

Control System

# MDC24

## Advanced Logic Controller

### INSTALLATION INSTRUCTIONS

#### THIS PACKAGE INCLUDES:

- (6) Green Plug-in Terminal Block,
- (1) MDC24 Advance Logic Controller



## 1. GENERAL DESCRIPTION

The MDC24 Advance Logic Controller is a versatile multi-function control module designed for door automation, access control, and barrier-free applications. It offers intuitive setup, clear terminology, and flexible configuration to simplify installation and operation.

With multiple programmable operating modes, the MDC24 can adapt to a wide range of applications, including automatic doors, security systems, and accessible washroom control.

The unit provides 5 inputs (including dry and powered inputs), allowing compatibility with various activation devices such as push buttons, motion sensors, radio receivers, and access control systems.

A simple interface with dedicated navigation buttons enables fast programming and adjustment. The integrated digital display ensures easy visibility and clear status indication during setup and operation.

The MDC24 includes 5 (including dry and powered relay outputs), supporting advanced sequencing and control logic. These outputs are suitable for applications such as door operators, electric strikes, magnetic locks, and occupancy indication systems.

#### Note

For stable operation, especially in applications requiring extended activation (such as barrier-free or automatic door systems), it is recommended to use a regulated power supply.

A regulated supply ensures consistent voltage output, improves system reliability, and helps protect connected devices such as electric strikes, locks, and operators.

## 2. INSTALLATION

Do not apply power to the unit until all wiring has been completed and configuration settings have been reviewed.

### Mounting

The MDC24 should be installed in a clean, dry indoor environment, protected from moisture, dust, and direct exposure to outdoor conditions.

Typical mounting locations include:

- Electrical enclosures
- Control cabinets
- Above ceiling spaces
- Inside operator housings

The front panel display and indicators are visible through the protective cover, which also provides access to programming controls and terminal connections.

After wiring and configuration, the unit can be securely mounted using appropriate hardware such as screws or mounting brackets.

### Wiring

Wiring requirements may vary depending on the selected operating mode; however, the following general guidelines apply:

The MDC24 supports 12V or 24V AC/DC power input.

Power should be connected to the designated input terminals. The unit is non-polarity sensitive when using AC power.

Ensure all field wiring complies with local electrical codes and installation standards.

### 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.

#### 3.2 Emergency Assistance Operation

If a user requires assistance, they can press the emergency button located inside the restroom. This action closes the internal contact and activates both the inside and outside annunciators.

The system immediately provides:

- Audible alarm
- Visual assistance indicators

This ensures that staff or nearby occupants are alerted to the emergency condition. Once assistance has been provided, the system can be reset by pulling out the emergency button, which silences the alarms and returns the system to normal operation.

### 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 and emergency devices 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 a **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**.

The inside emergency button includes a built-in annunciator and connects to the controller through a dedicated terminal. The outside annunciator is connected separately to its own terminal, ensuring clear wiring and easy installation.

The controller provides a **built-in 12V DC power** output for the inside emergency unit and outside annunciator, allowing direct connection without the need for an external power supply.

### 6. CONTROLLER MODE SELECTION

The controller supports up to 15 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
- Flashing with sound: Emergency assistance requested

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.
5. Press the emergency assistance button.
  - Both annunciators should activate.
6. Reset the emergency button.
  - Alarms should stop.

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

## 9. SAFETY AND COMPLIANCE NOTES

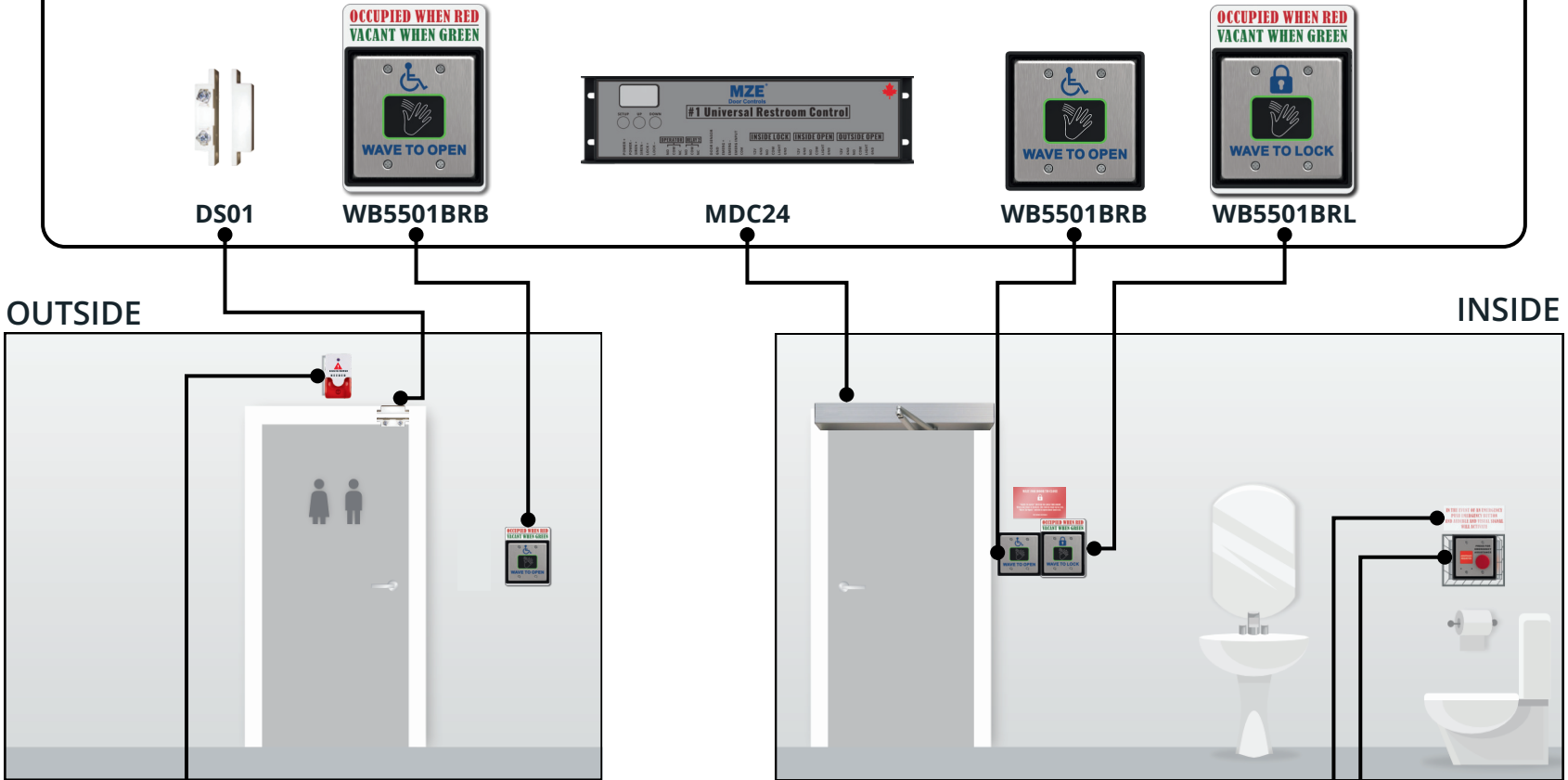
All components must be installed according to local electrical codes and the authority having jurisdiction. The electric strike must be installed in a manner that does not interfere with emergency exit hardware or panic devices.

## 10. WIRING TERMINAL



TERMINAL NO.	FUNCTION	OPERATION
1	PIN1 – POWER + PIN2 – POWER -	POWER INPUT: 12-30V AC/DC WIDE-RANGE, SELF-ADAPTIVE POWER INPUT WITH BUILT-IN PROTECTION CIRCUITRY.
	PIN3 – SIREN + PIN4 – SIREN -	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 – EMERG + PIN4 – EMERG -	12VDC OUTPUT FOR EMERGENCY BUTTON LIGHT INDICATOR (WET CONTACT).
	PIN5 – EMERG INPUT PIN6 – EMERG GND	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.

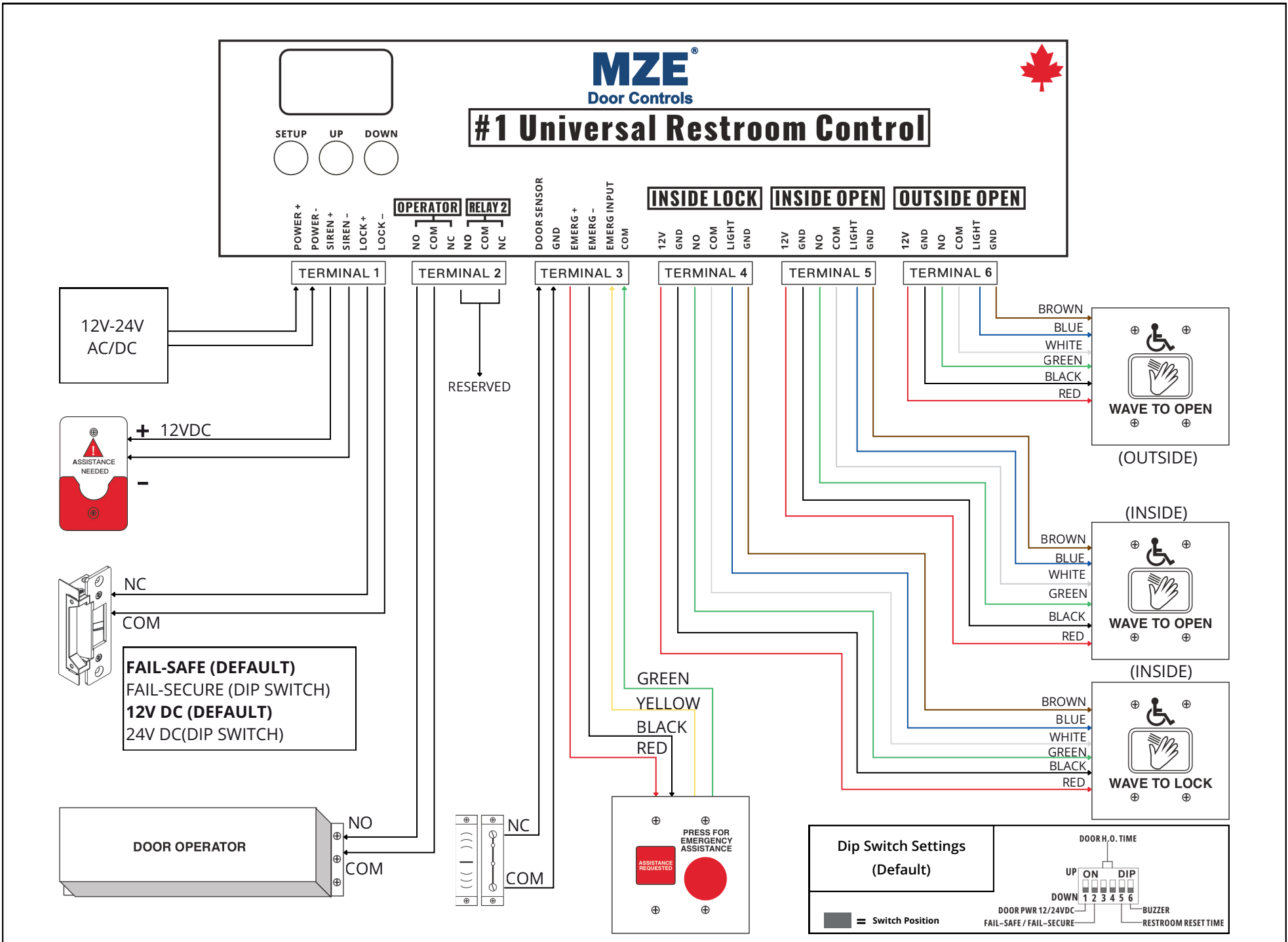
### Restroom Touchless Control



### Restroom Emergency Assistance

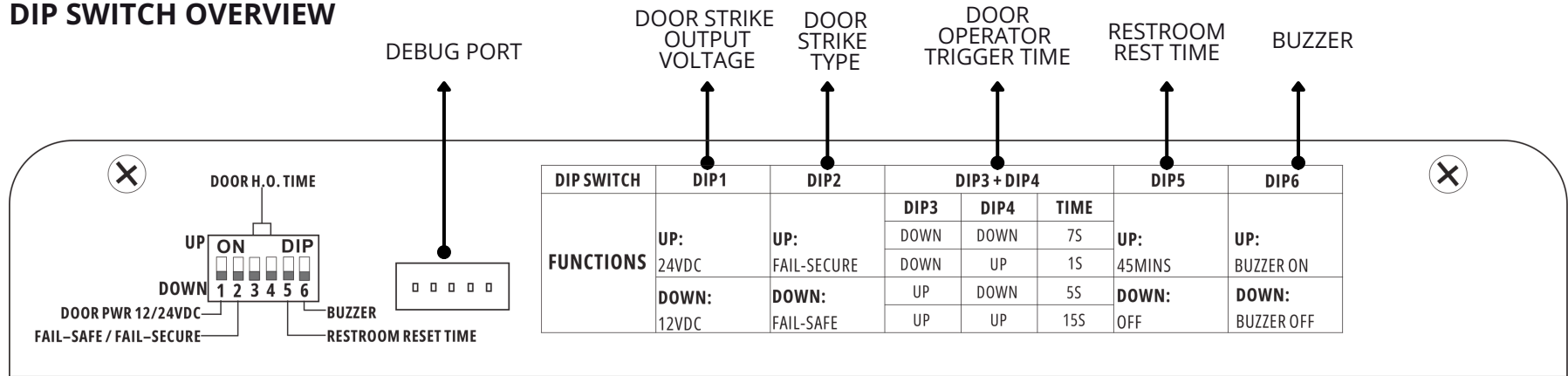


# ADVANCE LOGIC CONTROLLER MODE#1 DIAGRAM



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: <b>DC12V(DEFAULT)</b> / 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.	<b>FAIL-SAFE (DEFAULT):</b> LOCKED WHEN POWERED, UNLOCKED WHEN POWER IS REMOVED. <b>FAIL-SECURE:</b> UNLOCKED WHEN POWERED, LOCKED WHEN POWER IS REMOVED.
DIP 3-4	DOOR H.O. TIME	RELAY OUTPUT ACTIVATION TIME (MOMENTARY TRIGGER).	SELECTABLE DURATIONS: <ul style="list-style-type: none"> <li>• 1 SECOND</li> <li>• 5 SECONDS</li> <li>• <b>7 SECONDS (DEFAULT)</b></li> <li>• 15 SECONDS</li> </ul>
DIP 5	RESTROOM RESET TIME	MAXIMUM LOCKED DURATION BEFORE AUTOMATIC RESET.	<b>TIMER MODE:</b> 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.  <b>LOCK MODE (DEFAULT):</b> 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). <b>DEFAULT: OFF(DEFAULT)</b>