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# PRODUCT INFORMATION BULLETIN

## AIR-EAGLE® FM2 900 MHz RF Receiver MODEL 43-2110-DC

### DESCRIPTION

The AIR-EAGLE FM2 is an RF system designed for medium-range wireless remote control in a variety of industrial applications. Each system, consisting of a receiver and transmitter can be configured to remotely control pumps, lights, conveyors, gates and other electrical apparatus. Integral high current relays can be directly interfaced with the customer's equipment or P.L.C. Capable of receiving remote signals transmitted from up to 1200 feet away, the model 43-2110-DC utilizes spread-spectrum technology and provides the utmost security and reliability even in the noisiest RF environments.

### INSTALLATION

DISCONNECT DC Power from all equipment before installation.

1. Mount the AIR-EAGLE FM2 RECEIVER in a convenient location.
2. Install antenna. The unit has an antenna connector located on the right side on the enclosure. Attach the coax cable from the external FM antenna to this connector.
3. Connect DC power and control to the proper terminals in your control circuit.

### TERMINAL STRIP WIRING

1	N/O Relay #1	10	N/O Relay #4	19	N/O Relay #7
2	C Relay #1	11	C Relay #4	20	C Relay #7
3	N/C Relay #1	12	N/C Relay #4	21	N/C Relay #7
4	N/O Relay #2	13	N/O Relay #5	22	N/O Relay #8
5	C Relay #2	14	C Relay #5	23	C Relay #8
6	N/C Relay #2	15	N/C Relay #5	24	N/C Relay #8
7	N/O Relay #3	16	N/O Relay #6		
8	C Relay #3	17	C Relay #6		
9	N/C Relay #3	18	N/C Relay #6		

DC INPUT	
Terminal #1	Positive (+) 9-36VDC INPUT
Terminal #2	Negative (-) 9-36VDC INPUT



### GENERAL OPERATION

Relays energize and de-energize in based on commands received from the transmitter. The LED display continually updates, indicating the current transmitter command being received. See table below for relay mode configuration for this receiver:

TX BUTTON DEPRESSED	RELAY OPERATED – MODE	LED DISPLAY
N/A	Power On – No Relays Energized	0
1	Relay #1 & #2 Energizes – Maintained	1
2	Relay #3 Energizes – Maintained	3
3	Relay #4 Energizes – Maintained	4
4	Relay #5 Energizes – Maintained	5
5	Relay #6 Energizes – Maintained	6
6	Relay #7 Energizes – Maintained	7
7	Relay #8 Energizes – Maintained	8
8	Relay #8 Energizes – Maintained	8

### RELAY MODES EXPLAINED:

Maintained – Relay is energized only while button on TX is depressed. When the transmitter button is *released*, the relay will de-energize.

Toggle/Latch – Relay energizes upon initial push of corresponding transmitter button. Relay stays energized until the same transmitter button is depressed a second time.

Latching – Relay energizes upon push of assigned “energizing” pushbutton. Relay de-energizes upon push of assigned “de-energizing” button. (ie – Button #1 on TX energizes Relay #1 / Button #2 on TX de-energizes Relay #1)

# AIR-EAGLE® FM2

## 900 MHz RF Receiver

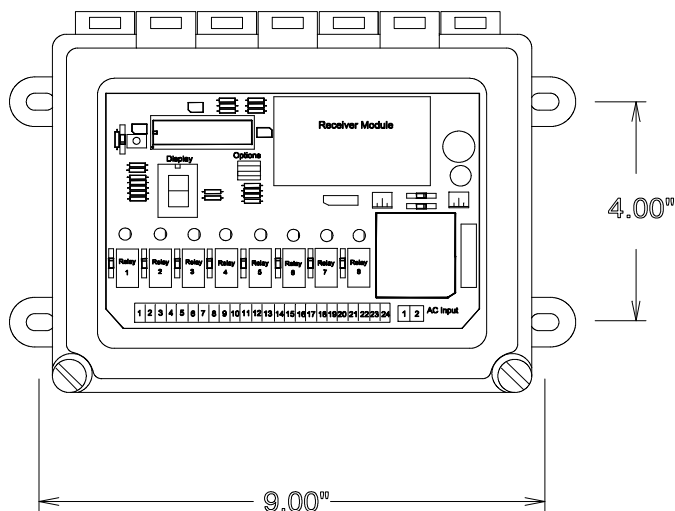
### MODEL 43-2110-DC



## CONTROLS AND INDICATORS

CONTROL / INDICATOR	FUNCTION		
RECEIVER MODULE	RF module that receives data from the remote transmitter		
DISPLAY	7-Segment LED displays a number corresponding to the relay command being received		
SEL 1 (SW 1 & 2):  <i>USED TO SET NETWORK FREQUENCY</i>	Network Address	SW1	SW2
	1	OPEN	OPEN
	2	CLOSED	OPEN
	3	OPEN	CLOSED
	4	CLOSED	CLOSED
SEL1 (SW 3 & 4):  <i>USED TO SET CONFIGURATION OPTIONS</i>	SW #	OPEN	CLOSED
	SW3	No "Signal Loss Delay"	5 Second "Signal Loss Delay"
	SW4	Not Used	Not Used
RELAYS	Eight SPDT output control relays		

## DIMENSIONS



Enclosure height equals 4.25 inches.

## SPECIFICATIONS

DC Input	9 - 36 VDC @ 10 Watts
Fuse Protected	2 amps
Relay Contacts	SPDT 5 amp @ up to 36 VDC per relay
Receiver Range	Up to 1200 feet with external antenna - see accessories)
Receiver Frequency	900 MHz Spread Spectrum
RF Channels	Four independent network frequencies
Enclosure	Hinged fiberglass with window / NEMA 3, 3R, 4, 12, 13
Operating Temp	-40° F to +185° F

## REPLACEMENT PARTS & ACCESSORIES

PC Board (Main)	43-2112-DC
Standard Antenna (Included):	
900MHz TNC Portable Antenna (For distances up to 600 feet*)	49-1103
Optional Antenna & Accessories:	
900MHz Omni Directional Base Antenna (For distances up to 1200 feet*)	49-3101
Flex Coax Cable w/Connectors	49-4000-XX (XX = # of Feet)
Inline Lightning Arrestor	49-5002
* = Line of Sight	

## LIMITED WARRANTY STATEMENT

BWI Eagle Inc. warrants the Air-Eagle Remote Control System, if properly used and installed, will be free from defects in material and workmanship for a period of 1 year after date of purchase. Said warranty to include the repair or replacement of defective equipment. This warranty does not cover damage due to external causes, including accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing. This limited warranty, and any implied warranties that may exist under state law, apply only to the original purchaser of the equipment, and last only for as long as such purchaser continues to own the equipment. This warranty replaces all other warranties, express or implied including, but not limited to, the implied warranties or merchantability and fitness for a particular purpose. BWI Eagle makes no express warranties beyond those stated here. BWI disclaims without limitation, implied warranties of merchantability and fitness for a particular purpose. Some jurisdictions do not allow the exclusion of implied warranties so this limitation may not apply to you. To obtain warranty service, contact BWI Eagle for a return material authorization. When returning equipment to BWI Eagle, the customer assumes the risk of damage or loss during shipping and is responsible for the shipping costs incurred.

DOCUMENT DATE: 7-Dec-05



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