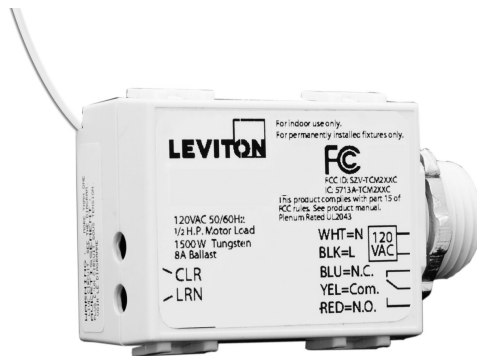


# Classroom Control

## Using LevNet RF™ Energy Harvesting Wireless Technology

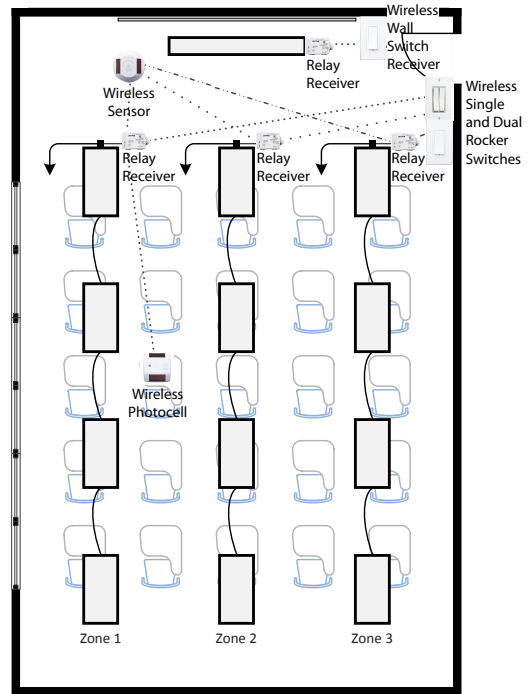
### Estimator and Contractor Guide



Self-Powered. No Wiring. Easy Install.

# LEVNET RF CLASSROOM CONTROL SYSTEM TEMPLATE

High quality schools are interested in elements that provide the maximum possible benefit to the learning environment. The LevNet RF Classroom System is the economical way to introduce this system to both new construction and existing buildings. This system requires three component types and utilizes an energy harvesting occupancy sensor using energy harvesting technology.



## BATTERY-FREE, WIRELESS LIGHT SWITCHES

(WSSoS-DoX | WSSoS-D2X)

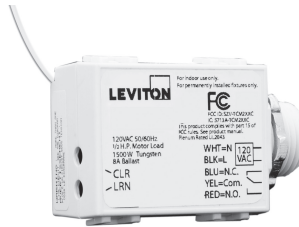
Energy harvesting, battery-free, wireless light switches are placed under the conference room table and/or on the wall. Up to 30 switches can be programmed to control this system.



## WIRE-IN RELAY RECEIVERS

(WST12-0XX)

A dedicated relay receiver is used to gain control of overhead lights and projector.



## ENERGY HARVESTING OCCUPANCY SENSOR

(WSC04-IXW | WSC15-IRW)

Self-powering technology means no wires or batteries required. The WSC04-IoW and WSC04-IRW have 450SF coverage and the WSC15-IRW has 1500SF coverage.



# EASY INSTALLATION

## INSTALL THE LEVNET RF CLASSROOM CONTROL SYSTEM IN JUST 1 HOUR AND 5 MINUTES!

LevNet RF product installation is more efficient and easier than any other system. Used for both retrofitting and new construction, LevNet RF eliminates the need for running new wiring, cutting walls, and installing unappealing wire coverings.

### INITIAL EVALUATION

Each project has unique characteristics, however with LevNet RF, the evaluation is simple to accomplish.

Determine unique site conditions	10 minutes
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### INSTALLATION

The installation phase includes installing relay receivers, power packs, 2 Channel Shade Controller(s), “learning” switches to receivers, and mounting switches.

#### Option 1

Install Wire-in Relay Receiver(s) (5 min per relay)	30 minutes
Install Occupancy Sensor(s)	10 minutes

#### Option 2

Install Low Voltage Room Controller and Sensor	15 minutes
“Learn” Switches to Receivers*	10 minutes
Test System	5 minutes
Mount Switches	3 minutes

### CLEAN-UP AND FINISH WORK

Clean-up is quick and simple with LevNet RF products. Finish work is virtually non-existent because no new wiring is required with this system.

Verify installation after final install	1 minute
Clean up packaging materials	1 minute

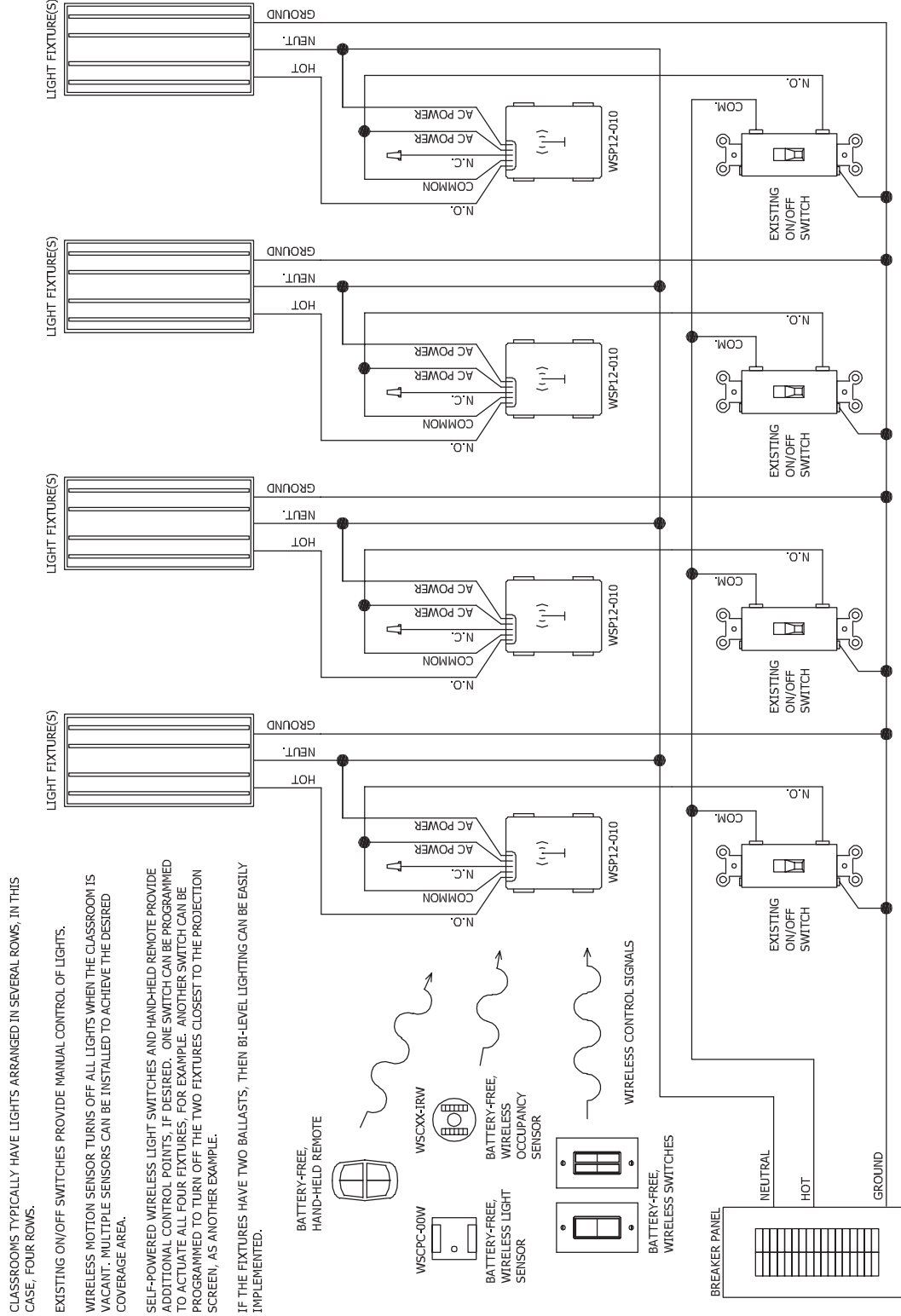
**TOTAL INSTALLATION TIME                    1 HOUR AND 5 MINUTES**

\*Transmitting switches/occupancy sensors must be within 10ft of Receivers to be learned

**NOTE:** Approximate installation time; actual time will vary based on project-specific conditions

# WIRING DIAGRAM

## LEVNET RF CLASSROOM WITH ENERGY HARVESTING SENSOR

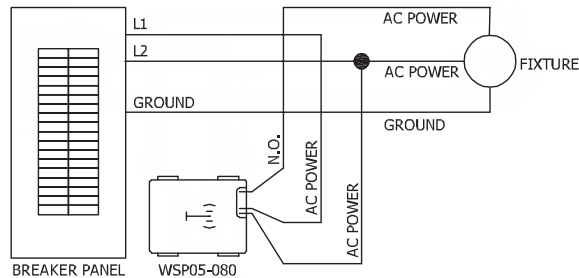




# LEVNET RF 3-WIRE RELAY RECEIVER INSTALLATION

TIME - APPROXIMATELY 5 MINUTES PER RECEIVER

## STEP 1 Wire the receiver to the load

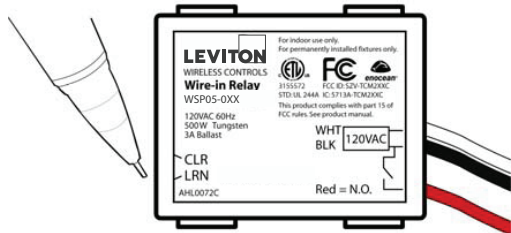


## STEP 1. Connect wires as shown in Step 1.

NOTE: Leave LRN and CLR buttons accessible until programming step is completed

TIP: There are two LRN/Program Modes - Basic and Advanced. Basic LRN Mode is selected by pressing the LRN button for ½ second or less and will toggle the load ON/OFF in a slow pattern. Advanced LRN Mode is selected by pressing the LRN button for longer than 1 second and will toggle the load ON/OFF in a quick pattern.

## STEP 2 Enter Program Mode by pressing the LRN button



## STEP 2. Place Receiver into Basic LRN or Program Mode by pressing the LRN button for approximately ½ second. The load will begin toggling ON/OFF.

NOTE: Pressing the LRN button for longer than ½ second will move into Advanced Program Mode. This is not the program mode desired for this installation. If this occurs, press the LRN button for approximately 2 seconds to exit the Program mode, then return to step 2.

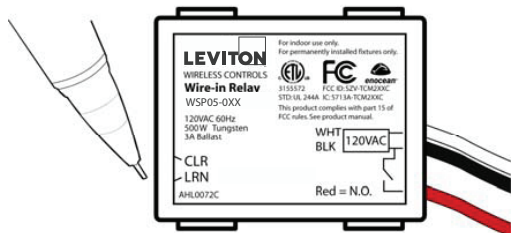
## STEP 3 Press the button on the transmitter



## STEP 3. Press a button on the Transmitter (LevNet RF occupancy sensor, LevNet RF switch, and/or LevNet RF handheld remote). The light will stay on for 4 seconds when an association has been made. Repeat as desired until all Transmitters have been associated with the Receiver.\*

NOTE: If a button that has been associated is pressed again, the light will stay off for 4 seconds showing that this Transmitter has been cleared from the memory.

## STEP 4 Exit Program Mode by pressing the LRN button



## STEP 4. Exit Program/LRN Mode by pressing the LRN button for approximately 2 seconds. The load will stop flashing. The Receiver will automatically exit Program Mode after 30 seconds of inactivity.

\*Transmitting switches/occupancy sensors must be within 10ft of Receivers to be learned

# PRODUCT SPECIFICATIONS

LEVNET RF ENERGY HARVESTING WIRELESS SOLUTIONS	
Radio Frequency	315 MHz
Transmission Range	50 - 150 Feet
Certifications	FCC (US), IC (Canada), ETL (US), C-ETL (Canada)
Warranty	5-Year Warranty



5-WIRE RELAY RECEIVERS WST12-010   WST12-020   WST12-080	
Relay Output (120V/240V)	Up to 240VAC
Memory	Stores up to 30 Transmitter IDs
Power Supply Input	<b>WSx12-010:</b> 120VAC, 50/60Hz <b>WSx12-020:</b> 277VAC, 50/60Hz <b>WSx12-080:</b> 240VAC, 50/60Hz
Max Loads/Contact Ratings	<b>Tungsten/Incandescent:</b> 120VAC: 1500W/500W 240VAC: 3000W/1000W 277VAC: 3400W/1100W <b>Fluorescent Ballast:</b> 8A (N.O. Contacts); 2A (N.C. Contacts) <b>General Duty:</b> 16A (N.O. Contacts); 5A (N.C. Contacts) <b>A300 Pilot Duty:</b> 360VA @ 120VAC, 720VA @ 240VAC, 830VA @ 277VAC <b>Motor Load:</b> 60 LRA, 10 FLA, 1/2HP @ 120VAC, 1HP @ 240VAC, 1HP @ 277VAC <b>Other Devices:</b> 16A
Output Channels	1 FORM C Relay COM, N.O., N.C.
Ambient Temperature	14° to +122°F (-10° to +50°C)
Storage Temperature	-4° to +176°F (-20° to +80°C)
Dimensions	2.11 x 1.73 x 1.09 (in) 54.0 x 44.0 x 28.0 (cm)



OCCUPANCY SENSORS WSCo4-IRW   WSC15-IRW   WSCo4-IoW	
Power Supply	Energy Harvesting
Power Consumption	Zero
Transmission Interval	60 seconds (+/- 10 sec)
Minimum Light Required	4FC (40 LUX)
Minimum Charge Time to Begin Operation	1 minute @ 20FC (200 LUX)
Maintain Charge Time	3 hours per 24 hours @ 20FC (200 LUX)
Operating Life at Full Charge	48 hours
Additional Listings	Title 24 Compliant



SINGLE/DUAL ROCKER DECORA™ SWITCH* WSSoS-DoX   WSSoS-DzX	
Power Supply	Energy Harvesting
Transmission Power Output	10mW Max
Buttons	<b>WSSoS-D:</b> 2 Buttons (1 Rocker) <b>WSSoS-Dz:</b> 4 Buttons (2 Rockers)
Output Channels	Only limited by number of Receivers in range
Dimensions	4.5 x 2.75 x 0.62 (in) 11.4 x 7.0 x 1.6 (cm)

\* Available in white (-W), Ivory (-I), Light Almond (-T), Gray (-G) and Ebony (-E).



2- AND 3-CHANNEL ROOM CONTROLLER WSoRC-200   WSoRC-300	
Channels	<b>WSoRC-200:</b> 2-in/2-out <b>WSoRC-300:</b> 1-in/3-out
Power Supply Input	8-30VDC, 40mA
Output Rating	0-30VDC, 130mA max
Relay Driver	30VDC max, 100mA max
Ambient Temperature	14° to +122°F (-10° to +50°C)
Storage Temperature	-4° to +176°F (-20° to +80°C)
Dimensions	2.88 x 1.3 x 0.67 (in) 7.32 x 3.3 x 0.67 (cm)

Power supply not included.



## **SERVICE AND SUPPORT DURING EVERY STEP OF THE PROCESS.**

Only Leviton has the service and support to help you create a lighting control system that does exactly what you want it to do while saving electricity, meeting codes and standards, and even garnering rebates.

### **ASAP ONLINE LIGHTING CONTROL DESIGNER**

Leviton's exclusive ASAP (online) point-and-click application ([www.leviton.com/ASAP](http://www.leviton.com/ASAP)) allows you to quickly and simply design, specify, and enter orders for your lighting control projects. Create a complete submittal package in minutes so you can deliver a complete lighting controls package to your customers in less time.

### **OCCUPANCY SENSOR LAYOUT SERVICE**

Leviton's exclusive occupancy sensor layout services are now accessible online at [portal.leviton.com](http://portal.leviton.com). Submit requests and drawings for occupancy sensor layouts easily with Leviton's secure website portal. 3-5 business day turnaround time. Complete occupancy sensor layouts directly on CAD drawings, complete with a Bill of Materials. This unique service is available at no cost to you.

### **EXCLUSIVE NO-COST KNOWLEDGEBASE AND SUPPORT FORUMS**

[communities.leviton.com](http://communities.leviton.com)

### **TECHNICAL SALES SPECIALIST TEAM**

Leviton's Technical Sales Specialists are available for local support in most major markets to assist in design support and custom specifications for commercial, government and LEED projects. To arrange a personal visit from one of Leviton's Technical Sales Specialists contact [SpecSales@leviton.com](mailto:SpecSales@leviton.com)

### **FACTORY COMMISSIONING SERVICE**

To insure that our products are operating correctly and with peak efficiency, the services of a Factory Authorized Technician to energize and commission the system are available. Our service includes verification of performance, basic instruction for the owner's personnel in system operation and maintenance, and validation of the warranty.

### **EXTENDED WARRANTY PROGRAM**

In addition to our industry leading product warranties, we offer an extend warranty and service contract program that not only extends the life of the warranty but provides on-site service for Leviton systems

### **DEDICATED TECHNICAL SUPPORT**

By phone at 800-959-6004

For more information on Leviton's exclusive design tools, visit [www.leviton.com/LESdesign](http://www.leviton.com/LESdesign).

For more information on LevNet RF, visit [www.leviton/levnetrf](http://www.leviton/levnetrf).



#### **Leviton Manufacturing Co., Inc. Global Headquarters**

201 N. Service Rd. Melville, NY 11747-3138 • Tech Line: 1-800-824-3005 • Fax: 1-800-832-9538

#### **Leviton Manufacturing Co., Inc. Lighting & Energy Solutions**

20497 SW Teton Avenue, Tualatin, OR 97062 • Tel: 1-800-736-6682 • Fax: 503-404-5594 • Tech Line (6:00AM-4:00PM P.S.T. Mon-Fri): 1-800-959-6004

#### **Leviton Manufacturing of Canada, Ltd.**

165 Hymus Boulevard, Pointe Claire, Quebec H9R 1E9 • Telephone: 1-800-469-7890 • FAX: 1-800-563-1853

#### **Leviton S. de R.L. de C.V.**

Lago Tana 43, Mexico DF, Mexico CP 11290 • Tel. (+52) 55-5082-1040 • [www.leviton.com.mx](http://www.leviton.com.mx)

#### **Visit our Website at [www.leviton.com/les](http://www.leviton.com/les)**

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