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PRODUCT INFORMATION BULLETIN

AIR-EAGLE® XLT 900 MHz RF Receiver MODEL 441HCMP-8-0001-DC

DESCRIPTION

The AIR-EAGLE XLT is an RF system designed for medium to long 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 3 independent relays that are capable of switching up to 20 amps @120VAC or 30VDC or 16 amps at 220VAC. 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. The Air-Eagle XLT can receive remote signals transmitted from up to 2500 feet away (with a handheld transmitter) or up to 2 miles away (with a stationary transmitter and external antennas). **This unit comes with the relays wired to control polarity of a linear actuator.**

APPROVALS

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

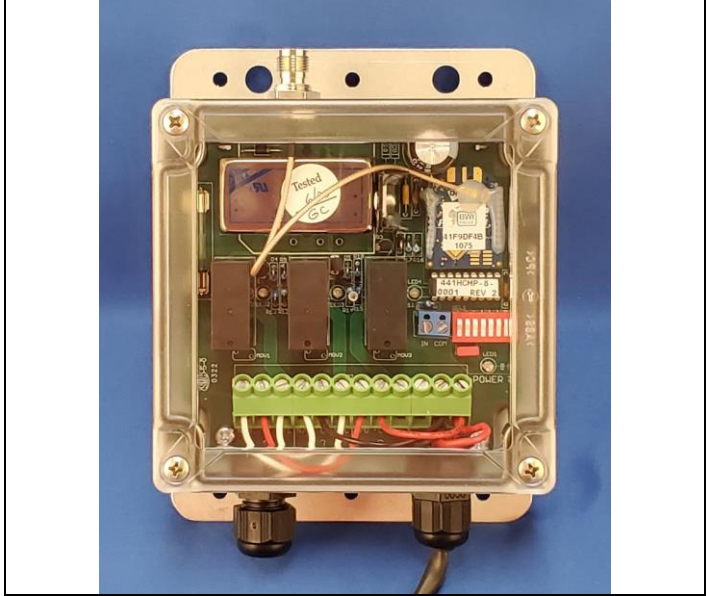
INSTALLATION

DISCONNECT DC Power from all equipment before installation.

- Mount the AIR-EAGLE XLT RECEIVER in a convenient location.
- Install antenna. The unit has an antenna connector located on the right side on the enclosure. Attach the supplied portable antenna to this connector.
- Connect supplied power input cable to your external power source.

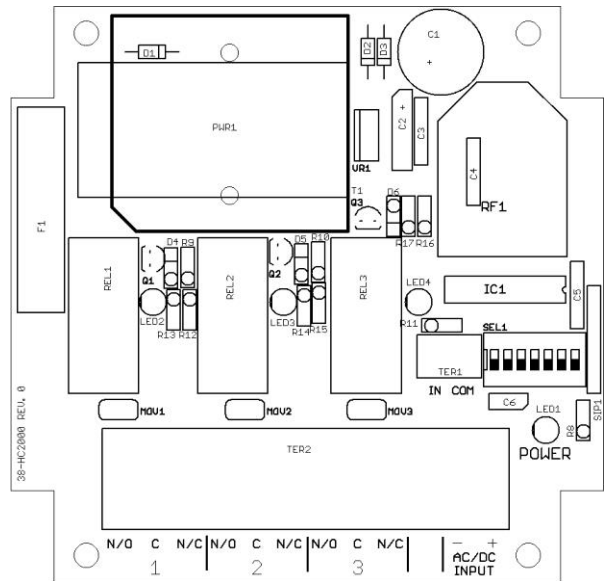
TERMINAL STRIP WIRING

1	2	3	4	5	6	7	8	9	10	11	12
N/O Relay #1	C Relay #1 (Direction Relay 1)	N/C Relay #1	N/O Relay #2 - OUTPUT +	C Relay #2 (Direction Relay 2)	N/C Relay #2 - OUTPUT -	N/O Relay #3	C Relay #3 (Power Relay)	N/C Relay #3	Not Used	9-36VDC Power (-)	9-36VDC Power (+)



Dimensions (with mounting plate) 6.3" L x 4.8" W x 2.3" H

CONTROLS AND INDICATORS



POWER LED	Illuminates while receiver is powered on
LED2	Illuminates when relay #1 is energized
LED3	Illuminates when relay #2 is energized
LED4	Illuminates when relay #3 is energized
RF1	RF module that receives data from the remote transmitter
REL1 thru REL3	High current SPDT output control relays
SEL1	Seven dip switches for selecting relay options and operating frequency

AIR-EAGLE® XLT

900 MHz RF Receiver

MODEL 441HCMP-8-0001-DC

RELAY OPERATION

This model comes wired up to provide one output to a linear actuator. The left cable is 9-36VDC input, and the right cable is the voltage output. One button is used on a transmitter to switch between positive and negative polarity. When the button is pressed the first time the power relay (#3) turns on applying voltage in a positive direction. Pressing the button again turns on relays 1 and 2 which are wired to flip the polarity to the negative direction when turned on. Relay 3 will remove power from the direction relays when switching to prevent a possible short circuit of the power supply.

The transmitter button which operates this unit can be changed anywhere from button 1 to button 4 using the DIP switches. See chart below. When first powered on the relays are all off to prevent voltage from being applied to the actuator. On the first press the power relay will turn on applying voltage to the load in one direction. Each subsequent press will flip the polarity of the output. The polarity relays can be made to turn on with the first button press by turning on DIP switch 4. See chart below.

OPTIONS & FREQUENCY SET-UP

The unit is shipped from the factory with SEL1 switches in the open positions. Unit will operate from button one on frequency one and direction relays will start in the off position. If you wish to change these default settings, follow the instructions on the table below.

- 1) Remove power from unit then remove top cover.
- 2) Select desired channel configuration, relay start-up operation and network frequency options using table below.
- 3) Reattach cover and apply power. Programming is now complete.

CHANNEL CONFIGURATION

Operating Button	SW1	SW2	SW3
1 (default)	OPEN	OPEN	OPEN
2	CLOSED	OPEN	OPEN
3	OPEN	CLOSED	OPEN
4	OPEN	OPEN	CLOSED

RELAY STARTUP SETTINGS

SEL1 SWITCH NUMBER	OPEN	CLOSED
SW4	Direction Relays Off (default)	Direction Relays On

The first press of the button will turn on the power relay and either leave polarity relays off (default) or turn them on (inverse). With the direction relays off the voltage will be positive on red and common on black.

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

SPECIFICATIONS

Power Supply	9-36 VDC, 5 W
Relay Contacts	SPDT 20 amp @ 120VAC or 30VDC SPDT 16 amp @ 220VAC
Fuse Protected	1 amp
Receiver Range	Up to 2500 Feet w/Standard Antenna
<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>	
Receiver Frequency	900 MHz Spread Spectrum
RF Networks	Eight Independent Frequencies
Operating Temperature	-40° F to +185° F
Enclosure	Polycarbonate, IP66 (NEMA 4)
Weight	Approx 2 lbs.

ACCESSORIES

Standard Antenna (Included):	
900MHz TNC "Rubber Duck" Antenna	49-1103
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	
900MHz Thru-Hole Mount Mobile Antenna	49-2101
900MHz Magnet Mount Mobile Antenna	49-2102
900MHz Omni Directional Base Antenna	49-3101
900MHz Yagi Directional Base Antenna	49-3102
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.

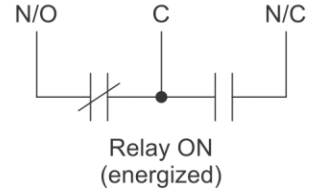
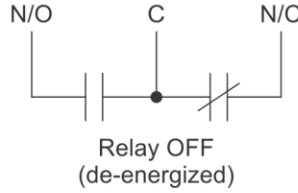


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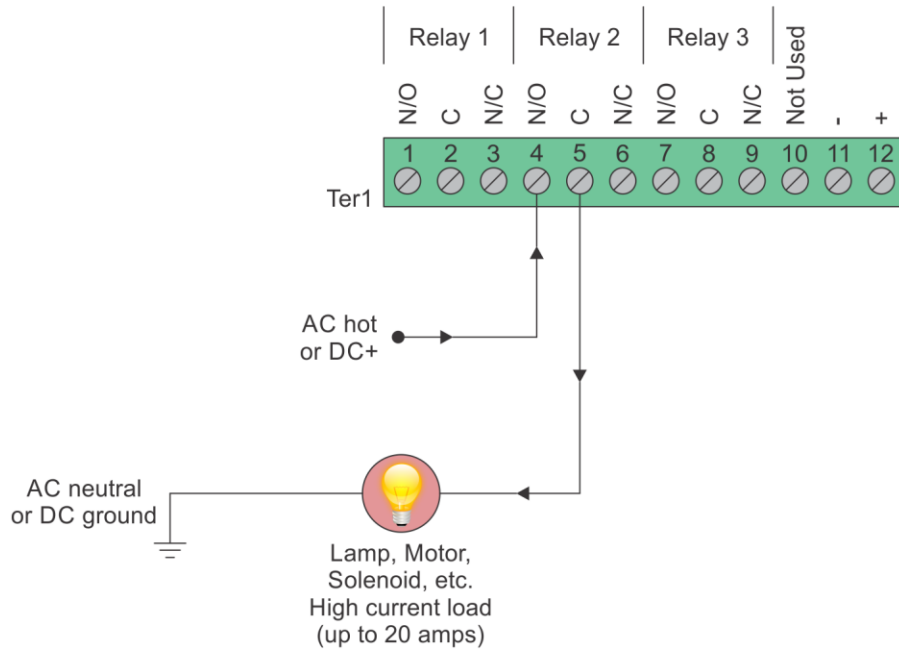
RELAY OUTPUT WIRING

High Current 3-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 High Current Relay - Loads Up to 20 Amps

Loads up to 20 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.

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