



Model: PIM-R Powerline Interface Module

Installation Guide and Owner's Manual



FUNCTION

The PIM-R Powerline Interface Module – RS232 is the de facto interface between a computer (or other serial device) and the Universal Powerline Bus (UPB). The PIM-R connects to a serial (COMM) port on your computer with a standard serial cable (provided) and sends and receives UPB communication packets on the existing house wiring. The PIM-R can be plugged into any free wall outlet throughout the home. No additional wiring is required and no radio frequency signals are used for communication.

TYPICAL USES

The PIM-R is perfect for interfacing devices with a serial port to the UPB powerline. Typical applications are:

- UPB Setup Tool (UPStart) Interface
- Home Automation Controller Interface
- Thermostat Interface
- Alarm Panel Interface
- Sprinkler Controller Interface

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. Keep away from water. If the product comes in contact with water or other liquid, turn off the circuit breaker and unplug the product immediately.
3. Never use products that have been dropped or damaged.
4. Do not use this product outdoors.
5. Do not use this product for other than its intended purpose.
6. To avoid any risk of fire, burns, personal injury or electric shock, install this product out of the reach of small children.

7. Do not cover this product with any material when in use.
8. This product uses grounded plugs and sockets to reduce the risk of electric shock. These plugs and sockets fit only one way. If they do not fit, consult an electrician.
9. SAVE THESE INSTRUCTIONS.

INSTALLATION

The Powerline Interface Module is designed for indoor use with devices that provide an RS-232 serial port. To install the PIM-R module follow these steps:

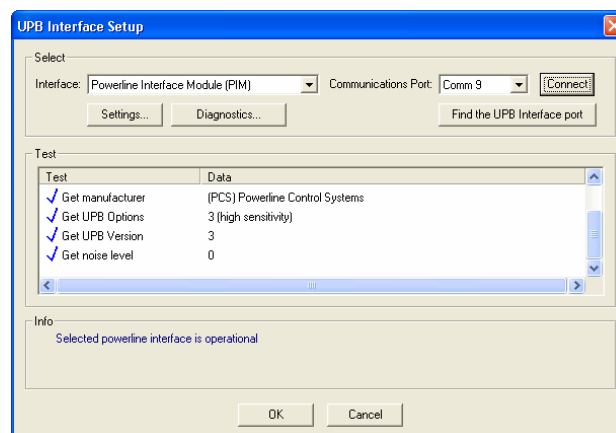
1. Connect the serial cable (provided) between the PIM's serial connector and any open COMM port of the computer or laptop.
2. Plug the PIM-R into any grounded wall outlet. The Status LED should start blinking and then stay solid blue.

NOTE: The PIM-R requires the DTR signal (pin 4) from the host device to be at RS-232 logic high. This is the typical configuration for most PC's and laptops but may not be typical for other serial devices. Check with the manufacturer of the serial device to verify that it supplies positive DC voltage on this pin.

OPERATION

The PIM-R is the perfect interface device for use with PCS' UPStart Setup Software. UPStart allows you to easily configure all of your PulseWorx System devices. The UPStart User's Guide (available on the PulseWorx web site: www.PulseWorx.com) explains how to configure your system using UPStart software.

To use the PIM-R with UPStart select **Tools→UPB Interface Device→Select** to bring up the UPB Interface Setup dialog.



Select the "Powerline Interface Module" as the **Interface** and then press the "**Find UPB Interface port**" button. UPStart will automatically find the Communication Port that the PIM-R is



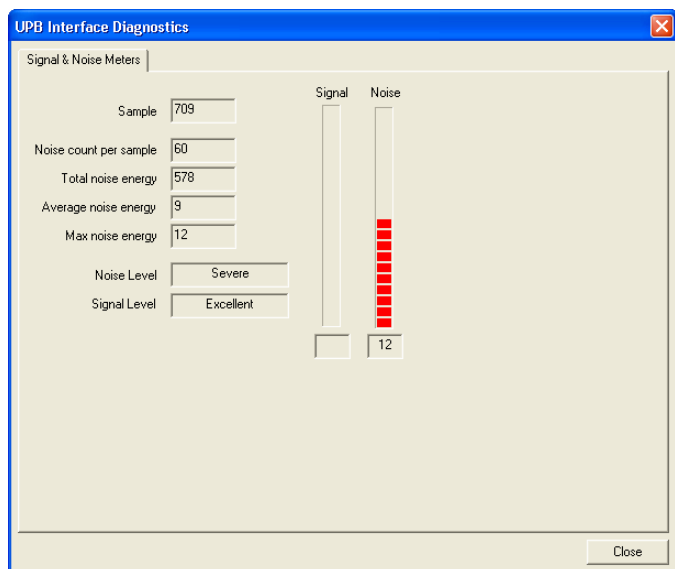
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connected to. Next, press the **"Connect"** button to have UPStart connect and test the PIM-R.

Signal & Noise Meters

Once connected, the PIM-R will constantly send reports to UPStart as to the status of the powerline. You can view the results of these reports by pressing the **"Diagnostics"** button to bring up the Signal & Noise Meters as shown below.



The meters will display a real-time indication of what the PIM-R is reporting. UPStart will also classify the reports as either "Signal" or "Noise" and display them on the proper meter. The meters are very useful for troubleshooting problems on the powerline.

Status LED Indications

The PIM-R contains a bi-color (blue/red) Status LED that will also give a visual indication of what UPB information is currently on the powerline.

Blue:	No UPB Signal
Magenta:	Received a UPB Message
Red:	Transmitted a UPB Message

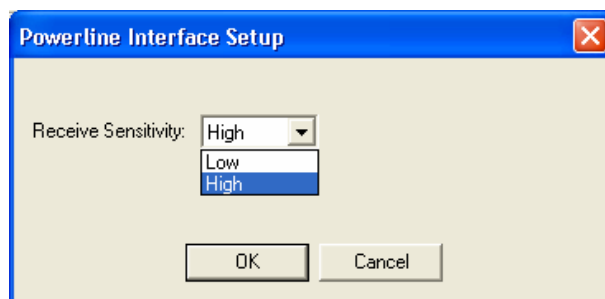
Push-button

The push-button on the front of the PIM-R is used to put the device back to its factory default condition. To set the PIM-R back to factory defaults first press the pushbutton **5** times rapidly. The Status LED will blink blue. Next, press the pushbutton **10** times. The Status LED will blink red. Finally, press the pushbutton **2** times. The Status LED will stop blinking. The device is now restored to its factory default state.

CONFIGURATION

The PIM-R has an adjustment for UPB receive sensitivity. The factory default for this setting is "High". If the PIM-R is to be used in severe powerline noise, you may find that it operates better in the "Low" receive sensitivity setting.

To adjust the receive sensitivity press the "Settings" button on the UPB Interface Setup dialog. Next, select the desired receive sensitivity setting and press the "OK" button.



LIMITED WARRANTY

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in materials and workmanship for a period of five years from the date of purchase. Refer to the warranty information on the PulseWorx website (www.PulseWorx.com) for exact details.