

Control System

WR-WAVE-KIT Restroom Touchless Control Kit

INSTALLATION INSTRUCTIONS

THIS KIT INCLUDES:

1. Restroom Touchless Control:

- (1) Wave to Open Switch (Outside), (1) Wave to Open Switch (Inside),
- (1) Wave to Lock Switch (Inside), (1) Advanced Logic Controller,
- (1) Magnetic Door Contact, (1) Wave to Open/Lock Sign;



1. GENERAL DESCRIPTION

The Touchless Restroom Control Kit provides a complete hands-free solution for restroom entry, privacy locking, and occupancy indication.

The touchless control system allows users to enter, lock, and exit the restroom without physical contact. Visual indicators on the door switches clearly display the occupancy status, improving privacy and reducing confusion. When the restroom is in use, the indicators change color to show that the space is occupied. When the user exits, the system automatically resets to vacant status.

This kit is designed for barrier-free and universal restroom applications, where safety, accessibility, and ease of use are critical.

2. SYSTEM COMPONENTS

The integrated kit includes one functional section: the touchless door control system.

Touchless Door Control Section

This portion of the system manages door access, occupancy indication, and privacy locking. It includes:

- Outside Wave-to-Open touchless switch
- Inside Wave-to-Open touchless switch
- Inside Wave-to-Lock touchless switch
- Advanced Logic controller
- Magnetic door contact

The logic controller coordinates all sensors and outputs, ensuring that the door and occupancy indicators operate correctly.

3. SYSTEM OPERATION

3.1 Normal Restroom Operation

The system is designed to be intuitive for first-time users. From the outside, the user simply waves a hand in front of the Wave-to-Open sensor. This action triggers the controller, which unlocks the door and allows it to open. At this stage, the indicator light shows green, signaling that the restroom is vacant.

Once inside, the user can secure the door by waving a hand in front of the Wave-to-Lock sensor. This locks the door and changes the indicator lights on both sides of the door from green to red, showing that the restroom is occupied.

When the user is ready to exit, they may wave at the inside Wave-to-Open sensor or simply open the door manually. Either action unlocks the door and resets the system. The indicator lights return to green, signaling that the restroom is available again.

4. INSTALLATION OVERVIEW

The Advanced logic controller should be mounted in a **clean, dry, and protected** location. It must be installed away from moisture, direct weather exposure, or excessive heat. Power should **not be** applied to the system until all wiring connections are complete and verified.

The touchless switches should be mounted in standard double-gang electrical boxes at appropriate heights for accessibility. Proper alignment and flush mounting are important to ensure correct sensor operation and a professional appearance.

5. WIRING OVERVIEW

The controller features **single-row terminal strip** with clearly labeled connections. Both input devices (sensors, door contacts) and output devices (electric strike, door operator, and indicator lights) are wired along the same terminal strip.

All restroom touchless switches operate on **12V DC**.

6. CONTROLLER MODE SELECTION

The controller supports up to multiply operating modes.

For the Universal Barrier-Free Restroom Control, the controller is **Mode 1 (default)**.

Additional modes are reserved for future applications and may not be available in the current release.

The mode can be selected using the UP and DOWN buttons located at the upper-left corner of the controller.

7. INDICATOR LOGIC

The system uses color indicators to communicate door status:

- Green: Restroom vacant / door unlocked
- Red: Restroom occupied / door locked

This simple color logic ensures that users and staff can easily understand the system status at a glance.

8. FINAL TESTING PROCEDURE

After installation is complete, the system should be tested thoroughly to confirm proper operation.

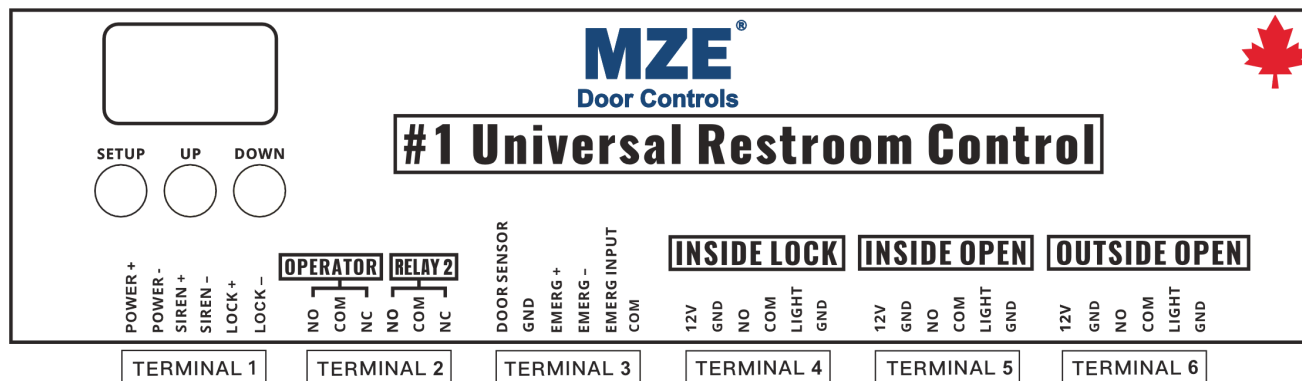
1. Apply power to the system.
2. Activate the outside Wave-to-Open switch.
 - Door should unlock and open.
3. Activate the inside Wave-to-Lock switch.
 - Door should lock.
 - Indicators should turn red.
4. Activate the inside Wave-to-Open switch.
 - Door should unlock.
 - Indicators should return to green.

If all steps operate correctly, the system is ready for use.

9. SAFETY AND COMPLIANCE NOTES

All components must be installed according to local electrical codes and the authority having jurisdiction. The electric strike must be installed in a manner that does not interfere with emergency exit hardware or panic devices.

10. WIRING TERMINAL



TERMINAL NO.	FUNCTION	OPERATION
1	PIN1 – PWR AC/DC+ PIN2 – PWR AC/DC-	POWER INPUT: 12-30V AC/DC WIDE-RANGE, SELF-ADAPTIVE POWER INPUT WITH BUILT-IN PROTECTION CIRCUITRY.
	PIN3 – SIREN +12VDC PIN4 – SIREN -12VDC	12V DC ALARM OUTPUT FOR ANNUNCIATORS (WET CONTACT).
	PIN5 – LOCK+ PIN6 – LOCK-	DOOR LOCK OUTPUT. PROVIDES 12V DC/24V DC POWERED WET CONTACT OUTPUT. OUTPUT VOLTAGE IS DETERMINED BY THE DIP SWITCH SETTINGS.
2	PIN1 – NO PIN2 – COM PIN3 – NC	AUTOMATIC DOOR OPERATOR OUTPUT. (DRY CONTACT).
	PIN4 – NO PIN5 – COM PIN6 – NC	AUXILIARY DRY CONTACT OUTPUT. RESERVED FOR OTHER MODE USE.
3	PIN1 – DOOR SENSOR PIN2 – GND	DOOR CONTACT INPUT. DEFAULT (NC).
	PIN3 – EMERGENCY+ PIN4 – EMERGENCY-	12VDC OUTPUT FOR EMERGENCY BUTTON LIGHT INDICATOR (WET CONTACT).
	PIN5 – EMERGENCY INPUT PIN6 – COM	EMERGENCY BUTTON DRY CONTACT INPUT.
4	PIN 1-6	INDOOR PUSH-TO-LOCK BUTTON INPUT.
5	PIN 1-6	INDOOR PUSH-TO-OPEN BUTTON INPUT.
6	PIN 1-6	OUTDOOR PUSH-TO-LOCK BUTTON INPUT.

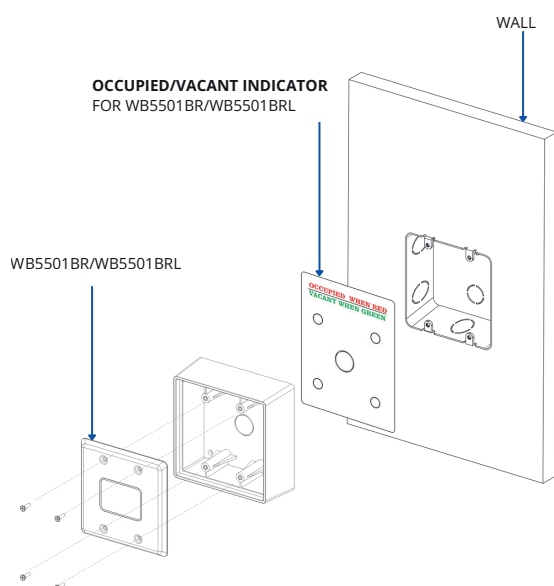
11. DOUBLE GANG WB5501BR / WB5501BRL / LIGHT-SIGN MOUNTING

1.
 - If using an in-wall box ensure the box is plumb and square, and flush with the wall surface.
 - If using a surface backbox, ensure it is secure & plumb.
 - If using a 4 x 4 box, ensure the box is plumb and square, and flush with the wall surface
2. Bring your 4 or 6-conductor wire through the back or side of the backbox and Occupied/Vacant Indicator leave approximately 6" tail for wiring connection.
Occupied/Vacant Indicator as required (only for the WB5501BR/WB5501BRL).
3. Make the electrical connections to the device according to the wiring section.
4. Using the dip switch located on the back of the switch, set the operating mode (MODE 2 RESTROOM).
5. Attach the faceplate to the backbox using the four screws provided. (Surface Mount)
Attach the faceplate to the In-wall box using the four screws provided. (Flush Mount)

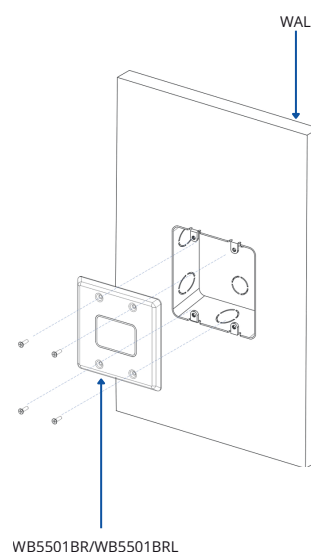
NOTE: Do not overtighten!

6. Apply power and adjust range via the potentiometers on the front of the unit.

WB5501BR/WB5501BRL SURFACE MOUNTING

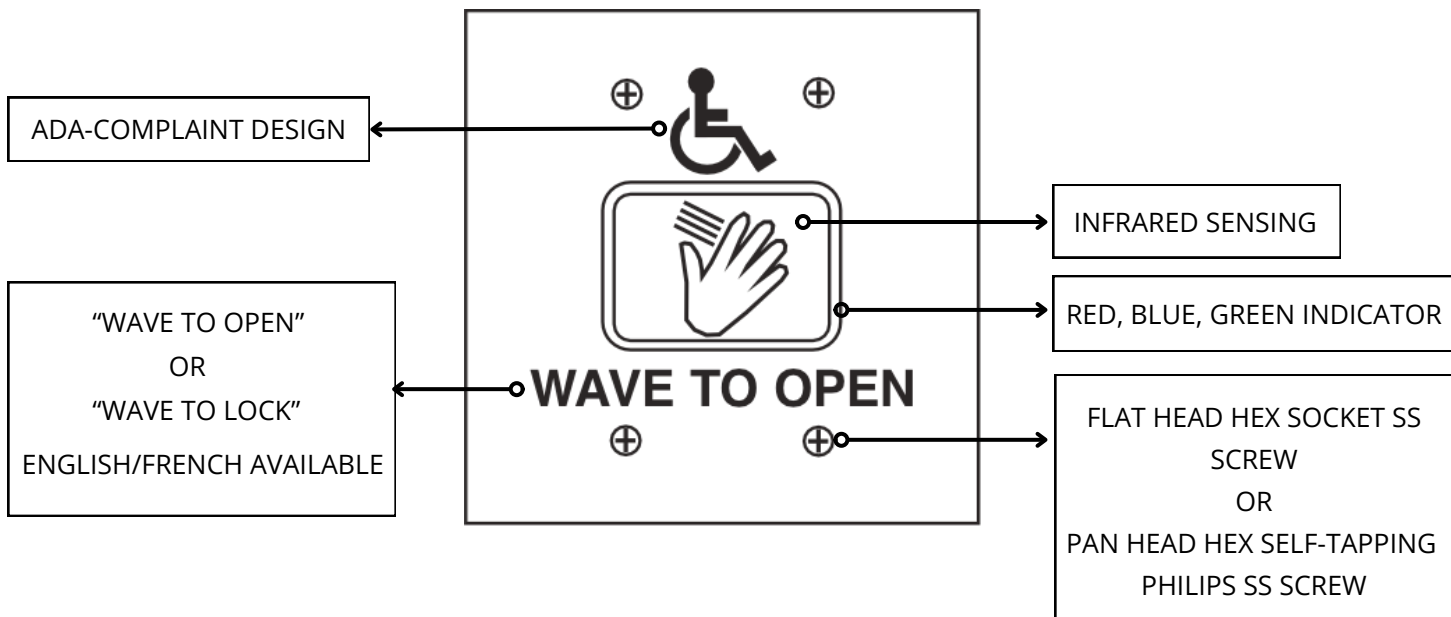


WB5501BR/WB5501BRL FLUSH MOUNT

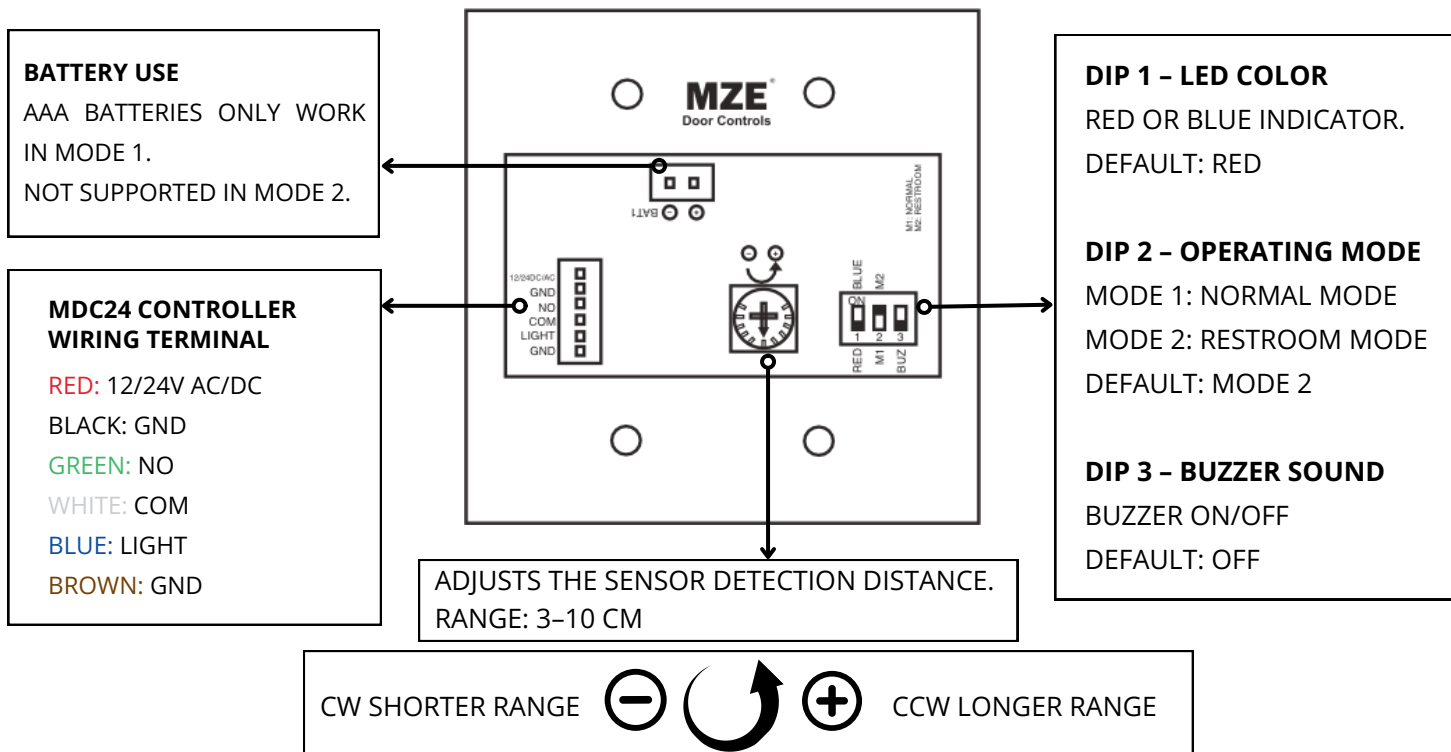


12. WB5501BR/WB5501BRL ADJUSTMENT

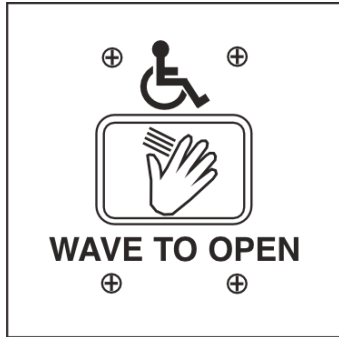
FRONT



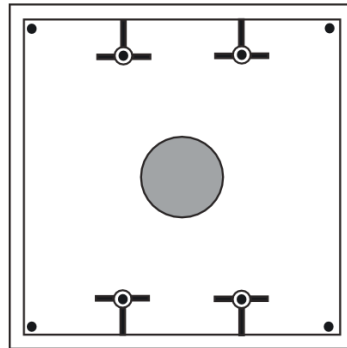
BACK



DIMENSIONS



(114x114x25 mm)



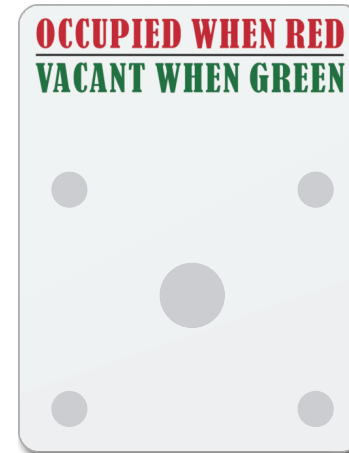
(129.5x129.5x51.5 mm)



(214x57x34 mm)

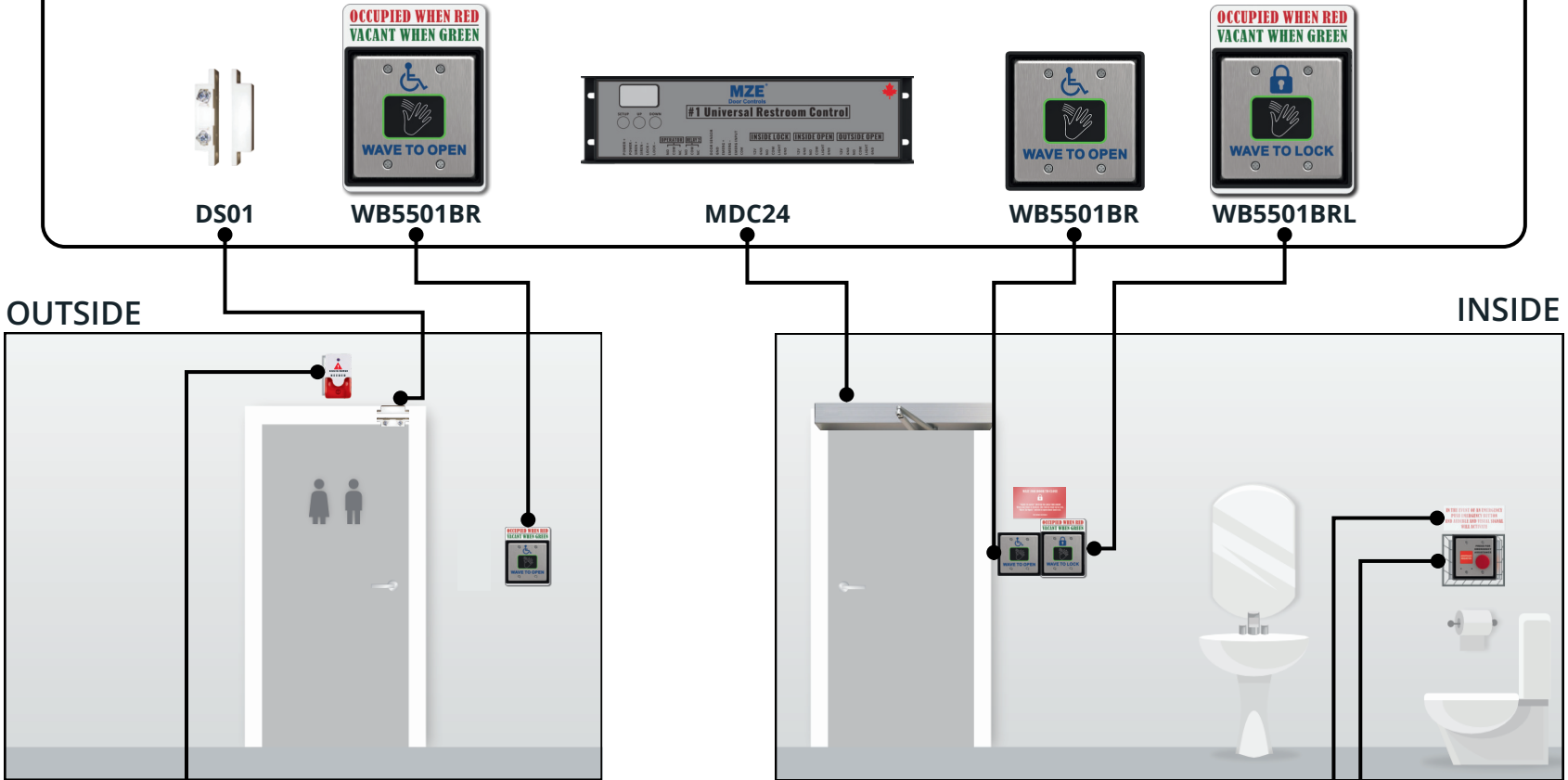


(180x130 mm)



(128x167 mm)

Restroom Touchless Control



DS01

WB5501BR

MDC24

WB5501BR

WB5501BRL

OUTSIDE

INSIDE

AL-SO

EI-SIGN

PB55B-SO

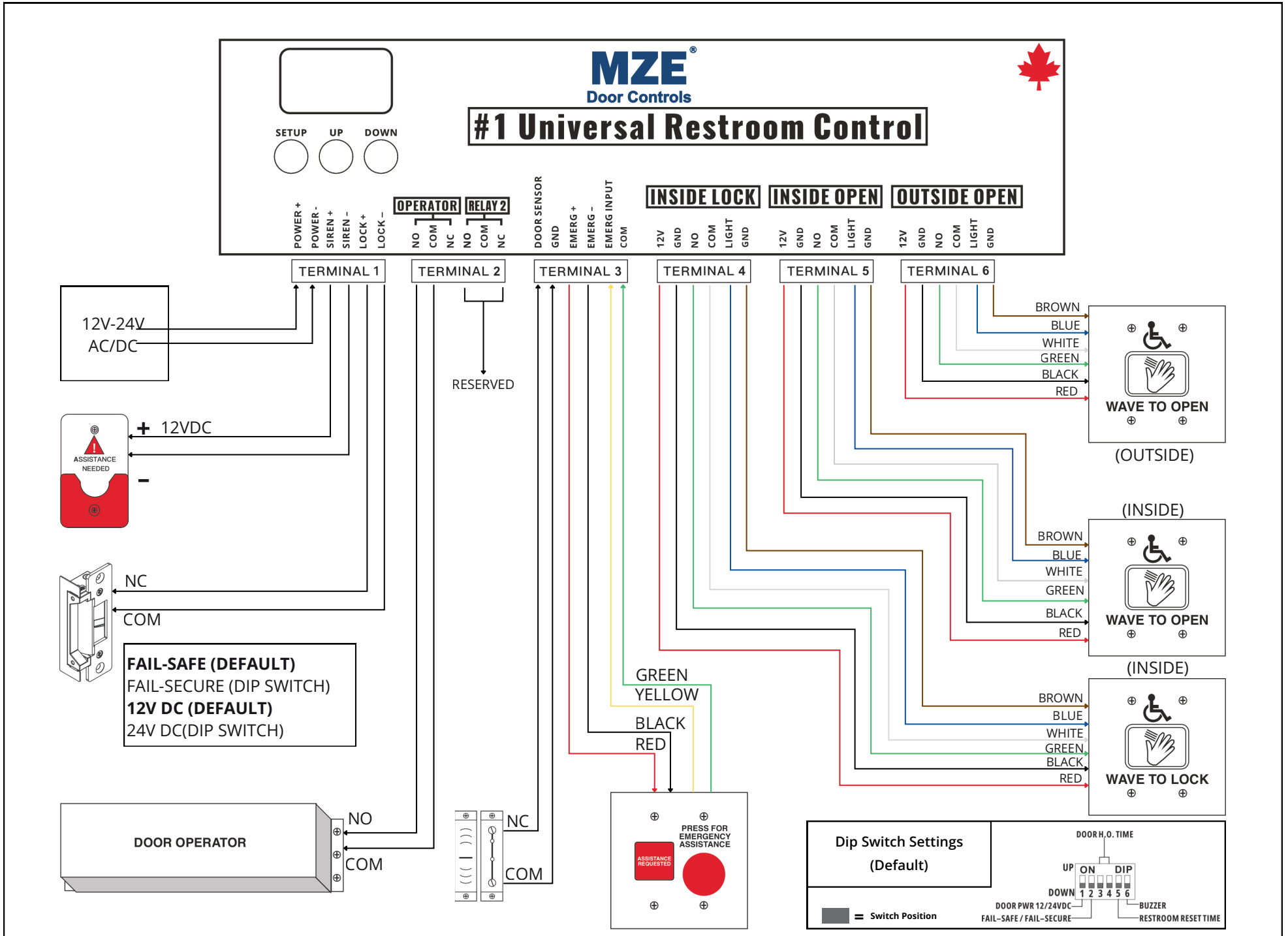
Restroom Emergency Assistance



**IN THE EVENT OF AN EMERGENCY
PUSH EMERGENCY BUTTON
AND AUDIBLE AND VISUAL SIGNAL
WILL ACTIVATE**

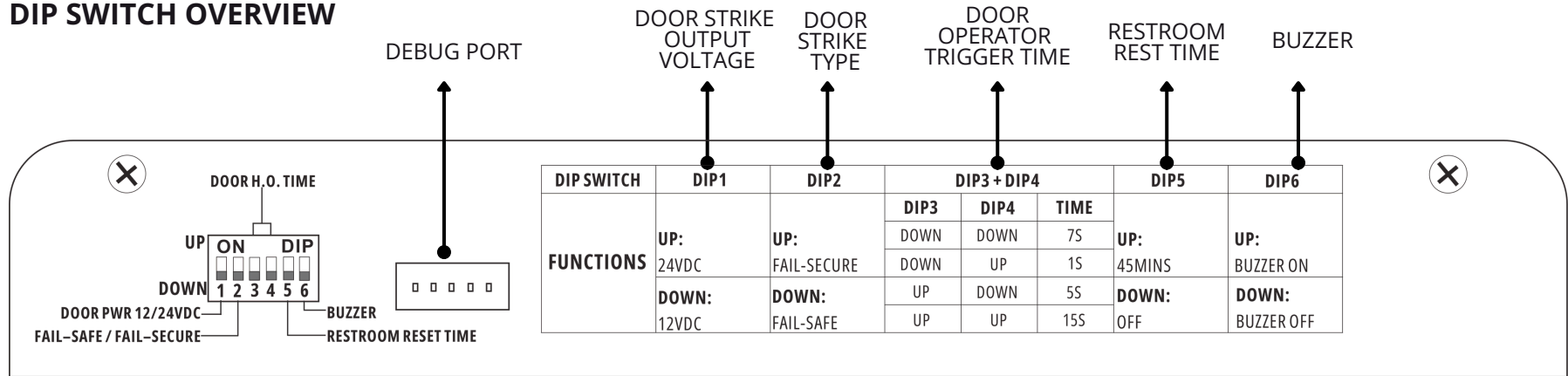


MZE RESTROOM KIT WIRING DIAGRAM - WR-WAVE-KIT/FULL



For detailed DIP switch settings, please refer to the "DIP Switch Functions" section.

DIP SWITCH OVERVIEW



DIP SWITCH SETTINGS

NO.	FUNCTION	OVERVIEW	OPERATION
DIP 1	DOOR PWR 12/24VDC	SELECTS THE OUTPUT VOLTAGE FOR THE DOOR LOCK.	ADJUSTABLE: DC12V(DEFAULT) / DC24V. THE CONTROLLER INCLUDES AN INTERNAL VOLTAGE REGULATION CIRCUIT. REGARDLESS OF WHETHER THE INPUT VOLTAGE IS AC OR DC12-24V, THE LOCK OUTPUT VOLTAGE CAN BE SET TO DC12V OR DC24V.
DIP 2	FAIL-SAFE / FAIL-SECURE	DEFINES THE OPERATING MODE OF THE ELECTRIC STRIKE.	FAIL-SAFE (DEFAULT): LOCKED WHEN POWERED, UNLOCKED WHEN POWER IS REMOVED. FAIL-SECURE: UNLOCKED WHEN POWERED, LOCKED WHEN POWER IS REMOVED.
DIP 3-4	DOOR H.O. TIME	RELAY OUTPUT ACTIVATION TIME (MOMENTARY TRIGGER).	SELECTABLE DURATIONS: • 1 SECOND • 5 SECONDS • 7 SECONDS (DEFAULT) • 15 SECONDS
DIP 5	RESTROOM RESET TIME	MAXIMUM LOCKED DURATION BEFORE AUTOMATIC RESET.	TIMER MODE: WHEN THE INTERIOR LOCK SWITCH IS ACTIVATED, THE DOOR WILL LOCK AND REMAIN SECURED FOR A MAXIMUM OF 45 MINUTES. THE SYSTEM WILL AUTOMATICALLY UNLOCK AFTER THE TIMEOUT TO PREVENT ACCIDENTAL LOCK-IN OR AN UNATTENDED LOCKED CONDITION. LOCK MODE (DEFAULT): WHEN THE INTERIOR LOCK SWITCH IS ACTIVATED, THE DOOR WILL REMAIN LOCKED UNTIL THE INTERIOR UNLOCK SWITCH IS ACTIVATED OR THE DOOR IS OPENED FROM THE INSIDE.
DIP 6	BUZZER	ENABLES OR DISABLES THE AUDIBLE BUZZER DURING ACTIVATION.	ON: A SHORT CONFIRMATION BEEP SOUNDS WHENEVER ANY CONTROL SWITCH IS ACTIVATED. OFF: NO BUZZER BEEP (RECOMMENDED FOR QUIET ENVIRONMENTS). DEFAULT: OFF(DEFAULT)