



PRODUCT INFORMATION BULLETIN

AIR-EAGLE® SR PLUS 2.4GHz RF Transceiver MODEL 36-40400-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 four dry contact inputs and four 5amp relay outputs. 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 AC Power from all equipment before installation.

1. Mount the AIR-EAGLE XLT TRANSCEIVER in a convenient location.
2. Install input & output wiring to the terminal strip (Note – terminal strip header lifts off base for easy wiring)
3. Install antenna to TNC connector on the right side of the enclosure.
4. Connect supplied power input cable to your external power source.

TERMINAL STRIP WIRING

INPUTS		OUTPUTS			
1	Common Input 1	9	N/O Relay #1	15	N/O Relay #3
2	Input 1	10	C Relay #1	16	C Relay #3
3	Common Input 2	11	N/C Relay #1	17	N/C Relay #3
4	Input 2	12	N/O Relay #2	18	N/O Relay #4
5	Common Input 3	13	C Relay #2	19	C Relay #4
6	Input 3	14	N/C Relay #2	20	N/C Relay #4
7	Common Input 4				
8	Input 4				
DC INPUT					
Terminal #1		(-) 9-36VDC Input			
Terminal #2		(+) 9-36VDC Input			



GENERAL OPERATION

Contact closures on inputs 1 thru 4 in the control transceiver transmit to activate relay #1 thru #4 in the remote transceiver. Inputs from the remote equipment provide closures to remote transceiver that transmit to energize relays #1 thru #4 in the control transceiver.

INPUT ACTIVATED	ACTION
"1"	Transmits channel 1 command to remote unit
"2"	Transmits channel 2 command to remote unit
"3"	Transmits channel 3 command to remote unit
"4"	Transmits channel 4 command to remote unit
INPUT CODE RECEIVED	ACTION
"1"	Relay #1 energizes, maintained momentary
"2"	Relay #2 energizes, maintained momentary
"3"	Relay #3 energizes, maintained momentary
"4"	Relay #4 energizes, maintained momentary

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2.4GHz RF Transceiver

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RELAY, CHANNEL CODES & FREQUENCY SETTINGS

The unit is shipped from the factory with SEL1 switches in the open positions. The relays will operate as maintained momentary, the unit is transmitting & receiving channel 1 thru 4 commands, and it is operating on frequency 1. 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, channel codes 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	Relay #1 momentary (default)	Relay #1 toggle/latch
SW2	Relay #2 momentary (default)	Relay #2 toggle/latch
SW3	Relay #3 momentary (default)	Relay #3 toggle/latch

NOTE – Relay 4 is not configurable – it will operate as momentary

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 momentarily

CHANNEL CODE SET-UP

SEL1 SWITCH NUMBER	OPEN	CLOSED
SW4	Transmitting & Receiving Channel Codes 1 thru 4 (default)	Transmitting & Receiving Channel Codes 5 thru 8

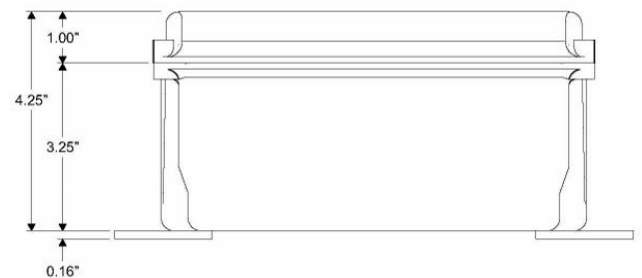
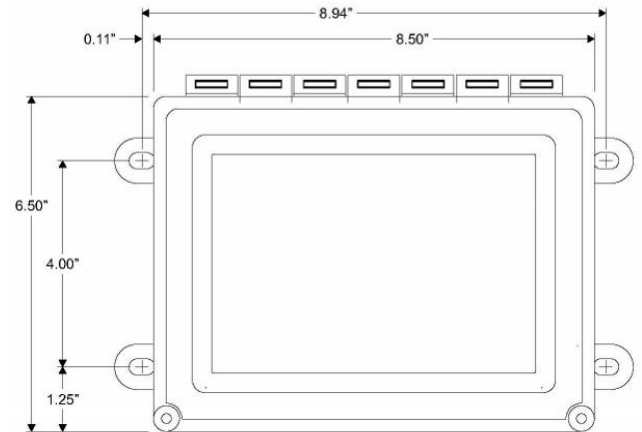
FREQUENCY SET-UP

SEL1	Network Frequency	SW5	SW6	SW7
(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 @ 10 Watts
Fuse Protected	1 amp
Frequency	2.4GHz Spread Spectrum
Relay Contacts	SPDT 5 amp @ 120VAC or 30VDC per channel
Transmitter Data	Four Dry Contact Inputs
RF Output Power	60 mW
Transceiver Range	Up to 600 Feet
<small>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.</small>	
RF Networks	Eight Independent Frequencies
Enclosure	Hinged fiberglass with window / NEMA 3, 3R, 4, 12, 13
Operating Temp	-40° F to +185° F

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

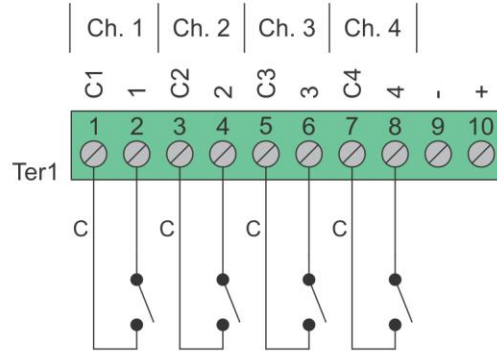
BWI Eagle Inc. warrants the Air-Eagle Remote Control System, if properly used and installed, will be free from defects in material and workmanship for a period of 1 year after date of purchase. Said warranty to include the repair or replacement of defective equipment. This warranty does not cover damage 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.



DRY CONTACT INPUT WIRING 4-Input Transmitter

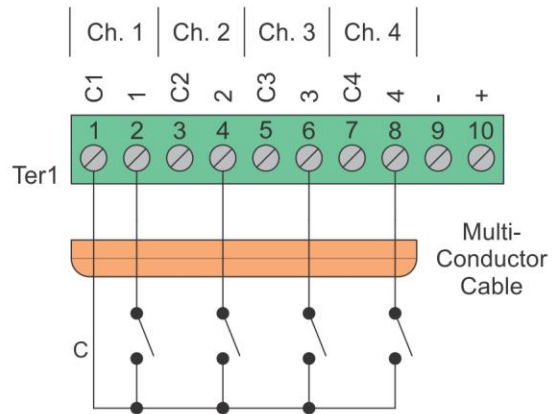
Standard wiring of a dry contact input transmitter

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.



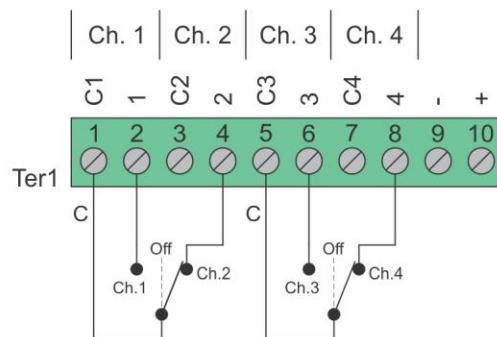
Standard Wiring for Common Ground Applications

Because each channel shares a common (C) terminal, inputs can be wired as shown to allow for fewer conductors to be run to the transmitter.



SPDT Switches

The common (C) terminal of the switch only needs to be connected to one of the channels ground terminal. In this configuration two channels would be transmitting all the time. A switch with a center "off" position would allow transmitting to stop. In this example channels 2 and 4 are transmitting.

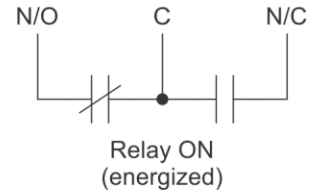
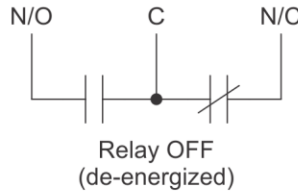


Wiring configurations shown here are examples. The wiring for your application may differ.
Call BWI Eagle for assistance or consult an electrician.

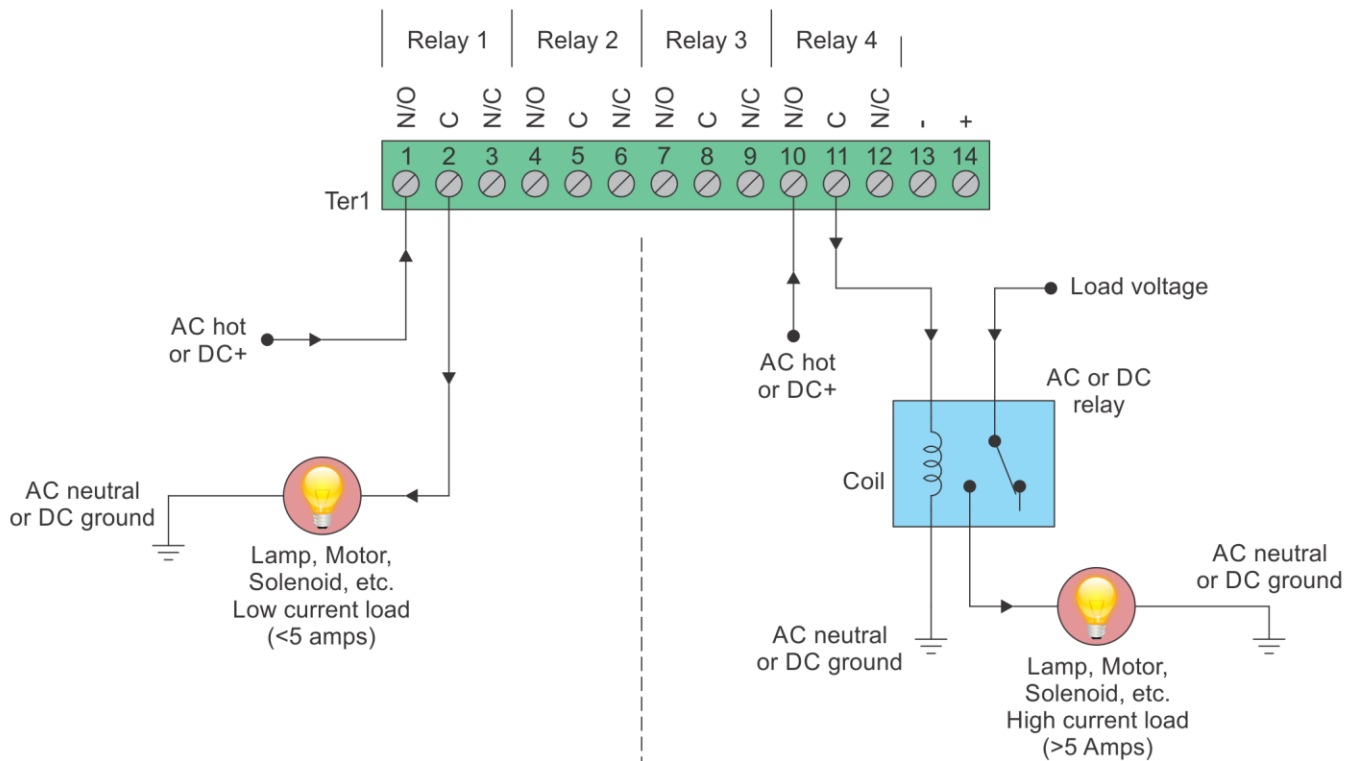


RELAY OUTPUT WIRING 4-Relay Receiver

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.

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