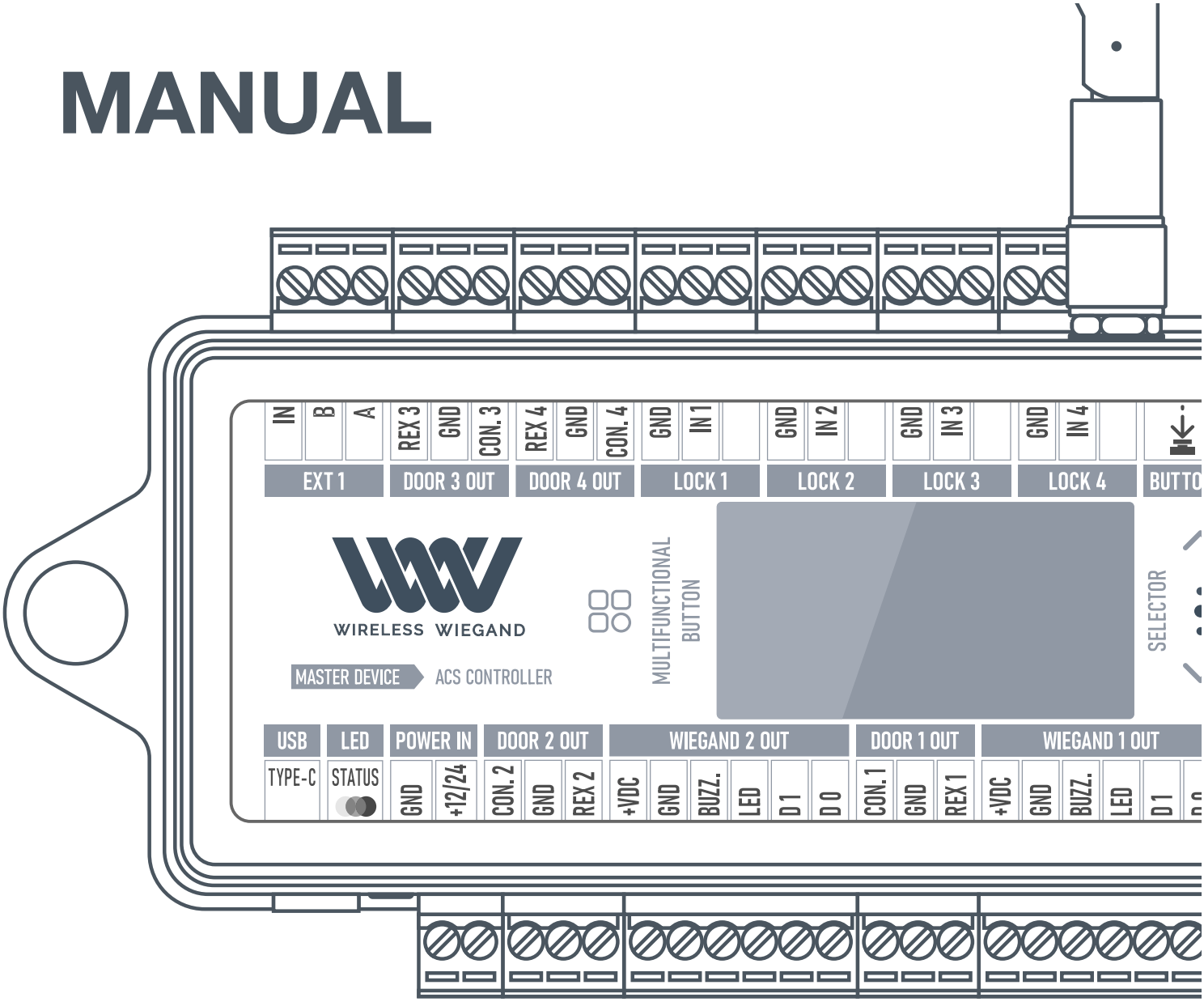
2026-09-28
V 4.7

Fw.v. 5.018 Hw.v. 2.09

Federal Communications Commissions

MANUAL



WIRELESS WIEGAND

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Introduction

This document provides detailed information on the structure of the Wireless Wiegand Master-Slave Device radio transmitter kit and instructions for installation and connection.

It also includes instructions that identify potential risks and methods for troubleshooting common problems. This guide is for informational purposes only, and in the event of any discrepancies, the actual product takes precedence.

All instructions, software, and functionality are subject to change without prior notice. The latest version of this manual and additional documentation can be found on our website or by contacting customer support.

The user or installer is responsible for complying with local laws and privacy regulations.

Default Device Settings

Wi-Fi device name when searching:

- WW_M/SD_(serial_number)

AP Wi-Fi IP address of the device:

- 192.168.4.1

Wi-Fi password:

- None (factory default)

Web page login:

- admin

Web page password:

- admin123

AP Wi-Fi timer:

- 30 minutes

NOTICE:

Default settings are for initial setup only. Installer must change all passwords before deployment and is responsible for device security.

Important notices

We support OSDP SIA certified or similar eqipments

OSDP Configuration

The Wireless Wiegand (WW) gateway wirelessly transmits access-control signals but does NOT configure, modify, or negotiate the communication protocols it transmits.

All protocol parameters must be configured directly on the controller and reader, per the manufacturer's instructions.

PROPRIETARY PROTOCOLS NOT SUPPORTED

The Wireless Wiegand (WW) gateway does NOT support proprietary or vendor-specific Wiegand or OSDP protocol implementations or extensions at this time.

Did you find an error or have a question? Please email us at https://support.lumiring.com.

Device Specifications

Voltage:

- 12 or 24 VDC operation
- USB Powered for site surveys
- The voltage at the outputs is determined by the power supply.
- 0.2A @12 VDC, 0.1A @ 24 VDC current consumption

Slave device:

- **Outputs:**
  - Four (4) dry form “C” 1.5A rated relay outputs
- **Inputs:**
  - Eight (8) dry contact inputs, 0 to 5 VDC
  - One (1) input (dry contact) 0 to 5 VDC for local emergency relay opening

ATTENTION:

Reader power is pass-through from the device's power supply. If the device is powered with 24V, the readers will receive the same power.

Master device:

- **Outputs:**
  - Eight (8) outputs (dry contact) from 0 to 5 VDC
- **Inputs:**
  - Four (4) relay control inputs (dry contact) from 0 to 5 VDC

Communication interfaces:

- Radio: 915 MHz (US, CA, MX, BR, AU, CO) or 868 MHz (EU)
- Wi-Fi 2.4 GHz: service only, not required for operation
- Two (2) Wiegand ports from 4 to 80 bits
- RS-485 / OSDP
- USB port (Type-C) for firmware update

Range:

- Tens of miles or more (depending on environment and elevation)

Encryption:

- AES-128

Dimensions (L x W x H):

- 5.9" x 3.15" x 1.38" (150 x 80 x 35 mm) excluding antenna

Mounting method:

- Wall mount/Din rail mount (option)

Weight:

- 5.36 oz (152 g)

Temperature:

- Operation: -40°F ~ 149°F (-40°C ~ 65°C)
- Storage: -40°F ~ 158°F (-40°C ~ 70°C)

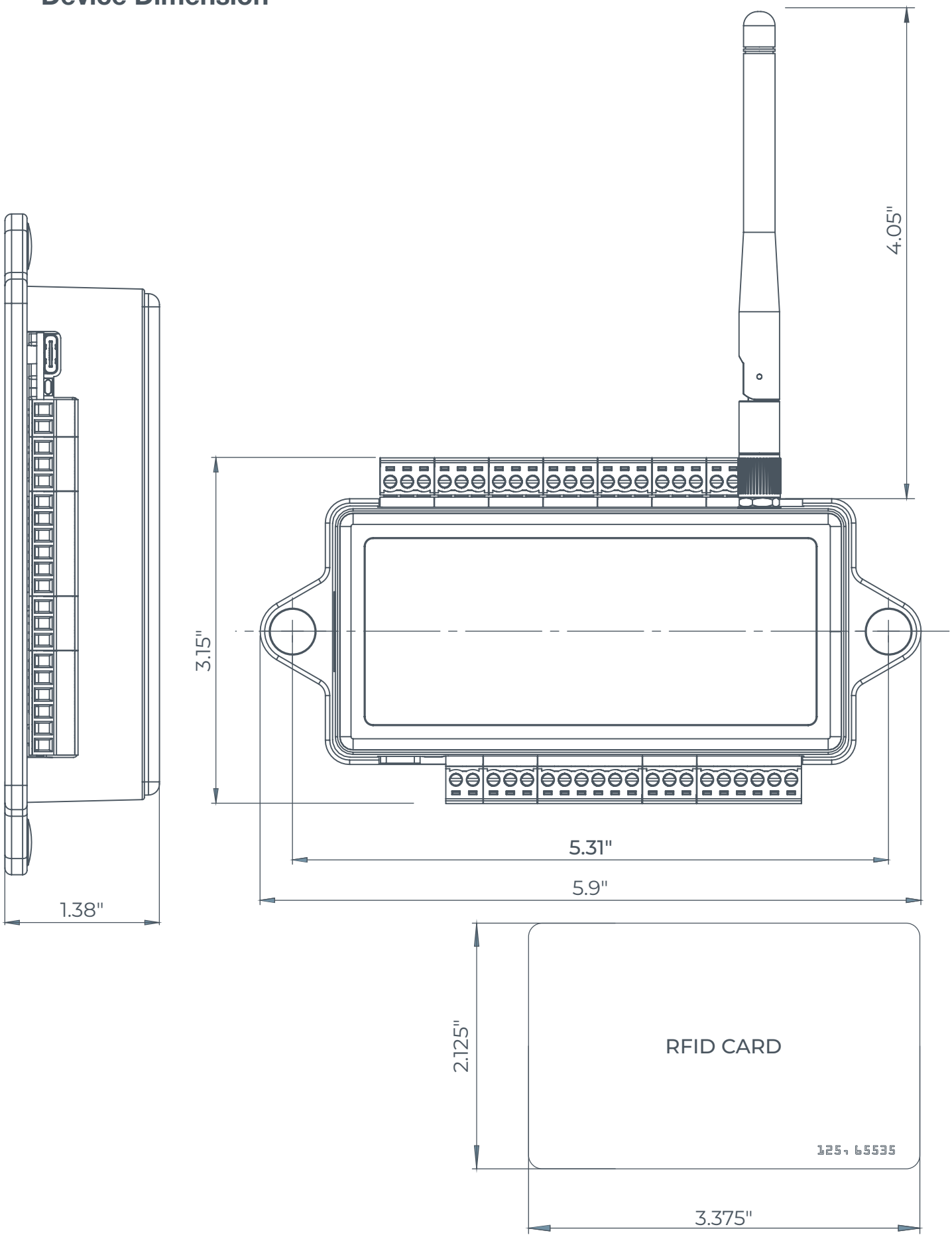
Relative humidity

- 5-85 % RH without condensation

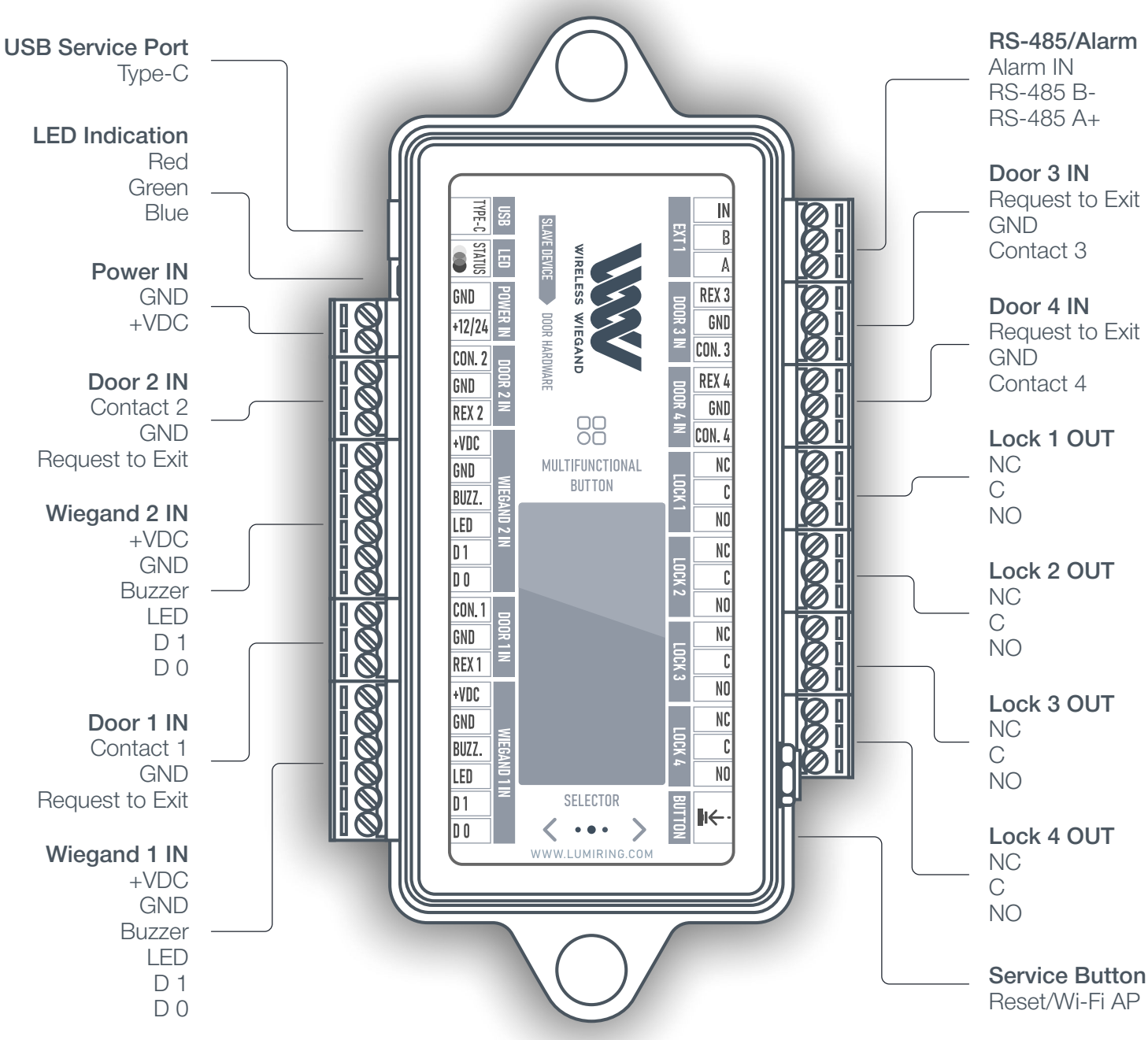
Ingress protection rating:

- IP 20

Device Dimension

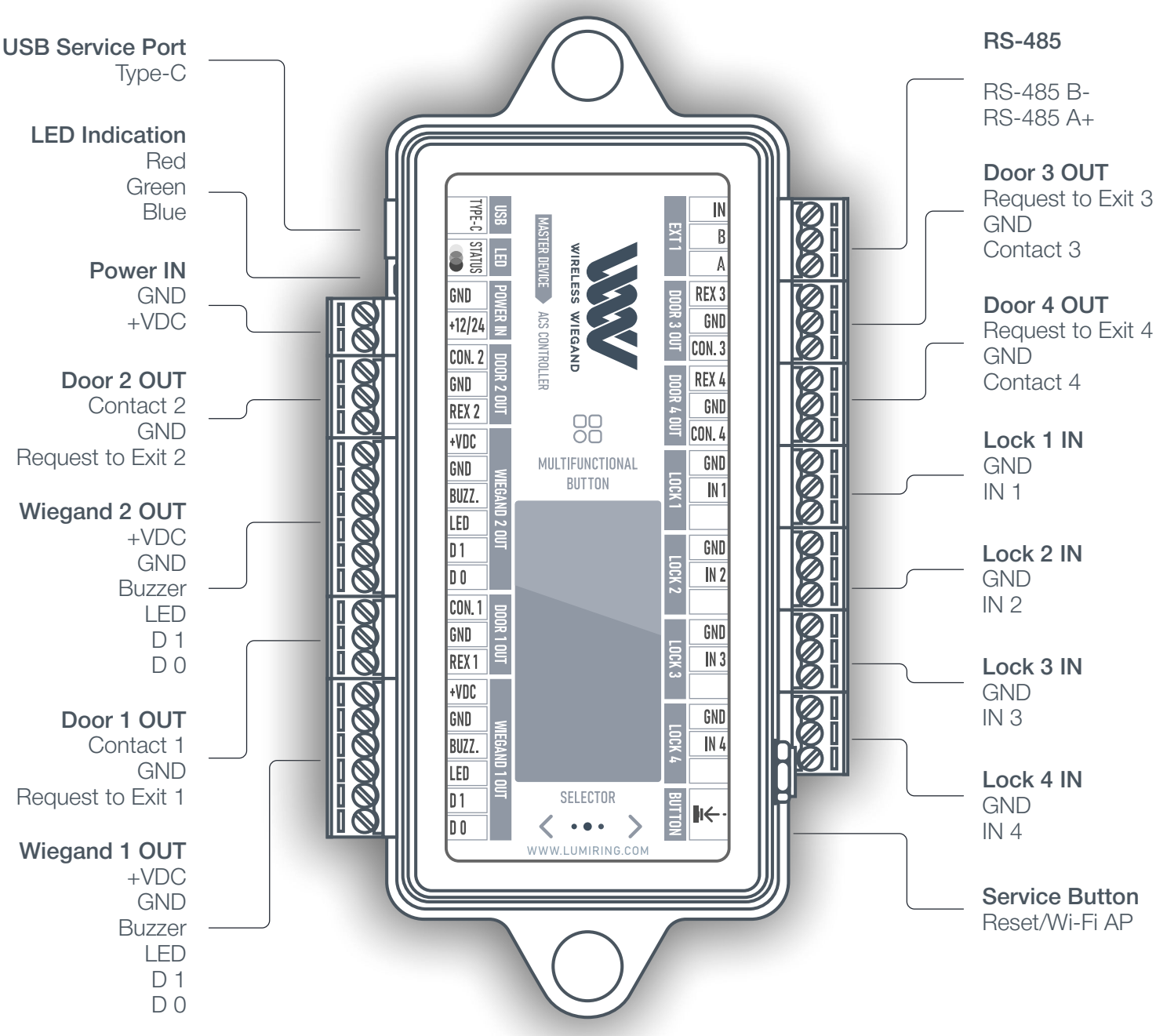


Slave Device Connection Terminals



The manufacturer reserves the right to modify the external pin assignments and their placement, as well as the appearance of the device without prior notice.
These changes may be made to improve functionality or ergonomics, or to comply with technical requirements and standards.
Users are advised to consult the latest versions of technical documentation and instructions before using the device.

Master Device Connection Terminals



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These changes may be made to improve functionality or ergonomics, or to comply with technical requirements and standards.
Users are advised to consult the latest versions of technical documentation and instructions before using the device.

Display

The information display is designed for the following functions:

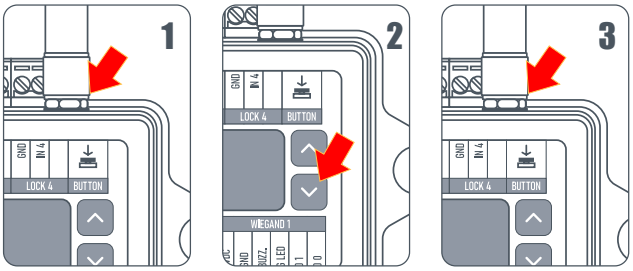
1. Displaying the current status of the device.
2. Providing information about the communication quality.
3. Displaying the operation history of the unit.
4. Control of inputs and outputs.
5. Displaying card codes read from connected readers.

This display provides operational data for:

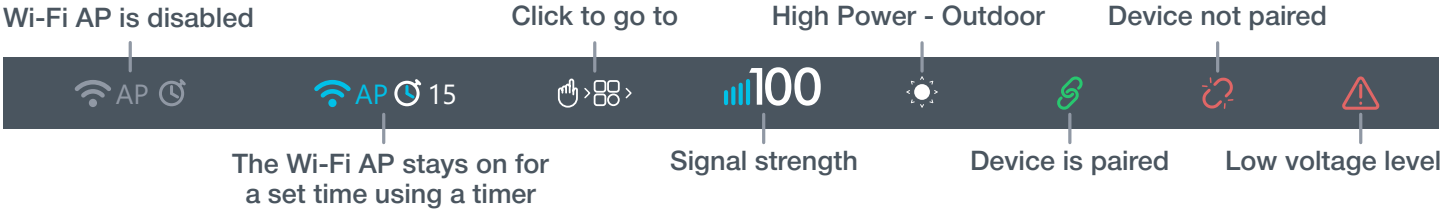
- Optimization of device placement.
- Analysing the quality of communication in the urban radio environment.

By default, the display control buttons are active after the device powers on. If the display control buttons are not active on your device after power-up, you can activate them with the following steps:

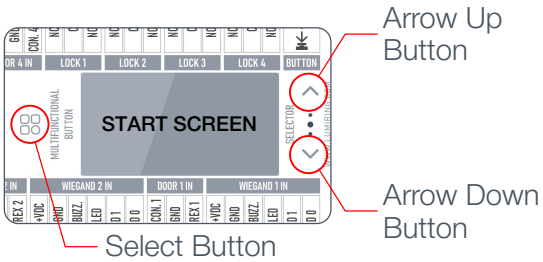
1. Briefly press the hardware side button.
2. Press the down button located at the top of the device.
3. Briefly press the hardware side button.

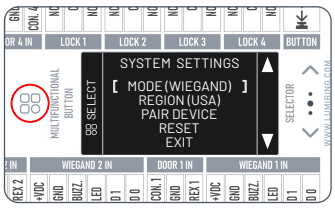


Device Designation



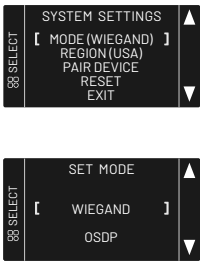
Interaction with Buttons





Enter Menu:
Press and hold the Select button until you hear a beep.

Change Mode(OSDP/Wiegand):

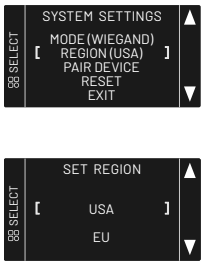


Use the arrow buttons to highlight MODE, then press Select

Use the arrow buttons to highlight target MODE, then press Select

Use the arrow buttons to highlight EXIT, then press Select

Change Region(USA/EU):



Use the arrow buttons to highlight MODE, then press Select

Use the arrow buttons to highlight target REGION, then press Select

Use the arrow buttons to highlight EXIT, then press Select

Reset device:

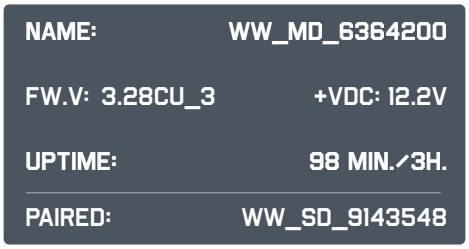
Use the arrow buttons to highlight RESET, then press Select

Display

Main screen:

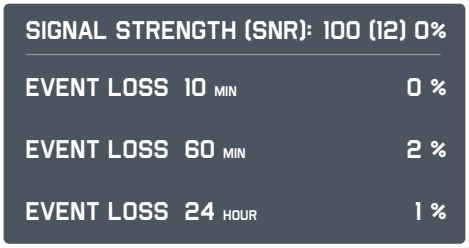
- Wi-Fi AP status and time to disconnect.
- Signal strength in percent.
- Firmware version
- Pairing status with the responding device.

Connected Disconnected



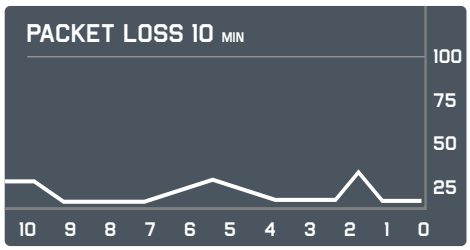
Device information:

- Name, type, and serial number.
- Firmware version & Current power supply voltage.
- Uptime in minutes & hours
- Type and serial number of paired device.



Device information

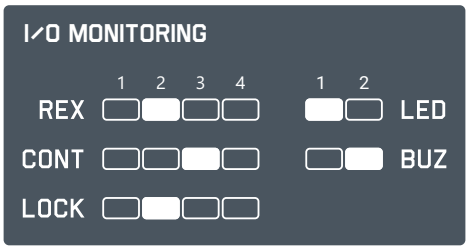
- Indicates the strength of the signal as a percentage ratio.
- Percentage of packet loss in the last 10 minutes.
- Percentage of packet loss in the last 60 minutes.
- Percentage of packet loss in the last 24 hours.



Packet Loss graph:

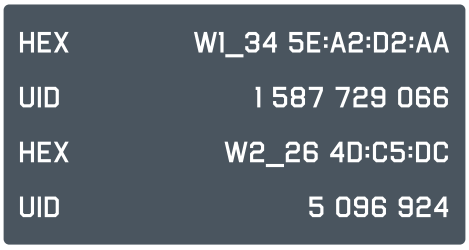
- Displays a packet loss graph for the last 60 seconds, 10 minutes, or 24 hours.
- Press the Up or Down button to select the desired timeframe.

Note: Statistics are reset when the unit is switched off.



Input and output monitor

- REX activation status 1 to 4.
- CONT(Contact). activation status 1 to 4. (Door Position Sensor)
- LOCK activation status 1 to 4.
- LED 1, 2 and BUZ 1, 2 activation status.



Display of the transmitted code *

- HEX in hexadecimal.
- UID (Unique identifier) serial number or pin code.
- Data source: W1, W2, or OSDP address.
- Data bit format: 4 to 80 bits.

***Only if Enabled in Web-interface**

Understanding the information displayed

- All incoming data is displayed sequentially on the screen. The new code is displayed at the bottom.
- The values in front of the data in HEX indicate the Wiegand port number and the number of data bits. This display is the same for all ports with incoming data, including OSDP readers.

For example: W2_26 AE:25:CD indicates that the data came from the Wiegand 2 port in 26 bits. The hexadecimal code follows.

- Unique identifier (UID) data values should be understood as an interpretation of decimal data.

Installation Recommendations

Warning! Do not turn on devices without antennas installed! Doing so may damage the radio module and cause premature failure of the device!

Connecting the OEM antenna

- The antennas are screwed to the devices before powering up.
- The antenna connector should be tightened by hand, without the use of improvised tools or excessive force.
- Tighten the connector completely and make sure that it does not unscrew when the antenna is rotated.

Connecting the Antenna Extension Cord (optional accessory)

Antenna cable:	The wave impedance of the cable is 50 ohms.
Length:	33 ft (10 m) MAX.
Input connector:	RPSMA-Female (jack).
Output connector:	RPSMA-Male (plug).
Antenna RPSMA-Female (jack):	Operating frequency 868-915MHz.

Placement and Wiring

- The maximum range increases when devices are placed over obstacles or in direct line of sight of each other.
- Try to choose Choose the best possible location for installation the best location for installation, away from sources of strong radiation such as cellular repeaters, overhead power lines, electric motors, etc.
- The minimum distance between active radio transmitters is determined by their performance in the radio environment.
- Test results show optimal operation of three active radio transmitters at a distance of one meter from each other. When the number of active radio transmitters increases, delays in radio exchange are observed due to the creation of intensive radio interference.
- Avoid placing the device on metal surfaces, as this may reduce the quality of the radio connection.
- The device is attached to the installation site so that the antenna to be folded is pointing perpendicularly upwards.

Connecting Power to the Device

- Use a power cable with a suitable cross-section to supply the current consumption of the connected devices. Make sure to use two separate power supplies for the device and the actuators.

Wiegand Connection

- Use the same Wiegand format and byte order to connect the readers to avoid differences in card code reading and subsequent confusion in the system.
- The Wiegand communication line length should not exceed 328 ft (100 m). If the communication line is longer than 16.4 ft (5 m), use a UTP Cat5E cable. Keep at least 1.5 ft (0.5 m) away from power cables.
- Keep the reader power line wires as short as possible to avoid a significant voltage drop across them. After laying the cables, ensure the power supply voltage to the reader is at least 12 VDC when the locks are on.

Connecting OSDP

- The OSDP uses an RS-485 interface that is designed for long-distance communications. It operates at up to 3,280 ft (1,000 m) with good resistance to noise interference.
- The OSDP communication line should be far from power cables and electric lights. A single twisted pair, shielded cable, 120 impedance, 24 AWG should be used as the OSDP communication line (if possible, ground the shield at one end).

Installation Recommendations

Connecting Electric Locks

- Connect devices via relays if galvanic isolation from the device is needed or if you need to control high-voltage devices or devices with significant current consumption.
- To ensure reliable system operations, it is best to use one power source for the controllers and a separate one for the actuators.

Protection Against High Current Surges

- A protective diode protects the devices from reverse currents when triggering an electromagnetic or electromechanical lock. A protective diode or varistor is installed near the lock parallel to the contacts.

THE DIODE IS CONNECTED IN REVERSE POLARITY.

Diodes: (Connect in reverse polarity)	**SR5100, SF18, SF56, HER307,** and similar.
Varistors: (No polarity required)	**5D330K, 7D330K, 10D470K, 10D390K,** and similar.

Recommendations for Connection

- Make all connections only when the power is off.
- The wires are only connected to the removable terminal blocks.
- Be sure to check the correct connection before switching on the unit.

Pairing

1. Connect the master device to a power source. Ensure the LED indicator flashes blue, indicating the pair search mode.
2. Connect the slave device to a power source. Also, ensure the LED indicator blinks blue to indicate the pair search mode.
3. When first powered out of the box or after a hardware reset, the units automatically go through the pairing procedure, which takes approximately 10 seconds.
4. Once this procedure is complete, the kit is ready for use.

Pairing and Unpairing Devices

Important

Manual pairing is supported starting with firmware version V3.028 and higher.
Older firmware versions performed automatic pairing after a full reset.

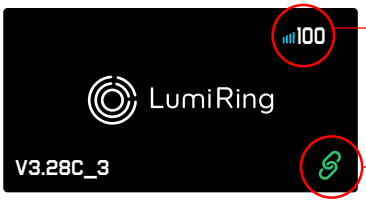
Automatic Pairing (older firmware versions):

- On first power-up or after hardware reset, both devices enter pairing mode automatically (no user action needed).
- Wait ~10 seconds ⟶ devices pair automatically.

Manual Pairing (firmware V3.028 and higher):

- Turn on Master device ⟶ press any button.
- Press and hold Down button until long beep and screen changes.
- Select YES to enter pairing mode.
- Repeat on Slave device.
- Wait 3–10 seconds ⟶ devices pair automatically.

Paired Device Indicators:

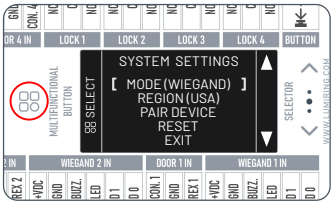


Signal level

Status paired

Installation Recommendations

Manual Pairing (firmware V5.008 and higher):



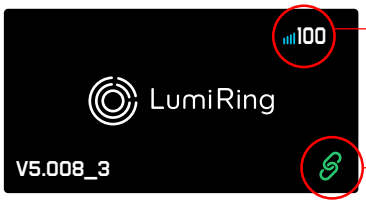
Enter Menu:
Press and hold the Select button until you hear a beep.

Use the arrow buttons to highlight PAIR DEVICE, then press Select

Use the arrow buttons to highlight target PAIRING MODE, then press Select

Indication LED starts blink BLUE

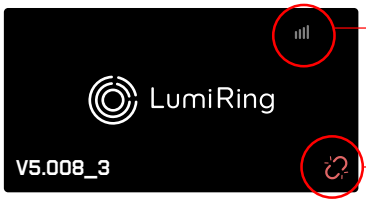
REPEAT ALL STEPS ON ANOTHER DEVICE



Signal level

Status paired

Paired Device Indicators:



No Signal level

Status unpaired

Unpaired Device Indicators:

Automatic Recovery in Case of Connection Loss

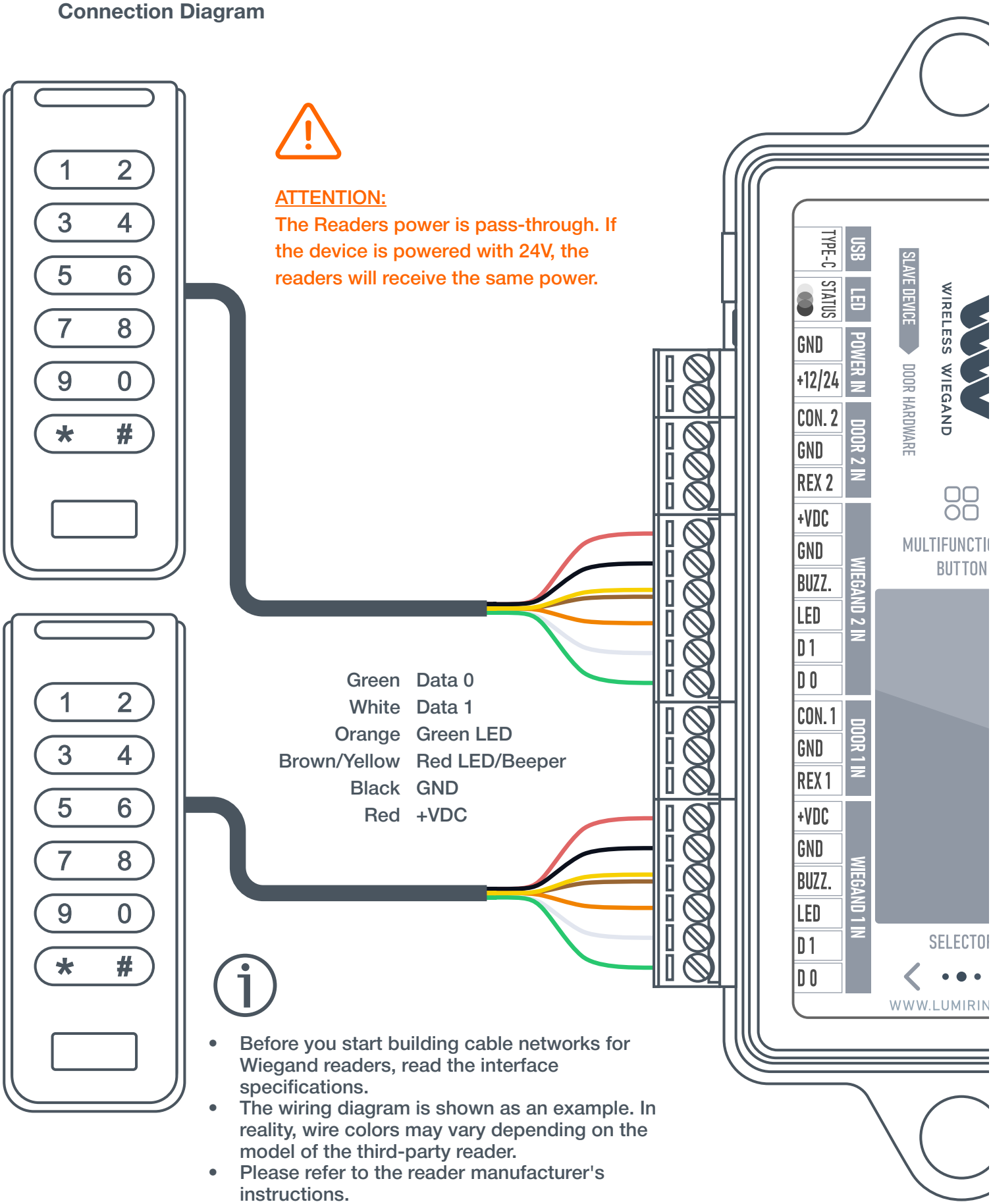
- Over time and during operation, the surrounding radio environment can change, leading to communication failures and reduced operating distance.
- In the event of a dropped connection or power failure, the device will make several attempts to resume communication, including resetting the radio module and a complete restart.
- If the device receives no response, it will enter standby mode.
- Once communication is restored, the unit will automatically resume operation. In some cases, it may take up to one minute from the time the kit is started to re-establish the connection.

Pairing Features

- When performing device pairing, master-slave device sets should be turned on one at a time.
- If multiple unpaired sets are powered up at the same time, a collision may occur, resulting in erroneous data exchange on the first power-up, and therefore full operation will not be possible.

Slave Device: Wiegand Readers

Connection Diagram

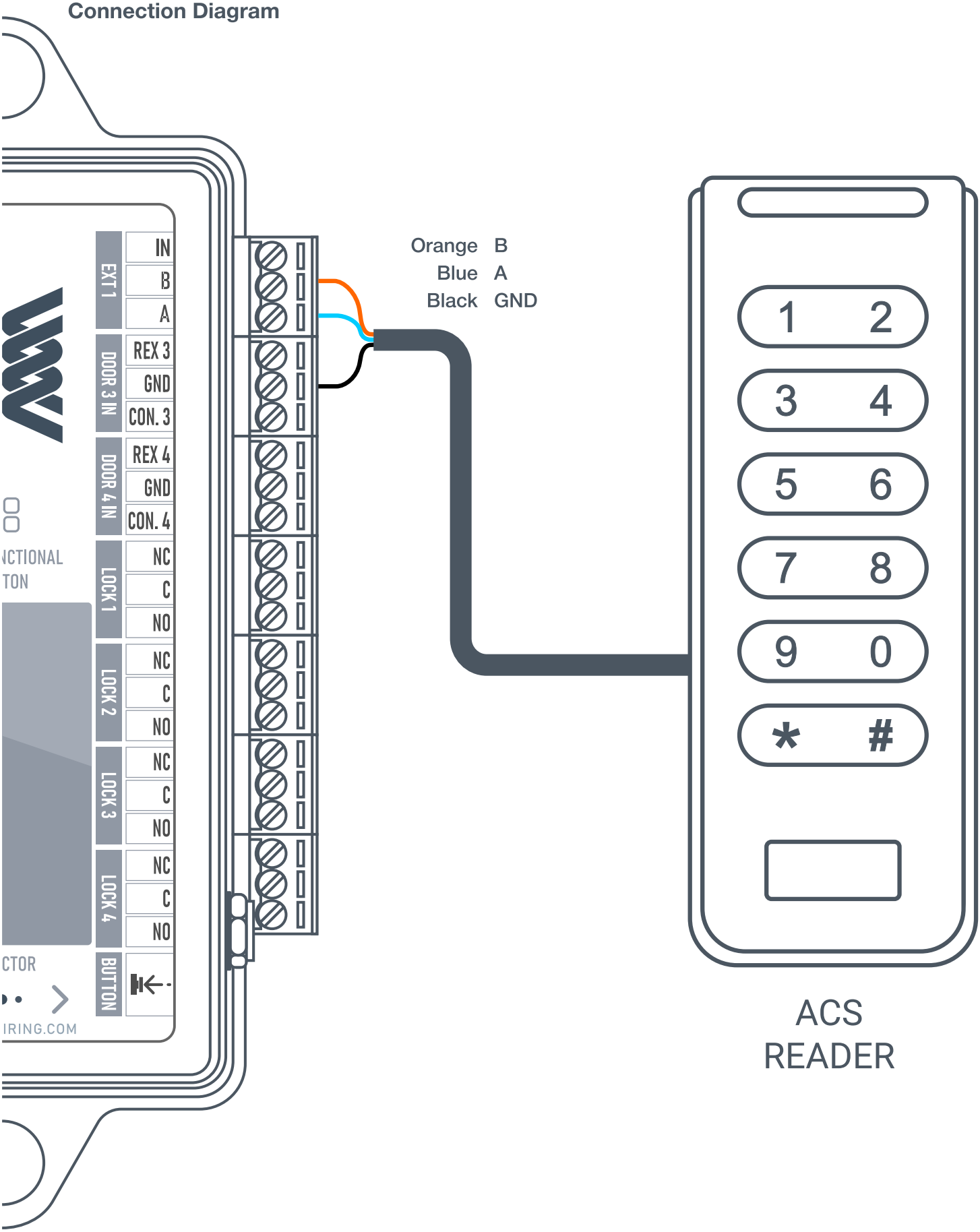


ATTENTION:
The Readers power is pass-through. If the device is powered with 24V, the readers will receive the same power.

- Before you start building cable networks for Wiegand readers, read the interface specifications.
- The wiring diagram is shown as an example. In reality, wire colors may vary depending on the model of the third-party reader.
- Please refer to the reader manufacturer's instructions.

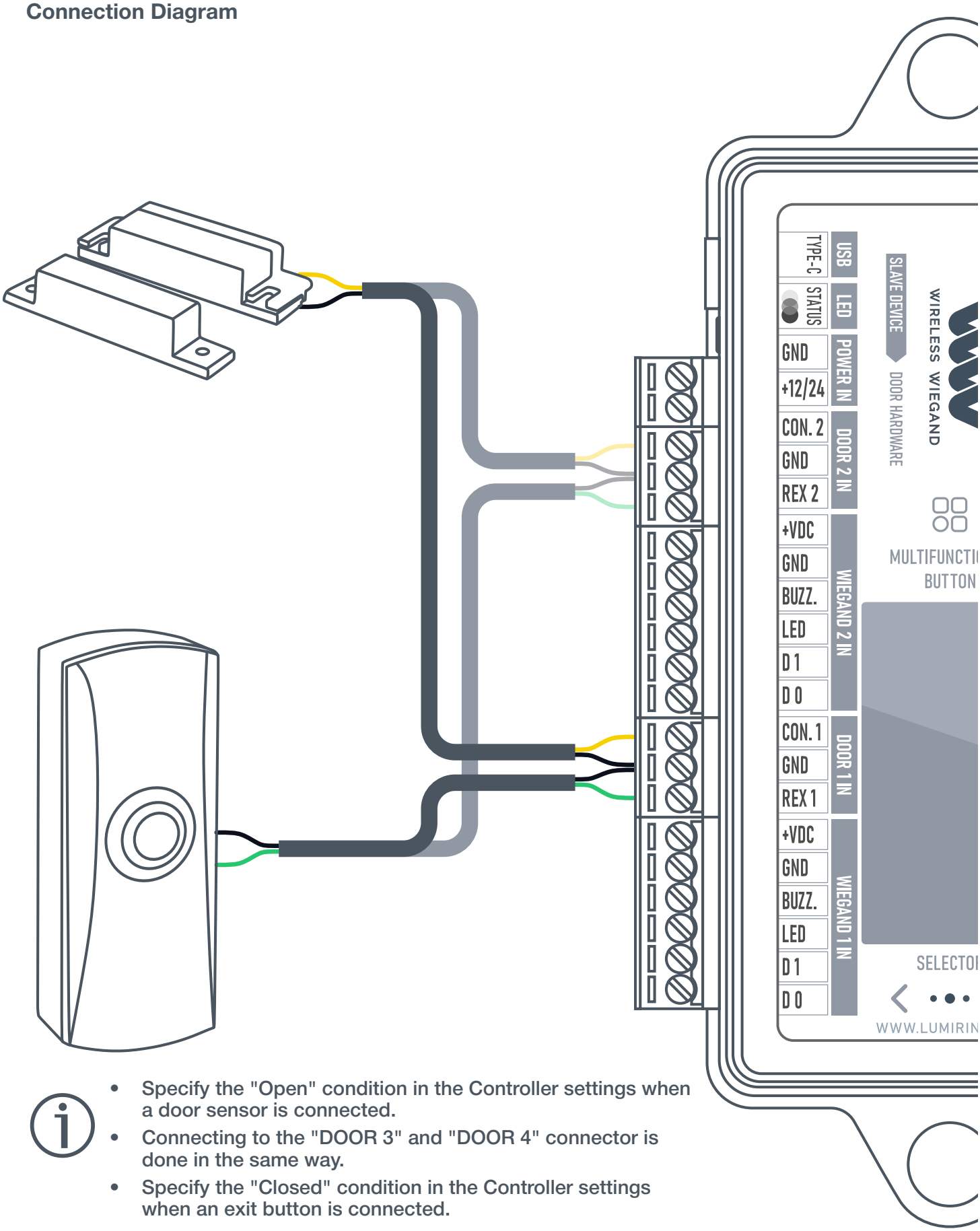
Slave Device: OSDP Readers

Connection Diagram



Slave Device: Door Sensor and Exit Button

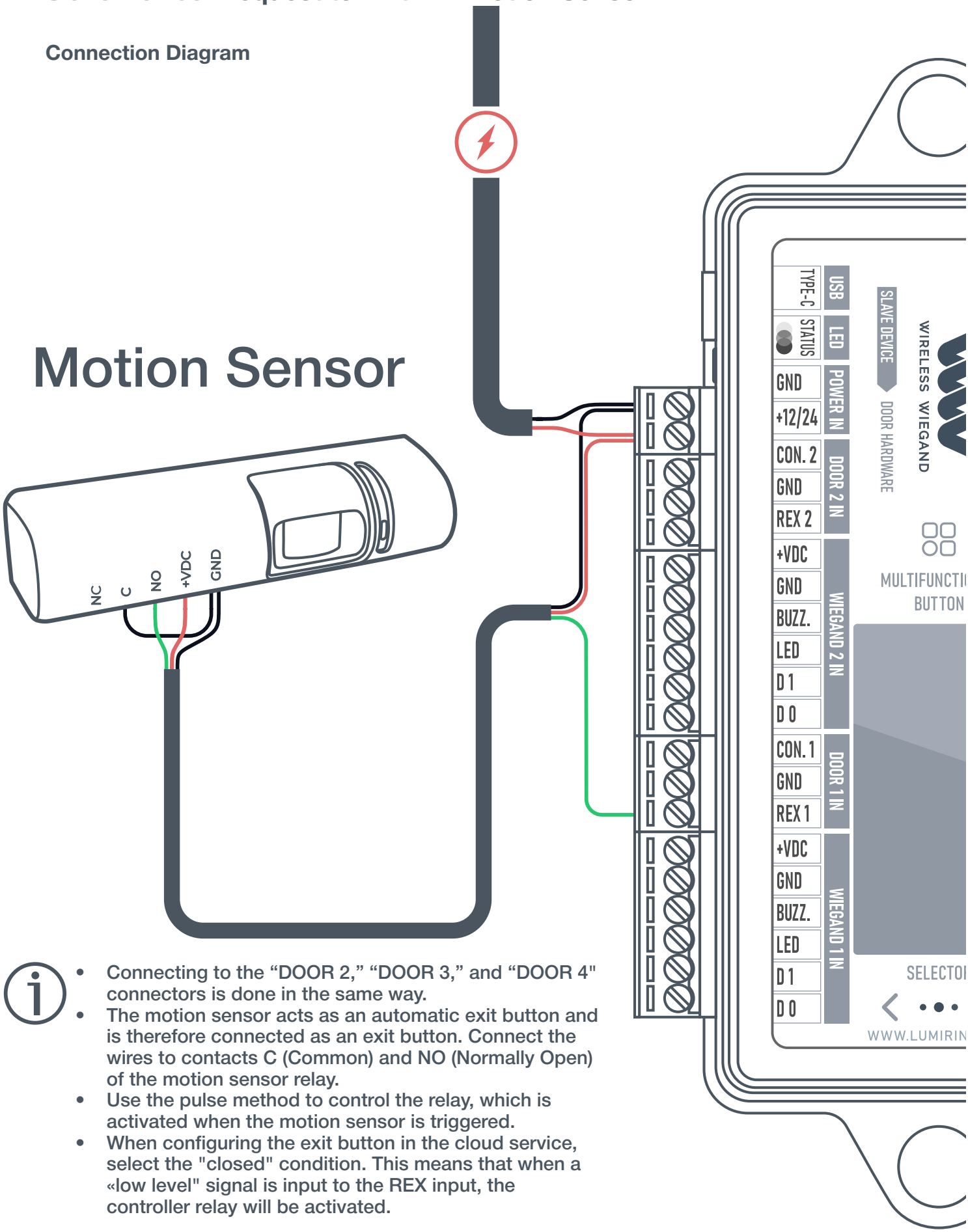
Connection Diagram



- Specify the "Open" condition in the Controller settings when a door sensor is connected.
- Connecting to the "DOOR 3" and "DOOR 4" connector is done in the same way.
- Specify the "Closed" condition in the Controller settings when an exit button is connected.

Slave Device: Request to Exit PIR Motion Sensor

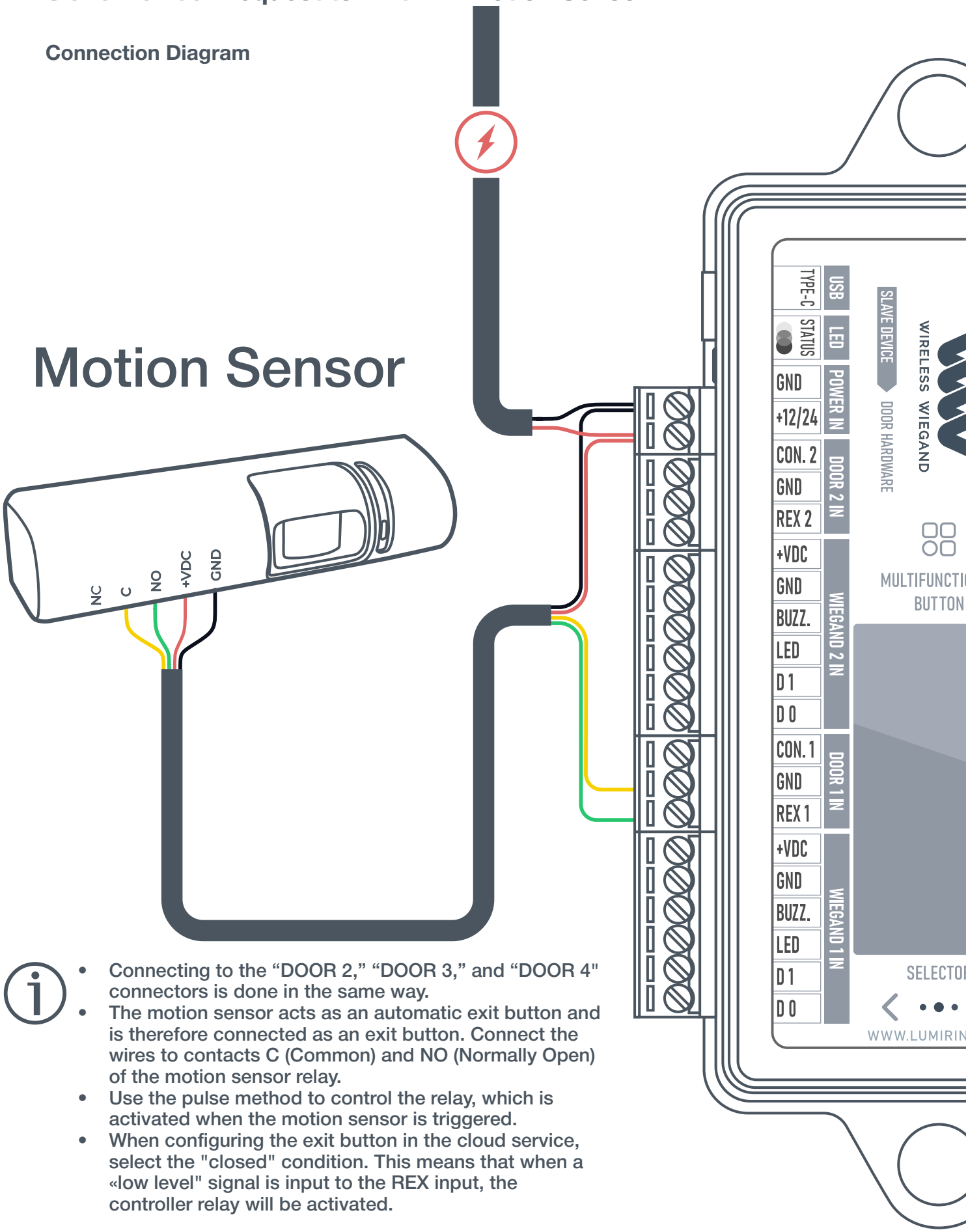
Connection Diagram



- Connecting to the “DOOR 2,” “DOOR 3,” and “DOOR 4" connectors is done in the same way.
- The motion sensor acts as an automatic exit button and is therefore connected as an exit button. Connect the wires to contacts C (Common) and NO (Normally Open) of the motion sensor relay.
- Use the pulse method to control the relay, which is activated when the motion sensor is triggered.
- When configuring the exit button in the cloud service, select the "closed" condition. This means that when a «low level" signal is input to the REX input, the controller relay will be activated.

Slave Device: Request to Exit PIR Motion Sensor

Connection Diagram



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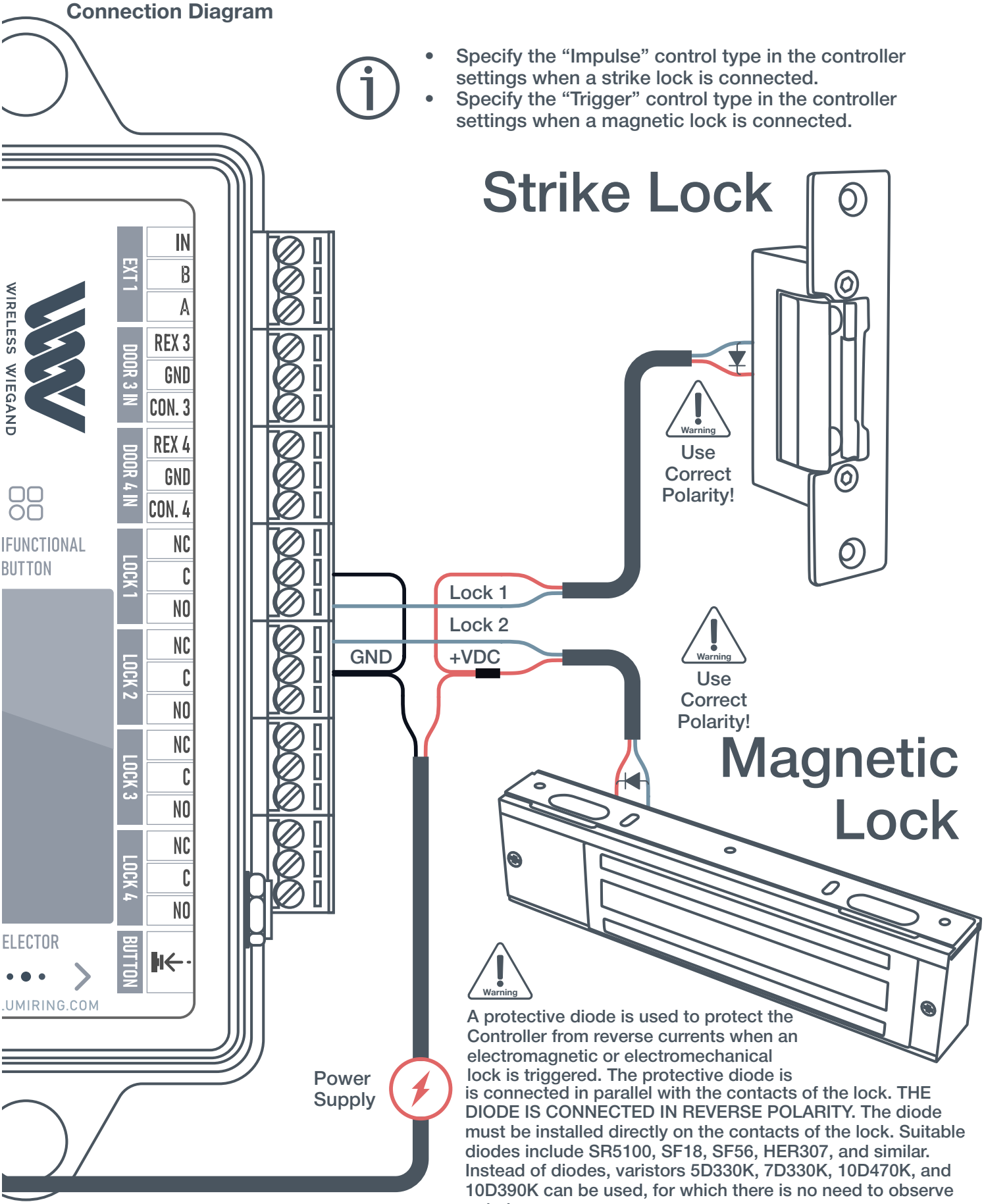
- The motion sensor acts as an automatic exit button and is therefore connected as an exit button. Connect the wires to contacts C (Common) and NO (Normally Open) of the motion sensor relay.
- Use the pulse method to control the relay, which is activated when the motion sensor is triggered.
- When configuring the exit button in the cloud service, select the "closed" condition. This means that when a «low level" signal is input to the REX input, the controller relay will be activated.

Connection Diagram

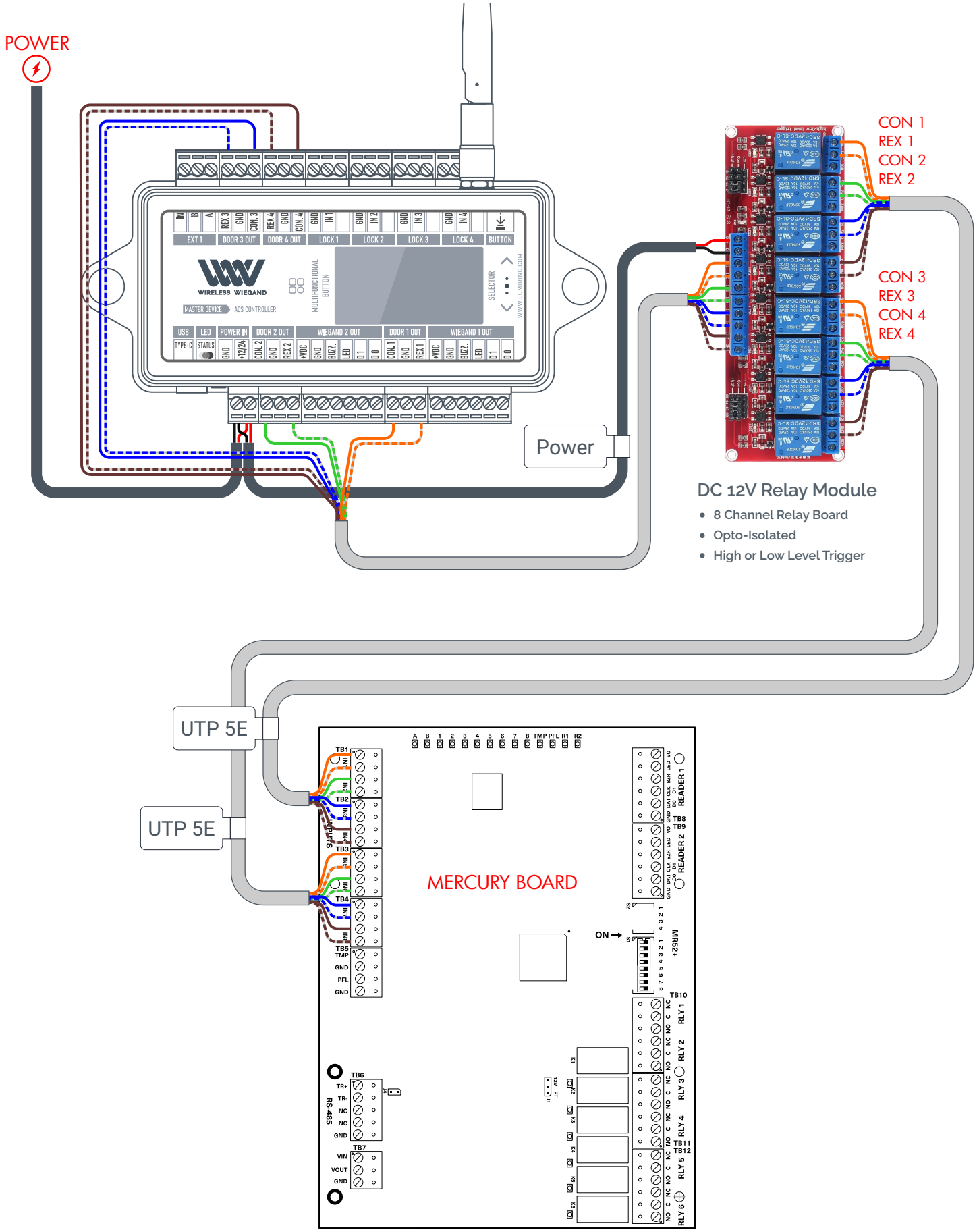
- Specify the “Impulse” control type in the controller settings when a strike lock is connected.
- Specify the “Trigger” control type in the controller settings when a magnetic lock is connected.



A protective diode is used to protect the Controller from reverse currents when an electromagnetic or electromechanical lock is triggered. The protective diode is is connected in parallel with the contacts of the lock. THE DIODE IS CONNECTED IN REVERSE POLARITY. The diode must be installed directly on the contacts of the lock. Suitable diodes include SR5100, SF18, SF56, HER307, and similar. Instead of diodes, varistors 5D330K, 7D330K, 10D470K, and 10D390K can be used, for which there is no need to observe polarity.

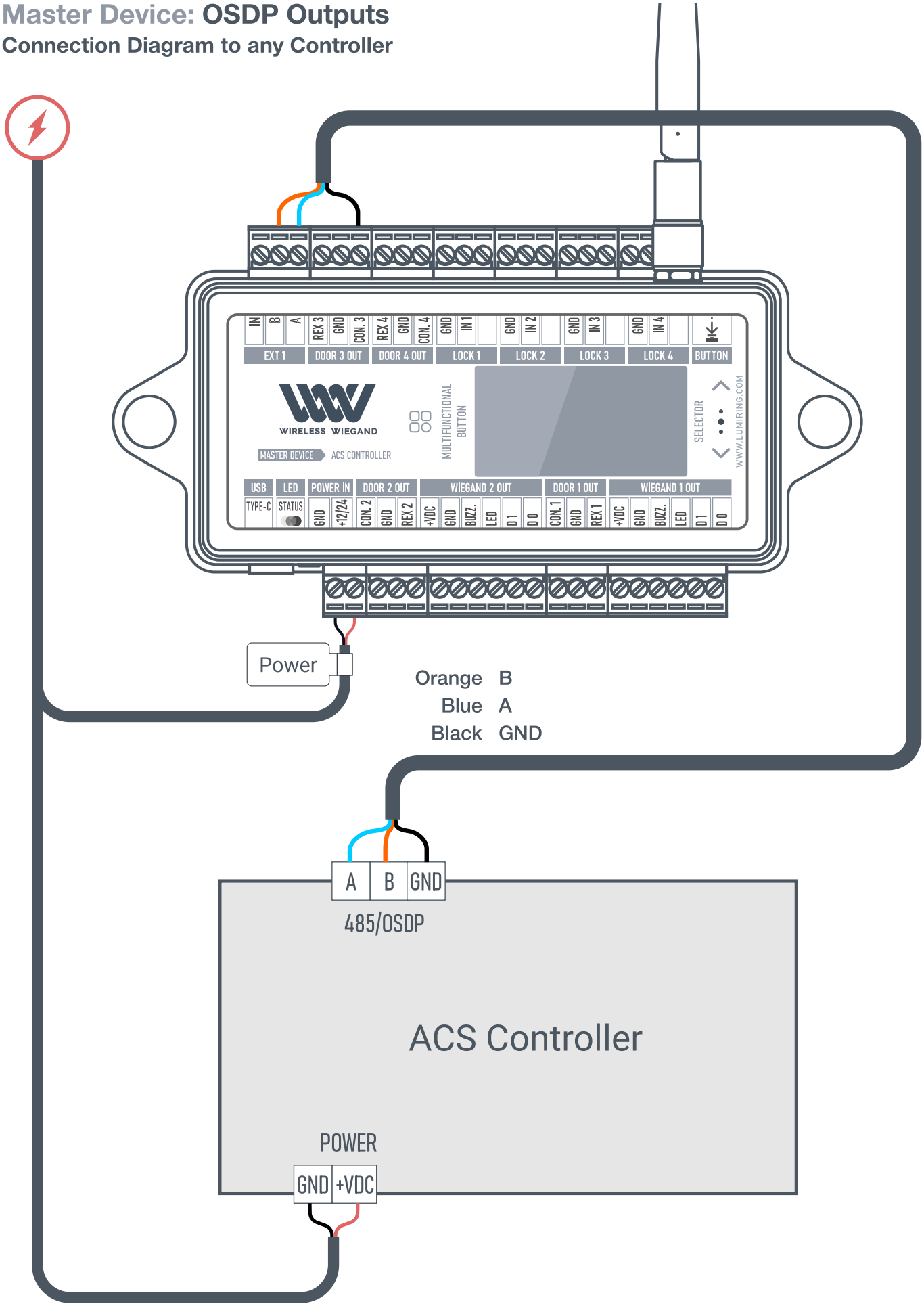
Master Device: REX & Contact outputs

Connection Diagram to the Mercury board /*For use with non-supervised input mode* /

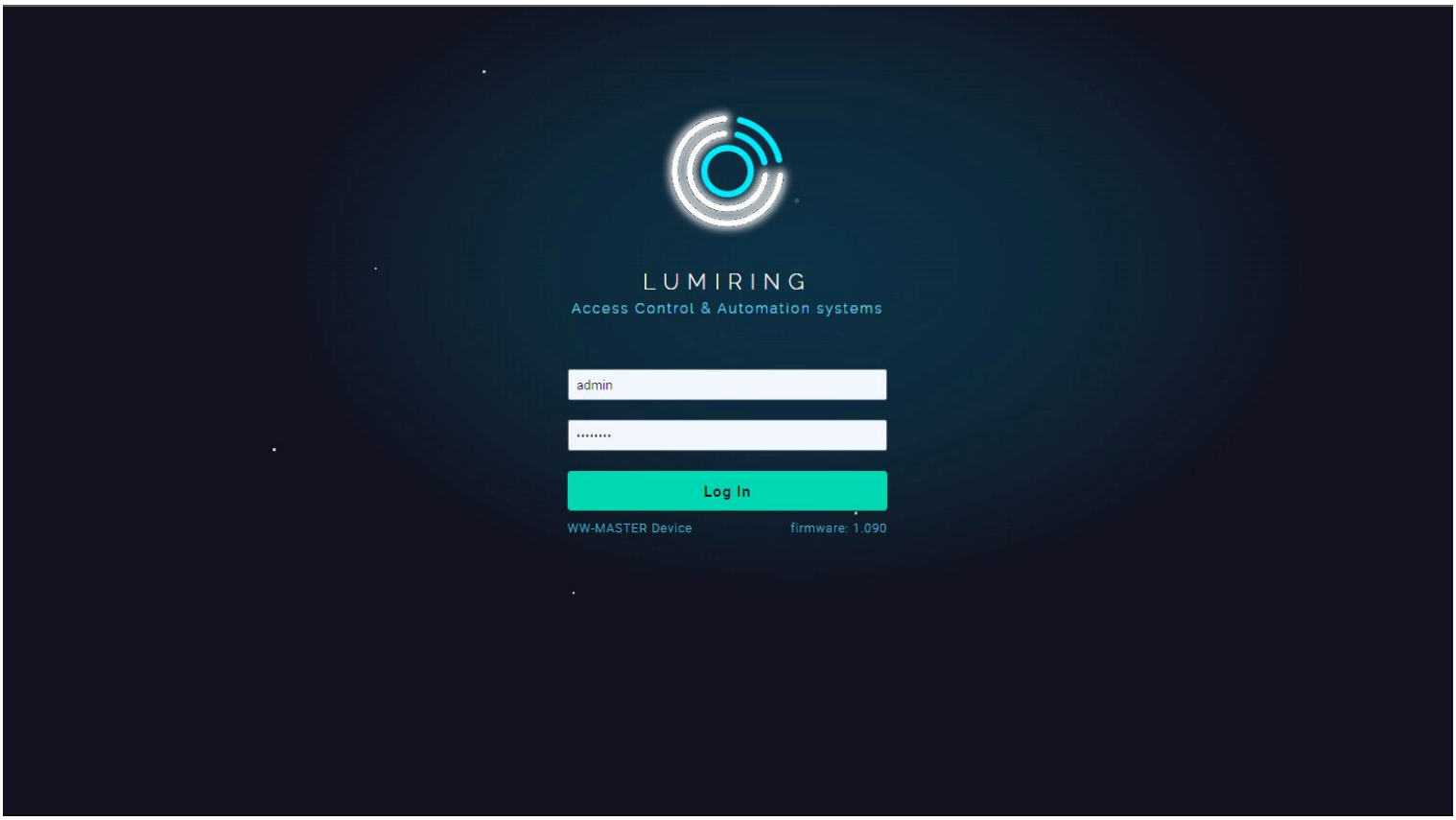


Master Device: OSDP Outputs

Connection Diagram to any Controller



Login



Connecting to a Wi-Fi Access Point

Connecting to the built-in web server

Step 1. Connect the device to the +12 VDC power supply. Wait for the device to start up.

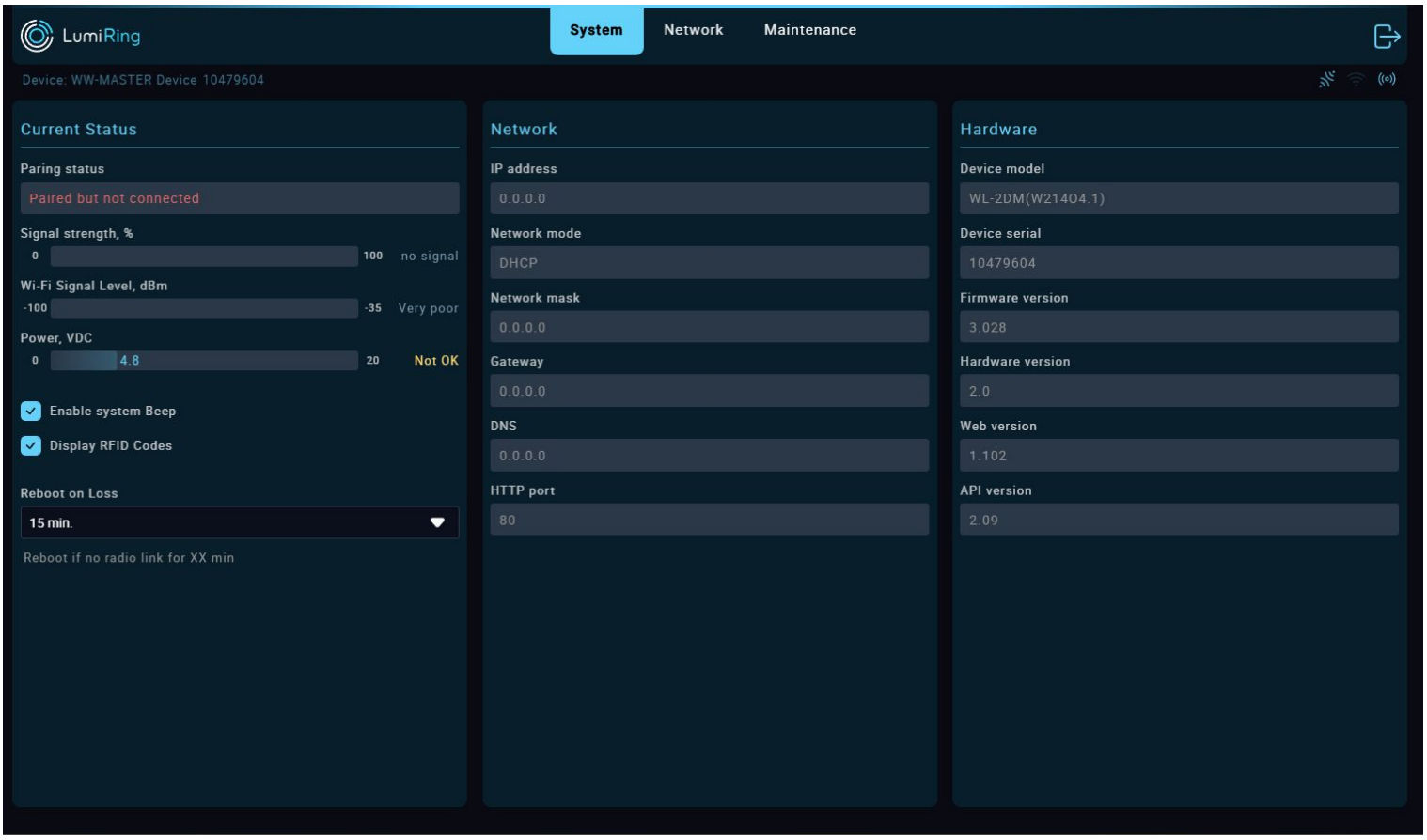
Step 2. Quickly press the button near the antenna and then release it to turn on the Wi-Fi hotspot.

Step 3. From your PC or cell phone, search for Wi-Fi networks. Select the device named WW_MD_xxxxxxxxx or WW_SD_xxxxxxxxx and click Connect.

Step 4. In the address bar of your browser, enter the factory IP address (192.168.4.1) and press “Enter.” Wait for the start page to load.

Step 5. Enter the user name and password (if they have already been set) and press “Enter.” If the device is new or has been previously reset, enter login: **admin**, pass: **admin123** and press “Enter.”

System



The System section displays the current status of the device, advanced network connection information, and device version information.

The Current Status column contains the:

- Status of the connection with the pairing device.
- Radio signal strength.
- Connection level when connected to the Wi-Fi router.
- Power supply voltage level.
- The check box for Enable/Disable system audio notifications
- The check box for Enable/Disable Wiegand codes page on device screen
- Time settings for reboot device if connection between Master and Slave Devices is lost

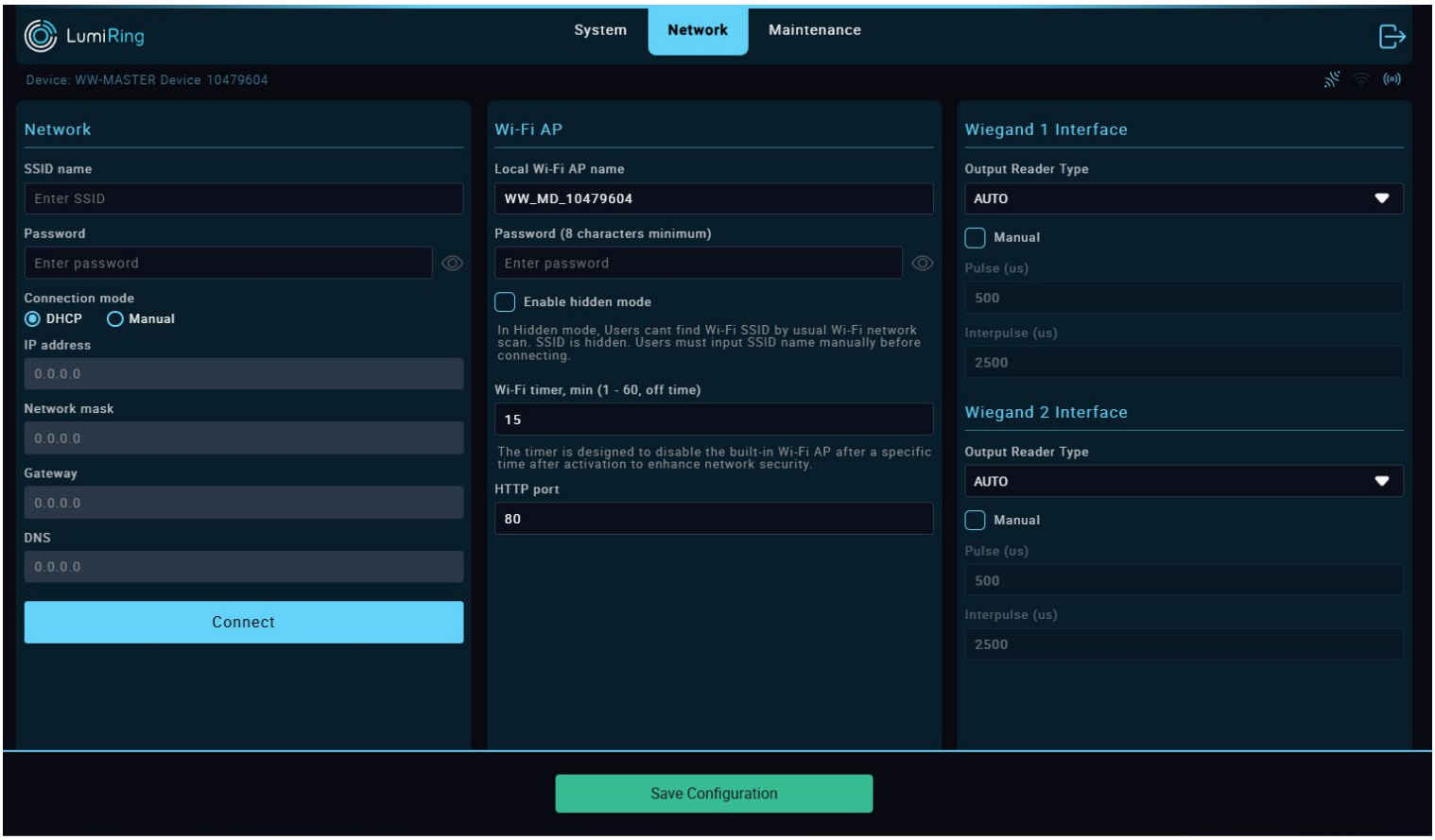
The Network column contains the:

- IP address used by the device.
- Network mode - Manual or Dynamic Host Configuration Protocol (DHCP).
- Network mask.
- Gateway.
- Domain Name System (DNS).
- Hypertext Transfer Protocol (HTTP) port used by the device.

The Hardware column contains the:

- Device model.
- Device serial number.
- Firmware version.
- Hardware version.
- Web version.
- Application programming interface (API) version.

Network



The Network section provides the ability to configure the built-in Wi-Fi hotspot, including connecting to the Internet, changing the Wi-Fi network name, and setting a password.

Network

- Click in the SSID Name field to search for available Wi-Fi networks and enter the password to connect.
- If the network to connect to is hidden, wait for the search results and enter the network name manually.
- Select DHCP to get automatic network settings or Manual to enter network settings manually, then click «Connect."

Wi-Fi Access Point (AP)

- In the "Local Wi-Fi AP Name" field, enter the network name of the device.
- In the "Password" field, enter the connection password (not set by default).

Hidden Mode

- The "Enable Hidden Mode" checkbox hides the network name of the device's access point when searching.
- To connect to the device when it is in hidden mode, you need to know its name and enter it manually when connecting.

Wi-Fi timer

- In the "Wi-Fi timer, min" field, enter a value from 1 to 60 minutes. If set to 0, AP stays ON after short service-button press.

HTTP port

- Used to access the Web interface of the device.
- By default, the device uses port 80.

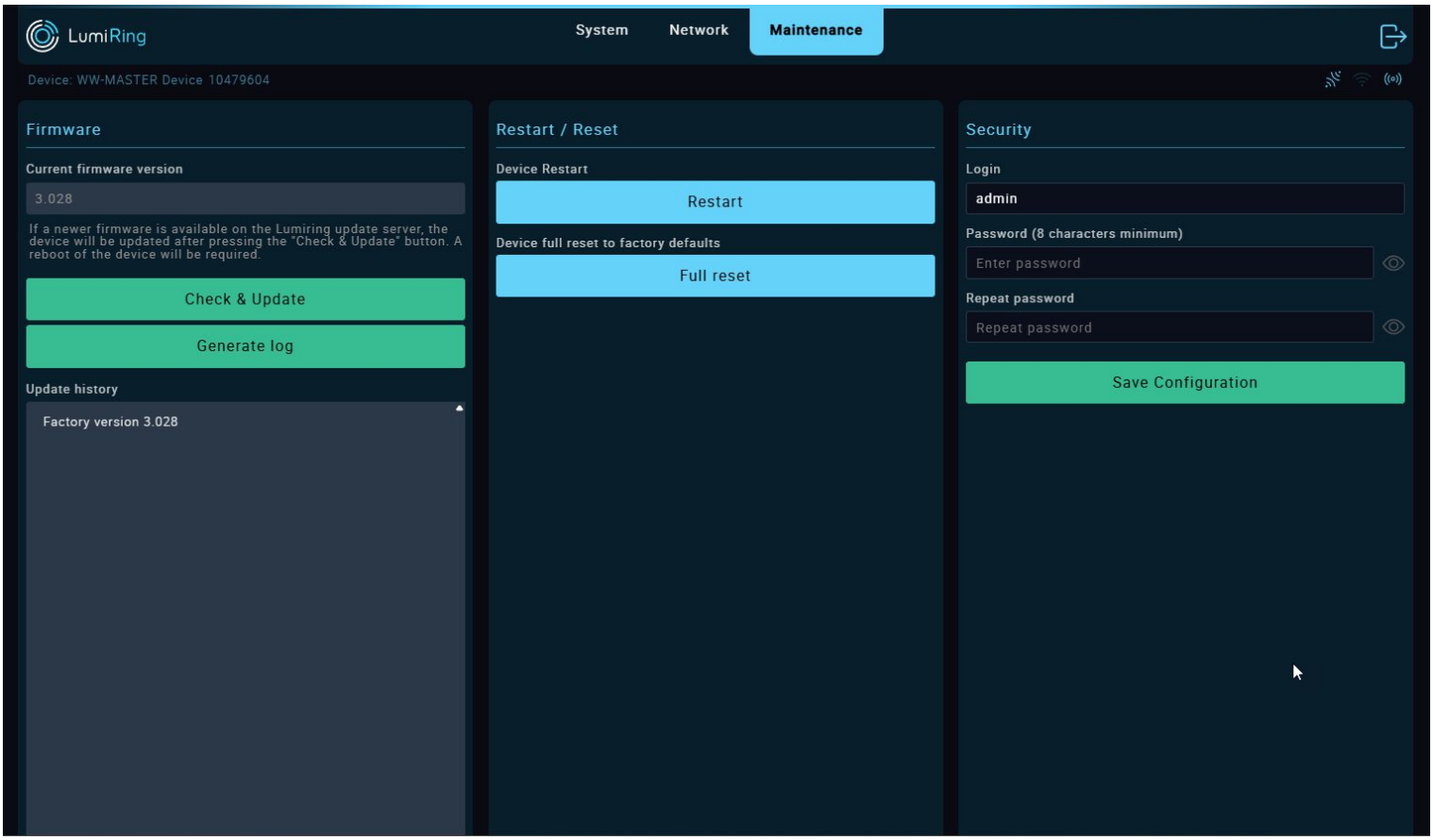
Relay blocking prevention

Note: The function is only configurable on the slave device.

- This feature prevents the relay from getting blocking.
- If the communication with the master device is lost, the chosen relays will revert to their previous state after the specified time in the Timer field.

- Settings for Wiegand 1 & Wiegand 2 interfaces for fine-tuning the Wiegand protocol for compatibility of equipment from different manufacturers. **Don`t set check-box Manual - only for service purposes.**
  - AUTO - For common devices
  - HID timing - For HID devices
  - LUMIRING timing - for LumiRing devices
  - LIFTMASTER timing - for Liftmaster devices

Maintenance



The Firmware section displays the current version of the unit's firmware.

Note: It is recommended to upgrade the device to the latest firmware version before use.

Note: The device must be connected to the Internet and close to a Wi-Fi router during the update.

- To download a new firmware version, connect to a network with Internet access in the Network section.
- Click the “Check & Update” button and wait until the update process completes.
- A modal window will prompt you to reboot the device.
- After restarting, verify that the device version has changed.

Note: The update duration depends on the Internet connection quality and firmware version but usually takes a maximum of 5 minutes.

If the update takes more than 5 minutes, forcibly reboot the device by switching off the power and trying the update again.

A power failure or network connection interruption during the update may cause a firmware update application error.

If this happens, disconnect power from the device for 10 seconds and reconnect.

Leave the unit switched on for 5 minutes without attempting to connect or log into the web interface.

The unit will automatically download the latest previously used firmware version and resume operation.

The Restart/Reset subsection performs the following actions:

- Restart - restarts the device.
- Full reset - resets all settings of the device to factory defaults.

The Security subsection is used to change the password for logging into the interface of the device:

- Enter the new login password and confirm it.
- Apply the changes by clicking “Update.”

The new password can be used the next time you log into the device interface.

System Log Retrieval

CRITICAL WARNING: VOLATILE MEMORY LOSS

DO NOT POWER OFF OR REBOOT THE DEVICE! System logs are stored entirely within volatile memory (RAM). ANY loss of power, manual power cycle, cable disconnection, or system reboot will INSTANTLY AND PERMANENTLY ERASE all accumulated diagnostics, error histories, and event data. Keep the unit continuously powered until the log file is fully downloaded to your computer or phone.

If you encounter technical issues, pairing faults, or communication anomalies, follow these exact chronological steps to successfully retrieve and download diagnostic system logs from the internal web interface for Lumiring Technical Support analysis.

Step-by-Step Retrieval Procedure

1. **Activate the Built-in Wi-Fi Access Point**

   Locate the hardware service button positioned on the side of the device housing near the antenna. **Press and release the service button quickly (1-second short press).**

   Visual Confirmation: The status LED indicator on the unit will turn **Solid White**, indicating that the local Wi-Fi Hotspot is now broadcasted and active.

2. **Connect Your PC or Mobile Device to the Unit's Wi-Fi**

   Open the Wi-Fi connection utility on your laptop, computer, or smartphone and scan for wireless networks. Look for the network matching the device identifier structure:

   `WW_MD_XXXXXXXXX` (Master Device) or `WW_SD_XXXXXXXXX` (Slave Device)

   Select the network and click **Connect**. No password is required by default under standard factory configuration.

3. **Open the Web Interface via Local IP Address**

   Launch a standard modern web browser (such as Google Chrome, Apple Safari, or Microsoft Edge). Click into the address bar at the very top, type the absolute factory IP address exactly as shown below, and hit **Enter**:

   `192.168.4.1`

System Log Retrieval

4 Log In Using Factory Administration Credentials

When the login portal appears on your screen, fill in the username and password fields using the factory standard values:

Username: `admin`
Password: `admin123`

Click the **Log In** button to access the main status overview dashboard.

5 Navigate to the Maintenance Tab

Look at the top horizontal menu bar located on the web dashboard interface page. Locate and click directly on the tab labeled `Maintenance` (positioned next to the System and Network setup parameters).

6 Generate and Download the Diagnostic Log File

Inside the Maintenance window, scroll down to the **Firmware** / **Diagnostics** block. Locate the bright green command action button labeled **GENERATE LOG**. **Click the button once.**

> **Final Step:** The internal processor will automatically compile the raw machine data. Your browser will prompt an immediate download save request for a text/log data file. Choose a location on your storage drive, save the file, and attach it to your Lumiring Helpdesk support ticket.

Firmware Update via Cloud Server

Device features:

- The Wi-Fi receiving module supports connection to networks operating on 2.4 GHz only.
- You can manually enter the SSID name of the Wi-Fi network to connect to hidden networks. To do so, after the end of the search, start typing the network name in the current field.
- Wi-Fi settings take effect only after a power reset.
- The built-in WI-Fi AP is disabled every time the device is rebooted or when the built-in timer expires.
- The device requires a high amount of bandwidth to download the firmware version from the update server. Ensure a quality connection and connection level.
- The device update may be interrupted if radio communication with the responder is in progress.
- If the connection is lost or rebooted during the download, the update operation will be canceled in order to save the current firmware version.
- The device may malfunction if the power is turned off during the update installation.

Preliminary preparation:

BE SURE TO COMPLETE ALL PREREQUISITE STEPS BEFORE YOU START UPDATING YOUR DEVICE!

FAILURE TO FOLLOW THE PRECAUTIONARY MEASURES FOR THE UPDATE MAY RESULT IN THE DEVICE NOT SWITCHING ON, SWITCHING ON WITH LIMITED FUNCTIONALITY, OR MALFUNCTIONING.

IN CASE OF INCORRECT UPDATE INSTALLATION DUE TO POWER FAILURE, THE DEVICE MAY NOT BE ABLE TO BE USED UNTIL THE DEVICE IS REPROGRAMMED VIA USB CABLE.

- Disconnect all input, output, and reader connectors except the power supply. The device must not receive/transmit data and must not process I/O status during the upgrade.
- Turn off the power to the kit's responder. The responder may continue transmitting data to the device being upgraded, which may interrupt the upgrade process and should therefore be turned off.
- Place the device in direct line of sight from a Wi-Fi router with Internet access at a distance of no more than 3.3 to 6.5 feet (1-2 meters). You can use a smartphone with an activated access point (AP) as a Wi-Fi router.
- Before starting the update, reset the power and wait for the device screen to load.

Actions with the device:

- Turn on the Wi-Fi AP by pressing the service button on the side of the device.
- Search for Wi-Fi networks on your mobile device and connect to the device's AP. On your phone, check the “Connect automatically” box when joining the Wi-Fi network.
- Open a Web browser and type 192.168.4.1 in the address bar. Press Enter and wait for the login page to load.
- Enter your login and password.
- Click the Network tab and search for an available Wi-Fi network with Internet access.
- Select your preferred network, enter the password to connect, and click Connect.
- Click the System tab to make sure that the signal strength of the Wi-Fi connection is at least -40 dBm. A reading of -35 dBm is the best connection quality, and -100 dBm is the worst or none.
- Go to the Maintenance tab and click the “Check & Update” button. Wait for the update download to complete.

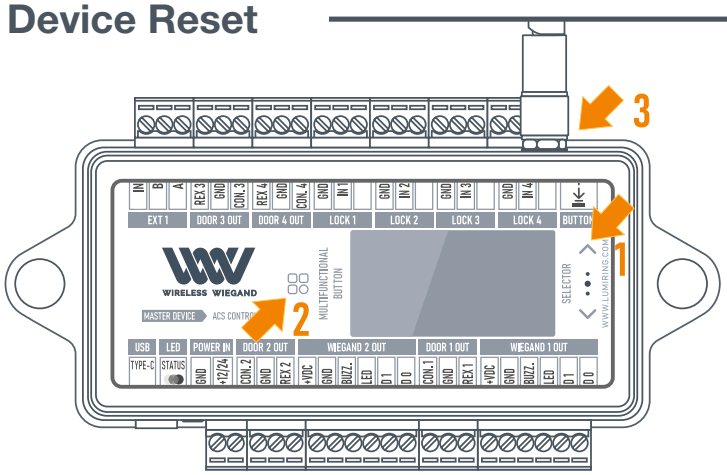
DO NOT DISCONNECT THE DEVICE FROM THE POWER SOURCE WHILE DOWNLOADING THE UPDATE.

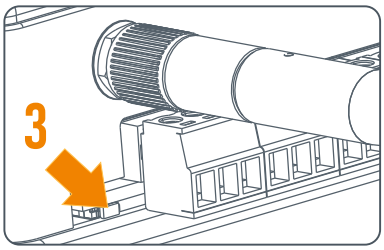
- When the update is complete, a notification will appear prompting you to reboot. Click “Ok” and wait for the device to restart with an audible beep.
- Power cycle the device and wait for the screen to load. Press the Down button to make sure that the firmware version has changed to the current one.

Troubleshooting:

- The message "An error occurred during the update" may be displayed in the even of a momentary loss of communication with the device, the response time baeing exceeded, or an unstable connection to the server. In these situations, the update progress will be stopped at the current value. If after the error occurs, the device remains connected and the "Check & Update" button is clickable, try to update again.
- If the error occurs at 95% or more of the load, wait 30 seconds and reset the device power supply. After starting the device, check the version displayed on the display screen. The firmware may have been downloaded and installed, but the device has not responded after application.
- If interface interaction is no longer available after the error occurs, check the connection status of the built-in Wi-Fi AP. Make sure that the device's Wi-Fi AP is active and you can connect to it. If you are unable to connect to the device, reset the power of the device, activate the Wi-Fi AP, and try to connect again.

Device Reset





Reset (Main method)

Enter Menu:
Press and hold the Select(2) button until you hear a beep to enter the menu

Use the arrow buttons to highlight RESET, then press Select

- Wait for device restart
- The hardware reset procedure is complete and the unit is ready for operation.

Reset (Alternative method)

1. Press the button 1 for activate screen.
2. Hold the Push button 3 down for 10 seconds.
3. Wait for yellow-blue flashing and a long beep.
4. Release the button.
5. Three consecutive beeps and one separate beep will sound.
6. The LED will first turn red and then change to flashing blue.
7. The hardware reset procedure is complete and the unit is ready for operation.

A Full Reset restores device configuration to factory defaults but intentionally preserves the existing pairing between devices. This approach prevents accidental loss of connectivity for installations already deployed in the field.

Understanding LED indication for WW (LC)

LED color/behavior	Device status	Description
Blue (flashing)	Waiting for pairing.	The device is in its default state, waiting to be paired with another device.
Red/Green (flashing)	No radio signal	The device is unable to detect any radio signal.
Green (solid)	There's a radio signal. Excellent quality.	The device has a strong and stable radio signal connection.
Yellow (solid)	There's a radio signal. Normal quality.	The device has a radio signal of adequate quality.
Red (solid)	There is a radio signal. Poor quality.	The device has a weak radio signal with poor quality.
White (solid)	Wi-Fi AP enabled	The device's Wi-Fi Access Point (AP) is activated.

Glossary

- **+VDC** - Positive voltage direct current.
- **Account ID** - A unique identifier associated with an individual or entity's account, used for authentication and access to services.
- **ACU** - Access control unit. The device and its software that establishes the access mode and provides reception and processing of information from readers, control of executive devices, display and logging of information.
- **API** - application programming interface.
- **BLE** - Bluetooth Low Energy.
- **Block in** - Function for the input activating "block out" with the event "blocked by operator." It is used for turnstile control.
- **Block out** - Output activated when "block In" is triggered.
- **Bluetooth** - A short-range wireless communication technology that enables wireless data exchange between digital devices.
- **BUZZ** - Output for connecting the reader wire responsible for sound or light indication.
- **Cloud** - A cloud-based platform or service provided to manage and monitor an access control system over the Internet. Allows administrators to manage access rights, monitor events, and update system settings using a web-based interface, providing the convenience and flexibility to manage the access control system from anywhere there is an Internet connection.
- **Copy protection** - A method used to prevent unauthorized copying or duplication of smart cards to secure the access control system and prevent possible security breaches.
- **D0** - “Data 0." A bit line with the logical value "0."
- **D1** - "Data 1." A bit line with the logical value "1."
- **DHCP** - Dynamic Host Configuration Protocol. A network protocol that allows network devices to automatically obtain an IP address and other parameters necessary for operation in a Transmission
- Control Protocol/Internet Protocol TCP/IP network. This protocol works on a "client-server" model.
- **DNS** - Domain Name System is a computer-based distributed system for obtaining domain information. It is most often used to obtain an IP address by host name (computer or device), to obtain routing information, and to obtain serving nodes for protocols in a domain.
- **DPS** - Door position sensor. A device that is used to monitor and determine the current status of a door, such as whether the door is open or closed.
- **Electric latch** - An electronically controlled door locking mechanism.
- **Emergency in** - Input for emergency situations.
- **Encryption password** - Key for data protection.
- **Ethernet network** - A wired computer network technology that uses cables to connect devices for data transmission and communication.
- **Exit/Entry/Open button** - Logic input which, when activated, activates the corresponding output. Causes an event depending on the attribute used.
- **Exit/Entry/Open out** - Logical output that is activated when the corresponding input is triggered. Causes an event depending on the attribute used.
- **External relay** - Relay with potential-free dry contact for remote control of the power supply. The relay is equipped with a dry contact, which is galvanically unconnected to the power supply circuit of the device.
- **GND** - Electrical ground reference point.
- **HTTP** - Hypertext Transfer Protocol. A fundamental protocol for transferring data, documents, and resources over the Internet.
- **RFID Identifier 125 kHz** - Radio-frequency identification at 125 kHz; short-range, low-frequency technology with a typical range of 7 cm to 1 m.
- **RFID Identifier 13.56 MHZ** - Radio-frequency identification at 13.56 MHz; high-frequency technology with short to moderate range, around 10 cm.
- **Keypad** - A physical input device with a set of buttons or keys, often used for manual data entry or access control.

Glossary

- **LED** - Light emitting diode.
- **Loop sensor** - A device that detects the presence or passage of traffic in a certain area by means of a closed electrical loop. Used in barriers or gates.
- **Magnetic Lock** - A locking mechanism that uses electromagnetic force to secure doors, gates, or access points.
- **MQTT** - Message Queuing Telemetry Transport. A server system that coordinates messages between different clients. The broker is responsible, among other things, for receiving and filtering messages, identifying the clients subscribed to each message, and sending messages to them.
- **NC** - Normally closed. Configuration of a changeover contact that is closed in the default state and open when activated.
- **NO** - Normally open. A switch contact configuration that is open in its default state and closes when activated.
- **No-touch button** - A button or switch that can be activated without physical contact, often using proximity or motion-sensing technology.
- **Open collector** - A transistor switch configuration in which the collector is left unconnected or open, typically used for signal grounding.
- **OSDP** - Open Supervised Device Protocol. A secure communication protocol used in access control systems for device-to-device data exchange.
- **Pass control** - The process of regulating, monitoring, or granting permission for individuals to enter or exit a secure area.
- **Power supply** - A device or system that provides electrical energy to other devices, enabling them to operate and function.
- **Radio 868/915 MHZ** - A wireless communication system operating on the 868 MHz or 915 MHz frequency bands.
- **Reader** - A device that scans and interprets data from RFID or smart cards, often used for access control or identification.
- **Reverse byte order** - A process of reordering the sequence of bytes in a data stream, often for compatibility or data conversion.
- **REX** - Request to exit. An access control device or button used to request to exit from a secured area.
- **RFID** - Radio-frequency identification. A technology for wireless data transmission and identification using electromagnetic tags and readers.
- **RS-485** - A standard for serial communication used in industrial and commercial applications, supporting multiple devices over a shared network.
- **Strike lock** - An electronic locking mechanism that releases a door's latch or bolt when electrically activated, often used in access control systems.
- **Terminal block** - A modular connector used for connecting and securing wires or cables in electrical and electronic systems.
- **Topic** - In the context of MQTT, a label or identifier for published messages, enabling subscribers to filter and receive specific information.
- **Unblock in** - An input or signal used to release a lock, barrier, or security device, allowing access to a previously secured area.
- **Unblock out** - An output or signal used to release a lock, barrier, or security device to allow exit or opening.
- **Wiegand format** - A data format used in access control systems, typically for transmitting data from card readers to controllers.
- **Wiegand interface** - A standard interface used in access control systems to communicate data between card readers and access control panels.
- **Wi-Fi AP** - Wireless access point. A device that allows wireless devices to connect to a network.
- **Wireless access control gateway** - A device that manages and connects wireless access control devices to a central system or network.

Supported Reader Models

Manufacturer	Model Name	Device Type
HID	Signo 40K 40NKS-00-00027F	Reader & Keypad
	Signo 40 40NKS-01-00001H	Reader
	iCLASS RPK40 6136AKN000D00-G3.0	Reader & Keypad
	iCLASS RPK40 6130BKN040D00-G3.0	Reader & Keypad
	iCLASS SE R10 900NTNNEK00000-L001	Reader
	iCLASS SE R10 900NNNTEK2037P	Reader
	iCLASS SE R40 920PTNNEK00000	Reader
	multiCLASS RP40 6125CKN0007-G3.0	Reader
	multiCLASS SE RP15 910PTNNEK00000	Reader
	multiCLASS SE RP40 920PMNNEKMA01Y	Reader
	multiCLASS SE RP40 920PTNNEK00000	Reader
	Prox Pro II 5455BKN00	Reader
	ThinLine II 5395CG100	Reader
PDK	PP-08-RDR-G	Reader
BRIVO	B-BSPSF	Reader
	B-BSPKF	Reader & Keypad
LUMIRING	AIR-R RA-2	Reader
ETE	CTI 1200	Reader & Keypad
U-PROX	SE keypad	Reader
	SE mini	Reader
PAXTON*	345-220-US	Reader
OPENPATH**	OP-RHF-STD	Reader

*, ** - Developments are currently underway to support this model

FCC Caution

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

  RF warning for Mobile device: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

For Notes

PROFESSIONAL / COMMERCIAL USE ONLY

This product is intended, marketed, and sold only for professional installation and commercial, industrial, institutional, or business access-control use. It is not intended, marketed, or sold as a consumer product. Any purchase or use confirms buyer is acting for commercial, professional, industrial, institutional, or business purposes.

SAFETY AND APPLICATION LIMITATIONS

This product is an access-control component. It is not a complete access-control system, life-safety device, fire alarm, emergency egress device, or UL 294-listed system unit.

Installation, system design, equipment selection, fail-safe/fail-secure configuration, code compliance, AHJ approval, and testing are the sole responsibility of installer/integrator/system designer.

This product must not be connected to critical entry, exit, barrier, elevator, gate, or emergency egress control as the sole release mechanism without alternate exit means and code approval.

WIRELESS PERFORMANCE

Wireless communication may be affected by RF interference, jamming, distance, obstacles, and site conditions. Range and performance are site-dependent and not guaranteed. Do not use as sole communication path for life-safety or emergency-egress functions.

CYBERSECURITY

Default credentials are for initial setup only and must be changed before deployment. Installer/operator is responsible for device security and credential management.

FIRMWARE UPDATES

Firmware updates may change device behavior. Complete system must be tested before return to service. Do not interrupt updates.

EXPORT CONTROL

This product may be subject to U.S. export control and sanctions laws. Export, re-export, transfer, or use contrary to applicable law is prohibited.

WARRANTY EXCLUSIONS

Warranty does not cover damage, malfunction, or performance issues caused by surge, lightning, water intrusion, incorrect voltage, reverse polarity, improper wiring, improper grounding, unauthorized modifications, abuse, misuse, failure to follow documentation, or use outside rated conditions.

This product is sold subject to New York law.

1. DOCUMENT PRECEDENCE

In any conflict between marketing materials and technical documentation, the current technical documentation prevails.

2. PRODUCT AUDIENCE AND BUYER RESPONSIBILITY

Lumiring products are professional access control devices for system integrators and technically proficient users. Buyer is responsible for verifying product suitability, functionality, compatibility, and compliance with requirements before purchase and deployment.

3. THIRD-PARTY INTEGRATION AND COMPONENTS

Integration with third-party platforms (Home Assistant, Node-RED, custom servers, etc.) requires buyer-side configuration via documented APIs. Compatibility with third-party readers, locks, controllers, and software depends on third-party manufacturer implementation and is buyer responsibility to verify. Lumiring is not responsible for third-party product compatibility, changes, or functionality.

4. RETURNS AND RMA PROCESS

Returns require prior RMA authorization from Lumiring and must be initiated within the period stated on the invoice or applicable warranty terms. Lumiring may require reasonable troubleshooting before issuing an RMA.

An RMA or accepted return does not mean warranty coverage, refund, or replacement approval. Buyer pays return shipping, duties, fees, taxes, and insurance unless Lumiring agrees otherwise in writing. Products must be returned in reasonable condition with applicable accessories unless Lumiring authorizes otherwise.

5. INTERNATIONAL SALES

For sales outside the United States, buyer is responsible for all customs duties, import taxes, VAT, brokerage fees, and compliance with local import/export regulations. Lumiring does not reimburse duties, taxes, shipping or fees paid by buyer.

6. WARRANTY AND LIMITATION OF LIABILITY

Complete warranty terms, return process, exclusions, and liability limitations are subject to Lumiring Inc Terms And Conditions, Limited Warranty, Limited Liability, and Limited License.

To the maximum extent permitted by law, Lumiring is not liable for loss of use, business interruption, lost revenue, lockout, security breach, loss of data, labor, removal/reinstallation costs, or consequential, incidental, indirect, special, or punitive damages. Maximum liability is limited to amount paid for the affected product.

7. GOVERNING TERMS

This product is sold subject to Lumiring Inc Terms and Conditions, Limited Warranty, Limited Liability, and Limited License, and governed by New York law.