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PRODUCT INFORMATION BULLETIN

AIR-EAGLE® SR PLUS 2.4 GHz RF Transceiver MODEL 36-40100-DC

DESCRIPTION

The AIR-EAGLE SR PLUS TRX is an R.F. transceiver capable of transmitting and receiving commands from up to 600 feet away. This model comes equipped with one dry contact input and one 5amp relay output. When combined with another transceiver this allows the user to transmit information out and receive a confirming signal back that the operation was performed. This unit has eight user-selectable network frequencies to allow multiple systems to operate simultaneously in the same area without interference.

APPROVALS

| | |
|---------------------|-------------|
| United States (FCC) | MCQ-XBEE3 |
| Canada (IC) | 1846A-XBEE3 |
| Europe (CE) | ETSI |

INSTALLATION

DISCONNECT Power from all equipment before installation.

1. Mount the transceiver in a convenient location.
2. Install control wiring to terminal strip.
3. Install antenna onto antenna connector located on the right side on the enclosure.
4. Connect supplied power input cable to your external power source.

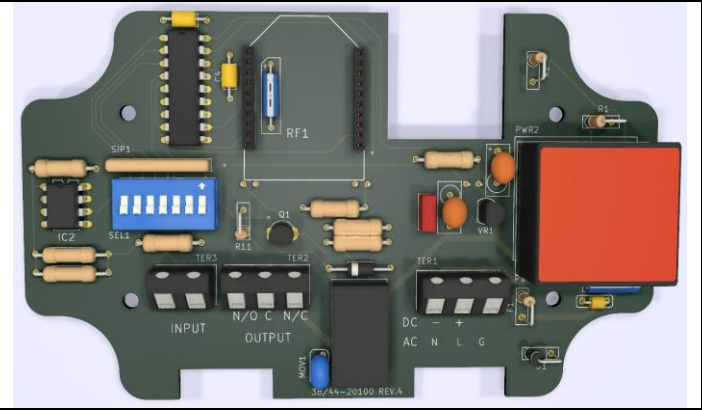
TERMINAL STRIP WIRING

| TER 3 DRY CONTACT INPUT | | TER 2 RELAY OUTPUT | | TER 1 AC/DC POWER INPUT | |
|----------------------------|-----------|-----------------------|------------|----------------------------|-------------|
| 1 | Input 1 C | 1 | N/O | 1 | (-) 9-36VDC |
| 2 | Input 1 | 2 | C (common) | 2 | (+) 9-36VDC |
| | | 3 | N/C | 3 | Not Used |



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 | Illuminates red when unit is transmitting |
| Relay – LED3 | Illuminates green when relay is energized |
| RF1 | RF module that sends data to the remote receiver |
| SEL1 | Seven dip switches for selecting options and network frequency |
| TER3 | Dry contact input |
| TER2 | Relay output |
| TER1 | Power Input |

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RELAY & FREQUENCY SET-UP

The unit is shipped from the factory with SEL1 switches in the open positions. The relay will operate as maintained momentary 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 back cover.
- 3) Select desired settings using table below.
- 4) Reattach cover and apply power.
- 5) Programming is now complete.

RELAY CONFIGURATION

| | Relay Operation | SW1 | SW2 |
|-----------------|----------------------------|--------|--------|
| SEL1 (SW1-2) | Momentary (default) | OPEN | OPEN |
| | Toggle/Latch | CLOSED | OPEN |
| | Latching | OPEN | CLOSED |

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.

Latching – Relay requires two buttons or inputs for operation – momentary press of 1st button energizes relay; momentary press of 2nd button de-energizes relay

OPTIONS

| SW # | OPEN | CLOSED |
|------|---|-----------------------|
| SW3 | Vibrating Feedback Off (default) | Vibrating Feedback On |
| SW4 | Repeater Mode Off (default) | Repeater Mode On |

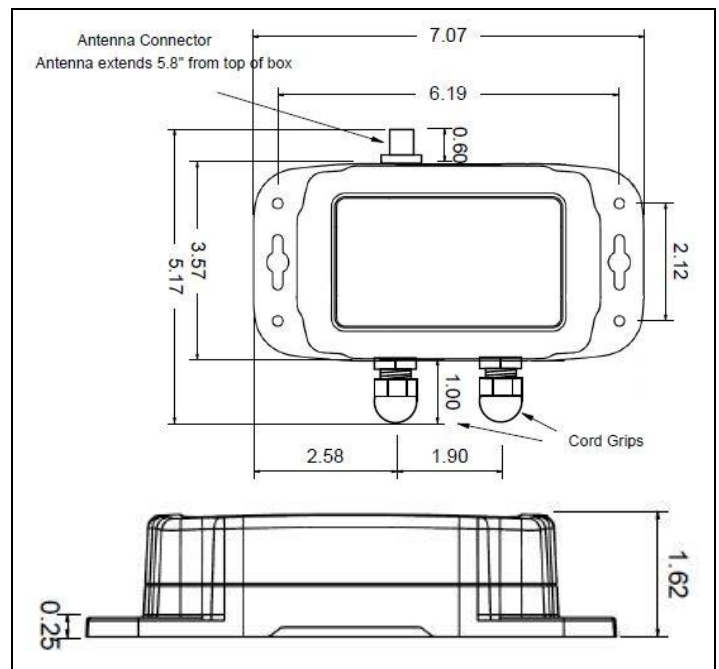
FREQUENCY SET-UP

| | Network Frequency | SW5 | SW6 | SW7 |
|-----------------|--------------------|--------|--------|--------|
| SEL1 (SW5-7) | 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 |

SPECIFICATIONS

| | |
|--|-------------------------------------|
| Power Input | 9 – 36 VDC, 5 W |
| Transmitter Frequency | 2.4 GHz Spread Spectrum |
| Transmit Data | Dry Contact Input |
| RF Output Power | 60 mW |
| Transmit Range | Up to 600 Feet |
| <i>Note: Max range figures are estimates, based on free-air terrain with limited sources of interference. Actual range will vary based on transmitting power, orientation of transmitter and receiver, height of transmitting antenna, height of receiving antenna, weather conditions, interference sources in the area, and terrain between receiver and transmitter, including, but not limited to, indoor and outdoor structures such as walls, metal objects, trees, buildings, hills, and mountains.</i> | |
| RF Networks | Eight Independent Frequencies |
| Relay Contact | SPDT 5 amp @ 120 VAC or 30VDC |
| Antenna Connection | TNC Female Connector |
| Operating Temperature | -40° F to +185° F |
| Enclosure | Polycarbonate NEMA 4, 12, 13 – IP66 |
| Weight | Approx 2 lbs. |

DIMENSIONS



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ACCESSORIES

| Standard Antenna (Included): | |
|--|----------------------------------|
| 2.4GHz TNC "Rubber Duck" Antenna | 49-1201 |
| Mobile/Base Antennas – Used to help achieve max 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 Magnet Mount Mobile Antenna | 49-2202 |
| 2.4GHz Omni Directional Base Antenna | 49-3201 |
| 2.4GHz Yagi Directional Base Antenna | 49-3202 |
| High Quality Coax Cables – Used to connect external high gain antennas to control unit | |
| Flex Coax Cable w/Connectors – Available in 5', 15', 25', 30', 40', 60', 80', 100' Lengths | 49-4000-XX (XX = # of Feet) |
| Bulkhead Extensions – Used to provide an external antenna connection when mounting control unit inside another enclosure | |
| TNC Male to TNC Bulkhead Cable Assembly - Available in 2', 4', 7' Lengths | 49-5004-X-ISO (X = # of Feet) |

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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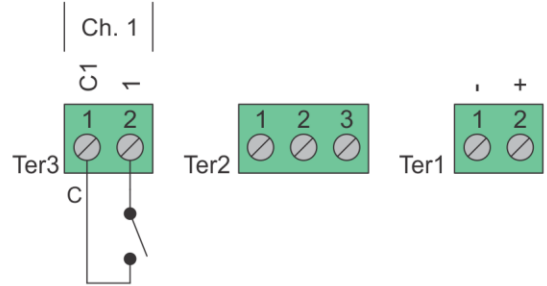
INPUT/OUTPUT WIRING

1-Input Transmitter / 1-Relay Receiver

Dry Contact Input Wiring - Standard

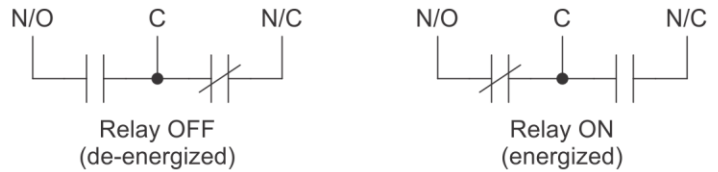
Standard wiring of a dry contact input transmitter

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.

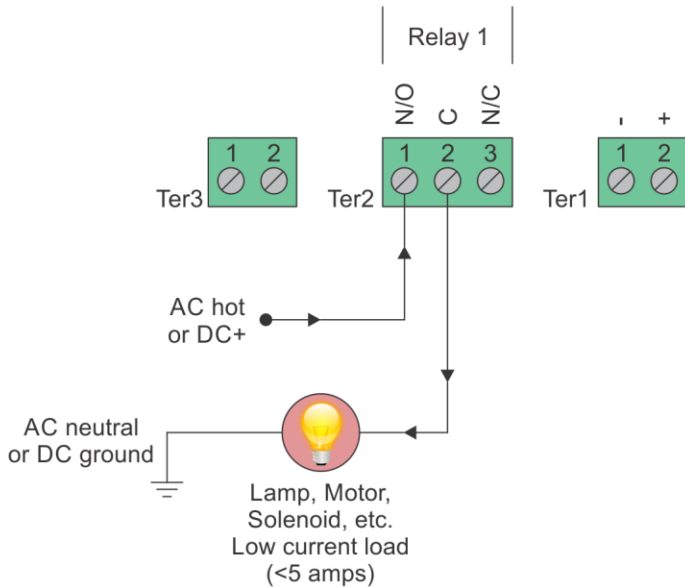


Relay Output Wiring

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).

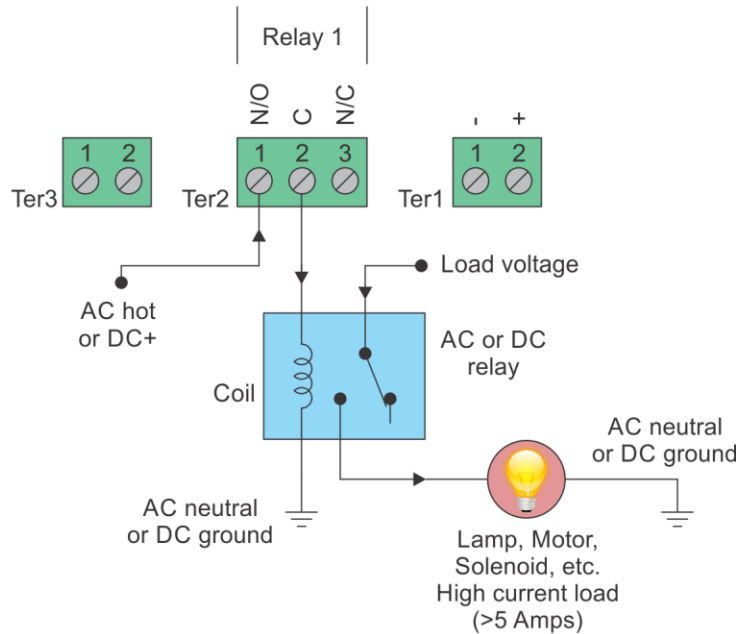


Relay Output Wiring - Normally Open Application with Externally Supplied Voltage



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.