

# Wirelynx Powerline Carrier Systems

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## Model ES-1020R 16-Channel Transmitter - for use with Energy Sentry 9388A Demand Control Systems

The ES-1020R is a 16-channel Powerline Carrier Transmitter designed to operate with Energy Sentry Model 9388A Residential Demand Control Systems. It is designed to directly interface with the 9388A's main control board. It operates using a 120VAC power supply with a separate 16VAC power transformer.

1. If you are retrofitting a 9388A in the field, mount the ES-1020R Transmitter board in the 9388A Unit as follows: (a) Remove the white logic cover from the 9388A board. (b) Remove all connections from the 9388A control board. (c) Loosen and remove the four 1" hex standoffs which hold the 9388A board in place. (d) Mount the ES-1020R board on the four 1" standoffs on the relay plate and secure in position with the four 1-1/4" hex standoffs supplied with the ES-1020R. Snug down but do not over-tighten. (e) Mount the 16VAC power transformer on the relay plate using the self-tapping screws provided. (f) Plug the secondary (green) leads' white plug into the P1 jack in the lower left-hand corner of the board. (g) Plug the 2.2" ribbon cable in the 26 pin fully-shrouded heading using the end of the ribbon cable that has the strain relief clip. When plugged into the ES-1020R Transmitter correctly, the ribbon cable comes off the connector towards the center of the board. It forms an "S" shape and curls back to the outside edge of the board to pass up the side of the 9388A control board. (h) Reinstall the 9388A control board and secure in place with the four 1" hex standoffs. (i) Plug the 26 pin ribbon cable connector into the 9388A control board's 26 pin fully-shrouded connector directly above the one on the bottom board by loosening the 4-40 x 1/4" screws holding the 9288 display board in place. Slightly lift the 9288 board from it mating connector the plug in the ribbon cable. (j) Re-seat the 9288 display board and tighten the 4-40 x 1/4" screws. (k) Ensure that the ribbon cable connectors are firmly seated in the headers. See Figure 3.
2. Connect one of the two BLACK leads from the 16VAC power transformer to one pole 0- 120V phase ("hot leg") – dedicated 15 amp double-pole circuit breaker. Connect the other BLACK lead from the 16VAC power transformer to neutral. The 9388A's power transformer's black lead also connects to this same point. See Figure 2.
3. The ES-1020R is equipped with two #18AWG RED leads and one #18AWG green lead. These are the signal coupling wires for the transmitter to the powerline. Connect one RED lead to the same pole of the 15A double-pole breaker that the transformers are powered from. Connect the second RED lead to the opposite pole of the 15A double-pole breaker. Connect the GREEN wire to Neutral. If your ES-1020R Transmitter has a third RED wire, simply cap it off with a wirenut and do not use unless this is a 3-phase application. To be compliant with the National Electric Code, place WHITE electrical tape on the GREEN wire if connected to Neutral. If connected to ground, no tape is necessary.
4. Set the House Code Switch. The default House Code position is House A. All receivers must be set to the same House Code as the transmitter's House Code. This switch allows for two systems to operate off the same utility transformer without interfering with each other.
5. Turn on power to the ES-1020R Transmitter. The green LED on the ES-1020R transmitter board should be lit and on steady indicating that a radio frequency (RF) signal is being generated. If the LED is not lit, the transmitter is not operating properly. Turn power off immediately and check all connections.
6. Install the one or more 1000 Series Powerline Carrier Receivers being used in this application. The receivers' green LED should be blinking about once per second indicating that the receivers are receiving the powerline carrier's signal from the transmitter and that full packets of data are being received.
7. Replace enclosure cover and tighten screws.

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

# ES-1020R PLC TRANSMITTER

Figure 1

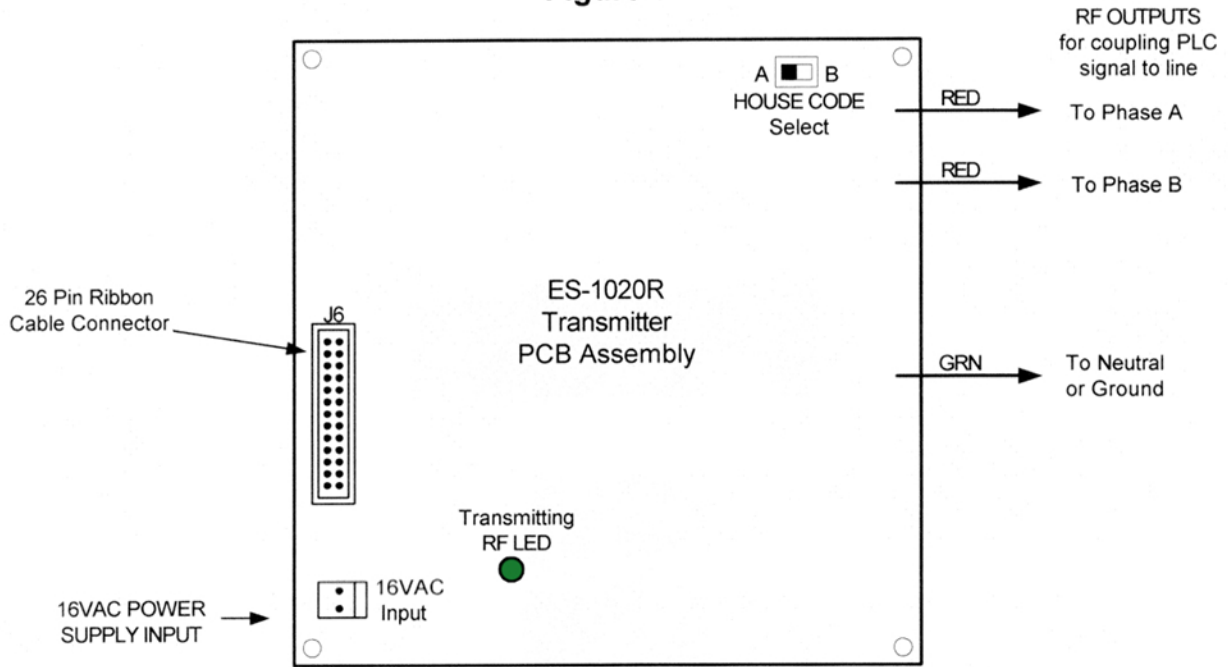
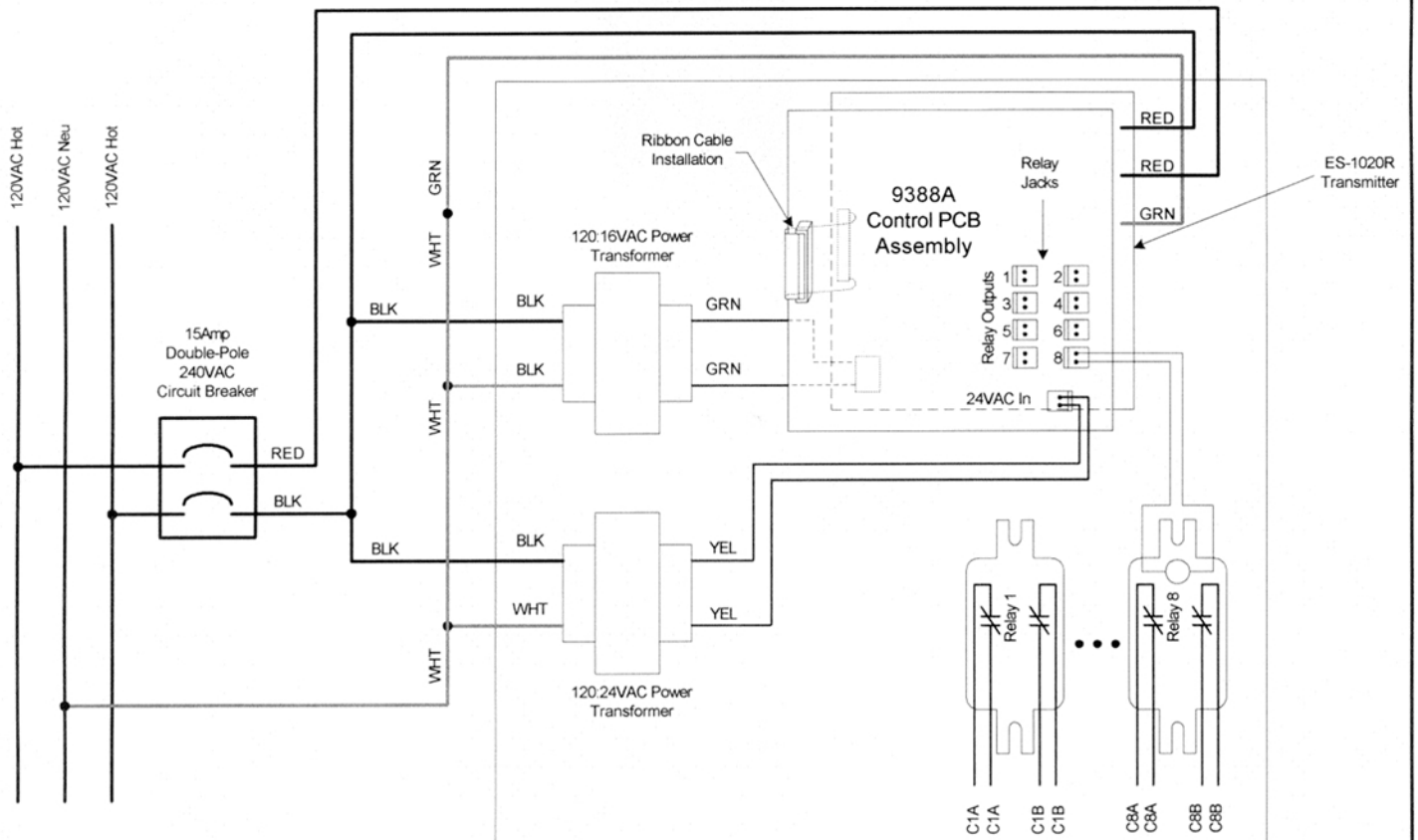
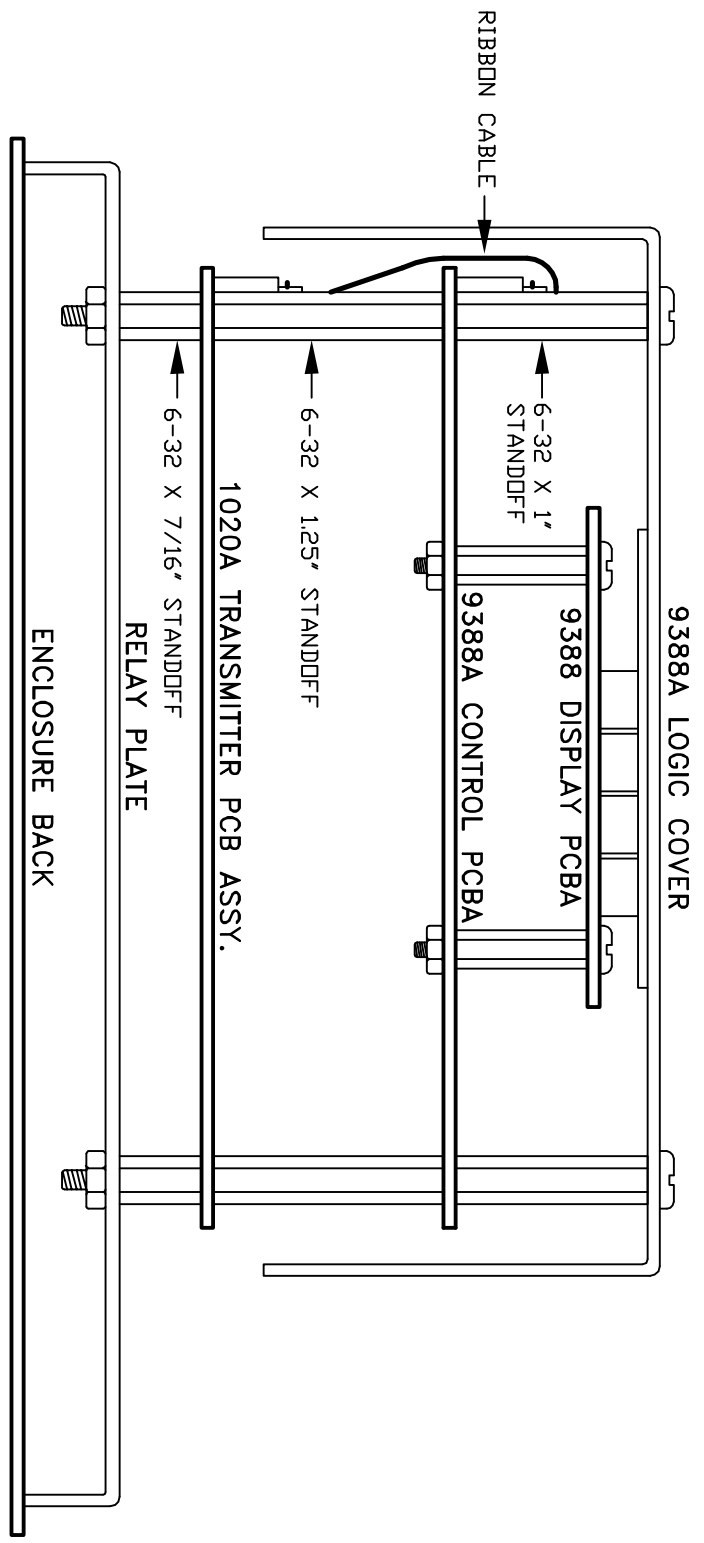


Figure 2



# REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	AS ISSUED	4/19/99	WHB
B	ECD# 2003-002	4/1/03	WHB



TOLERANCES UNLESS OTHERWISE SPECIFIED		<b>BRAYDEN AUTOMATION CORPORATION</b> 6230 AVIATION CIRCLE, LOVELAND, CO 80538	
APPROVALS	DATE	<b>TITLE:</b> WIRELYNX MODEL 1020A XMTR MOUNTING DETAIL	
DRAWN WHB	4/18/99	SCALE:	DRAWING NUMBER:
CHECKED		1:1	
		DO NOT SCALE DRAWING	
		SHEET:	1 of 1