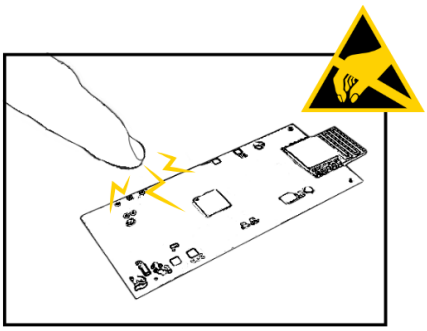
EMX INDUSTRIES, INC.

WEL-200™

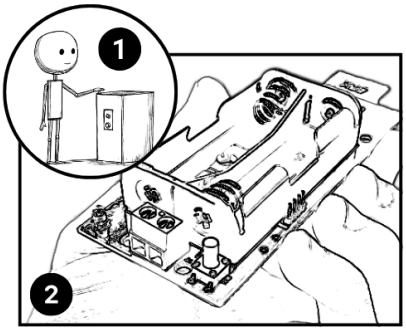
Wireless Edge Link

QuickStart and Mounting Guide

TIP: **In this guide, RX refers to the WEL-200 Receiver, and TX refers to the WEL-200 Transmitter.**



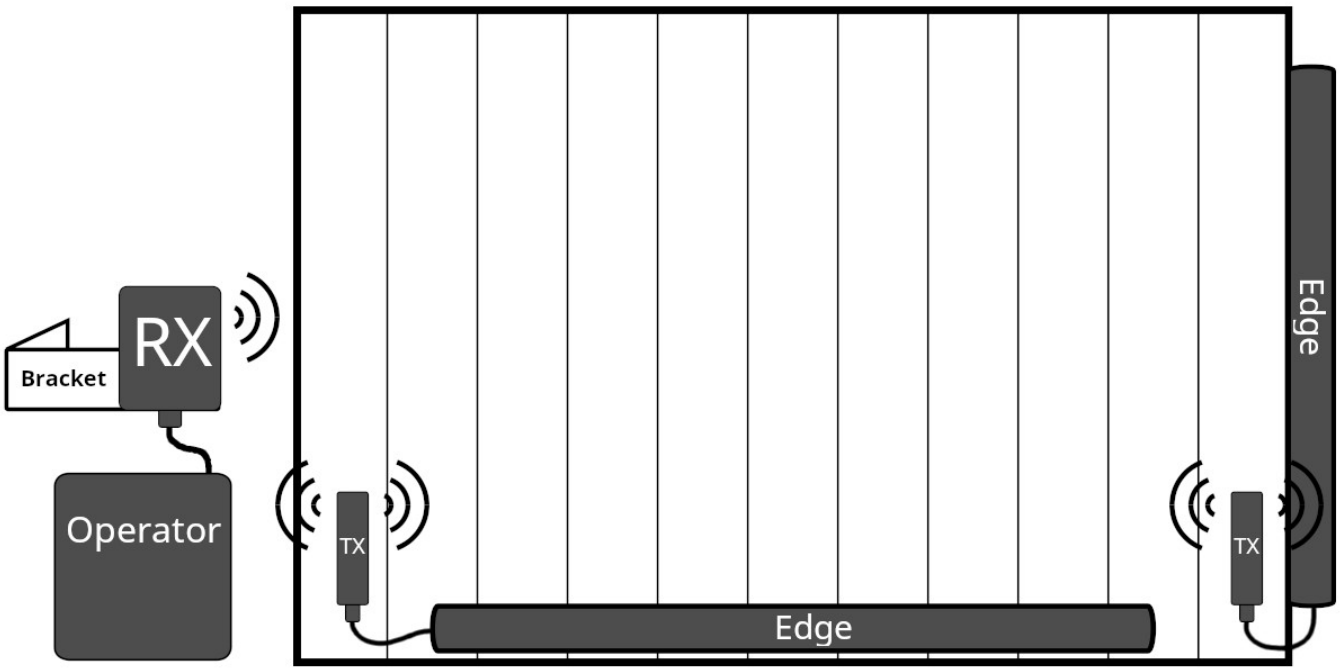
DON'T SHOCK ME!
WEL-200T components are sensitive to static shocks (ESD)



1. Ground yourself by touching a metal object
2. Hold the circuit board only by the edges

Mounting the RX and TX

ATTENTION: Failure to mount the RX properly may result in poor battery life in TX units.

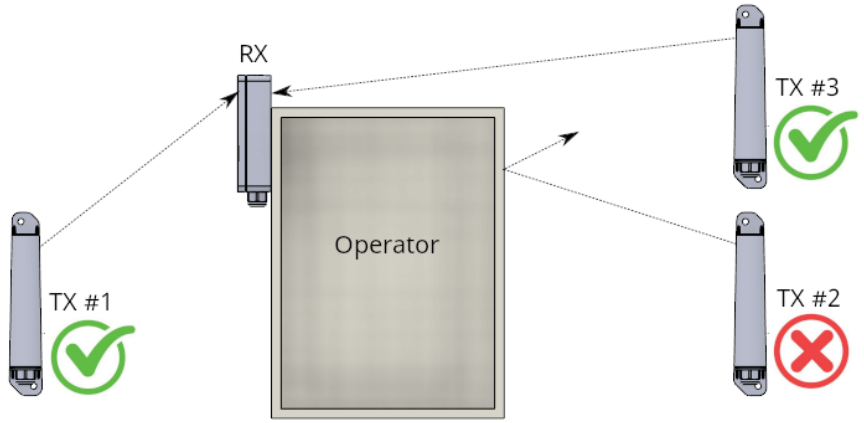


*Mount TX at least 6" or 75mm off the ground

Line of Sight:

When mounting a WEL-200 system, Line of Sight must exist between the RX and each TX to ensure a good wireless connection.

Line of Sight is illustrated below:

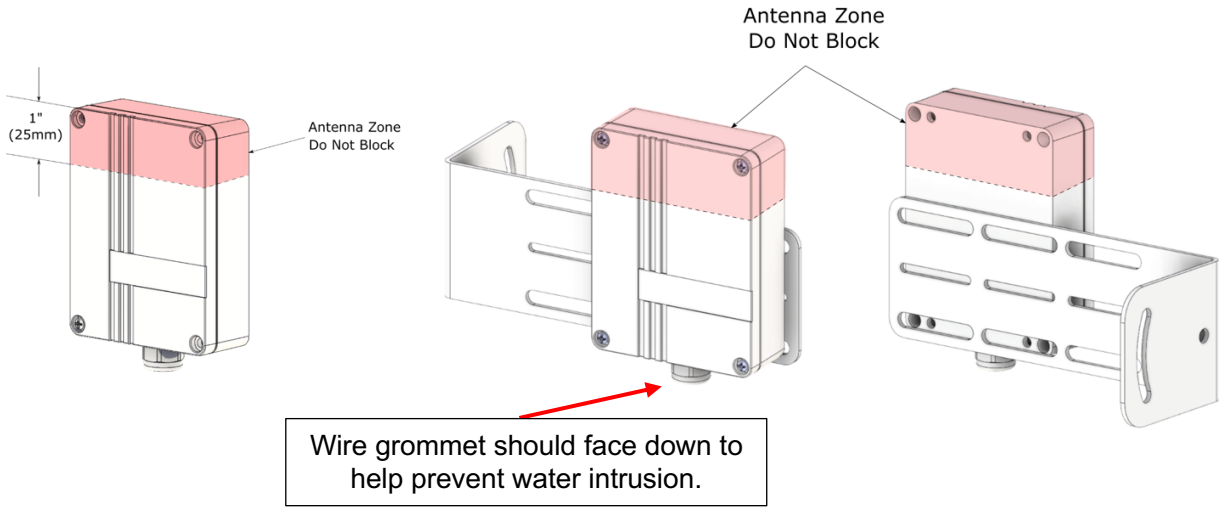


In the diagram, TX #1 and TX #3 have LINE OF SIGHT to the RX. TX #2 **does not** have LINE OF SIGHT to the RX because the operator will block the wireless signal. TX #2 may suffer from a poor connection and poor battery life.

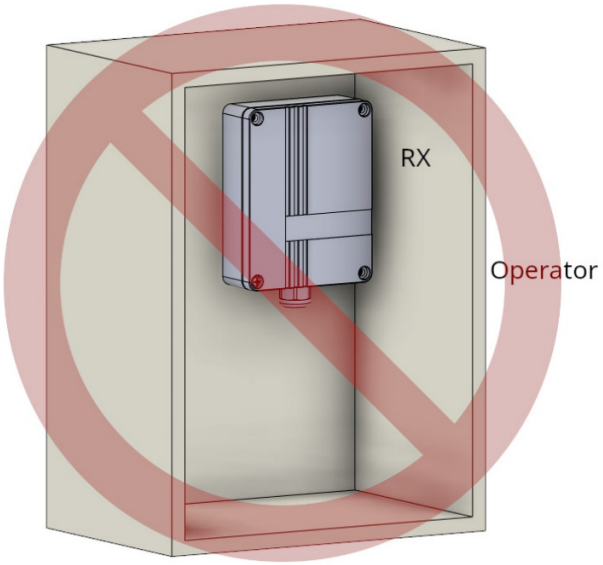
Mounting the RX:

Mount the RX to the **exterior** of the operator housing using #8 machine screws (the mounting holes can be accessed by removing the front cover). The RX must overhang the operator housing by about 1" (25mm) so that the antenna is not blocked. The antenna zone is illustrated below.

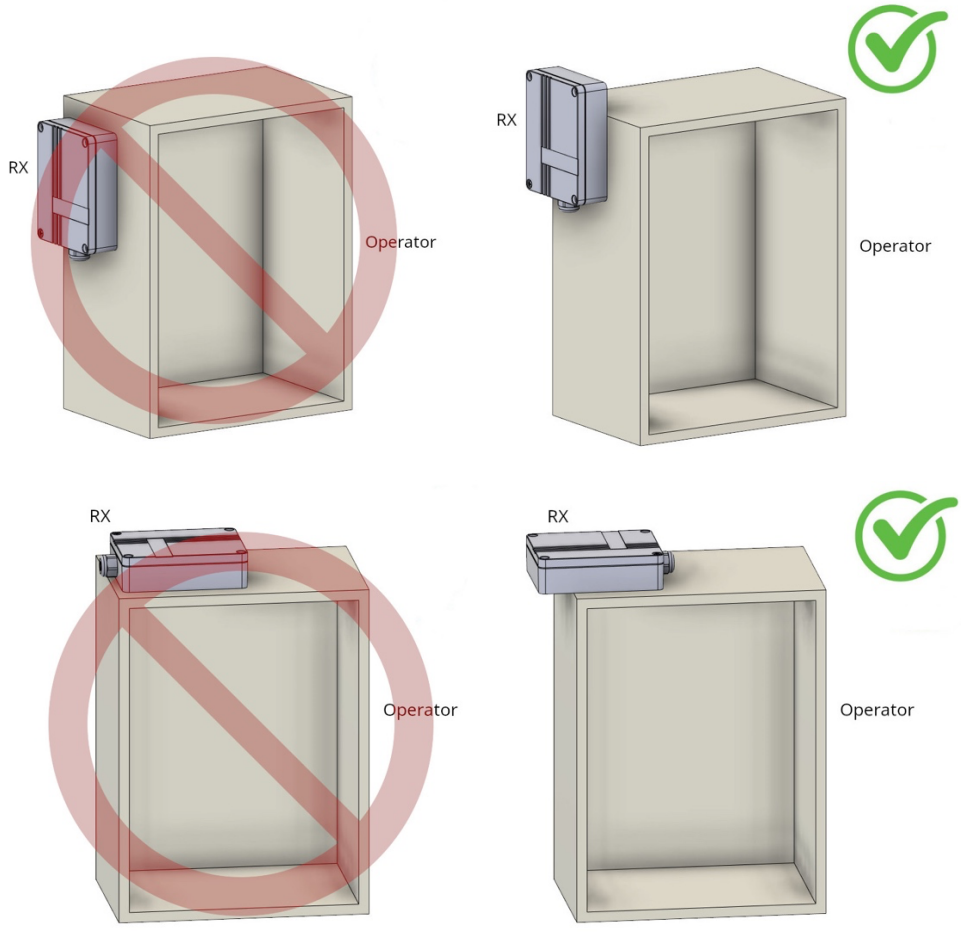
BEST PRACTICE: Install the RX using an L-bracket. Take care to **NOT** block the antenna zone.



Never install the RX inside an operator box, especially a metal one:



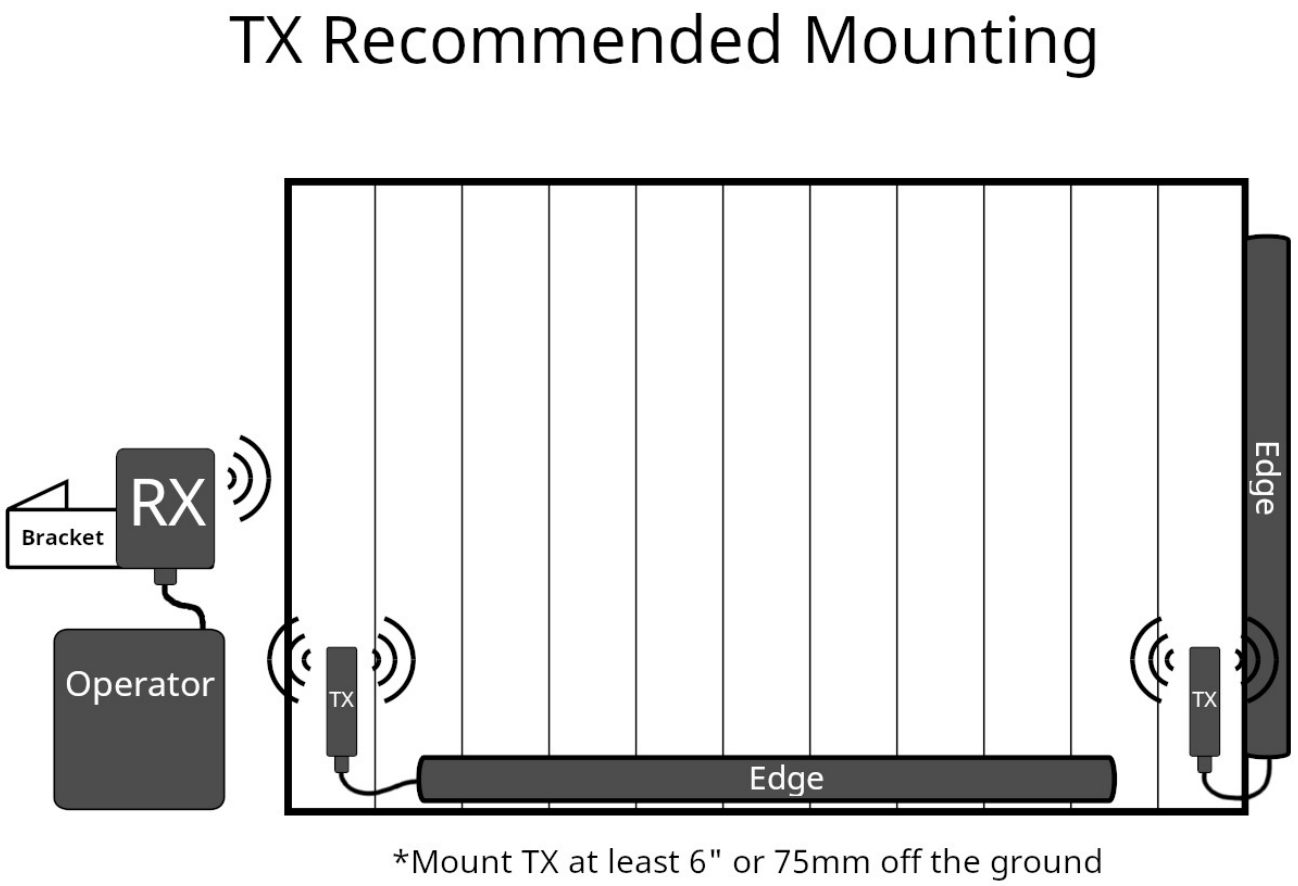
Examples of good and bad installations are shown below:



Even though there are 4 mounting holes on the RX, it's OK to just use 2 holes so that the RX will overhang the operator box as shown above. When mounting the RX, make sure the cable grip is ***facing down or to the side, never up*** *– this will prevent water from getting in.*

Mounting the TX:

Mount each TX near its sensing edge: First, wire the sensing edge into the TX's terminal blocks. There is no polarity on this wiring. Next, use two #8 machine screws to secure the TX to the gate. Recommended locations are shown below for the front and side of a gate:

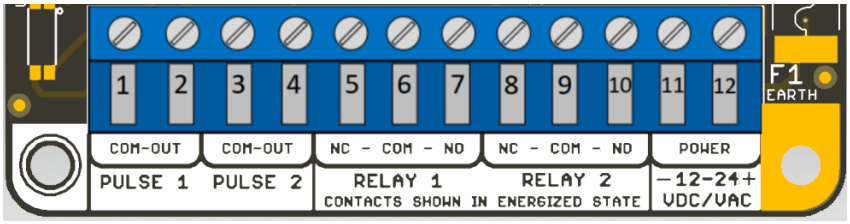


BEST PRACTICE: When mounting TX and RX unit, **mount with wire grommet facing down** to prevent water intrusion.

Receiver Wiring

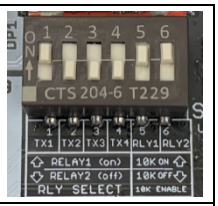
WEL-200 Receiver Screw Terminal Block

Reference the image below for terminal numbers in step 4 - 7

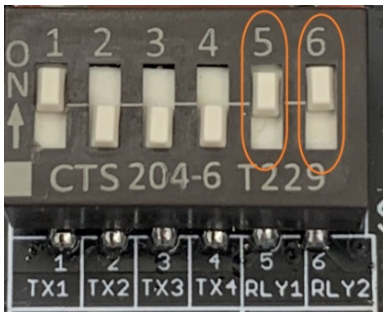


1. All wiring to WEL-200 devices must pass through the sealing cable grip to keep the devices waterproof.
2. Wire power from the operator to RX terminals **11** & **12**.

   The acceptable input voltage range is **12-24VDC/AC.**
3. On the RX board, set **DIP switches 1 through 4** to **"RELAY 1"** or **"UP"** position. This will make all four transmitter channels output through the **PULSE 1** and **RELAY 1** terminals. If more than one relay is required for the install (Open & Close Edges) put the corresponding DIP switches into the **"RELAY 2"** or **"DOWN"** position



4. Determine the monitoring method the gate operator requires. The WEL-200 supports 10K and normally closed monitoring, as well as 4-wire 300/0Hz pulsed outputs.
5. For **10K monitoring,** wire operator common to terminal **6**, and the operator safety input to terminal **7**. Place the 10K enable switches (position 5 & 6) into the UP or **ON** position



6. For **NC monitoring,** wire operator common to terminal **6**, and the operator safety input to terminal **5**. With NC monitoring, a specific power source on the operator may need to be used. Refer to your operator's documentation.
7. For **4-wire 300Hz/0Hz Pulsed monitoring,** wire the operator common to terminal **1** and the operator safety input to terminal **2**.
8. For **non-monitored** applications, wire operator common to terminal 6, and the operator safety input to terminal 7. Place the 10K enable switches (position 5 &6) into the down or **OFF** position.

Getting the WEL-200 RX & TX Ready for Pairing (Factory Reset)

1. Insert two AA lithium batteries into the TX devices that will be paired. Apply power to the RX board.

   TIP: **Energizer** AA Ultimate Lithium batteries must be used to obtain 2-years of battery life

2. After ~15 seconds of power being applied, the RX board should have its **SYSTEM STATUS LED** (below DIP switch) and the four **CHANNEL LEDs** (near pushbuttons) blinking at the exact same rate, these are the five green LEDs on the board.

   If any of the **CHANNEL LEDs** have a different blink-rate, press and hold both **CH1 and CH4 push-buttons** simultaneously until the **STATUS LED** starts blinking at a quicker rate.

   This performs a factory reset and clears all previous connections. Give ~15 seconds for the device to return to a normal operating state. (Five green LEDs flashing in sync)

3. After inserting the batteries into the TX, observe the blink pattern on the **TX Status LED** (located near push-button and edge terminal). The LED should be blinking **twice quickly** every four seconds.

   If you see any other blink pattern, press and hold the **TX Button** until the blink pattern described above is displaying. This removes any previous connection that may have been programmed to this transmitter.

Pairing the RX & TX

1. On the RX board, press and hold **CH1 Button** until you see the **SYSTEM STATUS LED** blink at a faster rate. This puts the RX into **PAIR MODE** for CH1. You will have two minutes to complete the pair on the TX before the pairing session times out.

2. On the TX that is to be paired, press and hold its push-button. The TX LED will begin blinking rapidly while the TX is trying to pair. Hold down the push-button until the TX's LED flashes once every four seconds, indicating a successful pair.

   If the pair is failing, the TX LED will continue to blink fast while the TX Button is being held.

3. Observe the **CH1 LED** on the RX board to see the connected TX's status.
   One of the three states below should be seen.

   - If an edge sensor is wired to the paired TX and is not shorted, then the **RX CH1 LED** should be **OFF**.
   - If an edge sensor is not wired, the **RX CH1 LED** will **flash twice quickly every second**.
   - If an edge sensor is wired but it is shorted (compressed), then the **RX CH1 LED** will be **ON** until the short is removed.

4. Start an open cycle and ensure shorting (compressing) the edge sensor stops the gate/door.

5. Repeat steps 1 through 4 using CH2, CH3, or CH4 for additional transmitters.