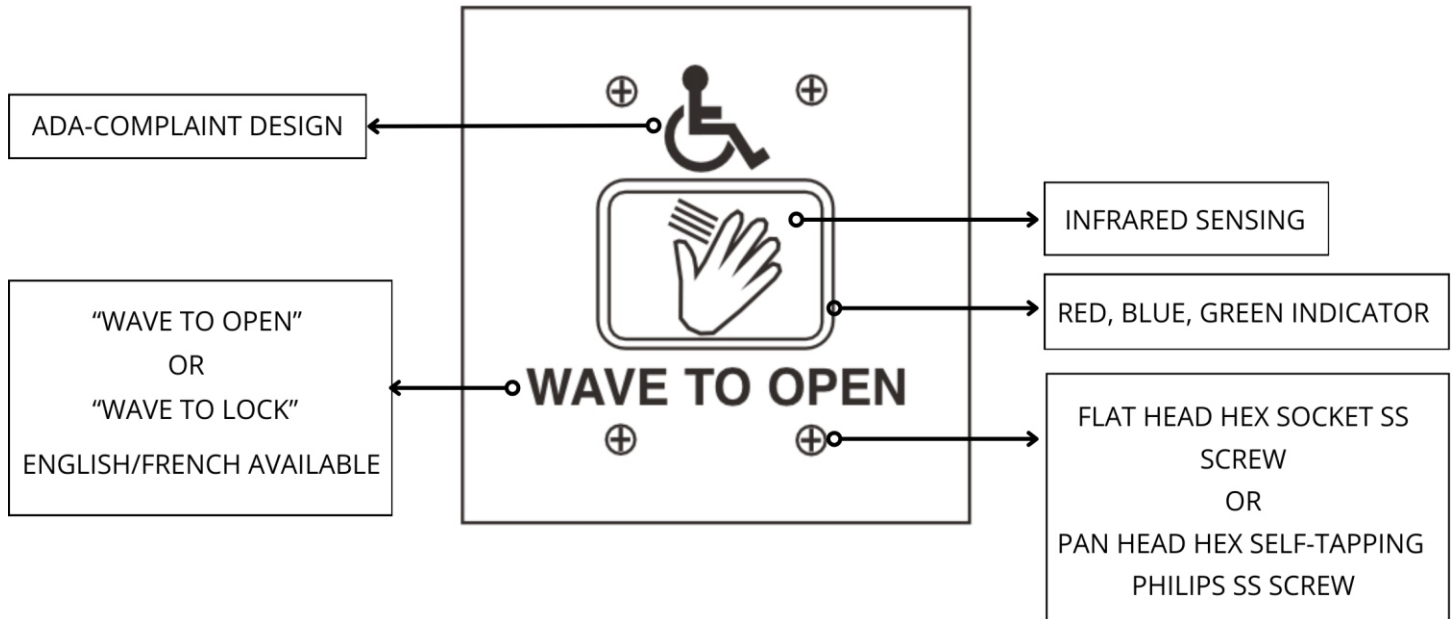
Adjustable Range: 3–10cm

Important:

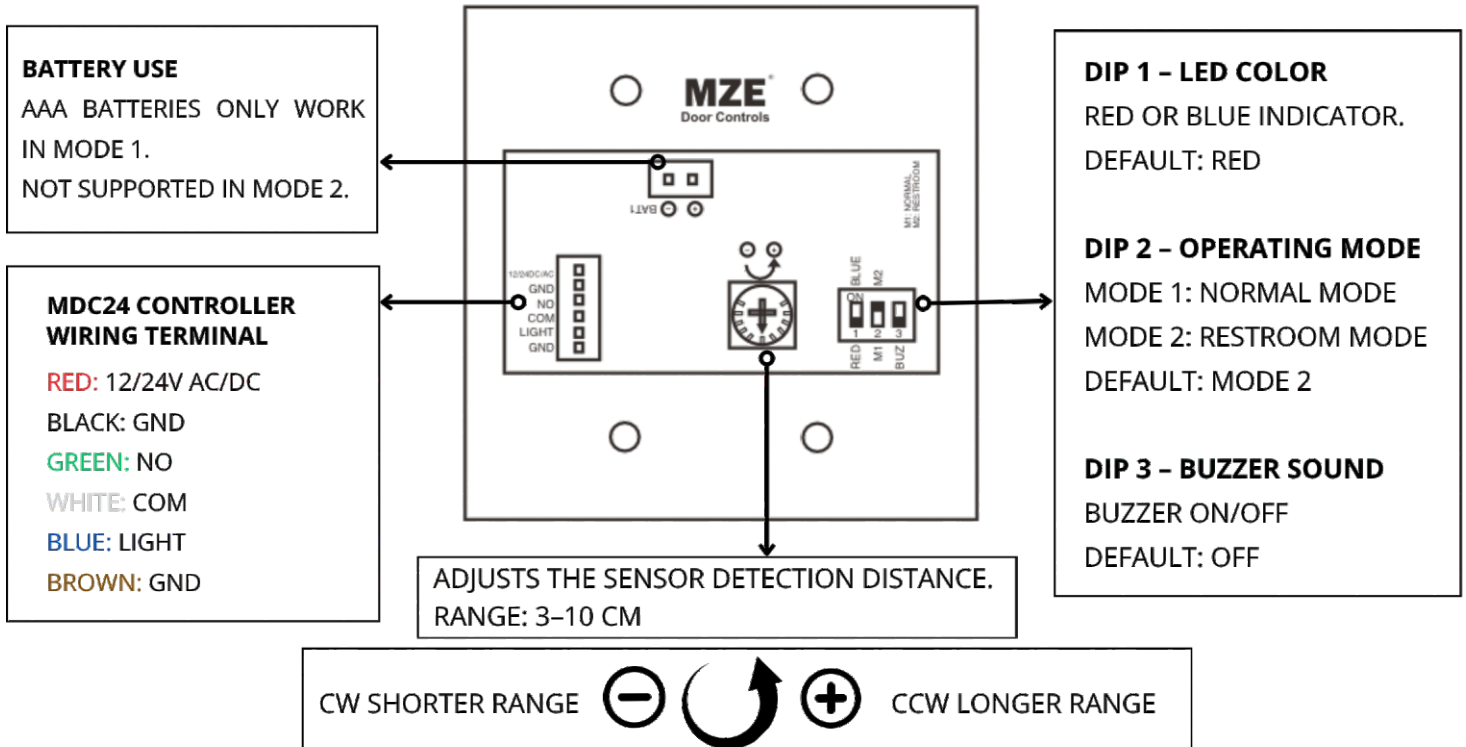
- Black objects may not reflect IR light → may not trigger
- Highly reflective surfaces (mirror-like) may increase detection distance
- Dark matte objects may reduce detection distance

7. WB2501B/WB5501B(RB/LB) ADJUSTMENT

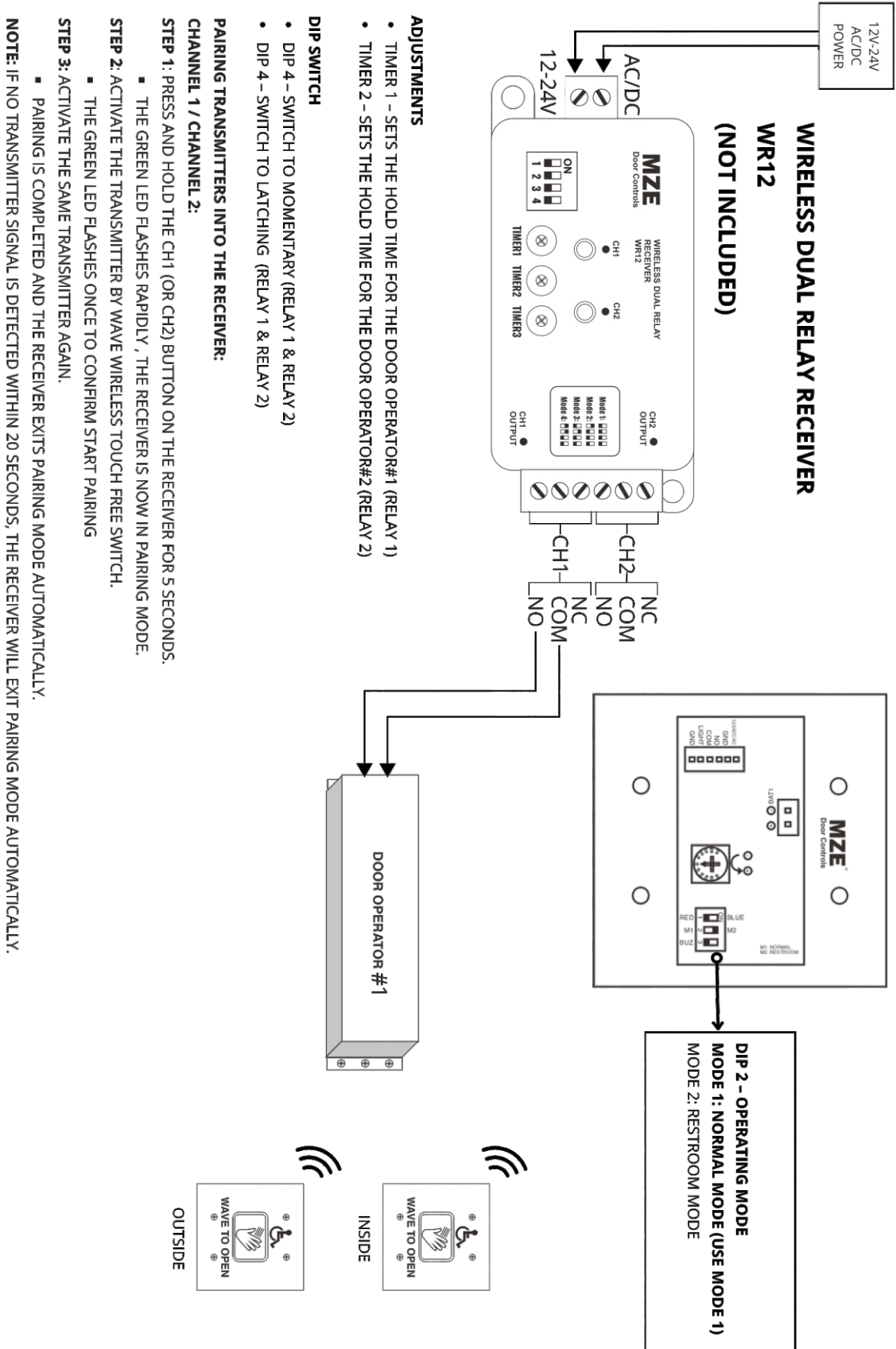
FRONT



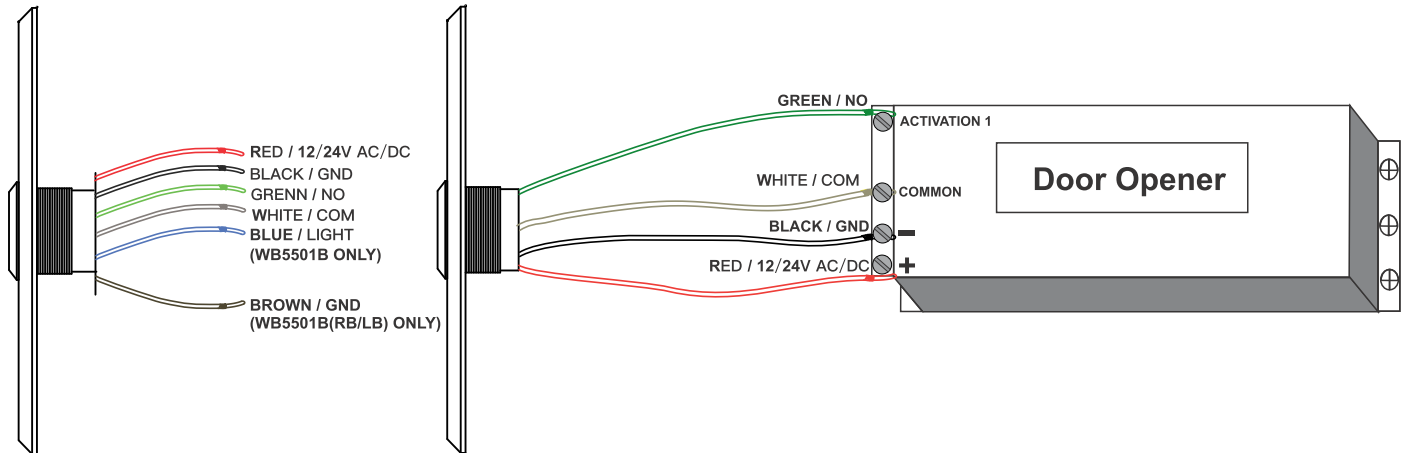
BACK



8.1 WIRING DIAGRAM (WIRELESS)



8.2 WIRING DIAGRAM (HARDWIRED)



SURFACE MOUNTING BOX

Mounting Box 25B

- Flame-retardant
- Impact-resistant ABS polymer
- 46.5 X 117.4 X 44.3 mm

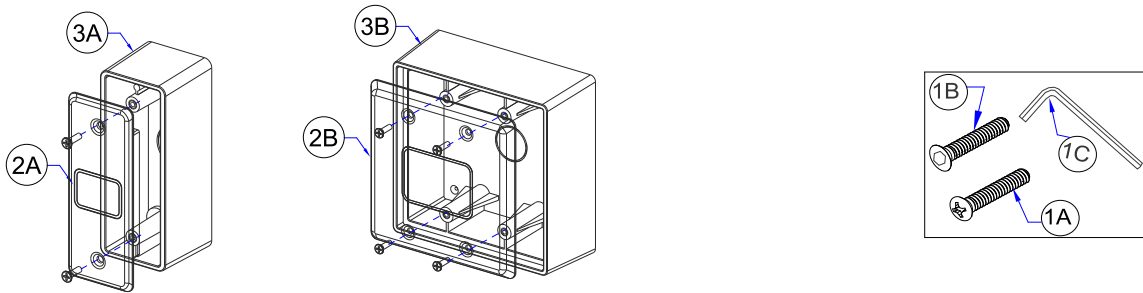


Mounting Box 55B

- Flame-retardant
- Impact-resistant ABS polymer
- 127.5 X 127.5 X 50.53mm



9. INSTALLATION DIAGRAM



ACCESSORIES AND PARTS INCLUDED

ITEM NUMBER	PART NUMBER		DESCRIPTION
1.	A	Pan Head Self-Tapping Screws	#10 X 1" PAN HEAD SELF-TAPPING PHILIPS SS SCREWS
	B	Flat Head Hex Socket Screws	#6-32 X 1/2" FLAT HEAD HEX SOCKET SS SCREWS
	C	Allen Key	7/64" ALLEN KEY
2.	A	WB2501B	NARROW STAINLESS-STEEL FACEPLATE WITH TOUCH-FREE SENSOR SWITCH (BLUE/GREEN)
	B	WB5501B(RB/LB)	DOUBLE GANG STAINLESS-STEEL FACEPLATE WITH TOUCH-FREE SENSOR SWITCH (BLUE/GREEN)
3.	A	25B	NARROW STAINLESS-STEEL FACEPLATE MOUNTING BOX (46.5 X 117.4 X 44.3 mm)
	B	55B	DOUBLE GANG STAINLESS-STEEL FACEPLATE MOUNTING BOX (127.5 X 127.5 X 50.53mm)