PulseWorx PIM-R Integration Release Notes

Content

Introduction

This release of the PulseWorx driver now lets you integrate the PulseWorx PIM-R into your ClareHome system. The PulseWorx PIM-R driver uses services and rules to display keypad buttons on the Clare Controls app. Services can contain one or more instructions for PulseWorx compatible devices, such as switches and dimmers. You must install the PulseWorx system before integrating it into ClareHome. This document describes how to integrate a PulseWorx system to work with the ClareHome system. Refer to the manufacturer's documentation when installing the PulseWorx system.

The PulseWorx PIM-R is a UPB (Universal Powerline Bus) interface. The PIM-R is both a UPB transmitter and a UPB receiver giving the ClareHome controller the ability to perform true two-way, powerline communication.

When installing a PulseWorx system, you or your technician must use the UPStart Setup Software tool. The UPStart tool is a Windows software application that runs on your PC or laptop and is used to configure all of your PulseWorx devices, including the lighting devices, such as keypads and dimmers. Use it to assign the devices unique IDs and names, enable/disable features and options, link them together, and to assign a password. Once you complete the

configuration, you will export a .upe file that you will later import into Fusion. You can download a free copy of the UPStart software from the PulseWorx website.

Sometimes a lighting architect or a building contractor will create the .upe lighting file for your specific project. When that person makes the file available to you, download it to your computer so that you can later import and configure the file in your Fusion project.

Connecting the PulseWorx PIM-R to the ClareHome data network

With the PulseWorx PIM-R installed, you can connect it to the ClareHome data network using either of two methods. In the first method, you can connect the PIM-R to the ClareHome network using a SENA LS100 serial device. In the second method, you can connect it directly to the CLIQ device. Which method you choose is entirely up to you. However, each method requires specific hardware configurations and specific configurations in Fusion. The directions for each method follow.

Method 1: Connecting to the network using the SENA LS-100

In this method, install a SENA LS100 serial device between the PIM-R and the ClareHome data network, as shown in Figure 1.

To connect the PulseWorx PIM-R to the ClareHome data network:

1. Attach one end of a network cable to a port on the ClareHome data network, and then attach the other end of the cable to the jack on the LS-100. See Figure 1.

2. Using a DB-9 cable (female to male), attach the female end to the LS-100 and the male end to the PIM-R.

Figure 1: Connecting the PulseWorx PIM-R to the ClareHome data network
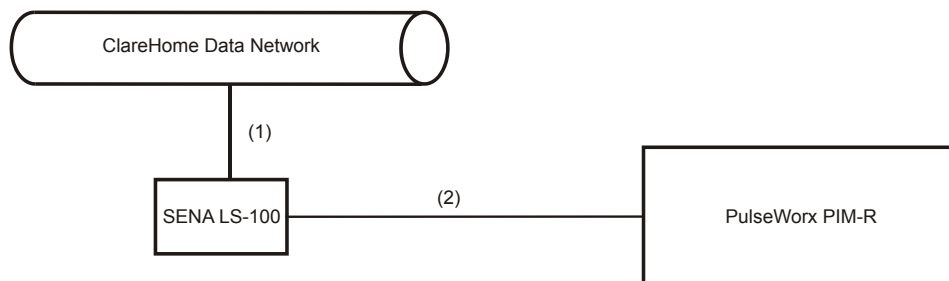
(1) Network cable
(2) DB-9 cable

3. Configure the LS-100 with the following settings.

Table 1: LS-100 serial parameter settings

Serial parameter	Setting
Baud Rate	4800
Data Bits	8
Stop Bits	1
Parity	None
Handshaking	None

Note: To configure the SENA LS-100, follow the instructions included with the device.

Method 2: Connecting directly to the CLIQ controller

In this method, connect the PIM-R directly to the CLIQ controller using a straight-though serial cable (DB9 to RJ12). However, choosing this method requires that you reconfigure the serial cable. You will need to cut, strip, and reconfigure the cable with a new modular plug using the pinouts listed in Table 2.

To connect the PIM-R to a CLIQ controller:

1. Cut the RJ12 modular plug off of the serial cable, and then separate and strip the wires.

2. Set the DB9 DTR pin (4) aside. This will not be placed in the RJ12 modular plug. This pin connects to the CLIQ's Digital I/O ports 12vdc pins (2 or 6). See Figure 3, item 2.

3. Wire the new RJ12 modular plug using the pin layout in Table 2.

4. Snip off any of the unused wires, and then ensure that all of the wires are in the correct pin order.

5. Insert the wires into the modular plug, and then crimp the plug to secure the wires.

6. Insert the new RJ12 plug into the RJ12 port on the CLIQ device, See Figure 3, item 1.

7. Connect the DB9 end of the serial cable to the port on the PIM-R.

Table 2: DB9 to RJ12 pinout

DB9	Type/Signal	RJ12
Pin 2	Receive	Pin 4
Pin 3	Transmit	Pin 3
Pin 4	DTR	Digital I/O 12VDC
Pin 5	Ground	Pin 5

**Figure 2: Connecting the serial cable to the CLIQ controller**
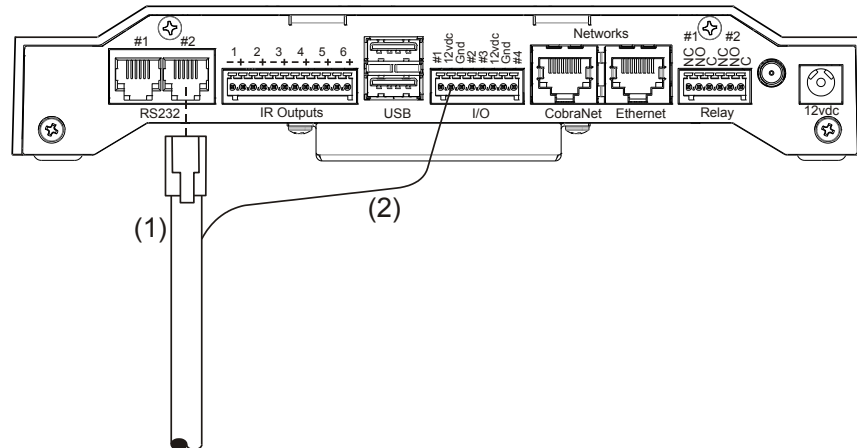
(1) RJ12 connection to CLIQ serial port
(2) DTR (pin 4) connection to digital I/O 12vdc port

Configuring in Fusion

After installing and configuring your PIM-R device, you must add and configure it in Fusion. To do this, you must import the lighting file created earlier. Fusion automatically creates the devices and services for the PulseWorx devices listed in the lighting file.

To add the PulseWorx PIM-R in Fusion:

1. Click the Devices tab, and then click the Import Devices button 🖥 to display the Import Devices dialog.
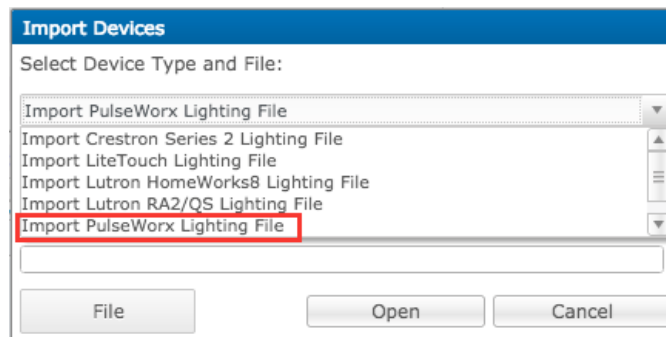
2. Click the drop-down arrow, and then select Import PulseWorx Lighting File from the list, as shown above.

3. Click the File button, and then browse to the folder containing your lighting file, as shown below.
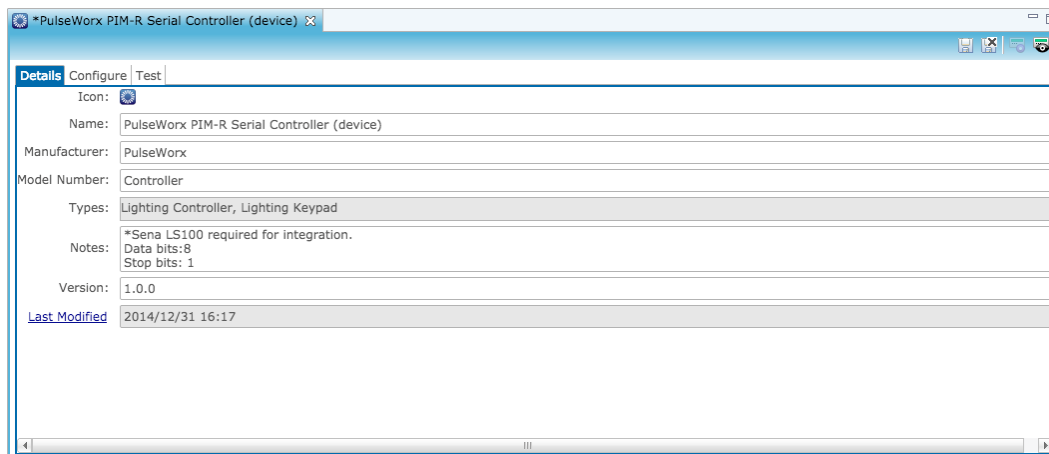
   This is the lighting file created by your lighting designer that you downloaded to your computer earlier.
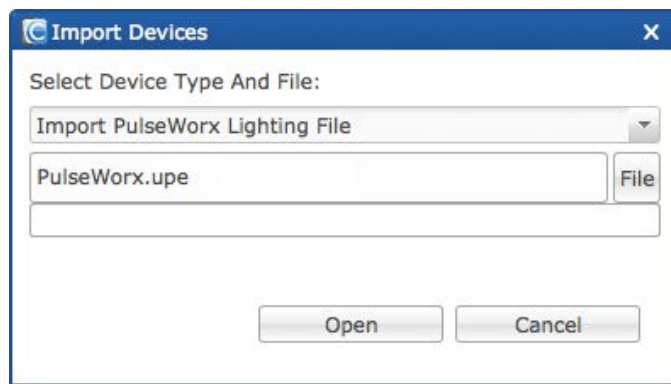
4. Click Open.

   Fusion imports the files and automatically configures the devices and services for you. You can edit these devices and services, if you choose.

5. In the Details tab, enter a name for your PIM-R (optional).

6. Next, set the parameters in the Configure tab for Method 1 or Method 2.

Method 1:

1. If you connected the PIM-R using Method 1, click the Configure tab (shown below), and then enter values in the following fields.

   - In the Network Address and Network Port fields, enter the IP address and port number for the SENA LS100 IP-to-serial device.

     Note: The default port number for the SENA LS100 is 6001.

   - In the Network ID and Password fields, verify the network ID and password of the PulseWorx system that you configured using the UPStart Setup Software. The network ID and password information is entered automatically when you import the .upe file.
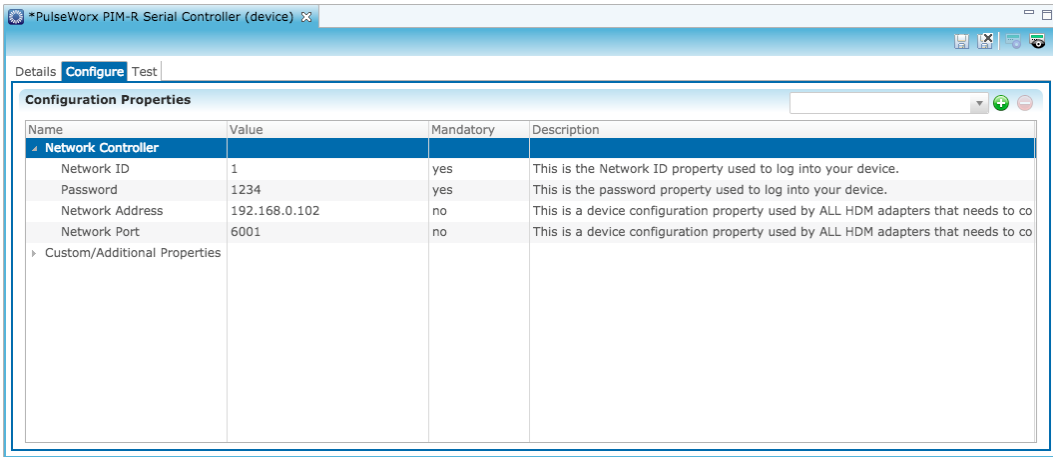
2. Click the Save button 🖫.

Method 2:

1. If you connected the PIM-R using Method 2, you will need to remove the Network Address and Network Port fields, and then add the additional serial parameters fields.

2. Highlight the Network Address field, and then click the Remove button ⊖.
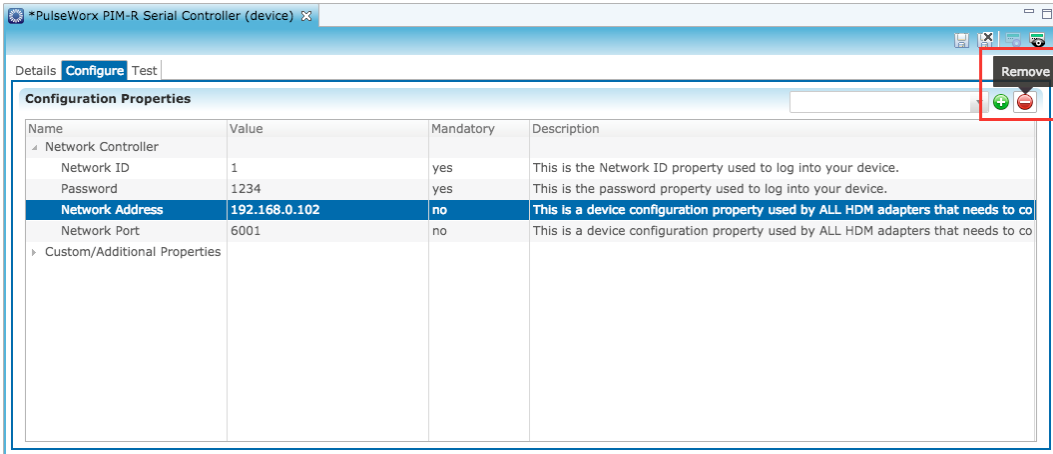
3. Repeat step 2 for the Network Port field.

4. Next, add serial parameters fields that will allow PIM-R to communicate with the CLIQ controller.

5. From the Properties drop down list, choose CLIQ Serial Port, and then click the Add button ⊕.
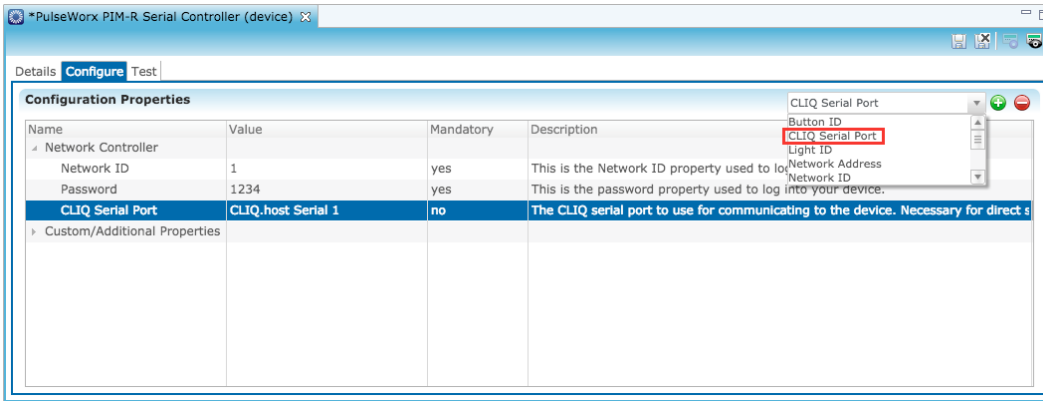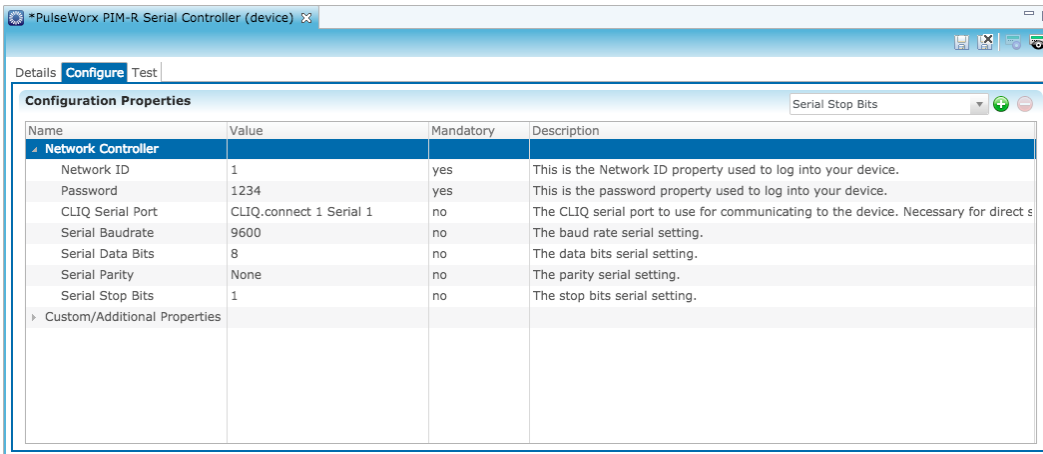
6. In the Value field, select the serial port number for your device.

7. Repeat steps 5 and 6 for each of following fields.

Table 3: Serial fields and values

| Field name	Value
Serial Baudrate	9600
Serial Data Bits	8
Serial Parity	None
Serial Stop Bits	1

The figure below shows a typical Configure tab with the serial fields and values.

Creating services

Fusion automatically creates the services that are assigned to areas, which in turn create icons that appear on the App's base page. To enable the services (and their icons), simply deploy your Fusion project.

The icons look similar to the following.
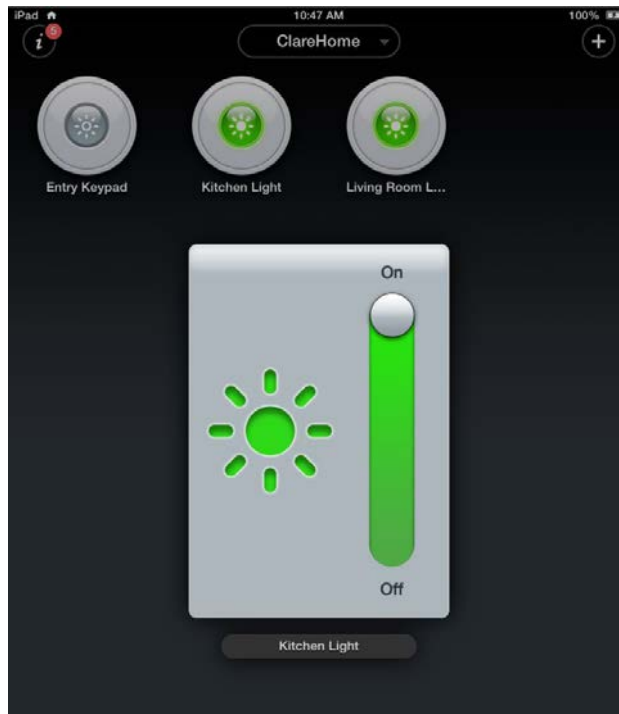
Notice that the smart icons for the kitchen light and the living room lamp are on in the example above. Tapping the living room lamp icon displays the On/Off switch for the lamp. We can control the lamp simply by moving the slide up or down to turn it on or off.

In the next example, we turned off the living room lamp and tapped the Kitchen Light icon to display the dimmer switch that controls the kitchen lights.

As we slide the dimmer button up and down the lighting level is reflected in the display to the left of the dimmer button. The Kitchen Light smart icon also dims or intensifies as we move the slider. In addition, we can quickly turn the light on or off by tapping "On" or "Off" located at the top and bottom of the slider.

Known issues

The following are known issues in this release of PulseWorx PIM-R.

Known issues

Only the SENA LS-100 has been certified to work with the ClareHome system and the PulseWorx PIM-R. We cannot guarantee satisfactory results if you use another model or brand of interface device.

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