

Overview

The PC interface allows communication between one or more controllers and a computer. It should be connected to your computer with a serial cable (maximum length is 50 feet). The data wire leading from the PC interface to the controllers can be up to 1000 feet in length. Longer runs are possible by using RS-485 repeaters to boost the signal levels.

Installation

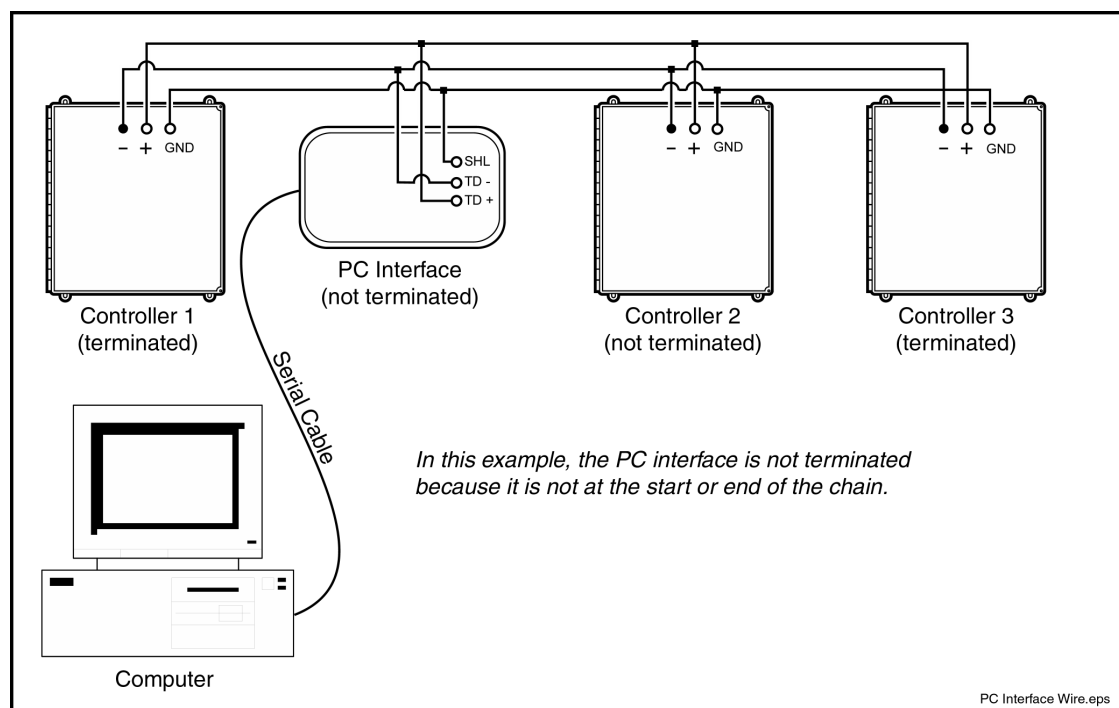
Disconnect power to your controllers and the PC interface before completing these steps.

1. Remove the four corner screws, lay the interface module face down and lift the back off of the case.
2. Three sets of wires must be connected to the PC interface:
 - 9V power wire from the 110V power converter that comes with the PC interface (or other power source 9V to 12V, 300mA). The PC interface must be grounded. If there is no ground wire from the power supply, connect a grounding wire to the GND connection. You can attach it to a ground connection in the control console or any good electrical ground close by.
 - Serial interface cable from the PC interface's serial port to your PC's serial port.
 - Using shielded wire (22 or 24 gauge), connect the TD - and TD + terminals on the PC interface to the - and + terminals on the controller's MODEM terminal block. If you have multiple controllers, you can run the data wire from controller to controller wiring them in parallel. Connect the cable shield to the PC interface's SHL terminal. You can connect up to 16 controllers to a PC interface.

Terminal	Connection
12 V	Used to connect an external 9 to 12 VDC supply when the power jack is not used.
GND	Used to connect an external 9 to 12 VDC supply when the power jack is not used.
SHL	Used to ground the communication cable's shield wire.
TD -	Connects to the controller MODEM - terminal via cable.
TD +	Connects to the controller MODEM + terminal via cable.
RD -	Not Used.
RD +	Not Used.
P10	Not Used.
+ 5 V	Not Used.

Wiring with Multiple Controllers

The PC interface should be wired in a daisy chain with the controllers. One configuration is shown below.



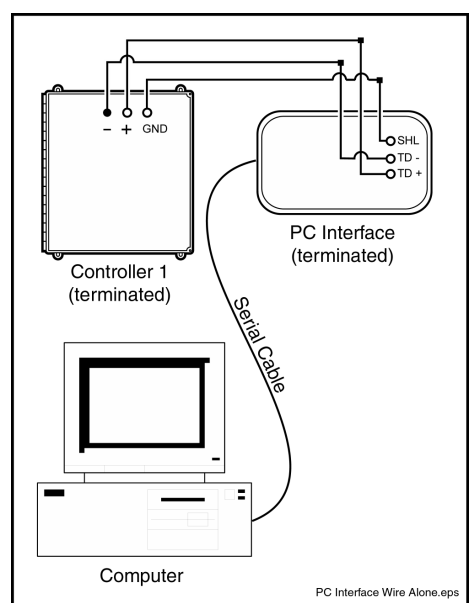
If the PC interface is at the beginning or end of the daisy chain, you will need to enable the PC interface's termination. You can enable a PC interface's termination by moving jumper J5 (TXD) to pins 1 and 2. Non-terminal PC interfaces need this jumper moved to pins 2 and 3.

Refer to your controller's *Installation Manual* for instructions on termination settings for the controller.

Wiring with a Single Controller

The PC interface should be wired with the controller as shown in the illustration. Both devices should have termination enabled.

Note: If you are connecting the interface module to an external modem, plug the DB-9 cable into the modem using adapter CA-12-MOD (not included).

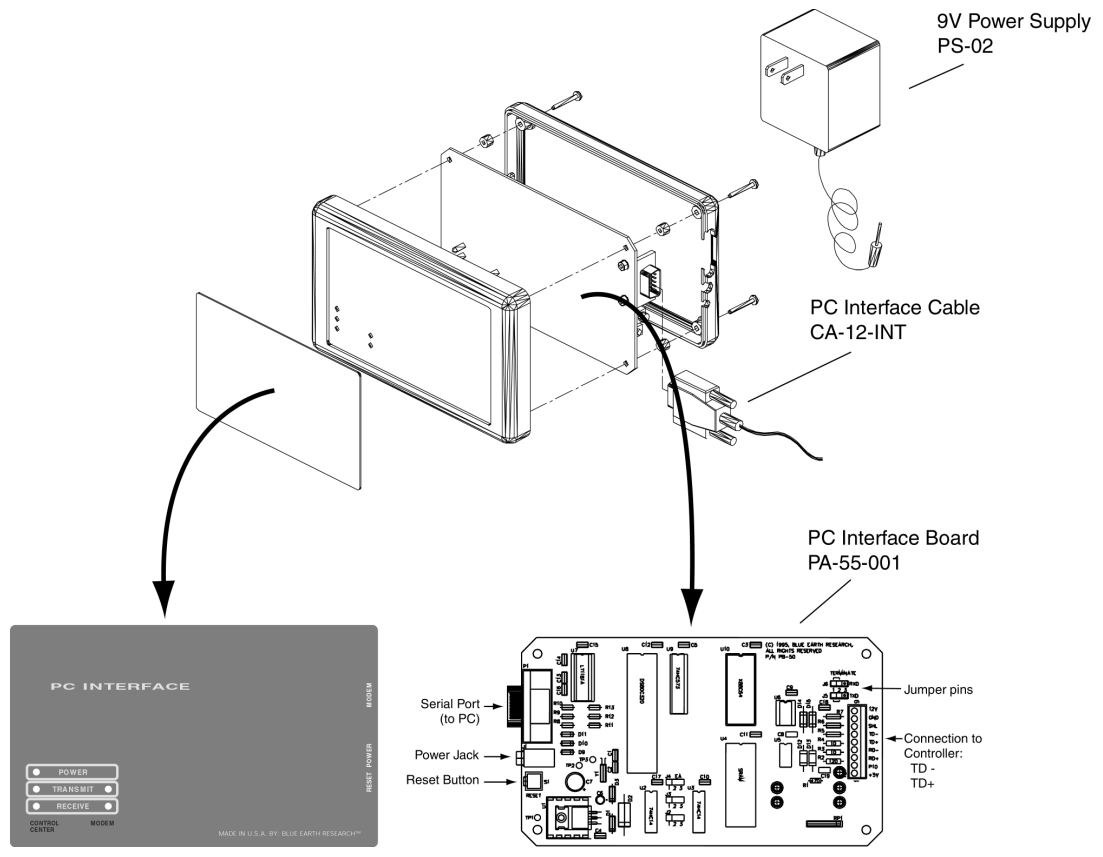


Surge Protection

Deadbolt™

If you run data communication lines between buildings you should install a surge and lightning protection device such as the Deadbolt Data Line Surge Suppressor (Model 9830) at each data line building-entry point. It protects your electronic control equipment from transient voltages appearing on the data lines. It features three stages of protection: a gas discharge tube, transient voltage suppressor diodes and two easily replaced surge rated slow-acting fuses.

Parts Diagram



Troubleshooting

My PC Interface isn't working.

Check that the PC interface is receiving power. The Power LED should be lit. Make sure your computer and software are properly set up for communication with the PC interface.

A yellow LED is always lit.

Check that the PC interface is properly grounded.

Deadbolt is a trademark of Blue Earth Research, Inc.

ENVIRONMENTAL PRODUCTS WARRANTY

PLEASE READ THIS WARRANTY CAREFULLY. IF YOU (THE PURCHASER) DO NOT AGREE WITH THE WARRANTY LIMITATIONS OR ITS TERMS AND CONDITIONS, PROMPTLY RETURN THIS PRODUCT, UNUSED, TO THE PLACE WHERE YOU OBTAINED IT FOR A FULL REFUND.

LIMITED WARRANTY: Blue Earth Research, Inc. (hereinafter BEaR) warrants this Product to be free from defects in material and workmanship and agrees to repair or replace any Product which proves defective under these terms and conditions.

IMPROVEMENTS: BEaR reserves the right to alter or improve this Product without notice and without incurring obligation to alter or improve existing Products.

LENGTH OF WARRANTY: This Product is warranted for a period of twelve (12) months from the date of installation. Sensors are warranted for a period of twelve (12) months from the date of manufacture or six (6) months from the date of installation.

WHO IS PROTECTED: This warranty is valid only for the original installation and is not transferable.

WHAT IS NOT COVERED: The following are not covered by this warranty:

- 1) Damage, deterioration or malfunction resulting from, but not limited to: power fluctuations or surges, accident, misuse, abuse, neglect, fire, water, corrosion, lightning or other acts of nature, improper storage, unauthorized Product repair or modification, damage in shipment, removal or installation of this Product, or any other cause not related to a Product defect.
- 2) Cartons, batteries, and other accessories used in connection with this Product.
- 3) Product returned without customer identification.
- 4) Service required as a result of third party components.

WHAT IS NOT REIMBURSABLE: The following items are not reimbursable:

- 1) Troubleshooting, removal or installation charges.
- 2) Setup, calibration, adjustment or maintenance of this Product.
- 3) Shipping and insurance charges for returning this Product to BEaR.
- 4) Customer training.
- 5) Travel expenses.

HOW TO GET WARRANTY SERVICE: You have the option of having your dealer replace/exchange any defective Product or returning this Product freight prepaid and insured to BEaR. All Product returned to BEaR must have customer identification attached.

CONSUMER CAUTION: System configuration, software, operator control of the system, and the application, among other things, will affect this Product's performance. While this Product is considered compatible with its intended purpose, the specific functional implementation by the customers of this Product may vary. The responsibility for using this Product and programming it to achieve the intended purpose, is the sole responsibility of the Purchaser.

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BEaR'S SOLE LIABILITY UNDER THIS WARRANTY AND PURCHASER'S EXCLUSIVE REMEDY FOR ANY DEFECTIVE PRODUCT, IS LIMITED TO THE REPAIR OR REPLACEMENT OF THIS PRODUCT, AT BEaR'S OPTION. IN THE EVENT BEaR CANNOT DO EITHER, THEN THE PURCHASER'S ALTERNATIVE EXCLUSIVE REMEDY SHALL BE A REFUND OF THE PURCHASE PRICE IN EXCHANGE FOR THE RETURN OF THE DEFECTIVE PRODUCT TO THE PLACE OF PURCHASE. BEaR SHALL NOT BE LIABLE FOR:

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- 2) **ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL, OR OTHERWISE FROM USE OR INABILITY TO USE THIS PRODUCT.**

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PURCHASER AGREES THAT THE SALE OF THIS PRODUCT BEARS A REASONABLE RELATIONSHIP TO THE STATE OF MINNESOTA AND THE LAWS OF THE STATE OF MINNESOTA SHALL GOVERN THE VALIDITY, CONSTRUCTION AND ENFORCEABILITY OF THIS WARRANTY, WITHOUT GIVING EFFECT TO THE CONFLICT OF LAWS PRINCIPLES THEREOF.

THE PURCHASER OF THIS PRODUCT AGREES THAT ALL CLAIMS BROUGHT IN RESPECT OF THIS WARRANTY SHALL BE BROUGHT IN A COURT LOCATED IN THE STATE OF MINNESOTA.