Classroom Control

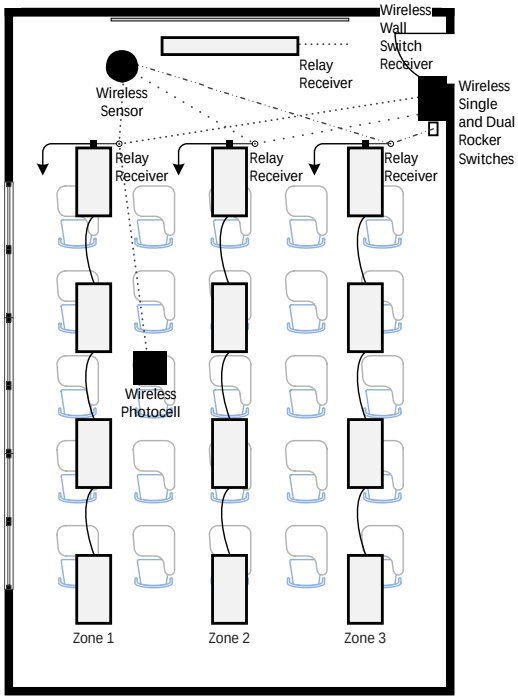
Using LevNet RF™ Energy Harvesting Wireless Technology

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

(WSS0S-D0X | WSS0S-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-I0W 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 retro-fitting 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

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**

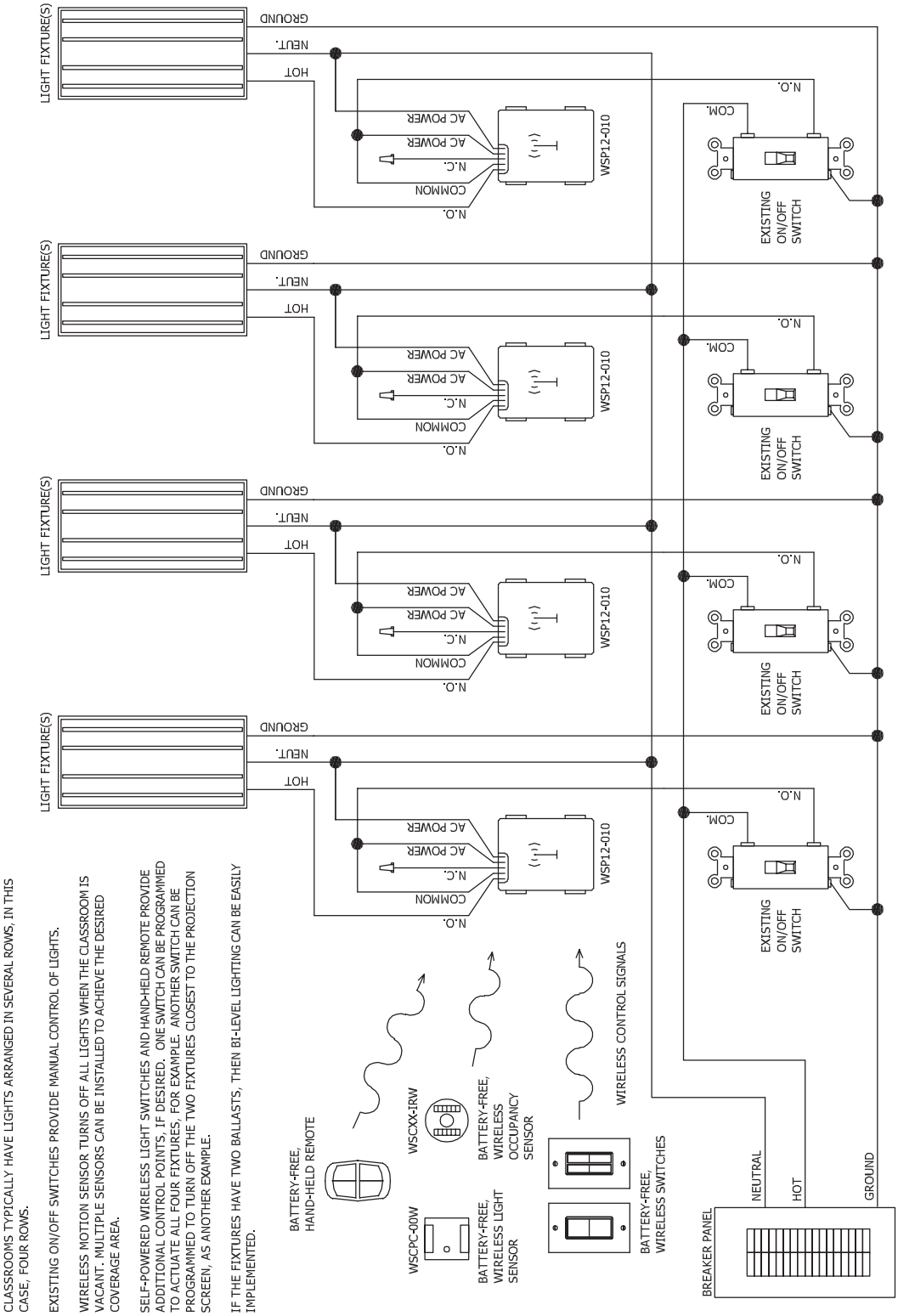
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*Transmitting switches/occupancy sensors must be within 10ft of Receivers to be learned

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

WIRING DIAGRAM

LEVNET RF CLASSROOM WITH ENERGY HARVESTING SENSOR



CLASSROOMS TYPICALLY HAVE LIGHTS ARRANGED IN SEVERAL ROWS, IN THIS CASE, FOUR ROWS.

EXISTING ON/OFF SWITCHES PROVIDE MANUAL CONTROL OF LIGHTS.

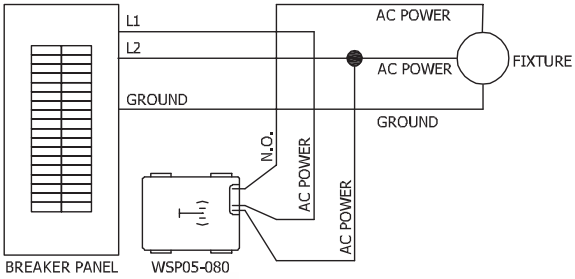
WIRELESS MOTION SENSOR TURNS OFF ALL LIGHTS WHEN THE CLASSROOM IS VACANT. MULTIPLE SENSORS CAN BE INSTALLED TO ACHIEVE THE DESIRED COVERAGE AREA.

SELF-POWERED WIRELESS LIGHT SWITCHES AND HAND-HELD REMOTE PROVIDE ADDITIONAL CONTROL POINTS, IF DESIRED. ONE SWITCH CAN BE PROGRAMMED TO ACTUATE ALL FOUR FIXTURES. FOR EXAMPLE, ANOTHER SWITCH CAN BE PROGRAMMED TO TURN OFF THE TWO FIXTURES CLOSEST TO THE PROJECTION SCREEN, AS ANOTHER EXAMPLE.

IF THE FIXTURES HAVE TWO BALLASTS, THEN BI-LEVEL LIGHTING CAN BE EASILY IMPLEMENTED.

LEVNET RF 3-WIRE RELAY RECEIVER INSTALLATION

TIME - APPROXIMATELY 5 MINUTES PER RECEIVER



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. 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 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/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	**WSx12-010:** 120VAC, 50/60Hz **WSx12-020:** 277VAC, 50/60Hz **WSx12-080:** 240VAC, 50/60Hz
Max Loads/ Contact Ratings	**Tungsten/Incandescent:** 120VAC: 1500W/500W 240VAC: 3000W/1000W 277VAC: 3400W/1100W **Fluorescent Ballast:** 8A (N.O. Contacts); 2A (N.C. Contacts) **General Duty:** 16A (N.O. Contacts); 5A (N.C Contacts) **A300 Pilot Duty:** 360VA @ 120VAC, 720VA @ 240VAC, 830VA @ 277VAC **Motor Load:** 60 LRA, 10 FLA, 1/2HP @ 120VAC, 1HP @ 240VAC, 1HP @ 277VAC **Other Devices:** 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 WSC04-IRW | WSC15-IRW | WSC04-I0W	
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* WSS0S-D0X | WSS0S-D2X	
Power Supply	Energy Harvesting
Transmission Power Output	10mW Max
Buttons	**WSS0S-D:** 2 Buttons (1 Rocker) **WSS0S-D2:** 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)

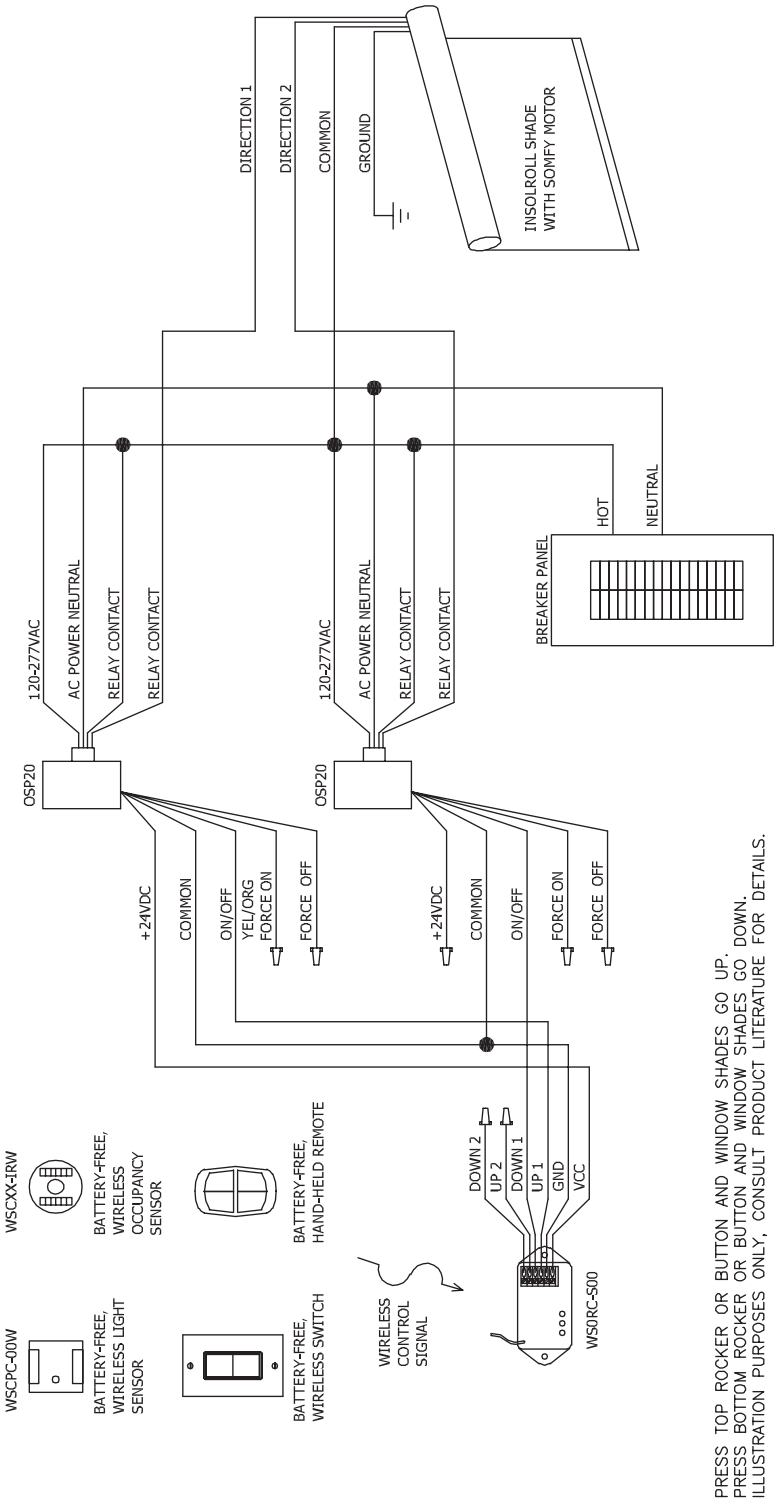
* Available in white (-W), Ivory (-I), Light Almond (-T), Gray (-G) and Ebony (-E).

2- AND 3-CHANNEL ROOM CONTROLLER WS0RC-200 | WS0RC-300	
Channels	**WS0RC-200:** 2-in/2-out **WS0RC-300:** 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.

WIRING DIAGRAM

LEVNET RF CLASSROOM WITH ENERGY HARVESTING OCCUPANCY SENSOR, MANUAL ON, AUTO-OFF AND 2-3 CHANNEL ROOM CONTROLLER



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) 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. 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

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

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.

For more information on LevNet RF, visit www.leviton/levnetrf.

LEVITON®

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