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PRODUCT INFORMATION BULLETIN

AIR-EAGLE® SR 2.4 GHz RF Receiver MODEL 38P-2-ESTOP

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. This receiver has been specifically designed for E-Stop applications. It links with an E-stop transmitter for failsafe operation. Dip switches allow the user to select link-loss shutdown times, relay operation and whether power must be recycled to reset the system. The relays can switch up to 5 amps @ 120VAC or 30VDC and can be directly interfaced with the customer's equipment or P.L.C. This receiver is capable of receiving remote signals transmitted from up to 600 feet away.

INSTALLATION

DISCONNECT AC Power from all equipment before installation.

1. Mount the AIR-EAGLE SR RECEIVER in a convenient location.
2. Select options & frequency (See OPTIONS & FREQUENCY SET-UP)
3. Install relay wiring to terminal strip.
4. Install antenna onto connector located on the right side on the enclosure.
5. Connect AC power to the proper terminals in your control circuit.

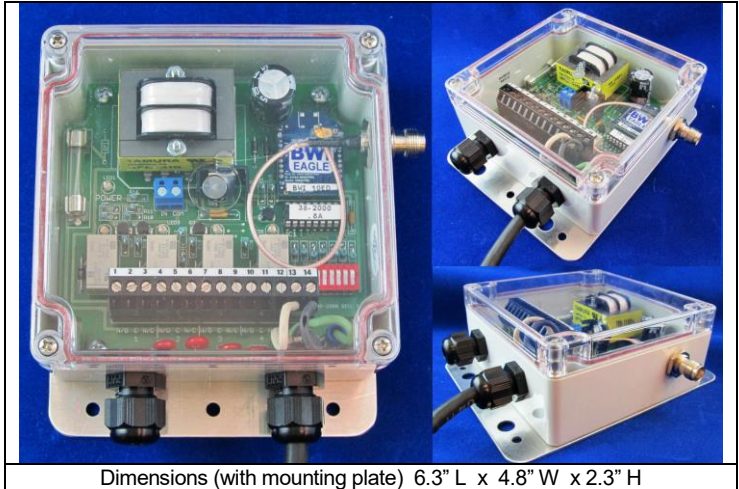
TERMINAL STRIP WIRING

1	N/O Relay #1	7	N/O Relay #3	13	120 VAC - (Neutral)
2	C Relay #1	8	C Relay #3	14	120 VAC - (Hot)
3	N/C Relay #1	9	N/C Relay #3		
4	N/O Relay #2	10	N/O Relay #4		
5	C Relay #2	11	C Relay #4		
6	N/C Relay #2	12	N/C Relay #4		

GENERAL OPERATION

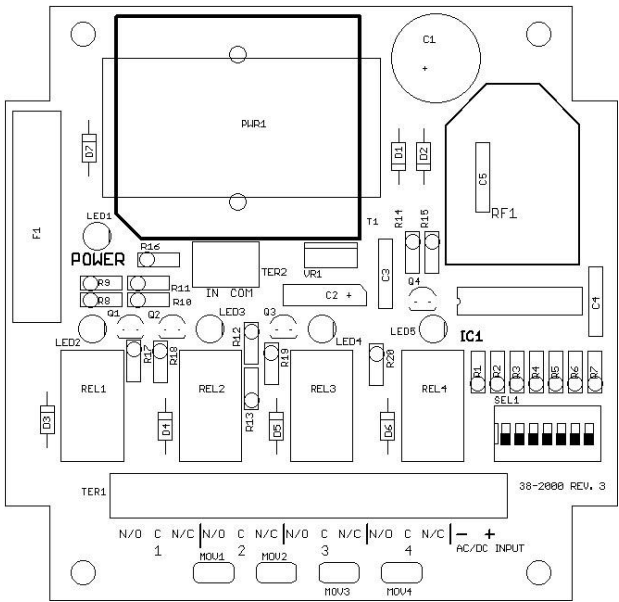
Prior to operation the user selects various options that control the link-loss shutdown, relay activation and system reset. (See OPTIONS & FREQUENCY SET-UP).

When power is applied to the receiver, all relays will be in their de-energized state. When power is applied to the E-stop transmitter, it immediately begins sending a beacon signal that causes all relays in the receiver to energize, indicating the communications link. Upon an E-stop command, the selected relays immediately de-energize. Upon specified link-loss time, the selected relays de-energize. The system will then need to be manually reset or will automatically come back online as designated by the system operation option selected.



Dimensions (with mounting plate) 6.3" L x 4.8" W x 2.3" H

CONTROLS AND INDICATORS



LED1	Illuminated when power is applied to receiver
LED2	Illuminated when relay #1 is energized
LED3	Illuminated when relay #2 is energized
LED4	Illuminated when relay #3 is energized
LED5	Illuminated when relay #4 is energized
RF1	RF module that receives data from the remote transmitter
REL1 thru REL4	Four SPDT output control relays

AIR-EAGLE® SR

2.4 GHz RF Receiver

MODEL 38P-2-ESTOP

OPTIONS & FREQUENCY SET-UP

The unit is shipped from the factory with all SEL1 switches in the open positions. By default, the link-loss shutdown time is set to .5 seconds; power must be recycled to reset the system following an E-stop event; all relays respond to either E-stop command; and the unit is operating on Frequency #1. If you wish to select different options and/or change the frequency, follow the instructions on the table below.

<ol style="list-style-type: none"> 1) Remove power from unit 2) Remove top cover. 3) Select desired options and/or frequency using table below. 4) Reattach cover and apply power. 5) Programming is now complete. 				
LINK-LOSS SHUTDOWN				
SEL1 (SW1-2)	Link-Loss Shutdown Time in Seconds	SW1	SW2	
	0.5 (default)	OPEN	OPEN	
	0.25	CLOSED	OPEN	
	1	OPEN	CLOSED	
	1.5	CLOSED	CLOSED	
SYSTEM RESET OPTIONS				
SEL1 (SW3)	System Reset Requirement		SW3	
	Power must be recycled to receiver following any E-stop event (default)		OPEN	
	Relays revert to energized state upon release of E-stop button and resumption of communication link		CLOSED	
RELAY RESPONSE OPTIONS				
SEL1 (SW4)	Relay Response to E-Stop Event		SW4	
	All four relays de-energize upon E-stop command <u>OR</u> link-loss (default)		OPEN	
	Relays 1 & 2 de-energize upon E-stop command; Relays 3 & 4 de-energize upon link loss		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
Relay Contacts	SPDT 5 amp @ 120VAC or 30VDC
Fuse Protected	1 amp
Receiver Frequency	2.4 GHz Spread Spectrum
Receiver Range	Approximately 600 feet
Receiver Frequencies	Eight independent network frequencies
Operating Temperature	-40° F to +185° F
Enclosure	Polycarbonate IP66 (NEMA 4)
Weight	Approx 2 lbs.

APPROVALS

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

ACCESSORIES

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)
2 Ft. Bulkhead Assembly (Used when mounting receive inside another enclosure)	49-5004-2
* = 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.

Relay Output Wiring

Receiver outputs are dry relay contacts. They are like an SPDT switch. Figure 1 shows that when the relay is off, the N/C (normally closed) contact is shorted to C (common). When the relay is energized the N/O (normally open) contact is shorted to C. The terminology "Normally" refers to the relay in its de-energized (off) state

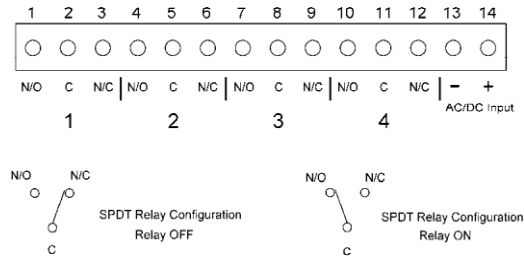


Figure 1

For loads up to 5 Amps you can wire directly to the internal relays as in Figure 2. Wiring to the N/O contact will cause the load to turn on when the relay turns on. Wiring to the N/C contact will have the opposite effect. The load will be on when the relay is off. AC or DC voltages can be switched through the relay.

Wiring directly to internal relay

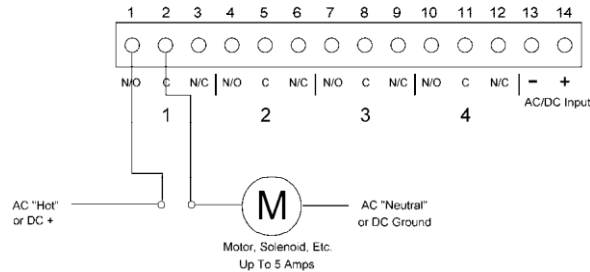


Figure 2

For loads over 5 amps an external high current relay should be used. Figure 3 shows how to turn on the relay using the lower current internal relay of the receiver. Again, an AC or DC relay can be controlled in this fashion

Wiring an external AC or DC Relay

