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# PRODUCT INFORMATION BULLETIN

## AIR-EAGLE® SR 2.4 GHz RF Receiver MODEL 38-20100-X

### DESCRIPTION

The AIR-EAGLE SR is an RF system designed for short to medium range wireless remote control of electrical apparatus in a variety of industrial applications. Systems can consist of any number of receivers and handheld or contact input transmitters working together. This receiver is equipped with single relay that can switch 5 amps @ 120VAC or 30VDC and can be directly interfaced with the customer's equipment or P.L.C. Eight user selectable frequencies allow multiple systems to be used in the same area. Capable of receiving remote signals transmitted from up to 100 feet away (with the SR transmitter) or up to 600 feet away (with the SR PLUS transmitter), the Air-Eagle SR Receiver utilizes spread-spectrum technology and provides the utmost security and reliability even in the noisiest RF environments.

### MODEL INFORMATION

In this model the "-X" denotes that the user can select which transmitter input channel or button activates the relay – see CHANNEL CODE & FREQUENCY SET-UP on page 2.

### INSTALLATION

DISCONNECT AC Power from all equipment before installation.

1. Mount the AIR-EAGLE SR RECEIVER in a convenient location.
2. If desired, change the default channel code and/or operating frequency.
3. Install wiring to terminal strip
4. Install antenna. The unit has an antenna connector located on the top of the enclosure. Attach the supplied portable antenna to this connector.
5. Plug supplied AC adapter into 120VAC wall outlet.

### TERMINAL STRIP WIRING

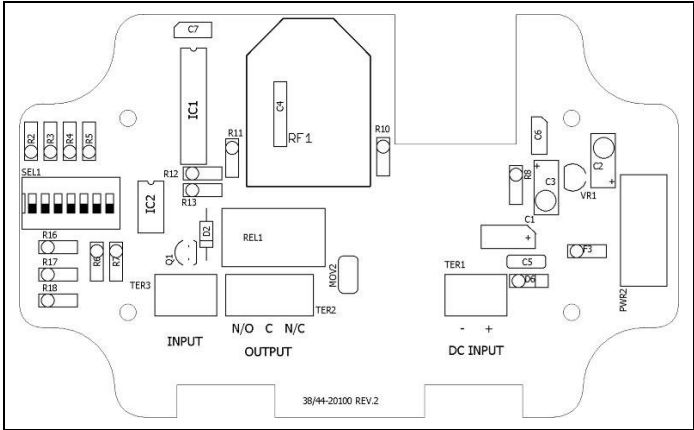
TER 3 INPUT		TER 2 RELAY OUTPUT		TER 1 AC/DC POWER INPUT	
1	N/A	1	N/O	1	(-) 9-36VDC *
2	N/A	2	C (common)	2	(+) 9-36VDC*
		3	N/C		

\*From supplied 120VAC wall adapter



Dimensions (with mounting plate) 7.07L x 3.57W x 1.62H

### CONTROLS AND INDICATORS



Power – LED1	Illuminates green when unit is powered
TX – LED2	N/A
Relay – LED3	Illuminates green when relay is energized
RF1	RF module that receives data from the remote transmitter
REL1	SPDT output control relay
SEL1	Seven dip switches for selecting relay options and operating frequency

# AIR-EAGLE® SR

## 2.4 GHz RF Receiver

### MODEL 38-20100-X

### CHANNEL CODE & FREQUENCY SET-UP

The unit is shipped from the factory with all SEL1 switches in the open positions. By default, it is receiving Channel #1 code and operating on Frequency #1. If you wish to receive a different channel code or and/or change the frequency, follow the instructions on the table below.

- 1) Remove power from unit
- 2) Remove top cover.
- 3) Select desired channel code and/or frequency using table below.
- 4) Reattach cover and apply power.
- 5) Programming is now complete.

#### CHANNEL SELECTION SET-UP

SEL1 (SW1-4)	Channel Code To Be Received	SW1	SW2	SW3	SW4
	1 (default)	OPEN	OPEN	OPEN	OPEN
	2	CLOSED	OPEN	OPEN	OPEN
	3	OPEN	CLOSED	OPEN	OPEN
	4	CLOSED	CLOSED	OPEN	OPEN
	5	OPEN	OPEN	CLOSED	OPEN
	6	CLOSED	OPEN	CLOSED	OPEN
	7	OPEN	CLOSED	CLOSED	OPEN
	8	CLOSED	CLOSED	CLOSED	OPEN
	9	OPEN	OPEN	OPEN	CLOSED
	10	CLOSED	OPEN	OPEN	CLOSED
	11	OPEN	CLOSED	OPEN	CLOSED
	12	CLOSED	CLOSED	OPEN	CLOSED
	13	OPEN	OPEN	CLOSED	CLOSED
	14	CLOSED	OPEN	CLOSED	CLOSED
	15	OPEN	CLOSED	CLOSED	CLOSED
	16	CLOSED	CLOSED	CLOSED	CLOSED

#### FREQUENCY SET-UP

SEL1 (SW5-7)	Network Frequency	SW5	SW6	SW7
	1 (default)	OPEN	OPEN	OPEN
	2	CLOSED	OPEN	OPEN
	3	OPEN	CLOSED	OPEN
	4	CLOSED	CLOSED	OPEN
	5	OPEN	OPEN	CLOSED
	6	CLOSED	OPEN	CLOSED
	7	OPEN	CLOSED	CLOSED
	8	CLOSED	CLOSED	CLOSED

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### SPECIFICATIONS

AC Input	120 VAC, 16 W, 50/60 Hz from supplied wall adapter
Relay Contact	SPDT 5 amp @ 120VAC or 30VDC
Fuse Protected	1 amp
Receiver Frequency	2.4 GHz Spread Spectrum
Receiver Range – Dependant upon transmitter – see below:	
Using SR Series TX	Approximately 100 feet
Using SR+ Series TX	Approximately 600 feet
Receiver Channels	Eight independent network frequencies
Operating Temperature	-40° F to +185° F
Enclosure	Polycarbonate NEMA 4, IP66
Weight	Approx 2 lbs.

### APPROVALS

United States (FCC)	OUR-XBEEPRO
Canada (IC)	4214A-XBEEPRO
Europe (CE)	ETSI

### REPLACEMENT PARTS & ACCESSORIES

PC Board (Main)	38-20102-X
Standard Antenna (Included):	
2.4GHz TNC Portable Antenna (For distances up to 600 feet*)	49-1201
Optional Antennas and Accessories – Used to increase range in both non line of sight and line of sight applications. - Contact BWI Eagle for recommendations	
2.4GHz Thru-Hole Mount Mobile Antenna	49-2201
2.4GHz Magnetic Mount Mobile Antenna	49-2202
2.4GHz Omni Directional Antenna	49-3201
2.4GHz 13dB Yagi Antenna	49-3202
Flex Coax Cable w/Connectors – Connects external antenna(s) to base unit(s).	49-4000-XX (XX = # of Feet)
Inline Lightning Arrestor	49-5002
2 Ft. Bulkhead Assembly (Used when mounting receive inside another enclosure)	49-5004
* = 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.



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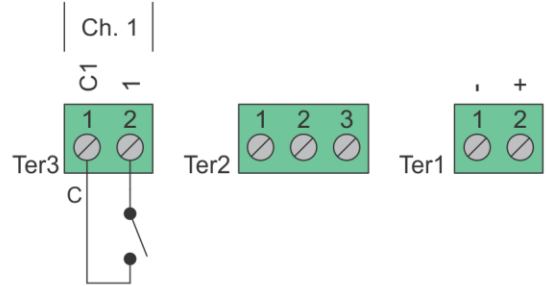
# INPUT/OUTPUT WIRING

## 1-Input Transmitter / 1-Relay Receiver

### Dry Contact Input Wiring - Standard

#### Standard wiring of a dry contact input transmitter

Shorting together the contacts of the respective channel will cause it to transmit. This can be done with any type of manual or automatic switch.

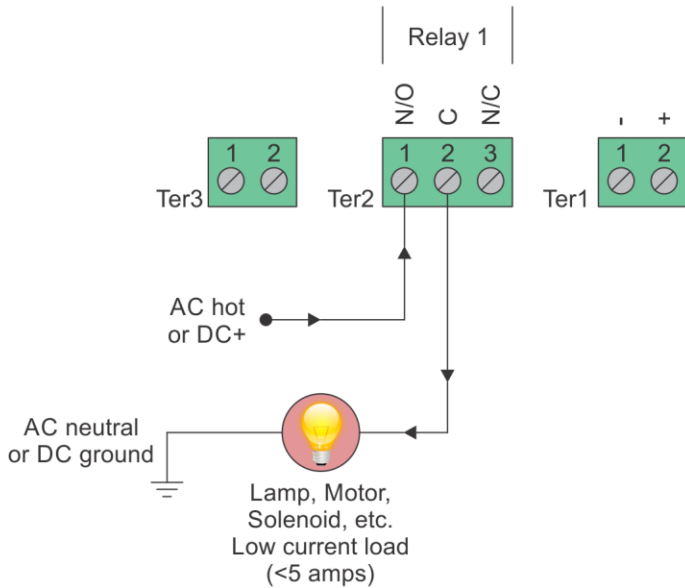


### Relay Output Wiring

Receiver outputs are dry relay contacts, like an SPDT switch. When the relay is in a de-energized state, the N/C (normally closed) contact is connected to C (common). When the relay is energized the N/O (normally open) contact is connected to C (common).

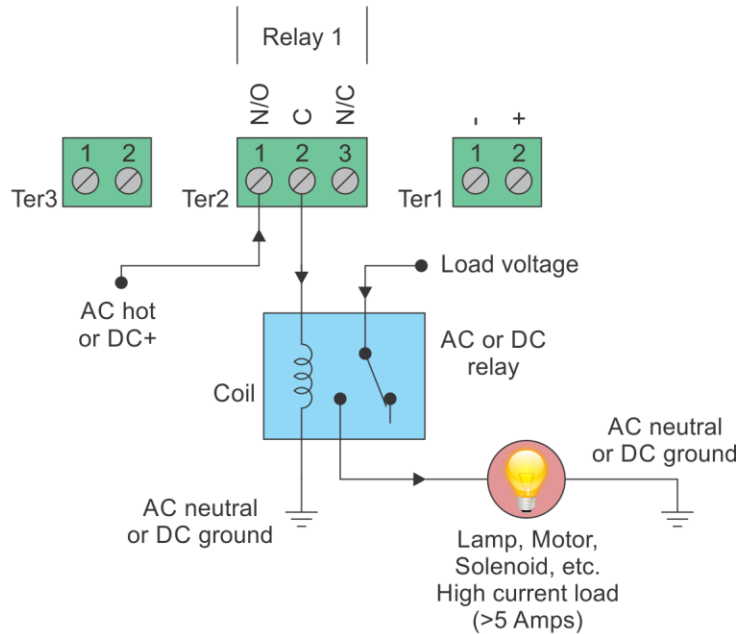


### Relay Output Wiring - Normally Open Application with Externally Supplied Voltage



#### Internal Relay - Loads Less Than 5 Amps

Loads up to 5 Amps may be wired directly to the internal relays. Wiring to the N/O contact will cause the load to turn on when the relay is energized (the load is on when the relay is on). Wiring to the N/C contact will cause the load to turn on when the relay is de-energized (the load is on when the relay is off). AC or DC voltages can be switched through the relay.



#### External Relay - Loads Over 5 Amps

Loads over 5 Amps must use an external high current relay. Diagram shows how to turn on the relay using the lower current internal relay of the receiver. AC or DC voltages can be switched through the relay. Note: A protection diode for DC coils or an MOV for AC coils is recommended to reduce inductive EMI noise.

Wiring configurations shown here are examples. The wiring for your application may differ.  
Call BWI Eagle for assistance or consult an electrician.