



105 Bonnie Drive
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PRODUCT INFORMATION BULLETIN

AIR-EAGLE® SR 2.4GHz RF Receiver MODEL 38-21600

DESCRIPTION

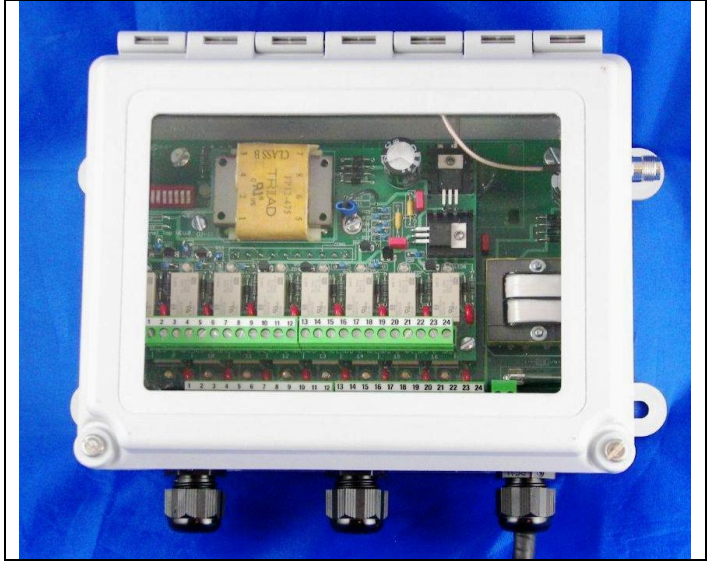
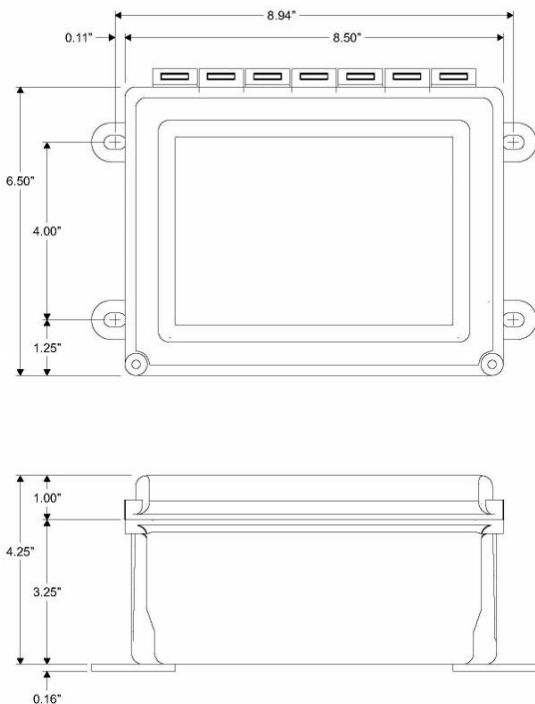
The AIR-EAGLE SR is an RF system designed for short to medium range wireless remote control of electrical apparatus in a variety of industrial applications. Systems can consist of any number of receivers and handheld or contact input transmitters working together. This receiver is equipped with 16 independent relays that can switch 5 amps @ 120VAC or 30VDC. The relays are user programmable for momentary or toggle/latching operation 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.

INSTALLATION

DISCONNECT AC Power from all equipment before installation.

1. Mount the AIR-EAGLE SR RECEIVER in a convenient location.
2. Install relay wiring to terminal strip.
3. Install antenna onto antenna connector located on the right side on the enclosure.
4. Connect AC power to the proper terminals in your control circuit.

DIMENSIONS



TERMINAL STRIP WIRING

| BOTTOM BOARD | | | | | |
|--------------|---------------|----|---------------------|----|---------------|
| 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 | | |
| TOP BOARD | | | | | |
| 1 | N/O Relay #9 | 10 | N/O Relay #12 | 19 | N/O Relay #15 |
| 2 | C Relay #9 | 11 | C Relay #12 | 20 | C Relay #15 |
| 3 | N/C Relay #9 | 12 | N/C Relay #12 | 21 | N/C Relay #15 |
| 4 | N/O Relay #10 | 13 | N/O Relay #13 | 22 | N/O Relay #16 |
| 5 | C Relay #10 | 14 | C Relay #13 | 23 | C Relay #16 |
| 6 | N/C Relay #10 | 15 | N/C Relay #13 | 24 | N/C Relay #16 |
| 7 | N/O Relay #11 | 16 | N/O Relay #14 | | |
| 8 | C Relay #11 | 17 | C Relay #14 | | |
| 9 | N/C Relay #11 | 18 | N/C Relay #14 | | |
| AC INPUT | | | | | |
| Terminal #1 | | | 120 VAC - (Neutral) | | |
| Terminal #2 | | | 120 VAC - (Hot) | | |

AIR-EAGLE® SR

2.4GHz RF Receiver

MODEL 38-21600

APPROVALS

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

GENERAL OPERATION

Relays #1 thru #16 energize or de-energize based on specific commands from a handheld or contact input transmitter.

| BUTTON OR INPUT ACTIVATED | RELAY OPERATION |
|---------------------------|---|
| "1" | Relay #1 energizes, maintained momentary |
| "2" | Relay #2 energizes, maintained momentary |
| "3" | Relay #3 energizes, maintained momentary |
| "4" | Relay #4 energizes, maintained momentary |
| "5" | Relay #5 energizes, maintained momentary |
| "6" | Relay #6 energizes, maintained momentary |
| "7" | Relay #7 energizes, maintained momentary |
| "8" | Relay #8 energizes, maintained momentary |
| "9" | Relay #9 energizes, maintained momentary |
| "10" | Relay #10 energizes, maintained momentary |
| "11" | Relay #11 energizes, maintained momentary |
| "12" | Relay #12 energizes, maintained momentary |
| "13" | Relay #13 energizes, maintained momentary |
| "14" | Relay #14 energizes, maintained momentary |
| "15" | Relay #15 energizes, maintained momentary |
| "16" | Relay #16 energizes, maintained momentary |

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 – Dependent 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 | Hinged fiberglass with window / NEMA 4, IP66 |
| Weight | Approx 2 lbs. |

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RELAY & FREQUENCY SET-UP

This unit is shipped from the factory with SEL1 switches #1 and #2 in the open positions. All sixteen relays will operate in a maintained momentary manner, and unit is receiving commands on frequency one. If you wish to change these default settings, follow the instructions on the table below.

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

| RELAY CONFIGURATION | | | | |
|---|---|---------------------------------|--------|--------|
| SEL1 SWITCH NUMBER | OPEN | CLOSED | | |
| SW1 | Relays #1 thru #8 maintained momentary (default) | Relays #1 thru #8 toggle/latch | | |
| SW2 | Relays #9 thru #16 maintained momentary (default) | Relays #9 thru #16 toggle/latch | | |
| Maintained Momentary – Relay mimics button or input – when depressed or closed, relay will be energized; when released, relay de-energizes | | | | |
| Toggle Latch – Relay changes (and holds) its state each time the corresponding button or input is depressed or closed. | | | | |
| SW3 | Vibrating Feedback OFF (default) | Vibrating Feedback ON | | |
| SW4 | Not used on this model | | | |
| 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 |

REPLACEMENT PARTS & ACCESSORIES

| | |
|---|--------------------------------|
| PC Board (Main) | 38-21602 |
| 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-ISO |
| * = Line of Sight | |

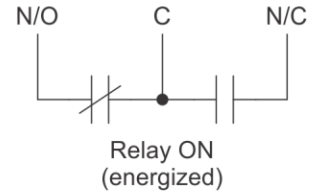
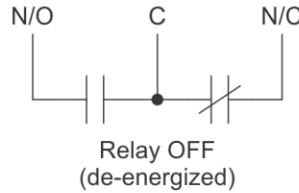


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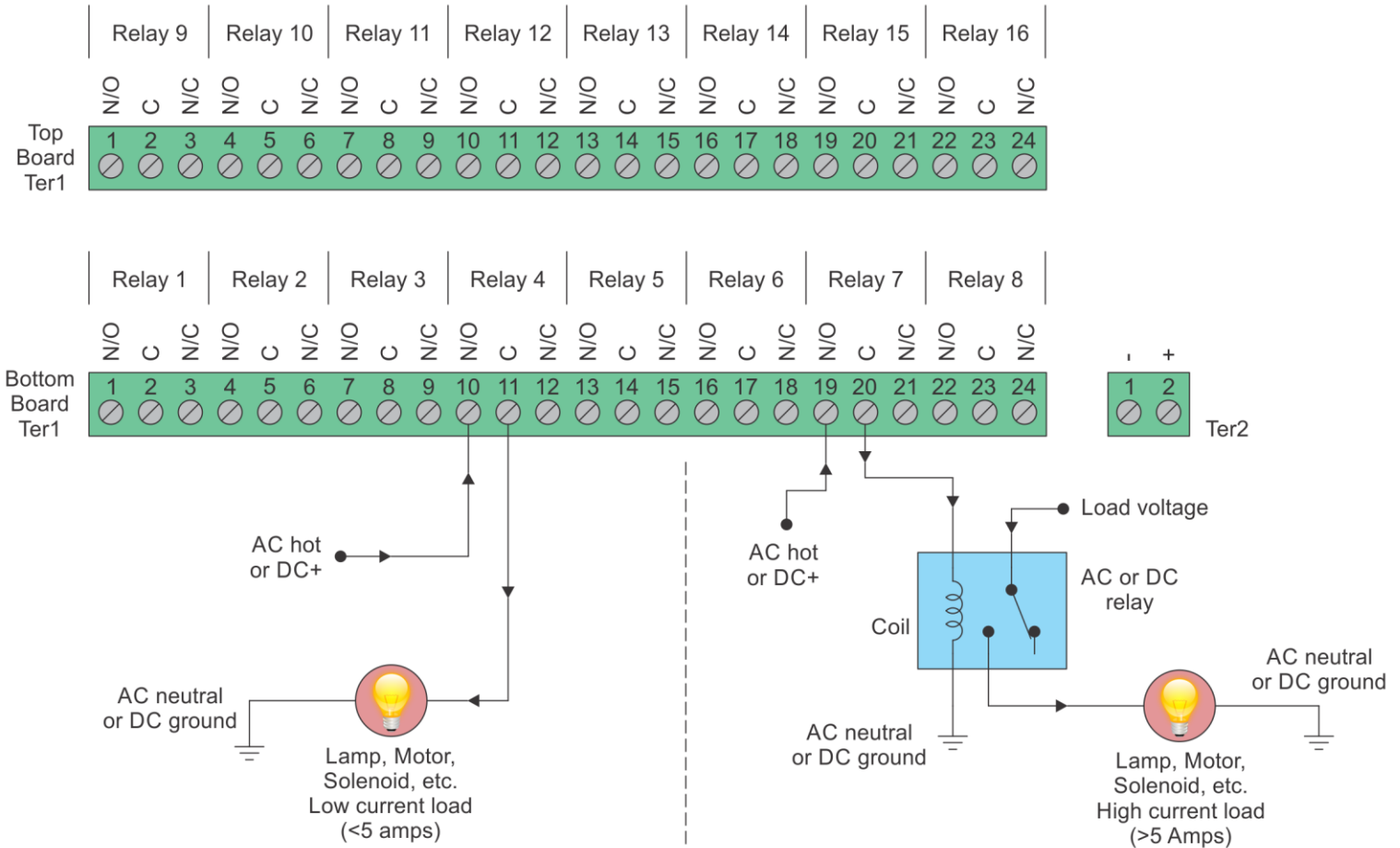
RELAY OUTPUT WIRING

16-Relay Receiver

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).



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.