

# Wirelynx Powerline Carrier Systems

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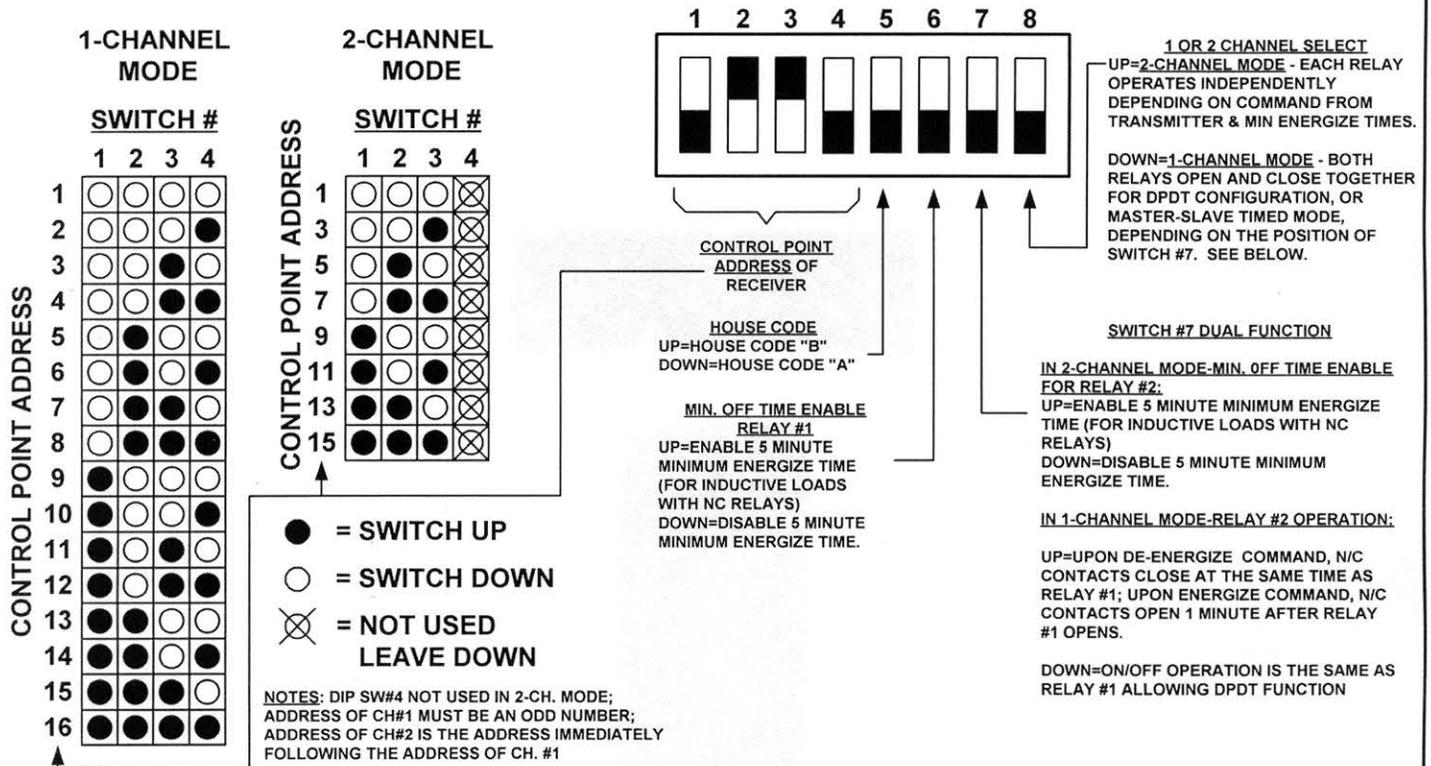
## Model ES-1024A 2-Channel Receiver - 120VAC with Two 30 Amp High-Power NC Relay Outputs

The ES-1024A is a 2-channel Powerline Carrier Receiver designed to operate on a voltage of 120VAC. It can be configured in 1-channel or 2-channel DPST-NC mode. In 1-channel mode, the relays operate in tandem, and the address can be any one of the 16 control points.

1. Mount the Wirelynx Model ES-1024A Powerline Carrier Receiver's enclosure adjacent to the load(s) to be controlled, or a desirable location next to a breaker panel where the load to be controlled have breakers. Use the appropriate conduit, connections, wiring devices, and wire to connect the ES-1024A to the loads to be controlled.
2. To Power the ES-1024A with 120VAC, connect the two BLASC #18AWG leads to the 120V phase ("hot leg").
3. The ES-1024A has two power relays, each with two double-pole single-throw (2 Form B) 30 amp dry contacts. Connect the first controlled load through the #10AWG RED leads labeled C1A. Connect the second controlled load through the #10AWG RED leads labeled C2A. Leave contacts C1B and C2B unconnected if possible. The relay contacts have a maximum voltage rating of 30amps at 300V, 15 amps at 600V or 30 amps at 28VDC.
4. Before powering the ES-1024A receiver up, set all of the DIP switches. See figure 1. The eight-position DIP switch is located on the upper side of the board as shown in Figure 2. The ES-1024A's relays operate in tandem in 1-channel mode independently in 2-channel mode. Set the relay's addresses using the table for DIP switches 1 through 3. DIP switch #4 is not used in the 2-channel mode. Use all four DIP switches for setting the address in 1-channel mode. Set the House Code to the same House Code as the transmitter on DIP switch #5. Set the minimum off-time enable for inductive loads on DIP switches #6 and #7.
5. Turn on the power to the receiver. The green LED on the receiver should blink approximately once per second indicating that the receiver is receiving the powerline carrier signal and data packets from the transmitter (transmitter must also be turned on). If DIP switches #6 and #7 are in the enables (up) position, both relays will shed immediately regardless of the command from the transmitter. In 2-channel mode, if DIP switches #6 and #7 are in the disabled (down) position, both relays will go to the state commanded by the transmitter as soon as valid data packets are detected. In 1-channel mode, the minimum off time is enabled if DIP switch #6 is up. If DIP switch #6 is up and DIP switch #7 is down, both relays operate together. If DIP switch #6 and #7 are both up, then relay #2 opens approximately one minute after relay #1.
6. When the transmitter sends an "energize" command, the red LEDs will be lit, indicating that the relay's coil is energized, and the normally-closed relay contacts are open. The controlled load should be off when the red LEDs are on.
7. Replace cover and tighten screws.

**CAUTION - 120VAC IS PRESENT  
ON TRANSMITTER PC BOARD**

**Figure 1  
DIP SWITCH SETTINGS FOR ES-1024A PLC RECEIVER**



## How to Set a Relay's Address

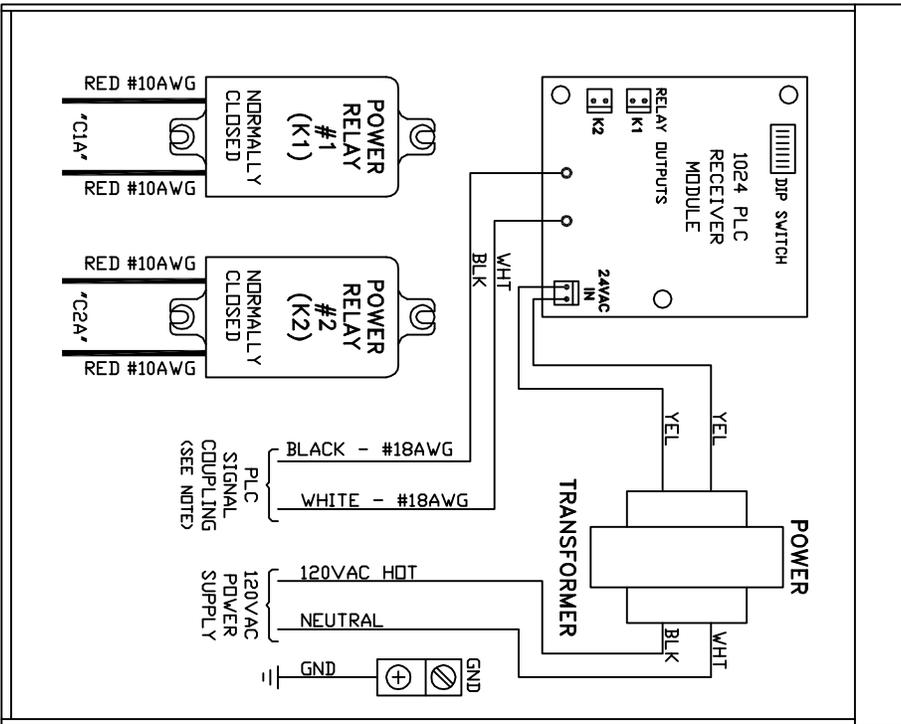
### 2-Channel Mode:

In 2-channel mode, the ES-1024A receiver's address is set using DIP switches #1-3. Switch #4 is not used. The first relay's (Relay #1 "C1x") address is directly set using the two-channel table above in Figure 1 and must be an odd channel number, e.g. 1,3,5, etc. The second relay's (Relay #2 "C2x") address is set as the first relay plus 1. For example, if you set DIP switches #1-3 for channel 3, then the first relay will respond to channel 3 commands and the second relay will respond to channel 4 commands. See the 2-Channel Mode chart in Figure 1.

### 1-Channel Mode:

If the ES-1024A is used in 1-channel mode, then both relays will operate in tandem, meaning that both loads will switch on and off together. Generally, this mode is not desirable for most demand control applications but may be useful for other control applications, life lighting circuits. The address of the relays in 1-channel mode is set using DIP switches #1-4 and can be set to any channel from one to 16. If you set the DIP switches for channel 12, for example, then both relays will respond to channel 12 commands. See the 1-Channel Mode chart in Figure 1.

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	AS ISSUED	4/1/99	WHB



**NOTES:**

1. CONNECT POWER TRANSFORMER PRIMARY TO 120VAC THROUGH 15 AMP SINGLE POLE BREAKER. CONTACT FACTORY FOR OTHER INPUT VOLTAGES.
2. FOR 120VAC SIGNAL COUPLING, CONNECT BLACK WIRE TO 120VAC HOT PHASE. CONNECT WHITE WIRE TO NEUTRAL. WIRE IN PARALLEL WITH POWER TRANSFORMER PRIMARY.
3. FOR 208, 240 OR 277VAC SIGNAL COUPLING, CONNECT BLACK WIRE TO HOT PHASE AND WHITE WIRE TO NEUTRAL.
4. SINGLE-POLE RELAYS SHOWN. DOUBLE-POLE RELAYS ARE ALSO AVAILABLE - CONTACT FACTORY.
5. RELAY CONTACTS ARE RATED AT 30 AMPS MAX. AT 277VAC.

**FOR ES-1044A:**

1. CONSISTS OF TWO ES-1024 BOARDS STACKED VERTICALLY.
2. EACH BOARD IS INDEPENDENTLY ADDRESSABLE.

TOLERANCES UNLESS OTHERWISE SPECIFIED		<b>BRAYDEN AUTOMATION CORPORATION</b> 6230 AVIATION CIRCLE, LOVELAND, CO 80538	
APPROVALS	DATE	TITLE: WIRELYNX™ MODEL 1024 POWERLINE CARRIER RECEIVER WIRING DIAGRAM	
DRAWN: WHB	3/31/99	SCALE:	DRAWING NUMBER: A-1024-97006-1
CHECKED:		DD NOT SCALE DRAWING	SHEET 1 of 1