

RBand



MODELS: RB-P-K20, RB-TX20C

Use with: DC/T3 Sensing Edge, **Output:** Pulsed, N.O.

PRODUCT INFO

WARNING

Read and understand all instructions before beginning installation. Disconnect power to motor and test upon completion. Sensing edges and wireless products should be installed by qualified personnel to ensure the requirements herein have been met. Keep these instructions with the installation. Always abide by local and national electrical code specifications when wiring accessories to motor controls.

The Miller Edge RBand (RB-P-K20) monitored wireless edge system is intended to provide a wireless connection between a monitored sensing edge and a motorized operator installed with a garage door or grille. RBand meets the UL 325 requirements for monitored devices and has been certified as a UL 325 Recognized Component. RB-P-K20 is designed for use with operators that comply with UL 325 using a Miller Edge diode capacitor (DC/T3) configured sensing edge. Consult your operator manual for detailed instructions about connecting to the motor. The RB-P-K20 receiver is compatible with up to three RB-TX20C transmitters.

KIT CONTENTS

- (1) RB-P-RX10: RBand Edge Receiver
- (1) RB-TX20C: RBand Edge Transmitter
- (2) **3.6V AA lithium batteries***
- (4) #6 pan head transmitter mounting screws

***REPLACEMENT BATTERIES:** 3.6V AA *lithium batteries* can be purchased at an electronics store (ER14505 or equivalent) or from Miller Edge (226-9313). Standard 1.5V AA batteries are *not* compatible with RBand.

REQUIRED (not included)

- Miller Edge monitored sensing edge:
 - Configuration: Diode capacitor (DC/T3: Red band on cable)
- Receiver mounting hardware
- 1/8" flat blade screwdriver
- 1/4" flat blade screwdriver
- #2 Phillips screwdriver
- 18-26 AWG wire to connect receiver to operator

RECOMMENDED

- Multi-meter
- MET-101 Edge Tester by Miller Edge
- Operator manufacture's manual

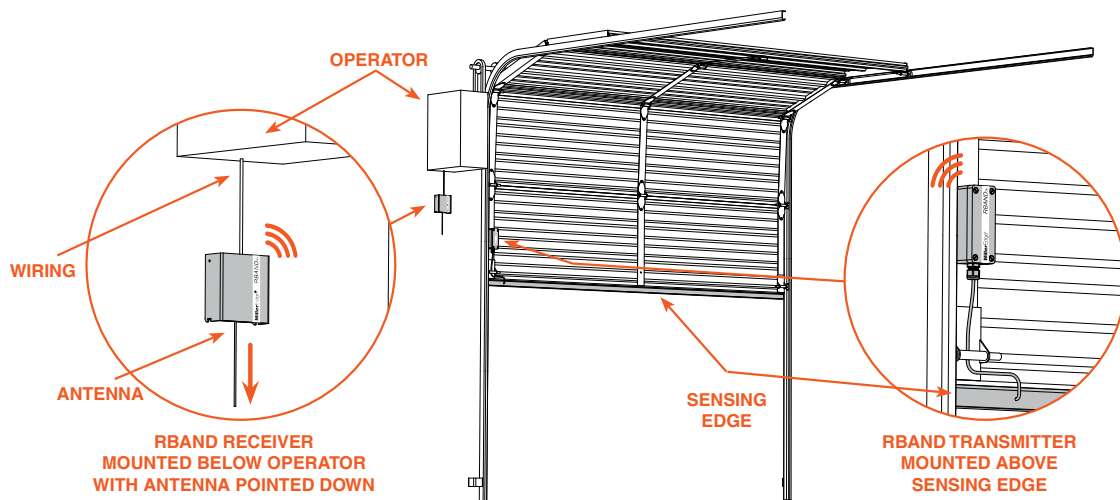


IMAGE 1: Door Installation with RBand Transmitter & Receiver

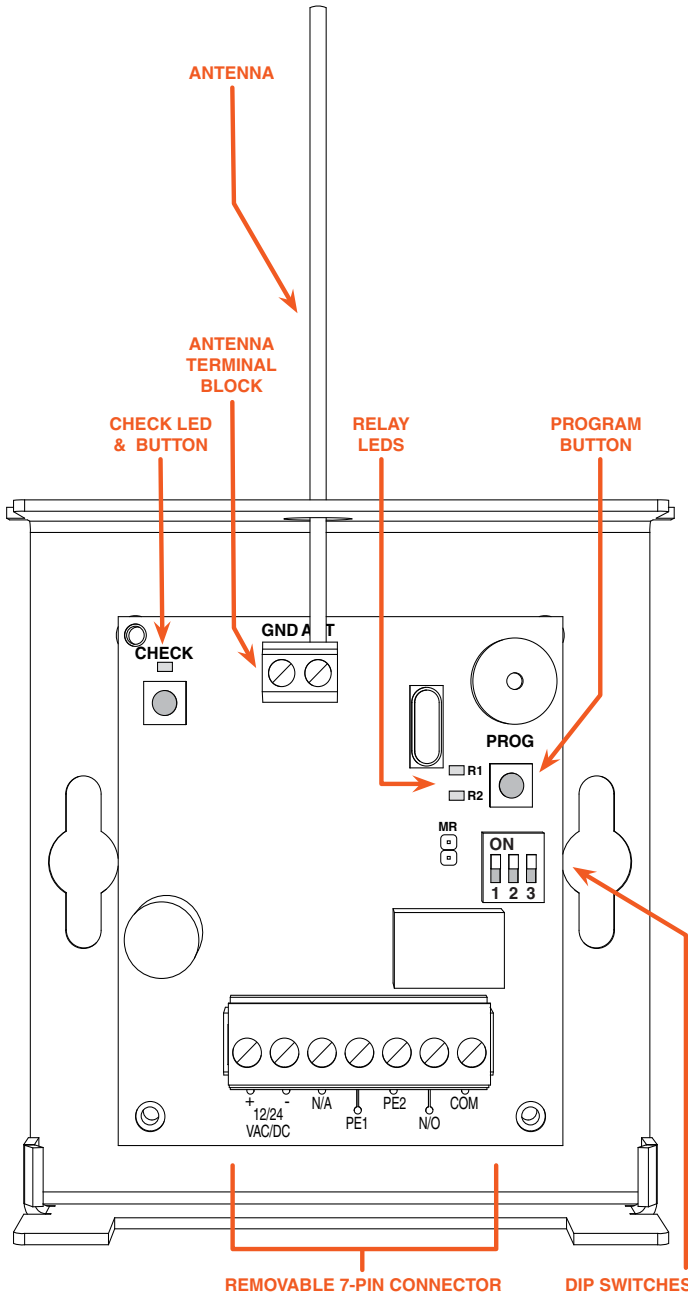


IMAGE 2: RBand Door Edge Receiver PCB & Connections

I. RECEIVER INSTALLATION

1. Remove the operator cover and turn off the power to the operator.
2. Remove receiver cover and mount the receiver base near the operator, where it will be in line of sight with the transmitter. **IMAGE 1**
3. Wire the removeable 7-Pin Connector: **TABLE 1**
 - a. Connect power to the terminals marked +12/24 AC/DC and -12/24 AC/DC (**polarity sensitive**). **IMAGE 2**
 - b. Connect both PE1 and PE2 to the photo eye inputs on the operator (**not polarity sensitive**). (ODC STB inputs on Overhead Door/Genie operators)
 - c. If a normally open (NO) connection is required, wire NO and COM to the NO/reverse input on the operator.
4. Leave DIP switches in factory default settings (all on). **IMAGE 3**
5. Turn **on** power to the operator and confirm the receiver is powered by observing that the R1 LEDs turn on. Note: It takes ~5 seconds for the receiver to initialize. **IMAGE 2**

TABLE 1: REMOVABLE 7-PIN CONNECTOR

+12/24 VAC/DC	▶	Constant power source
-12/24 VAC/DC	▶	Constant power source ground
N/A	▶	Not used
PE1	▶	P.E. input terminal
PE2	▶	P.E. input terminal
N/O	▶	Normally open
COM	▶	Relay common

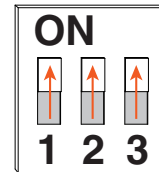
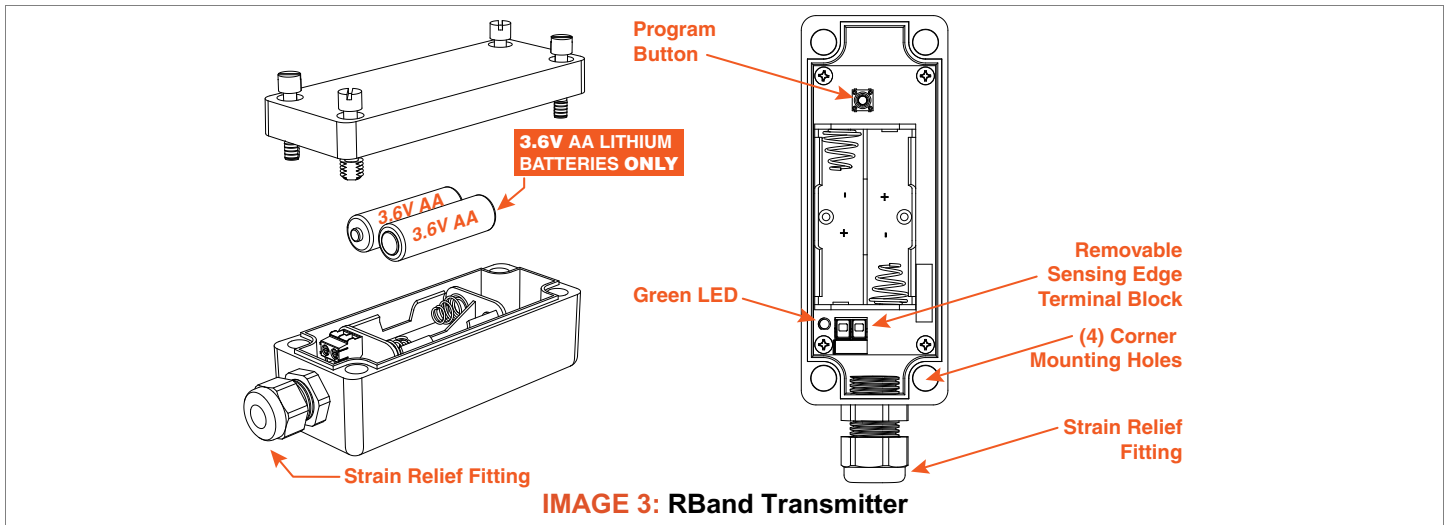


IMAGE 3: Dip Switch Settings



II. TRANSMITTER SETUP

1. Remove transmitter lid and insert the two **3.6V AA lithium batteries**, paying attention to their polarity. The green LED on the transmitter will blink to indicate that it has not yet been paired with the receiver. **IMAGE 3**
2. Pair the transmitter(s) to the receiver. Proceed to **PAGE 4**.

Tech Tip: To save time in the field, pair the receiver and transmitter(s) in advance of installation with a 12-24 V power supply.

Replacement transmitters: To introduce a replacement transmitter to a pre-existing RBand system, first erase the receiver; see section **VI. ERASING THE RECEIVER**.

TABLE 2: LED INDICATORS			
Unit	LED Indicator	LED Status	Meaning/Action
TRANSMITTER		On	<ul style="list-style-type: none"> • Active or damaged edge. • No edge is connected.
		Off	<ul style="list-style-type: none"> • Edge is functioning properly. <ul style="list-style-type: none"> ○ To test for power, press the blue Program button on the transmitter and check if the green LED flashes 10 times.
RECEIVER	R1 (Relay 1)	On (solid)	<ul style="list-style-type: none"> • Edge is activated or no transmitters are paired. • Relay is active. • Receiver is programmed, but no edge is connected. • Edge termination fault.
		Off	<ul style="list-style-type: none"> • Transmitters are paired and DC/T3 edge is detected; no faults.
	R2 (not used)	-	-
	A TEST CHECK	On	<ul style="list-style-type: none"> • In test mode.
	CHECK	-	<ul style="list-style-type: none"> • Used for diagnostics; see section VI. TROUBLESHOOTING.

III. PAIRING TRANSMITTER(S) TO A RECEIVER

Note: The RB-P-K20 receiver is compatible with up to three RB-TX20C transmitters.

Pairing to Relay 1 (R1)

1. **Press and hold** the **receiver** Program button for one beep until R1 LED is on. **Release** the button. **IMAGE 2**
2. Within 10 seconds, **press** the **transmitter** Program button for ~2 seconds and **release**. The receiver will beep.
3. Within 10 seconds, 2 additional beeps indicate that pairing is complete. The R1 LED will blink every ~5 seconds. **IMAGE 2**
4. **Optional:** To pair two additional transmitters (3 total) and sensing edges to relay 1, **repeat steps 1-3**.

IV. SENSING EDGE CONNECTION

1. Strip approximately 2-inches of the outer sheath from the sensing edge cable. Then, strip approximately 1/4-inch of the black and white interior sheaths to expose the wire.
2. Connect the sensing edge to the transmitter:
 - a. Feed the stripped cable through the transmitter strain relief fitting.
 - b. Add a small service loop or zip tie to the sensing edge cable within the enclosure to prevent the cable from being pulled out of the terminal block when installed.
 - c. Remove the terminal block, insert each sensing edge wire into the two available positions (**not polarity sensitive**), and tighten the screws to ensure proper contact with the wire. Re-install the transmitter terminal block.
 - d. Arrange the wires inside the enclosure and tighten strain relief fitting. **IMAGE 3**
3. Test the system to ensure proper functionality by squeezing the edge and observing the assigned receiver relay LED.

V. TRANSMITTER INSTALLATION

Note: Modifying the NEMA 4 transmitter enclosure (e.g., drilling) or removing the circuit board will void the manufacturer warranty.

1. Use the provided #6 pan head screws in the four corner mounting holes.
2. Install the receiver and transmitter lids. Align the transmitter lid alignment pin, if present.

VI. ERASING THE RECEIVER

If you encounter pairing issues or are replacing a transmitter, you may need to erase the RBand receiver and pair the transmitters again. To clear all transmitters paired to the receiver, follow these steps:

1. Ensure the receiver is connected to power.
2. Locate the pins marked MR (next to the DIP switches) and short them by gently placing a metal screwdriver across both pins to make contact. **IMAGE 2** While shorting the MR pins:
 - a. **Press** and **hold** the Program button. You will hear a series of 10 beeps, followed by a rapid chirping sound.
 - b. When the rapid chirping and returns to a fast beeping, **release** the Program button and remove the short from the MR pins. Note: The rapid beeping and chirping sequence will continue until the Program button is released.
3. After approximately 10 seconds, you will hear an additional 2 beeps, and R1 relay LED will turn on. The receiver is now erased.

VII. TROUBLESHOOTING

ISSUE	ACTION
<p><i>The receiver doesn't respond to the transmitter and displays intermittent faults (R1 relay LED may turn on and off randomly).</i></p>	<p>Assess the RF signal strength:</p> <ol style="list-style-type: none"> 1. Enter Check Mode: IMAGE 2 <ol style="list-style-type: none"> a. Press the check button on the receiver for approximately 2 seconds. b. During the check process, you'll hear 4 fast beeps followed by a beep every 1.5 seconds. <ul style="list-style-type: none"> - Wait for approximately 30 seconds. If you don't hear any additional beeps during this time, the system is functioning correctly. - If you hear 3 quick beeps, this indicates a communication error (proceed to 2b below). 2. Transmitter signal strength verification <ol style="list-style-type: none"> a. While in Check Mode, squeeze the sensing edge and observe the receiver Check LED. Ideally, you will see 3-5 flashes. <ul style="list-style-type: none"> - Fewer than 3 flashes suggests a weak signal. - Repeat the process by pressing any additional sensing edge(s) to assess the signal strength of any additional transmitter(s). b. If there is a weak signal, then: <ul style="list-style-type: none"> - Verify that the receiver antenna is optimally positioned outside of any metal enclosures. - Verify that the transmitter(s) is/are located within a clear line of sight to the receiver antenna. 3. Exit Check Mode <ol style="list-style-type: none"> a. Press the Check button or the system will time out after 5 minutes. b. You will hear a series of beeps upon exiting.

The sensing edge and/or transmitter aren't functioning properly.

1. Press the transmitter Program button and observe the LED blink and then turn off. **IMAGE 3**
2. Check the batteries:
 - a. Remove the batteries. Using a multimeter, if the batteries measure less than 3.6V, replace the batteries. 3.6V AA lithium batteries can be purchased at electronics stores or from Miller Edge.
 - b. Install the batteries.
3. Check the removable transmitter terminal block:
 - a. Disconnect the transmitter terminal block. The corresponding R1 relay LED on the receiver should flash. **IMAGE 2**
 - b. Ensure the sensing edge cable is secure within the block and the metal wire is making contact with the interior grips of the block. Reinstall the terminal block.
4. Squeeze test the sensing edge and observe that the transmitter LED turns on. If the LED turns on when the edge is re-connected, the edge or wire may be shorted. With an ohm meter, check for continuity with the sensing edge squeezed. An MET-101 Edge Tester by Miller Edge can also be used to determine proper function of the sensing edge. Replace the edge if necessary.
5. If steps 3-4 do not occur, erase the receiver (**SECTION VI**) and pair receiver and transmitter (**SECTION III**).

The receiver emits 4 beeps every 4 seconds.

- Check to ensure batteries are making contact with terminals and polarity is correct.
- Replace with 3.6V AA lithium batteries, which can be purchased at an electronics store or from Miller Edge.

R1 receiver relay LED is on after receiver and transmitter(s) are paired.
TABLE 3

- The sensing edge may be shorted. Verify with Miller Edge MET-101 Edge Tester. Watch the Edge Tester video: <https://tinyurl.com/3xe2xsca>

VIII. TECH SUPPORT

For additional assistance, contact Miller Edge Tech Support: 800-220-3343

IX. GENERAL SPECIFICATIONS

PERFORMANCE

Response Time	135 milliseconds
Operating Temperature	-40°F to +140°F (-40°C to +60°C)
Frequency	916 MHz
Operating Range	50' (15.25 m) nominal; 100' (30 m) maximum optimal conditions
Agency Approvals	UL 325 Recognized Component, FCC

	RB-P-RX20 RECEIVER	RB-TX20C TRANSMITTER
ELECTRICAL		
Power Source	12-24 volts AC/DC nominal (11-30 V max); 100 mA max	(2) AA, 3.6 volts lithium, 2-year expectancy
Input/Output	Output: Pulsed, N.O.	Input: DC/T3 monitored sensing edge
PHYSICAL		
Dimensions	3-5/8"W x 4-1/8"H x 1-5/8"D (93 x 105 x 42 mm)	1-13/16"W x 5-3/4"H x 1-3/4"D (46 x 146 x 44 mm)
Weight	5.25 oz.	4.5 oz.
Enclosure Material	Steel	Polycarbonate
Mounting	2 screws (not provided)	4 corner screws (provided)
Transmitter Low Battery Alert Alarm		-
LED Indicators	Relays 1-3, pre-start test, check	Transmit
Antenna	Wire antenna (attached)	-
Degree of Protection	-	NEMA 4

X. FCC COMPLIANCE

Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information
Unique Identifier: RB-TX20C, RB-P-RX10C

Responsible Party – Miller Edge, Inc.
300 North Jennersville Road
West Gove, PA 19390

RBAND EDGE TRANSMITTER

Model: RB-TX20C
FCC ID: U5Z-RB-TX20C

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.

This device complies with FCC radiation exposure limits for an uncontrolled environment. This device shall be installed and operated with a minimum distance of 0.4" between users or bystanders and the device.

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 may 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:

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

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

RBAND EDGE RECEIVER

Model: RB-P-RX10C
FCC ID: U5Z-RB-P-RX10C

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.

This device complies with FCC radiation exposure limits for an uncontrolled environment. This device shall be installed and operated with a minimum distance of 0.8" between users or bystanders and the device.

XI. MAINTENANCE

It is strongly recommended that users check wireless systems at least once per month for low batteries alerts, and damage to housings and mountings. Also check for signs of damage to sensing edge and cable connection points. Compress the sensing edge 2-inches from both ends and in the center and observe that it sends an electric signal to the controls. Refer to your operator manual for detailed instructions about motor connections.

XII. REPLACEMENT

To replace your Miller Edge wireless system, contact your sales representative. Attempting to repair your Miller Edge wireless system is not recommended and will void the manufacturer warranty.

XIII. WARRANTY

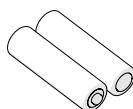
RBand DC/T3 (RB-P-K20, RB-TX20C) carries a **2-year warranty** from date of shipment from Miller Edge for credit or replacement. This warranty applies to normal use, which is found to have defective materials or workmanship, as determined solely by an authorized factory representative. This warranty is void where evidence of misuse or abuse is present. This warranty covers repair or replacement of the purchased product only; product installation/labor charges are not covered. Miller Edge manufactures its products to meet stringent specifications and cannot assume responsibility for those consequences arising from improper installation or misuse. Installation instructions and testing procedures provided by Miller Edge must be followed for proper operation and maintenance.

XIV. ACCESSORIES

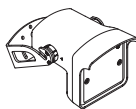
Contact your Miller Edge sales representative for accessories to wireless systems:



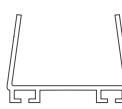
WARNING LABELS



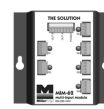
BATTERIES



MOTION SENSORS



MOUNTING CHANNELS



INTERFACE MODULES



EDGE TESTER