

## FUNCTION

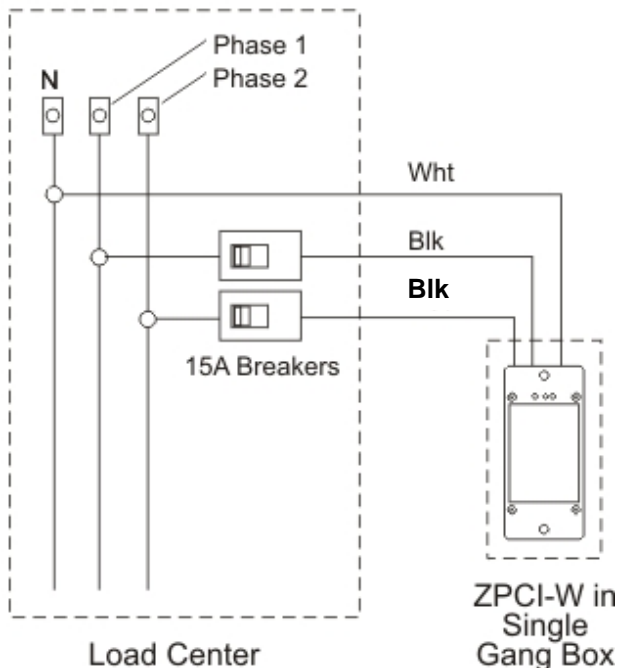
The model ZPCI Universal Inverting Phase Coupler is useful for coupling UPB (Universal Powerline Bus), as well as X10 and broadband signals, across two 120VAC power circuits in a split-phase residential installation. Model ZPCI-W and -B have built-in surge suppression. Typically one phase coupler is used per breaker panel in a home. See model UTR for three phase power applications, such as condominiums.

The inverting phase coupler is unique in the sense that it complements inverted UPB signals reflected back from large, street side, power transformers. The benefit is that each additional inverting phase coupler used adds signal strength between phases. This is not always the case for conventional phase couplers.

Three models are available:

- **Model ZPCI-B** can be installed in a tandem-breaker position in many load centers (e.g., Cutler-Hammer, Square-D, Murray and GE).
- **Model ZPCI-W** can be installed in a junction box mounted near the home's load center.
- **Model ZPCI-P30A (30 Amp) and ZPCI-P50A (50 Amp)** can be installed in a 220VAC power receptacle, or between a 220VAC power receptacle and plug of a high power appliance, such as clothes dryer, air conditioner or stove. The plugs are NEMA 10-30 and 10-50, respectively.

## Single Split-Phase System



**CAUTION:** These devices store an electrical charge, which can present a minor shock hazard. Always discharge the phase coupler prior to touching any of the connections. After removing power, the unit can be discharged by shorting with an insulated metal tool.



**CAUTION:** DO NOT INSTALL THIS DEVICE WITH POWER CONNECTED. Injury or permanent damage may result. Improper installation voids the warranty.

## IMPORTANT SAFETY INSTRUCTIONS

When using electrical products, basic safety precautions should always be followed, including the following:

1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
2. Installation should be performed by a qualified electrician.
3. Connect only copper or copper-clad wire to this product.
4. Keep away from water. If product comes into contact with water or other liquid, unplug immediately.
5. Never use products that have been dropped or damaged.
6. Do not use this product outdoors.
7. Do not use this product for other than its intended use.
8. To avoid risk of fire, burns, personal injury and electric shock, install this product out of reach of small children.
9. Do not cover the product with any material when in use.
10. SAVE THESE INSTRUCTIONS.

## INSTALLATION OF ZPCI-W

The model ZPCI-W Universal Inverting Phase Coupler is designed to be installed in a junction box that is wired to a readily accessible over-current protection device in the building wiring per NEC and CEC electrical codes.

1. Install a single-gang junction box (according to local electrical codes) in a location from which 15A circuits from both AC power phases can be accessed. Mount the phase coupler into the box.
2. Disconnect power at the circuit breakers that control the two phase connection points, or at the main breaker.
3. Connect the black wire of the phase coupler to the protected side of Phase 1 (Line A) using copper wire rated for 15A service. Connect the other black wire to Phase 2 (Line B) in a similar fashion.
4. Connect the white wire of the phase coupler to Neutral using copper wire rated for 15A service.
5. Restore power at the circuit breakers. Verify that all 3 LEDs are illuminated. Install the cover plate on the junction box.

## INSTALLATION OF ZPCI-B

The model ZPCI-B Universal Inverting Phase Coupler is designed to be installed into a Cutler-Hammer, Square-D, Murray or GE residential load center.

1. Disconnect power at the main breaker.
2. Connect the white wire of the phase coupler to the Neutral rail.
3. Install the phase coupler into an available tandem 2-phase slot in the load center, in accordance with the manufacturer's instructions.
4. Restore power and verify that all 3 LEDs are illuminated.

## INSTALLATION OF ZPCI-Px0A

The model ZPCI-P30A (and -P50A) Universal Inverting Phase Couplers are designed to be plugged into a 30 Amp (or 50 Amp), 220VAC 3 prong power receptacle. An appliance such as a clothes dryer, air-conditioner or stove can be plugged into the receptacle of the ZPCI-Px0A, for 'in-line' use.

1. Disconnect power to the 220 VAC receptacle at the breaker.
2. If present, disconnect the appliance power plug from the 220VAC wall outlet.
3. If present, insert the appliance power plug into the receptacle of the ZPCI-Px0A completely.
4. Insert the ZPCI-Px0A into the 220 VAC wall outlet completely.
5. Restore power to the 220 VAC receptacle at the breaker.
6. It is not necessary to connect an appliance to the receptacle of the ZPCI-Px0A. If an appliance is connected to power through the ZPCI-Px0A, be sure to check that the appliance has power and operates normally.

## LED INDICATORS (ZPCI-W and -B, only)

Phase coupling and surge suppression are active when all 3 LEDs are illuminated. An extinguished PHASE COUPLER LED indicates an improper Line connection, or the internal phase coupling circuitry is not working. An extinguished SURGE A or SURGE B LED an improper Neutral connection, or the internal surge suppression circuitry is not working.