AIR-EAGLE® SR
2.4 GHz RF Receiver
MODEL 38-2000-VBR-DC

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 4 independent relays that are capable of switching 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.

MODEL NOTES

This receiver was designed specifically to communicate with the “36” or “38” series “VBR” transmitters and features a confirmation signal that is sent back to the transmitter causing it to vibrate when its transmission has been received.

INSTALLATION

DISCONNECT DC Power from all equipment before installation.

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

TERMINAL STRIP WIRING

<table>
<thead>
<tr>
<th></th>
<th>N/O Relay #1</th>
<th>N/O Relay #3</th>
<th>N/C Relay #1</th>
<th>N/C Relay #3</th>
<th>N/O Relay #2</th>
<th>N/O Relay #4</th>
<th>N/C Relay #2</th>
<th>N/C Relay #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>9</td>
<td>13</td>
<td>14</td>
<td>8</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>C Relay #1</td>
<td>C Relay #3</td>
<td>(-) 9-36VDC INPUT</td>
<td>(+) 9-36VDC INPUT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>N/C Relay #1</td>
<td>N/C Relay #3</td>
<td></td>
<td></td>
<td>C Relay #2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>N/O Relay #2</td>
<td>N/O Relay #4</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>C Relay #2</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>N/C Relay #2</td>
<td></td>
<td></td>
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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
SEL1 Seven dip switches for selecting relay options and operating frequency

Dimensions (with mounting plate) 6.3” L x 4.8” W x 2.3” H
RELAY & FREQUENCY SET-UP

The unit is shipped from the factory with SEL1 switches in the open positions. All four relays will operate as maintained momentary and unit is receiving commands on frequency one. If you wish to change these positions. All four relays will operate as maintained momentary and unit is

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 & FREQUENCY SET

Toggle Latch – Relay changes (and holds) its state each time the corresponding button or input is depressed or closed.

Maintained Momentary – Relay mimics button or input – when depressed or closed, relay will be energized; when released, relay de-energizes

REPLACEMENT PARTS & ACCESSORIES

PC Board 38-2002-VBR-DC

APPROVALS

<table>
<thead>
<tr>
<th></th>
<th>United States (FCC)</th>
<th>Canada (IC)</th>
<th>Europe (CE)</th>
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</thead>
<tbody>
<tr>
<td>Standard Antenna (Included):</td>
<td></td>
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<tr>
<td>2.4GHz TNC Portable Antenna (For distances up to 600 feet*)</td>
<td>49-1201</td>
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<tr>
<td>Optional Antennas and Accessories – Used to increase range in both non line of sight and line of sight applications - Contact BWI Eagle for recommendations</td>
<td></td>
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<tr>
<td>2.4GHz Thru-Hole Mount Mobile Antenna</td>
<td>49-2201</td>
<td></td>
<td></td>
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<tr>
<td>2.4GHz Magnetic Mount Mobile Antenna</td>
<td>49-2202</td>
<td></td>
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<tr>
<td>2.4GHz Omni Directional Antenna</td>
<td>49-3201</td>
<td></td>
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<tr>
<td>2.4GHz 13dB Yagi Antenna</td>
<td>49-3202</td>
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</table>
| 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

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 of 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.
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.