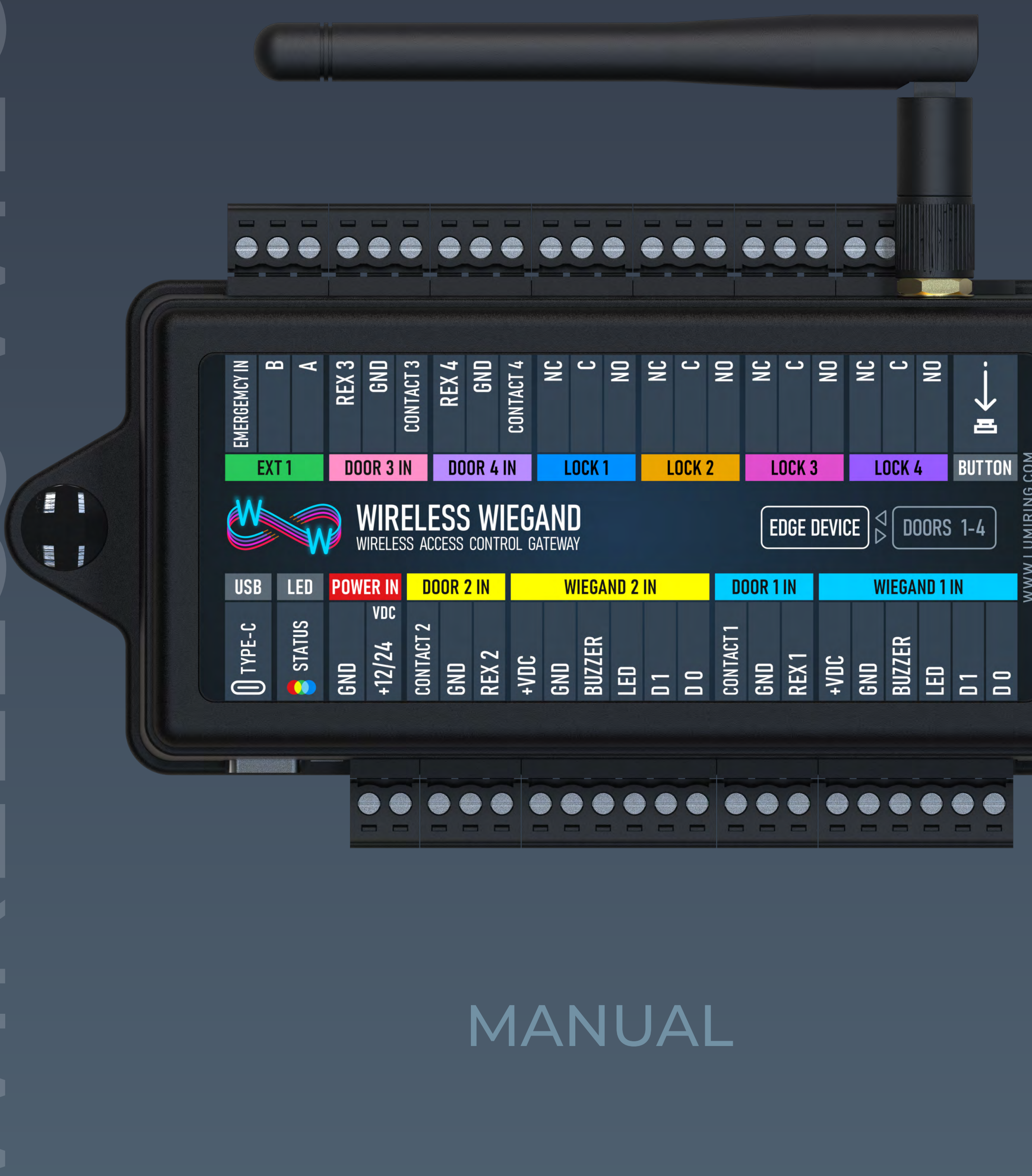
Hw.V. by Pometkov WW-ICON-Pro

WIRELESS WIEGAND

InVid Tech
Innovative Video Technology



MANUAL

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Introduction

This document provides detailed information on the structure of the Wireless Wiegand (WW)-Gate/Edge 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 regulation

Default Device Settings

• Wi-Fi device name when searching	WW-Gate_(serial number) WW-Edge1_(serial number)
• Wi-Fi access point (AP) IP address of the device	192.168.4.1
• Wi-Fi password	None
• Login	admin
• Password	admin
• Device address	1
• Communication channel	16 Ch - 868 MHz
• Power transmission	3 - Low
• Performance (Speed - Distance)	Mid
• Connection password	12345678
• Activating Wi-Fi AP	Hold down the reset button for 4 sec.
• AP Wi-Fi Timer	Shuts down after 5 minutes of inactivity
• Wiegand or Open Supervised Device Protocol (OSDP) sending method	Wiegand
• Wiegand format	Any format

Device Specifications

Device info

• Model	WW-Gate/WW-Edge
• Processor	ESP32-S3
• Over-the-air (OTA) update	Yes
• Built-in web werver	Yes

Communications

• Wi-Fi	802.11 b/g/n 2.4 GHz
• Radio	868/915 MHZ
• Wiegand	2 ports
• Open Supervised Device Protocol (OSPD) via RS-485	1 ports
• USB ports (Type-C)	Yes

Physical connections	Gate Device	Edge Device
• Exit button (REX)	Outputs 4	Inputs 4
• Door position sensor (DPS)	Outputs 4	Inputs 4
• Locks	Inputs 4	Relay 4
• Tamper G-sensor	Built-in	Built-in
• Emergency Input	n/a	1

Electrical characteristics

• Input voltage	12 - 24 VDC +/- 10 %
• Operation current (MAX) 12 volts direct current (VDC)	0.5 A (6 W)
• Operation current (AVG) 12 VDC	0.2 A (2.4 W)
• Relay contact rating 30 VDC	1.5 A (45 W)
• Output short-circuit protection	Yes
• Power supply reverse polarity protection	Yes
• Wiegand/Card Reader power VDC each	0.5 A

Work distance

• RS-485 *	3280 ft (1000 m)
• Wiegand	328 ft (100 m)
• Wi-Fi 2.4 GHz (open space)	33 ft (10 m)
• Radio 868/915 MHz	3280 ft (1000 m) **

Environmental requirements

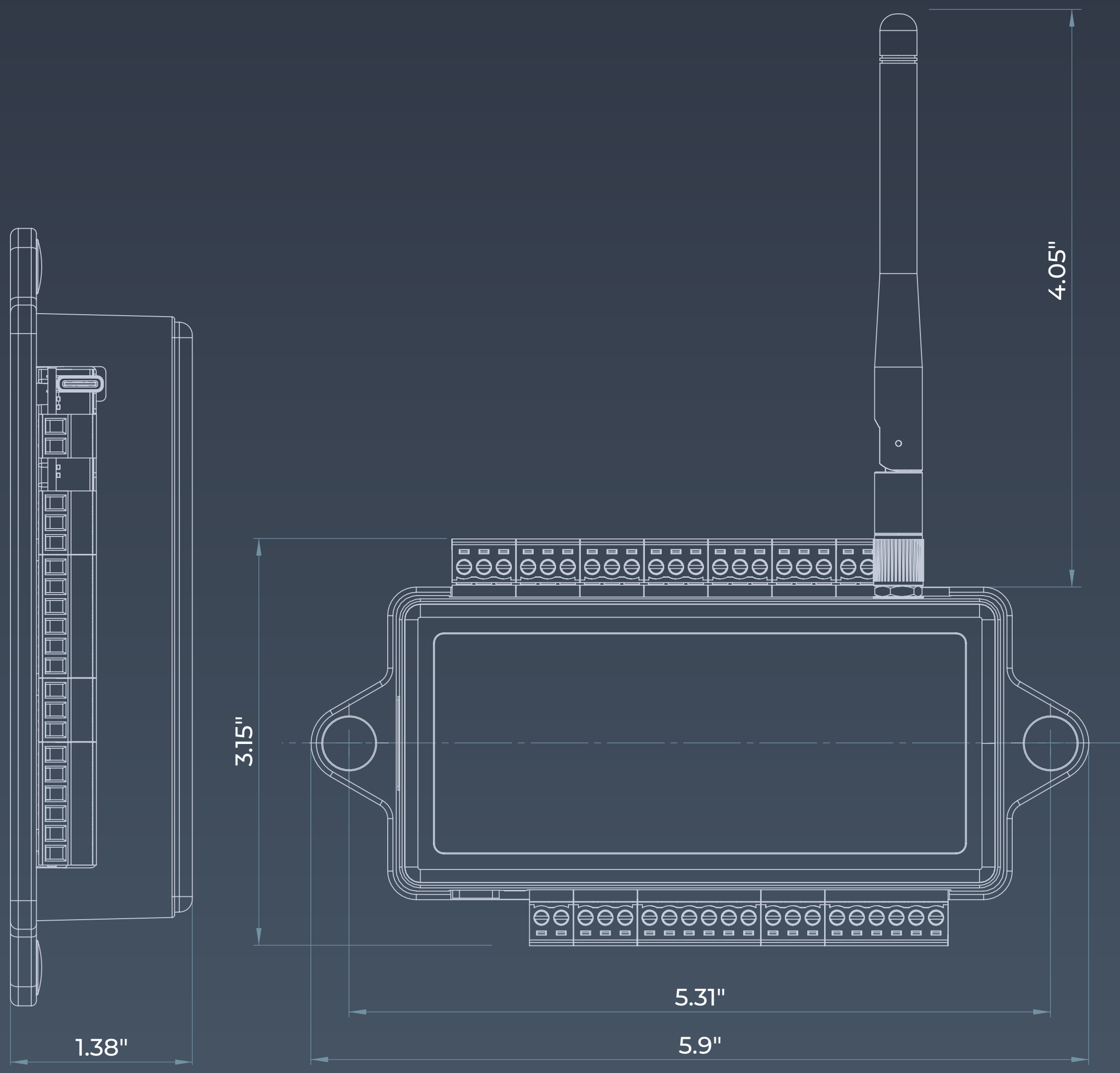
• Operating temperature	-22°F ~ 158°F (-30°C ~ 70°C)
• Ingress Protection rating	IP50

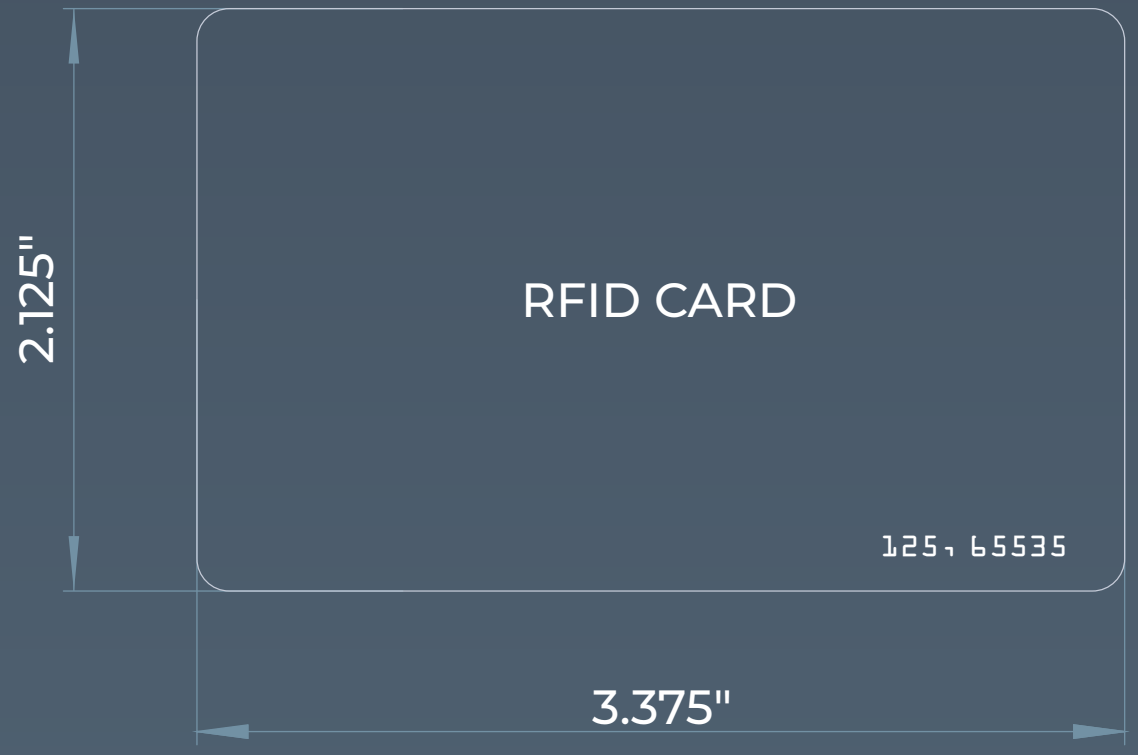
Physical characteristics

• Housing material	ABS plastic UL94 V-0
• Mounting method	Wall mount/din rail mount (option)
• Dimensions (length, width, height)	5.9" x 3.15" x 1.38" (150 x 80 x 35 mm) (excluding antenna)
• Weight	Edge 4.765 oz (135 g) - Gate 4.308 oz (122 g)

* See general specifications for RS- 485 interface.
** The distance specified is the distance that can be reached when the device is at maximum power. This distance may be lower, however, depending on the surrounding radio environment.

Device Dimensions





WW-Edge Device Connection Terminals

USB Service Port
Type-C

LED Indication
Red
Green
Blue

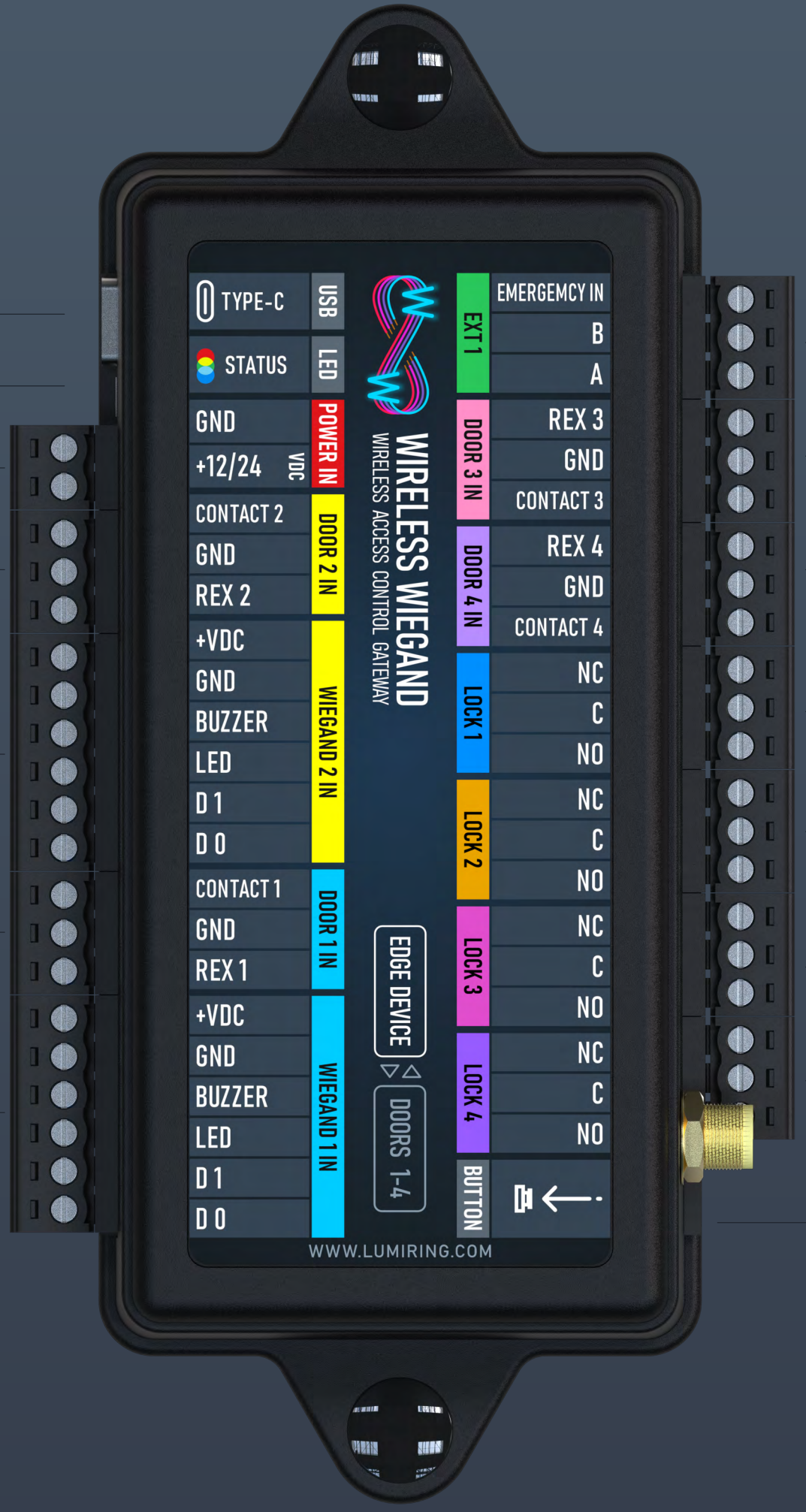
Power IN
GND
+VDC

Door 2 IN
Door Position Sensor
GND
Request to Exit

Wiegand 2 IN
+VDC
GND
Buzzer
LED
D 1
D 0

Door 1 IN
Door Position Sensor
GND
Request to Exit

Wiegand 1 IN
+VDC
GND
Buzzer
LED
D 1
D 0



RS-485/Emergency
Emergency IN
RS-485 B-
RS-485 A+

Door 3 IN
Door Position Sensor
GND
Request to Exit

Door 4 IN
Door Position Sensor
GND
Request to Exit

Lock 1 OUT
NC
C
NO

Lock 2 OUT
NC
C
NO

Lock 3 OUT
NC
C
NO

Lock 4 OUT
NC
C
NO

Service Button
Reset/Wi-Fi AP

The manufacturer reserves the right to modify the external pin assignment and their placement, as well as the appearance of the device without prior notice.

These changes may be made to improve functionality, 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.

WW-Gate Device Connection Terminals

USB Service Port
Type-C

LED Indication
Red
Green
Blue

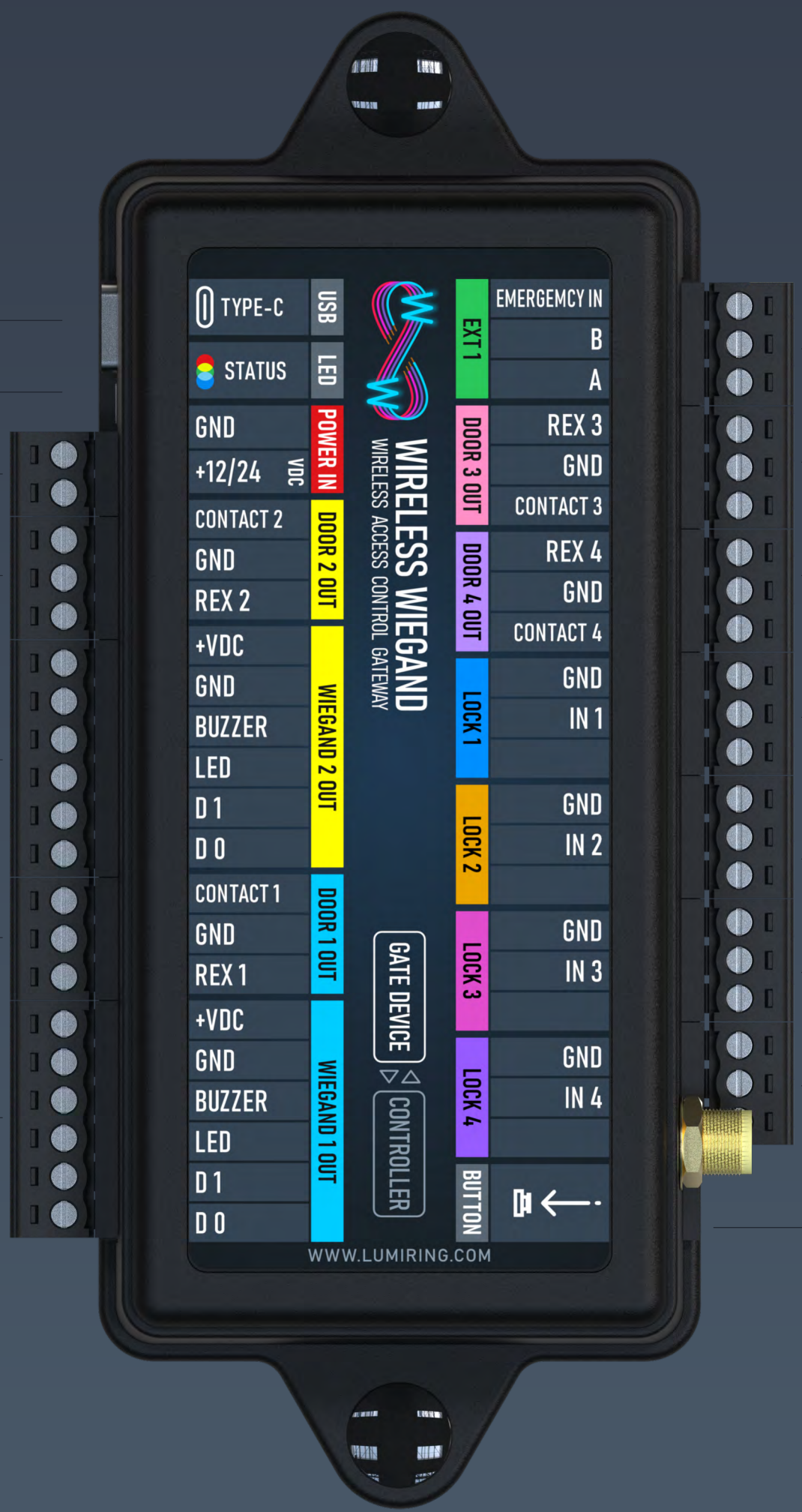
Power IN
GND
+VDC

Door 2 OUT
Door Position Sensor
GND
Request to Exit

Wiegand 2 OUT
+VDC
GND
Buzzer
LED
D 1
D 0

Door 1 OUT
Door Position Sensor
GND
Request to Exit

Wiegand 1 OUT
+VDC
GND
Buzzer
LED
D 1
D 0



RS-485/Emergency
Emergency IN
RS-485 B-
RS-485 A+

Door 3 OUT
Door Position Sensor
GND
Request to Exit

Door 4 OUT
Door Position Sensor
GND
Request to Exit

Lock 1 IN
GND
IN 1

Lock 2 IN
GND
IN 2

Lock 3 IN
GND
IN 3

Lock 4 IN
GND
IN 4

Service Button
Reset/Wi-Fi AP

The manufacturer reserves the right to modify the external pin assignment and their placement, as well as the appearance of the device without prior notice.

These changes may be made to improve functionality, 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.

Installation Recommendations

Installation

It is recommended not to install the device on metal surfaces, as this may reduce the quality of communication. If placement on a metal surface is necessary, use a reinforced plastic mounting base (not included with the device).

Wiegand connection

The length of the communication line through the Wiegand interface must not exceed 328 ft (100 m). This interface is not immune to external sources of interference. We do not recommend running it in parallel with power cables or near other sources ofinterference (fluorescent lights, etc.). It is recommended that the Wiegand link be run at least 1.64 ft (0.5 m) away from any power cables. If the link length exceeds 16.4 ft (5 m), a UTP 5E cable is recommended.

OSDP connection

This device's OSDP uses an RS-485 interface designed for long-distance communication. The communication cable connecting OSDP-enabled readers can run up to 3,280 ft (1,000 m) in length.

The OSDP communication line should be laid as far away as possiblefrom power cables and electric lights . A UTP 5E or FTP 5 twisted pair cable should be used as the OSDP communication line. If possible, ground the shield at one end. To ensure reliable system operations, it is best to use one power supply for the controllers and a separate power supply for the actuators. The power supply line wires for the reader should be kept as short as possible to avoid a significant voltage drop across them. After cabling, ensure that the power supply voltage to the reader is at least 12 VDC with the locks switched on.

Installation Recommendations

Ready to work out of the box

The Wireless Wiegand Gate and Edge devices are designed to be ready for use right after switching on, with their default factory settings. However, if you plan to use multiple kits within a one-kilometer radius, you need to change the channel number and encryption password for each kit to avoid interference.

Communication range

To improve the communication range in open terrain, it is recommended to place the device above obstacles. Note that the outdoor range may vary depending on the local radio environment and possible interference from high-voltage power lines.

Connecting peripherals

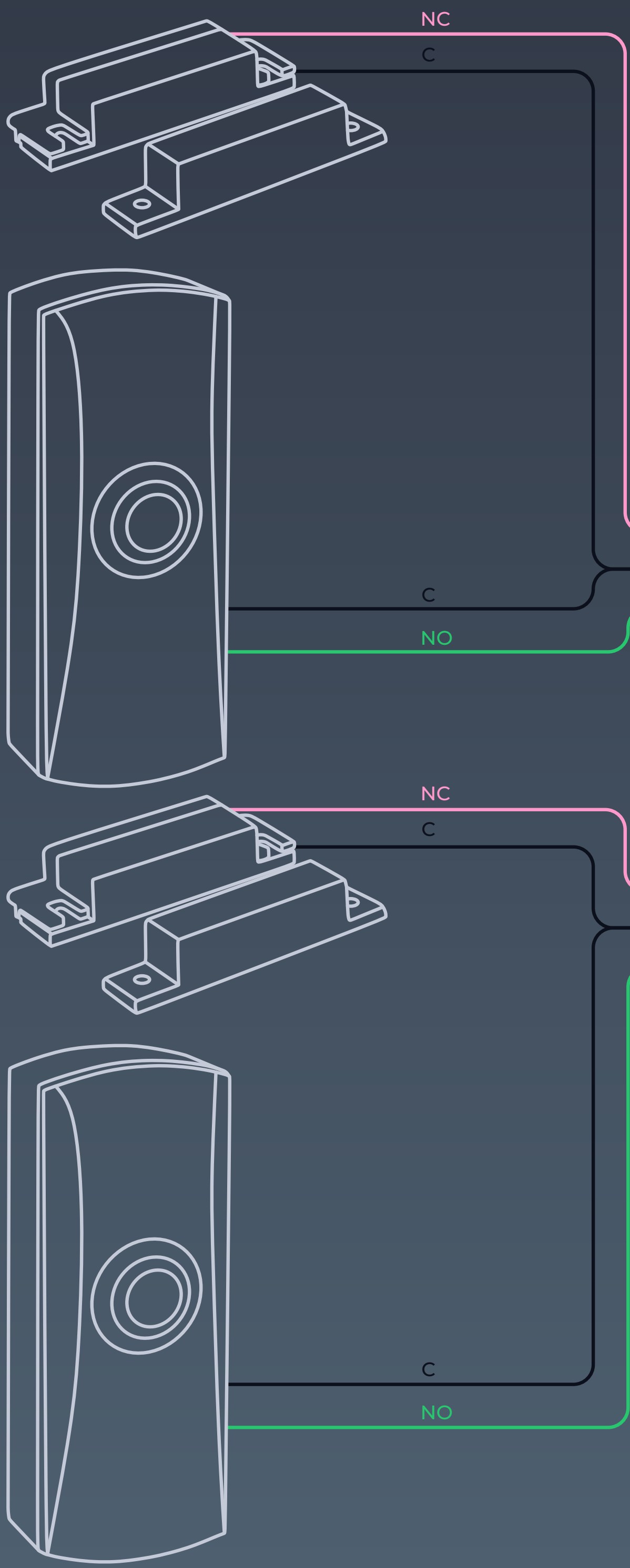
If you need to isolate a controlled device (such as a lock or gate) or control high-voltage devices, it is recommended to connect the devices via an external relay for added reliability.
When using electromagnetic or electromechanical locks, it's strongly advised to use a diode or varistor to protect the system.

Edge Device Connection Diagrams

Wiegand Readers Connection Diagram

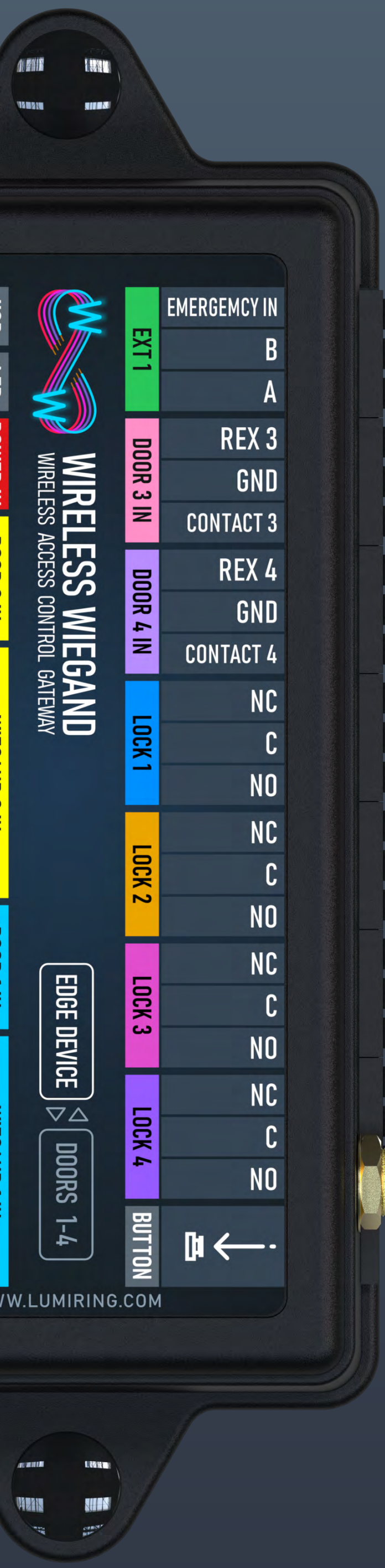
Edge Device Connection Diagrams

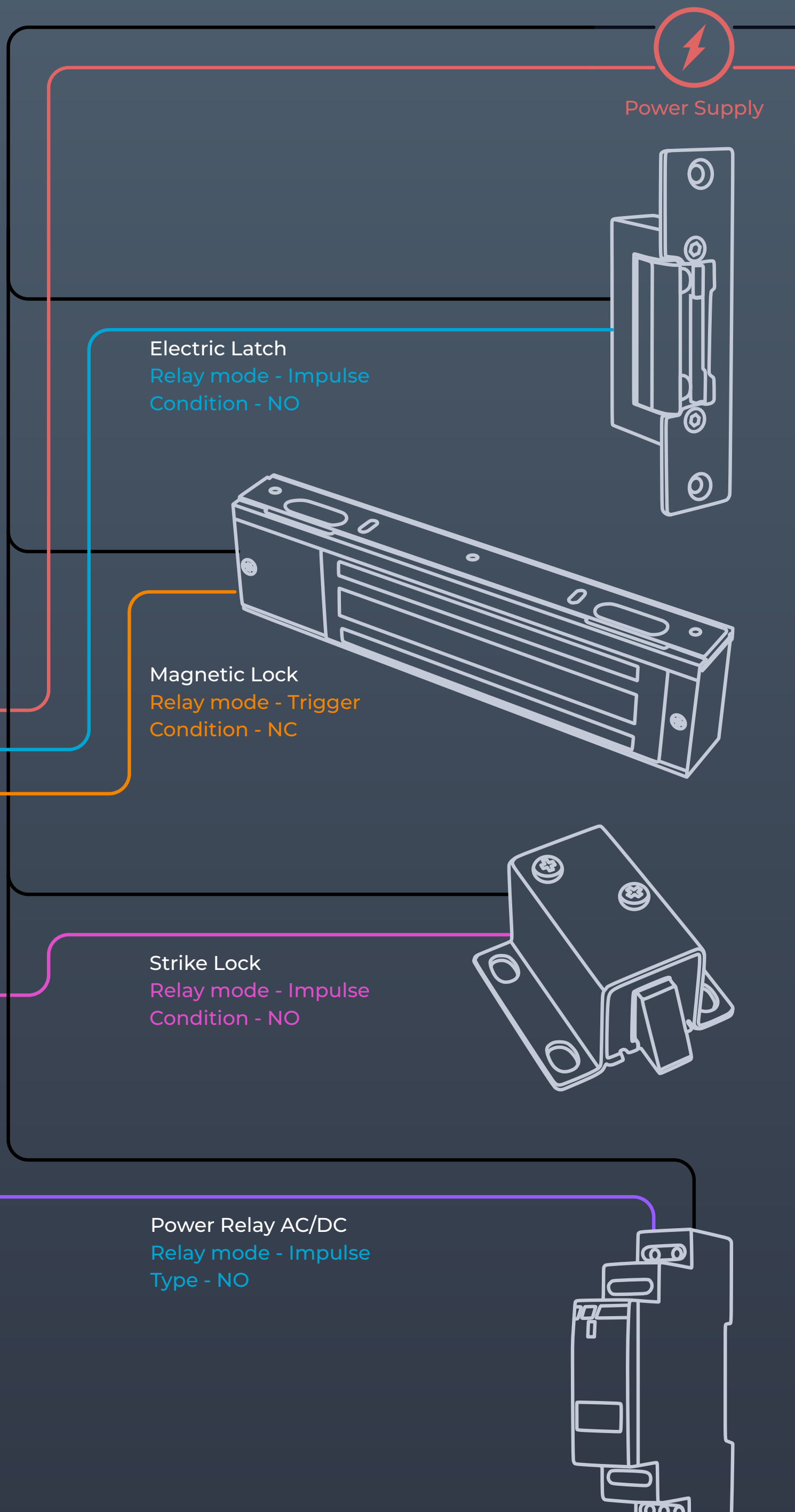
Exit Buttons & Door Sensors Connection Diagram



Edge Device Connection Diagrams

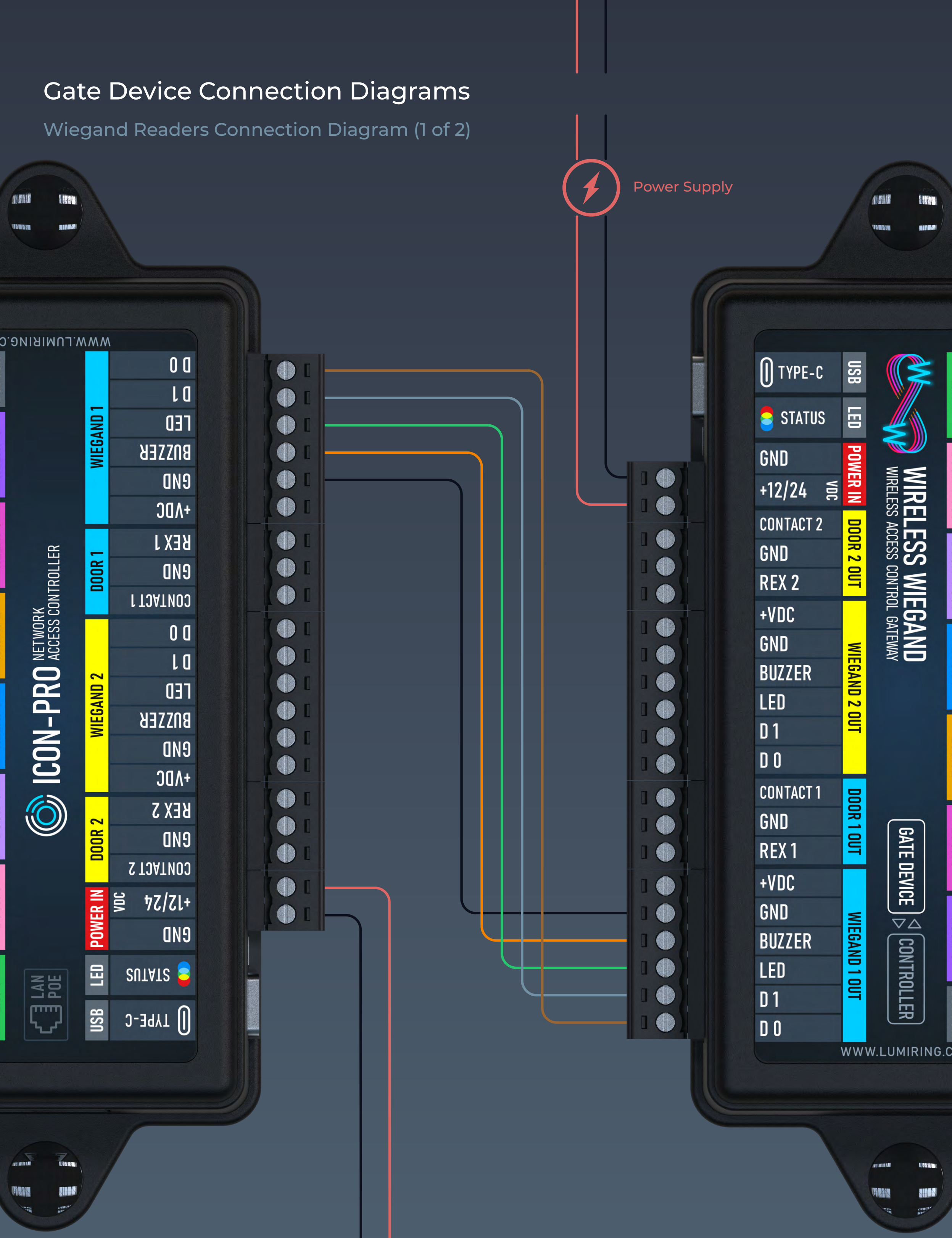
Electric Locks Connection Diagram





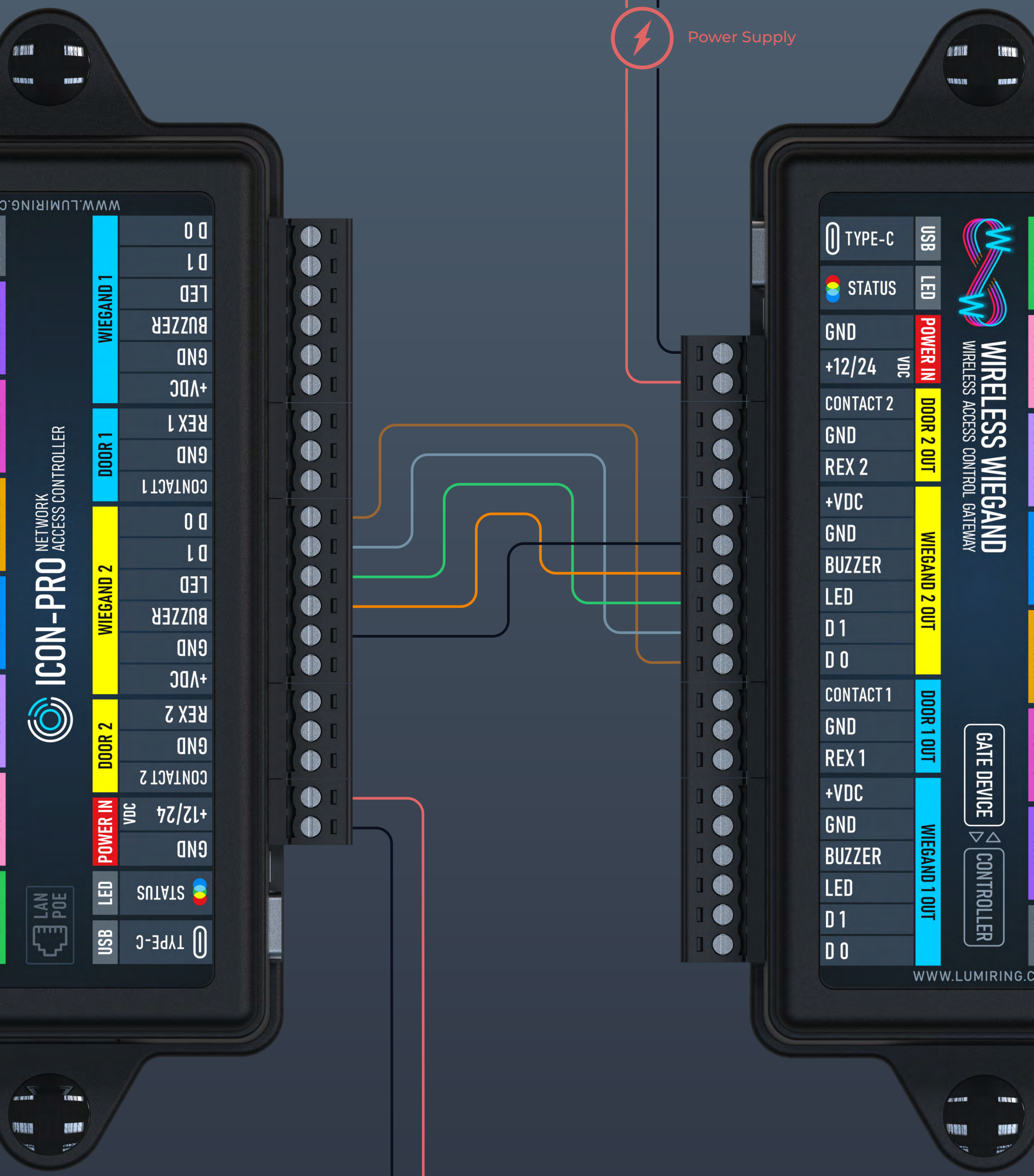
Gate Device Connection Diagrams

Wiegand Readers Connection Diagram (1 of 2)



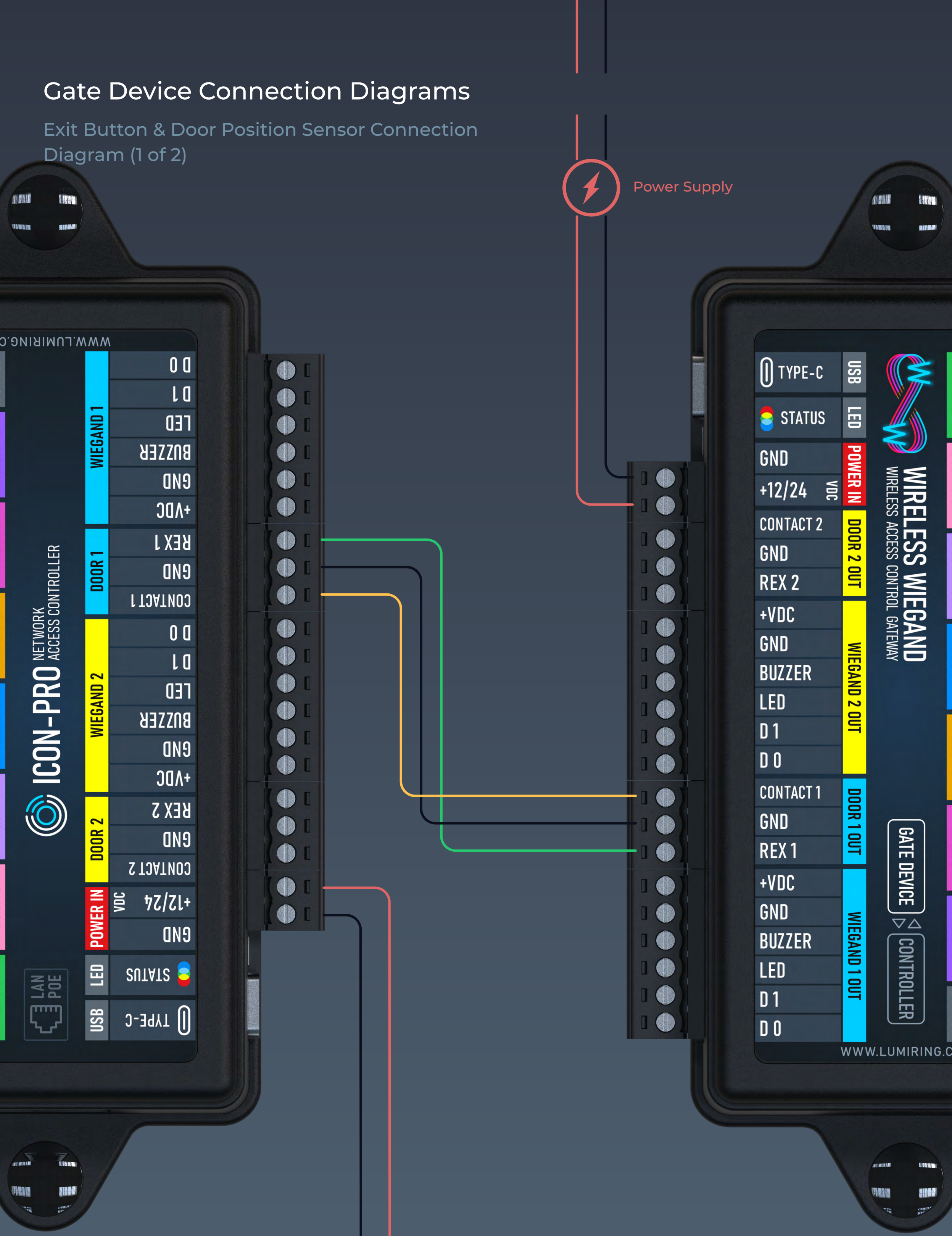
Gate Device Connection Diagrams

Wiegand Readers Connection Diagram (2 of 2)



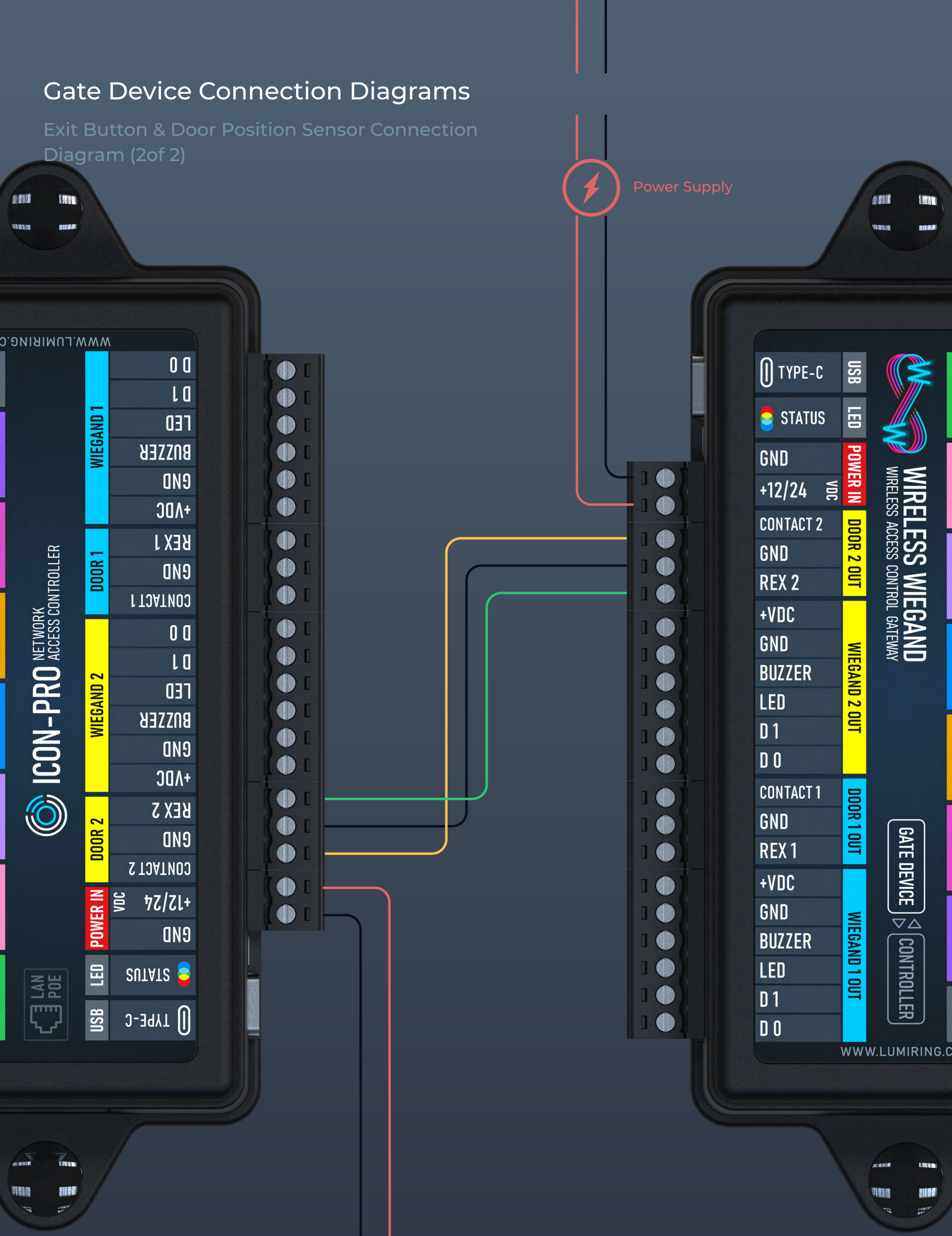
Gate Device Connection Diagrams

Exit Button & Door Position Sensor Connection Diagram (1 of 2)



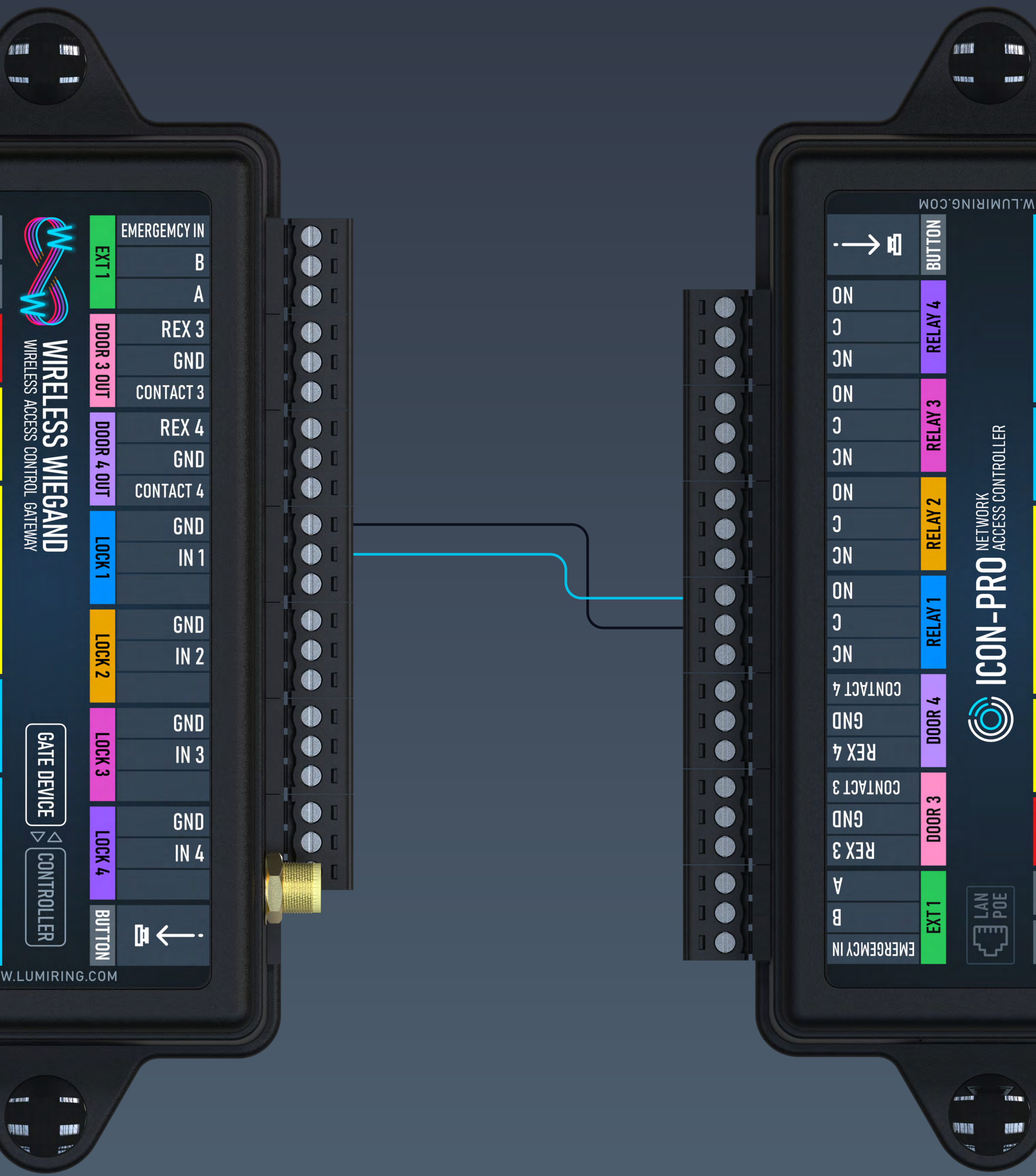
Gate Device Connection Diagrams

Exit Button & Door Position Sensor Connection Diagram (2of 2)



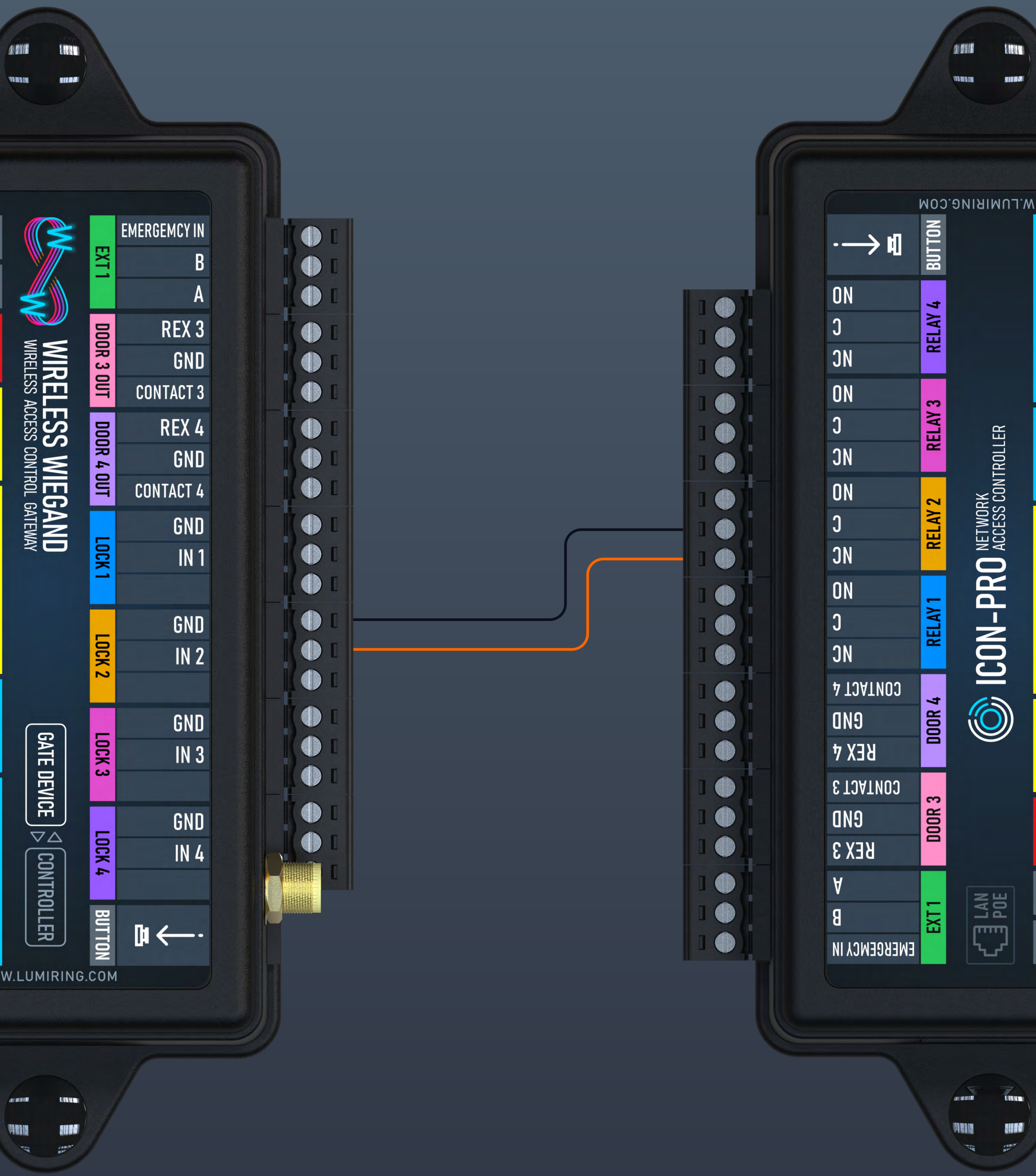
Gate Device Connection Diagrams

Electric Lock with Normally Open State Connection Diagram

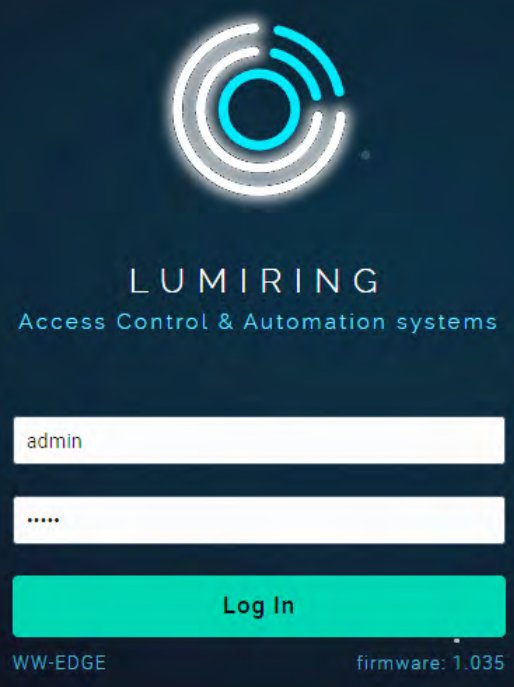


Gate Device Connection Diagrams

Electric Lock with Normally Closed State Connection Diagram



Login



Connecting to a Wi-Fi Access Point

Connecting to the Device

Preparing your Edge device for pairing with the Gate. 1 to 1 configuration.

Step 1. Connect your Edge device to a +12 VDC power source.
Wait for the device to start.

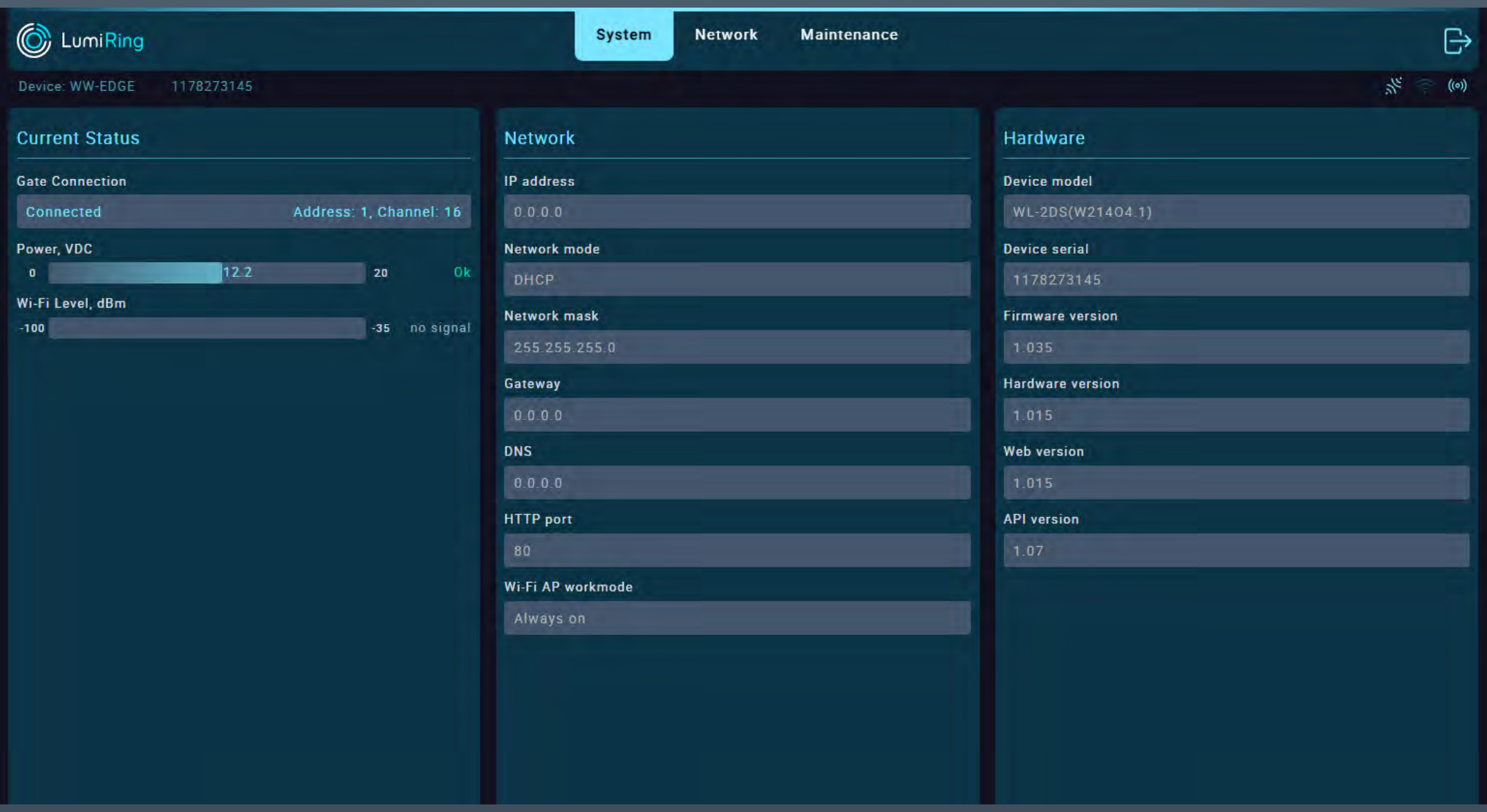
Step 2. Hold the Reset button for 3 seconds, then release it.

Step 3. From a PC or mobile phone, search for Wi-Fi networks. Select the device named WW_Edge1_xxxxxxxxxx or WW_Gate_xxxxxxxxxx and click connect.

Step 4. In the address bar of the browser, enter the factory IP address - 192.168.4.1- and press Enter. Wait for the start page to load.

Step 5. Enter your username and password (if you have already set them) and press Enter. If the device is new or has been previously reset, type admin/admin and press Enter.

Edge - System



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

The “Current Status” column contains:

- Information about the status of the
- connection to the Gate Device, the
- address of the device, and the channel
- number
- Power supply voltage level
- Communication level when connected to
- the Wi-Fi router

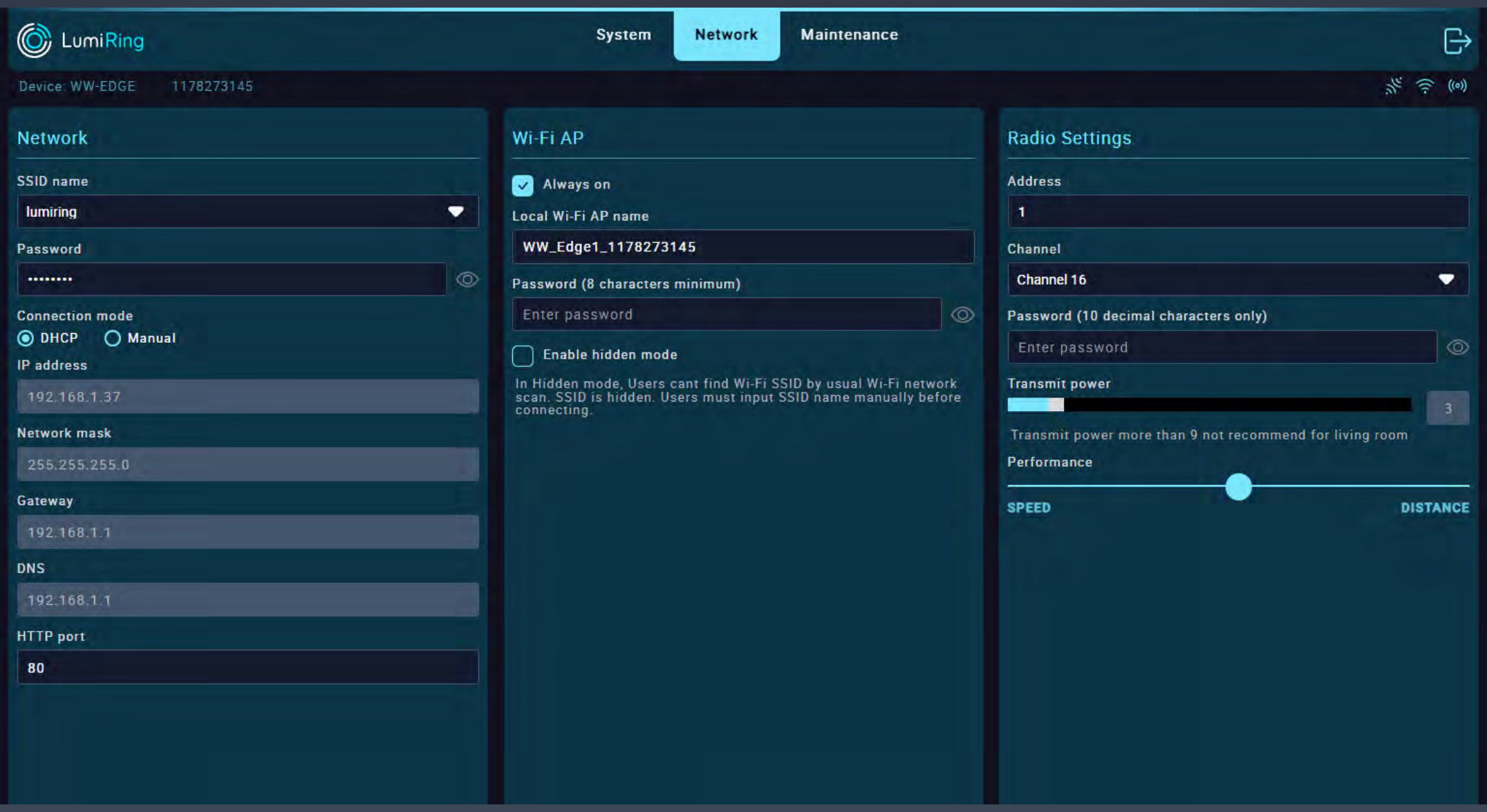
The "Hardware" column contains:

- Device model
- Device serial number
- Firmware version
- Hardware version
- Web version
- API version

The "Network" column contains:

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

Edge - Network



The Network section enables Wi-Fi configuration, including Internet connectivity, Wi-Fi network name modification, password setup, and radio connection configuration.

The Network columns is for connecting the device to an Ethernet network using Wi-Fi.

- Tap the SSID name field to search for available networks and enter the password.
- Then select DHCP or Manual connection mode and tap Connect.

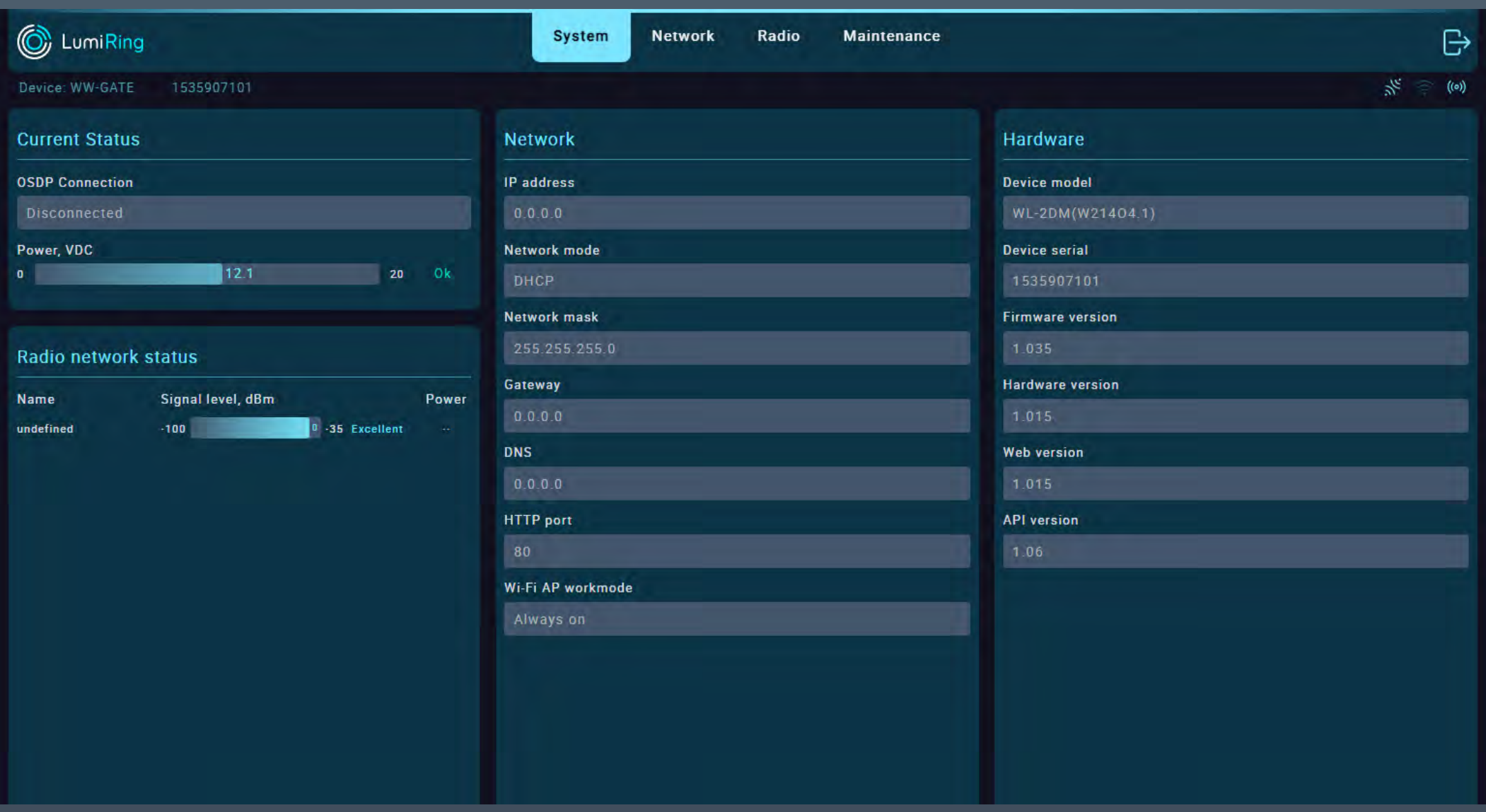
The Wi-Fi AP column allows you to set up a connection to the device's built-in access point.

- You can change the name of the built-in AP network, set a password to connect, hide the network, and set a sleep timer.

The Radio column is for setting up communication between devices.

- Set the address of the device, select the communication channel, set the connection password, and set the required power level and performance.
- It is important to remember that it is necessary to use the same parameters when configuring a set of devices.

Gate - System



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

The Current Status column contains:

- OSDP connection status
- Power voltage level

The Radio Network Status column contains information about connected devices, connection quality and voltage level.

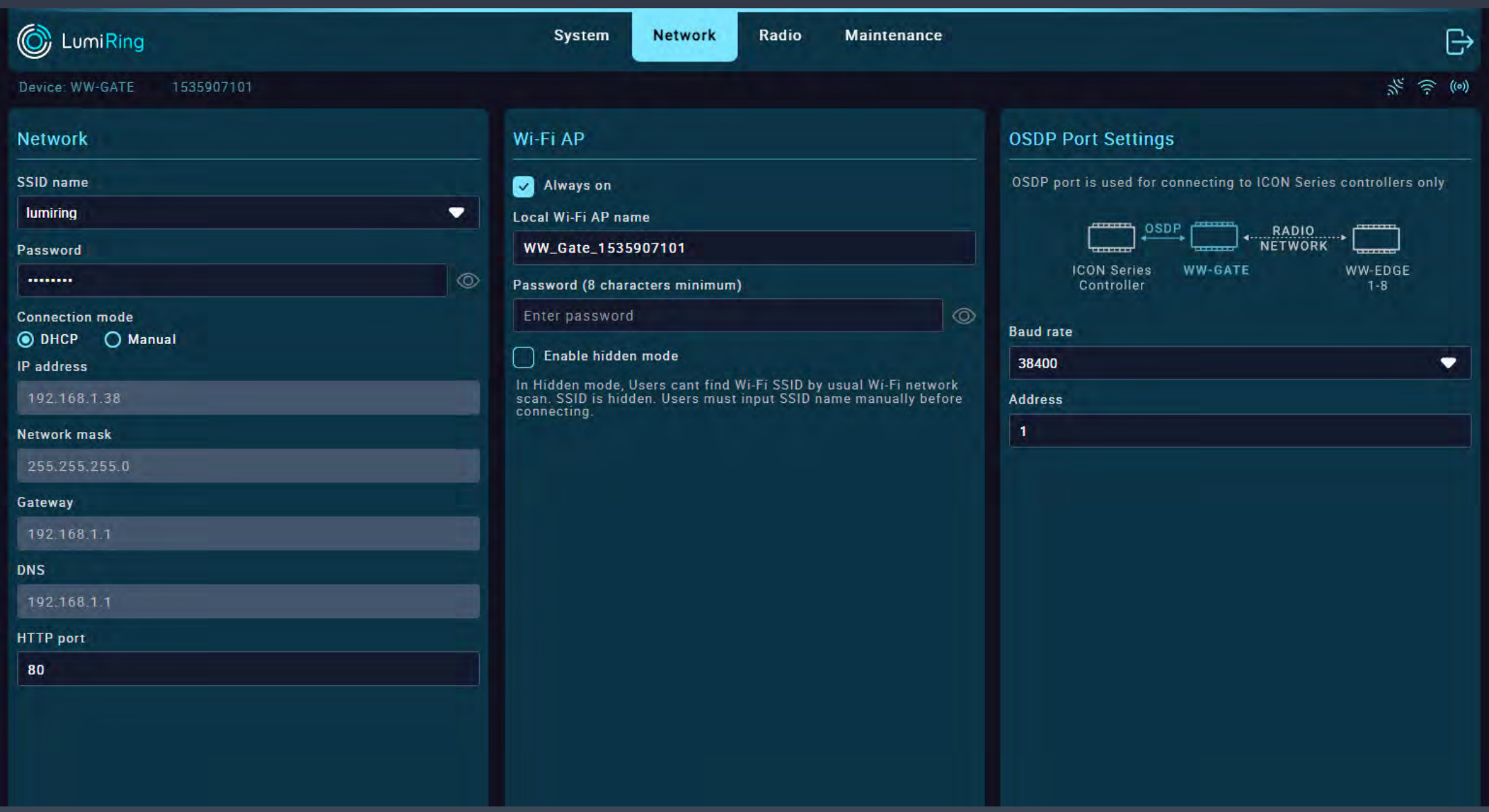
The "Network" column contains:

- IP address used by the device
- Network Mode - Dynamic Host Configuration Protoco (DHCP) or Manual
- Network mask
- Gateway
- Domain Name System (DNS)
- Hyper Text Transfer Protocol (HTTP) port used by the device
- Wi-Fi AP workmode

The "Hardware" column contains:

- Device model
- Device serial number
- Firmware version
- Hardware version
- Web version
- API version

Gate - Network



The "Network" section allows you to configure Wi-Fi, including connecting to the Internet, changing the Wi-Fi network name, setting a password, and setting up an OSDP connection.

The Network columns is for connecting the device to an Ethernet network using Wi-Fi.

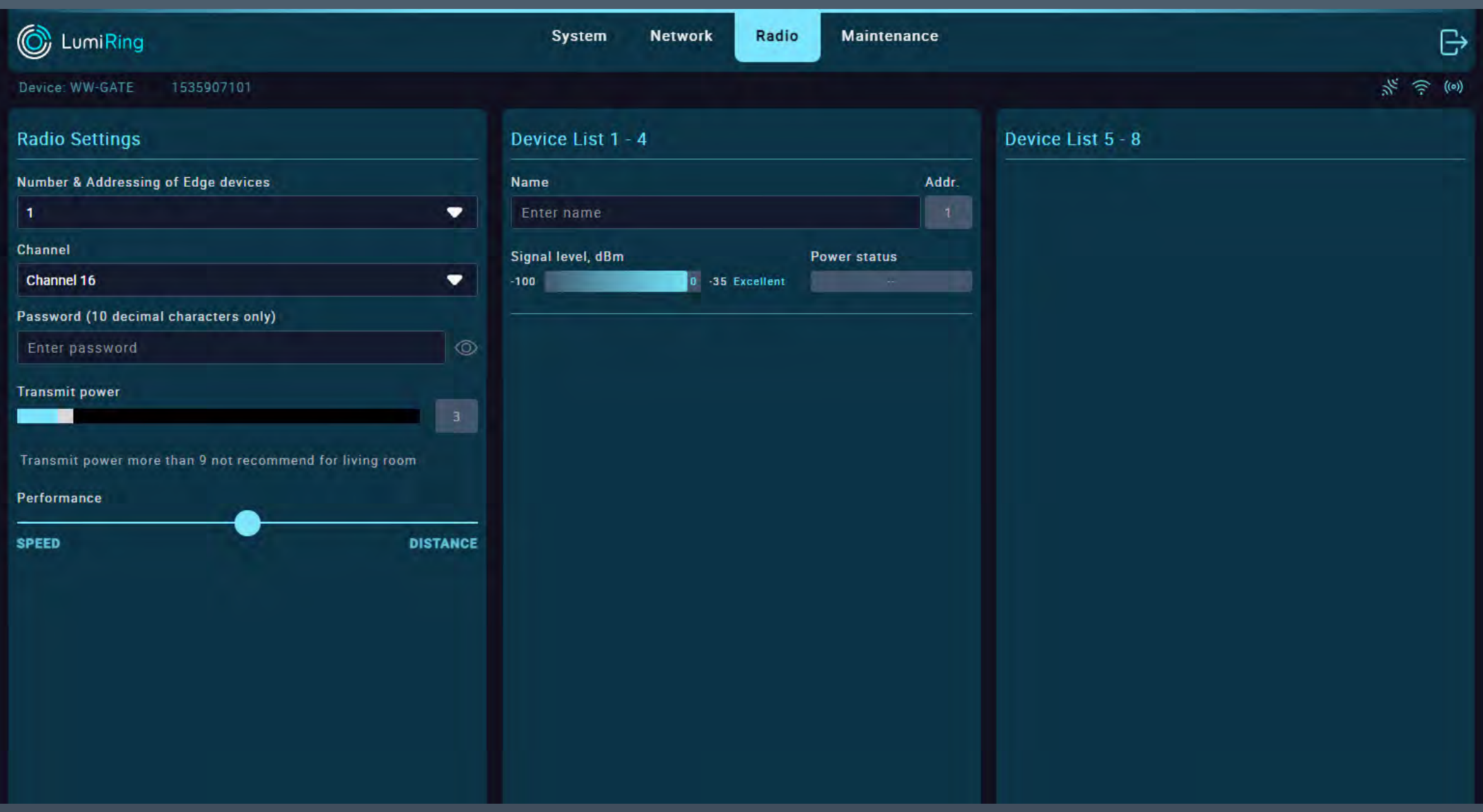
- Tap the SSID name field to search for available networks and enter the password.
- Then select DHCP or Manual connection mode and tap Connect.

The Wi-Fi AP column allows you to set up a connection to the device's built-in access point.

- You can change the name of the built-in AP network, set a password to connect, hide the network, and set a sleep timer.

The OSDP Port Settings column is for selecting the baud rate and device address.

Gate - Radio



The Radio section is used to change the radio settings, as well as display a list of connected devices.

The Radio column is used to set up communication between devices.

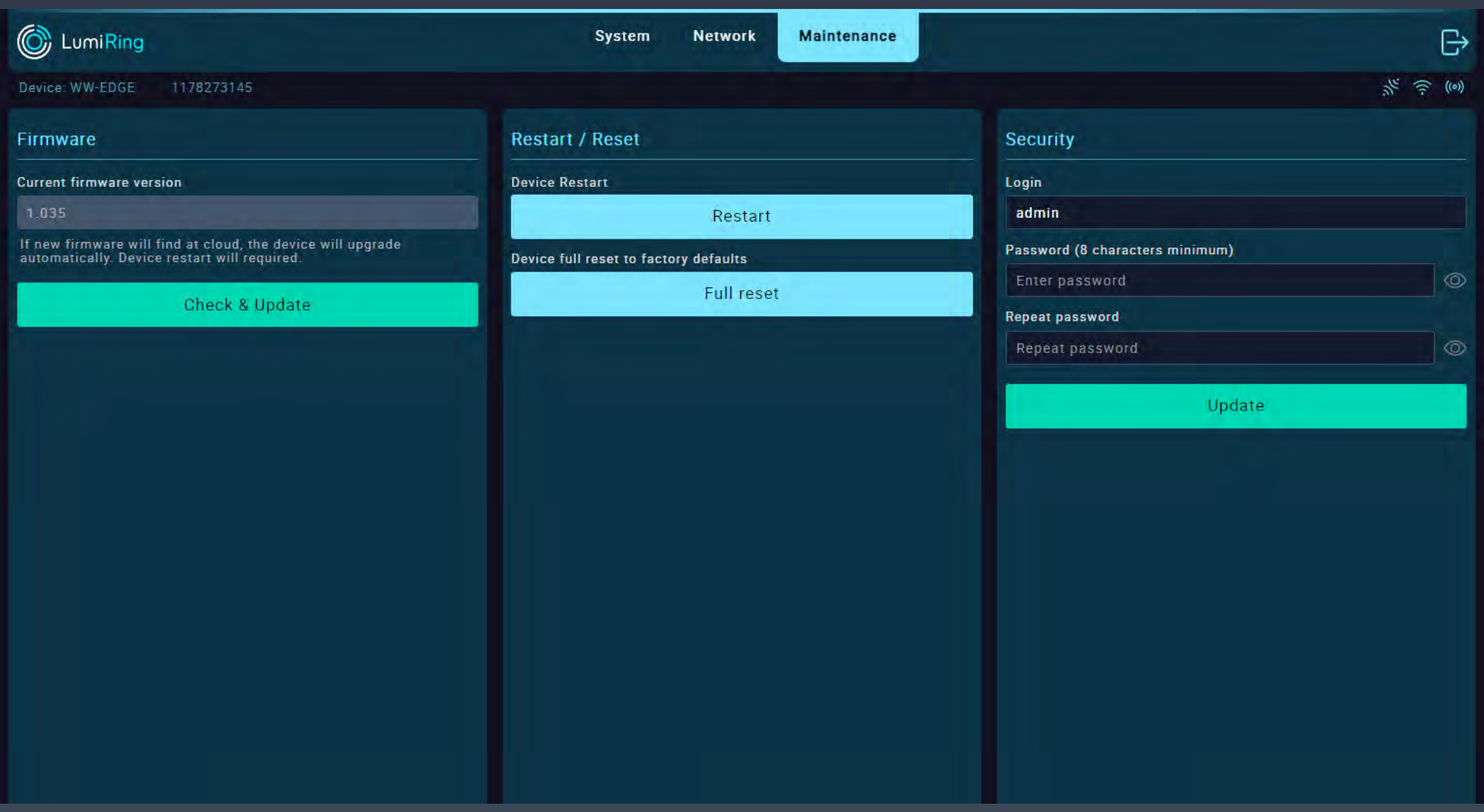
- Number and address of boundary devices - the actual number of devices in one set.
- Channel - specifies the communication channel to be used.
- Password - password for the radio connection.
- Power - setting the power of the transmitter.
- Performance - setting that allows you to increase the data rate by reducing the communication distance and vice versa.

It is important to remember to use the same parameters when configuring a set of devices.

The Device List column displays devices that are in communication with the device. It contains the following information:

- Device name (can be changed).
- Communication quality level.
- Power quality.

Edge/Gate - Maintenance



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

- It is recommended to use the latest firmware version.
- To download a new firmware version, connect to a Wi-Fi network with Internet access in the Network section.
- Click on the Check and 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 longer than 5 minutes, forcibly reboot the device by switching off the power and trying the update again.
If a power failure or network connection interruption occurs during the update, it 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 in to the unit.
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.
- Partial reset - resets all settings of the device except for network connection settings.
- 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 pressing Update.

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

EMERGEMCY IN
B
A
EXT 1
REX 3
GND
CONTACT 3
DOOR 3 IN
REX 4
GND
CONTACT 4
DOOR 4 IN
NC
C
NO
LOCK 1
NC
C
NO
LOCK 2
NC
C
NO
LOCK 3
NC
C
NO
LOCK 4
BUTTON
WIRELESS WIEGAND
WIRELESS ACCESS CONTROL GATEWAY
EDGE DEVICE
DOORS 1-4
WWW.LUMIRING.COM
USB
TYPE-C
LED
STATUS
POWER IN
GND
VDC
+12/24
DOOR 2 IN
CONTACT 2
GND
REX 2
WIEGAND 2 IN
+VDC
GND
BUZZER
LED
D 1
D 0
DOOR 1 IN
CONTACT 1
GND
REX 1
WIEGAND 1 IN
+VDC
GND
BUZZER
LED
D 1
D 0

For Notes