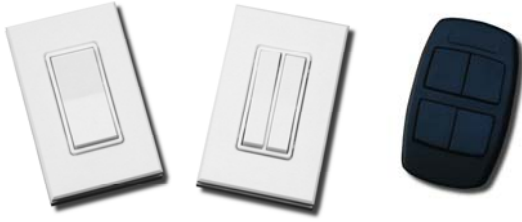# Model: RFWS- RFR4 Radio Frequency Switches & Remote

Installation Guide and Owner's Manual

FUNCTION

The RFWS and RFR4 are a set of wireless/battery-less control devices designed to control your PulseWorx lighting system remotely. The RFWS Radio Frequency Wall Switches provide wall mounted rocker switch control to areas where AC power is not conveniently available while the RFR4 Radio Frequency Remote provides a hand-held method to control your PulseWorx lighting system. These devices are designed to be used in conjunction with a PulseWorx RFI-E Radio Frequency Interface (sold separately). Each of these devices uses state-of-the-art EnOcean RF technology to transmit RF codes over 50 feet away. The RFI-E translates those RF codes into UPB signals on the power line to control any UPB device in the house.

NO BATTERIES

The kinetic energy created by depressing either the ON or OFF side of the switch/remote generates enough energy to transmit the switch event. This means... No Batteries, ever!

TYPICAL USES

- Add wall switches anywhere, on to brick, glass, walls, tile, concrete!
- Activate your lights from your car as you leave or enter your driveway!
- Activate lighting scenes while relaxing on your sofa.

INSTALLATION

The RFWS/RFR4 is designed for indoor use within 50 ft. of an RFI-E. Careful consideration should be made for locating the switches. Objects like walls, doors and furniture can affect the reliability of any RF transmission. The RFWS/RFR4 can be mounted on any surface: ceiling, wall, desk, cubicle wall, etc.

To install the RFWS/RFR4

1. Mount using screws (not supplied) through the back plate or using double sided tape or Velcro™.

The ON side of the switch should be mounted on the top; the switch has an arrow that should be pointing UP next to a label indicating TOP. Additionally, on the rear face there are two numerical markings (1) to indicate ON and (0) to indicate OFF.

2. Actual communication distance to the RFI-E will vary depending on environment. Enocean enabled devices will transmit 50'-60', direct line of site.

CONFIGURATION

The RFWS/RFR4 *will only* operate if a RFI-E is installed, it is highly recommended to use UPStart Setup Software Version 5.1 Build 18 or higher for configuration.

The RFI-E is capable of responding to as many as eight separate RFWS or RFR4's

PCS has developed a Powerline Interface Module (PIM) and a free UPB Setup Software Tool (UPStart) to help you configure all of your PulseWorx Lighting System devices. User's Guides are available at: www.pulseworx.com/Downloads_.htm

REGISTERING REMOTES

The RFI-E will learn the ID of up to eight different remotes. Follow these steps to register each RF Remote

1. On the RFI-E: Enter Learn mode by pressing and holding the push button until the Status LED blinks.
2. On the RFI-E: Tap the push button the number of times that correspond to the remote number you want to assign. IE; if you want to learn remote #3 then tap the button 3 times.
3. The RFI-E Status LED will blink red the remote number selected.
4. On the RF Remote: Single-tap one of the buttons so it transmits a signal to the RFI-E.
5. On the RFI-E: If it successfully received the signal and learned the remote, it will continuously blink the Status LED magenta.
6. Repeat steps 2 through 5 for any other remotes you want to learn.
7. On the RFI-E: Exit Learn mode by pressing and holding its push button until the Status LED stops blinking.
8. **IMPORTANT**... On UPStart: Press the Read Device button so that the Remote IDs are stored in the file.
9. In UPStart you may now modify the Link transmitted, the button Mode and the action for a Single-Tap, Double-Tap, Hold and Release

OPERATION

The RFWS and RFR4 will transmit a variety of commands and can be programmed to control any UPB link. The button Mode may be customized with separate actions for single tap, double tap, press and hold or release.

TEST MODE

Using UPStart the *Communication* tab allows a comtest to be run from the PIM to the RFI-E; this includes signal level, noise and average noise.

The *Test* tab displays a Receive Test window which allows you to verify and view button presses from Enocean devices along with ensuring that the RFI-E is transmitting the proper UPB links on the powerline. A log is included that shows what specific code was received and transmitted from the RFI-E.

ADVANCED

Using UPStart, the *Advanced* tab allows for adjustment of the Receive Sensitivity. In a high noise environment dropping the sensitivity to low allows the device to ignore more noise. If the RFI-E is having trouble controlling UPB devices that are a long distance away, you may want to raise the sensitivity to High.

FACTORY DEFAULT

To restore the following default settings place the RFI-E into SETUP mode and press the Program Button **ten** times rapidly. The Status LED will blink red to indicate that factory defaults have been restored. Press the Program Button twice more to stop the blinking.
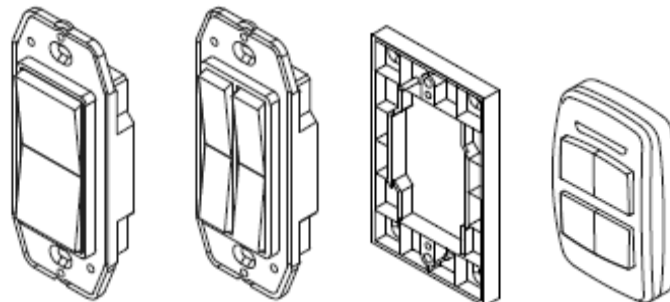The Factory Defaults of the first 3 remotes are preset with the following commands:
Remote 1 = Hand-held Remote... Link 1 and Link 8
Remote 2 = Wall Switch Split-Rocker... Link 3 and Link 4
Remote 3 = Wall Switch Single Rocker... Link 1

Note: In some default systems the RFI-E can be used in the factory default mode; however we highly suggest you use UPStart and program the device properly. If you have any questions, please contact Technical Support at 818.701.9831.

SPECIFICATIONS

Power:	Kinetic, self powered
RFWS Colors:	White, Almond, Ivory, Brown, Black
RFR4 Colors:	Black, White, Silver
Actuations:	>50,000
Mounting:	Standard wall box or surface mount
Operating Temp:	-25 to 65C
Wireless Frequency:	315MHz
Transmission Range:	50 ft. indoor

	Height	Width	Depth
RFWS1 and RFWS-2	4.2"	1.8 "	.7 "
RFR4	3.2 "	1.9 "	.7"
Mounting Bracket	4.5 "	2.8"	.4"

PulseWorx RF is FCC and UL approved for use in the United States, IC and CSA approved for use in Canada, and meets the requirements of the California Building Standards Code Title 24.

IMPORTANT SAFETY INSTRUCTIONS

1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
2. Keep away from water. If the product comes in contact with water or other liquid, it may not operate
3. Never use products that have been dropped or damaged.
4. Not recommended to be installed outdoors.
5. Do not use this product for other than its intended purpose.

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.

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