



PRODUCT INFORMATION BULLETIN

AIR-EAGLE® XLT 900 MHz RF Transceiver MODEL 441-40100-DC

DESCRIPTION

The AIR-EAGLE XLT RF TRANSCEIVER IS a single I/O unit designed to transmit and receive unique signals from another transceiver located up to 2500 feet away. This model comes equipped with a single contact input and a 5amp SPDT relay output. This allows the user to not only transmit information out, but receive a confirming signal back that the operation was performed. The Air-Eagle XLT TRX is user-programmable for up to seven network frequencies to allow multiple systems to operate simultaneously in the same area and utilizes spread-spectrum technology and provides the utmost security and reliability even in the noisiest RF environments. A terminal strip has been provided for interfacing with external dry contact inputs as well as dry contact relay outputs. This unit can operate remote machinery such as pumps, gates, chutes etc.

APPROVALS

| | |
|---------------------|---------------|
| United States (FCC) | MCQ-XB900HP |
| Canada (IC) | 1846A-XB900HP |

APPLICATIONS

Doors, gates, barriers, tail gates, electrically controlled hydraulic valves, propane shut off controls, winches, anchor lifts, lights, sprinkling systems, movie screens, curtains, news weather screens, alarm systems, skeet throwers, saw mill applications, grain or aggregate chutes, conveyor belts, boat lifts, and more.

INSTALLATION

DISCONNECT DC Power from all equipment before installation.

1. Mount the AIR-EAGLE XLT TRANSCEIVER in a convenient location.
2. Install wiring to contact input terminal strip
3. Install antenna onto connector located on the right side on the enclosure.
4. Connect DC power to the proper terminals in your control circuit.

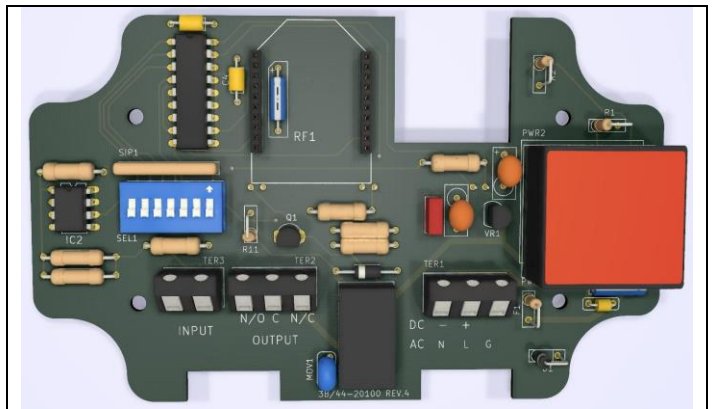
TERMINAL STRIP WIRING

| 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 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

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

OPTIONS

| | | |
|-------|--|-----------------------|
| SW3 | Vibrating Feedback Off | Vibrating Feedback On |
| SW4** | Repeater Function Off (default) | Repeater Function On |

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

** Enable SW4 Repeater Function in ONLY one Receiver per System

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 |

FACTORY PROGRAMMED CHANNEL OPTIONS

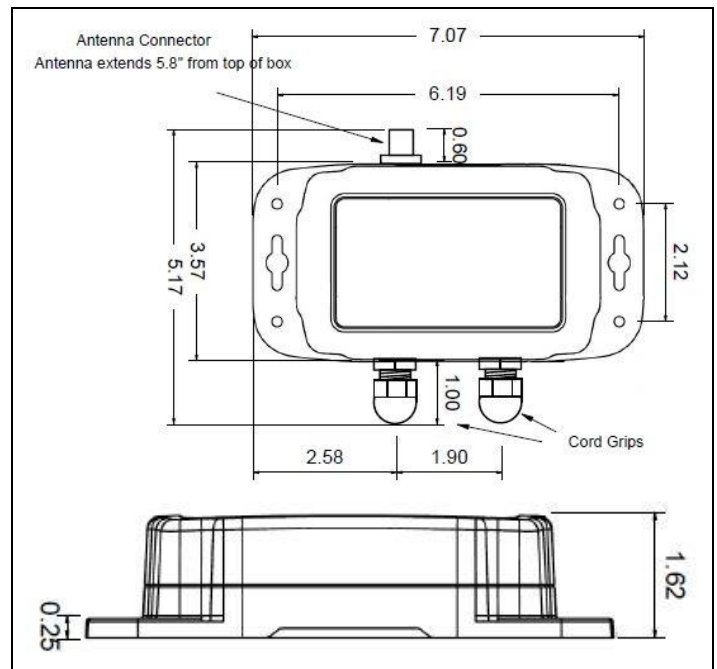
The 441-40100-DC can be factory programmed to operate on separate channels for use with multi I/O transceivers. The default is channel 1, but if you'd like your unit to transmit and receive different channel information, use the following part numbers for ordering:

| | |
|----------------------|-------------------------------|
| Model 441-40100-DC-2 | Will TX and RX Channel 2 info |
| Model 441-40100-DC-3 | Will TX and RX Channel 3 info |
| Model 441-40100-DC-4 | Will TX and RX Channel 4 info |
| Model 441-40100-DC-5 | Will TX and RX Channel 5 info |
| Model 441-40100-DC-6 | Will TX and RX Channel 6 info |
| Model 441-40100-DC-7 | Will TX and RX Channel 7 info |
| Model 441-40100-DC-8 | Will TX and RX Channel 8 info |
| etc... | |

SPECIFICATIONS

| | |
|-----------------------|---|
| DC Input | 9 – 36 VDC @ 10 Watts |
| RF Output Power | 250 mW |
| Transmit Data | Dry-Contact Input |
| Relay Contact | SPDT 5 amp @ 120VAC or 30VDC per channel |
| Fuse Protected | 1 amp |
| Receiver Range | Up to 2500 Ft. with Standard Antenna – Up to 4 Miles with External High Gain Antenna |
| Receiver Frequency | 900 MHz Spread Spectrum |
| Receiver Channels | Seven independent network frequencies |
| Operating Temperature | -40° F to +185° F |
| Enclosure | Polycarbonate NEMA 4, 12, 13 – IP66 |
| Weight | Approx 2 lbs. |

DIMENSIONS



REPLACEMENT PARTS & ACCESSORIES

| | |
|---|--------------------------------|
| PC Board (Main) | 441-40102-DC |
| Standard Antenna (Included): | |
| 900MHz Portable Antenna (For distances up to 2500 feet*) | 49-1103 |
| Optional Antennas and Accessories – Used to increase range in both non line of sight and line of sight applications. - Contact BWI Eagle for recommendations | |
| 900MHz Omni Directional Antenna (For distances up to 2 miles*) | 49-3101 |
| 900MHz 13dB Yagi Antenna Long Range Operation (For distances up to 4 miles*) | 49-3102 |
| Flex Coax Cable w/Connectors | 49-4000-XX (XX = # of Feet) |
| 2 Ft. Bulkhead Assembly (Used when mounting receiver inside another enclosure) | 49-5004-2-ISO |

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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.

DOCUMENT DATE: 08/05/19 / PRODUCT REV. 5



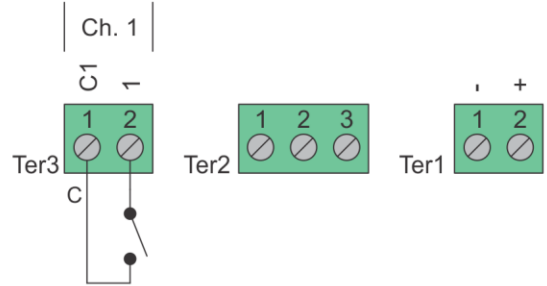
INPUT/OUTPUT WIRING

1-Input Transmitter / 1-Relay Receiver

Dry Contact Input Wiring - Standard

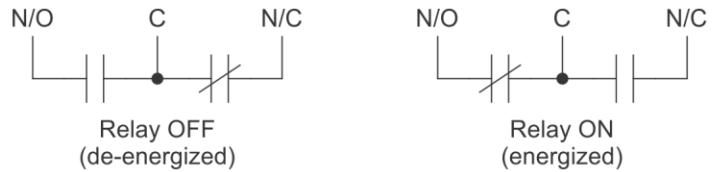
Standard wiring of a dry contact input transmitter

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.

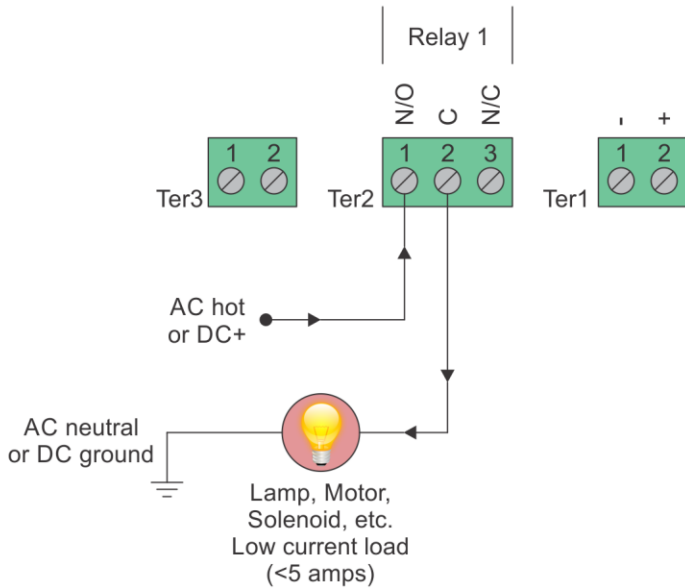


Relay Output Wiring

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).

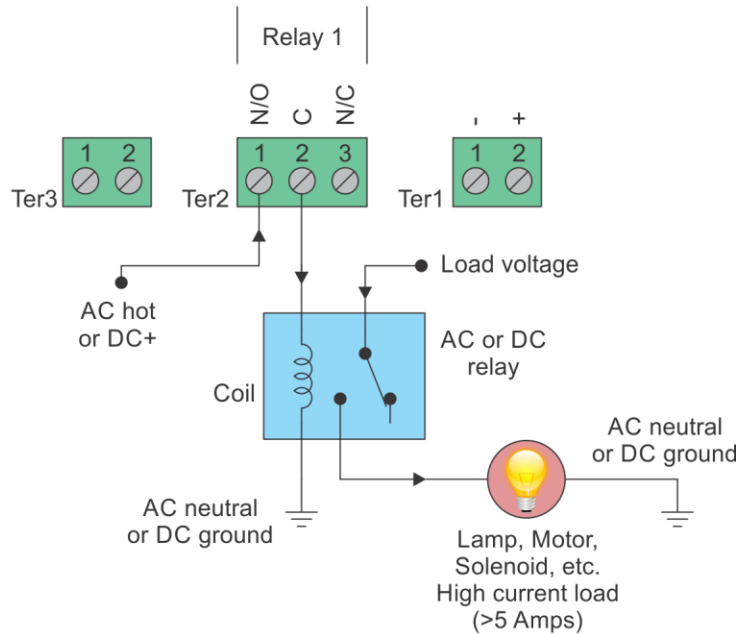


Relay Output Wiring - Normally Open Application with Externally Supplied Voltage



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.