ELECTRONICS, INC.

VEPC-3
Three Phase Coupler

Users Guide

Revision 1.1
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27525 Newhall Ranch Road Unit #1
Valencia, CA 91355
1-800-VISTA-99 PHONE
661-294-9820 PHONE
661-294-9857 FAX
www.vistaelectronics.com

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Product Overview

The Vista Three Phase Coupler provides a way of injecting a communications signal into power mains. The coupler is specifically designed to for use with Echelon's LONWORKS Power Line Transceiver-based products. The Coupler will interface a low voltage communication signal trough an isolation transformer and a capacitor to power mains operating from 0-250V, AC or DC. The Power Line Coupler can also be used as an interface to unpowered wire such as dedicated telephone lines or coaxial cable. The coupler is compatible with the following LONWORKS Power Line Transceiver channels, PL-10, PL-20, and PL-30. The coupler is also compatible with any communications transmitting within the frequency of 9kHz to 450kHz.
Components of the Coupler were specifically selected for their multiple international safety agency compliance.

Coupler Installation

Low Voltage Connector

The Coupler connects to a transceiver via a low voltage BNC connector (J5) that is transformer isolated from high power mains voltages.

J5 BNC connector with low-voltage communication.

Power Mains Connectors

The Coupler connects to Power Mains via four connectors J1(common), J2(phase), J3(phase), and J4(phase). Each connector has three screw down terminals that are connected together. This allows you to cut a wire and insert the two ends into separate terminals on the same connector, connecting the two wires back together as well as connecting them to the coupling circuit. This provides easy connection to a phase without a separate termination block.

J1 Common. This is the signal return path and should be connected to either neutral or earth making sure that if neutral is selected as common then all couplers on the network must use neutral as the common and vice versa.

J2 Power mains. This can be any one of up to three phases. The maximum voltage is 250V AC or DC referenced to J1. The maximum voltage referenced to another power mains (J3 or J4) is 500V AC or DC.

J3 Same as J2.

J4 Same as J2.

Troubleshooting

- **Check all three fuses on the coupler. If a fuse is blown, disconnect coupler and replace fuse with a minimum of a 3.0 Amp 250VAC, slow blow fuse. A 3.15 Amp fuse is recommended.**

- **Make sure that J1 (Common) is connected the same on all couplers across the network. For example: If J1 is connected to neutral make sure J1 is connected to neutral on all couplers on the network. Correspondingly if J1 is connected to earth, make sure J1 is connected to earth on all couplers on the network.**

If after following the above instructions you are still having problems, please contact:

Vista Electronics, Inc.
27525 Newhall Ranch Road Unit #1
Valencia, CA 91355
USA
661-294-9820 Phone
661-294-9857 FAX
Email: support@vistaelectronics.com

Appendix A

Coupler Dimensions
5 inches by 3.5 inches (excludes BNC connector overhang)