enocean alliance
No Wires. No Batteries. No Limits.

ENOCEAN FIXTURE CONTROLLER
Power Input: 100-277 VAC, 50/60 Hz
Cat. No. WSD05-9Dx

LEVITON ®

DI-001-WSD05-00B

INSTALLATION	English

WARNINGS AND CAUTIONS:
- **TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER** at circuit breaker or fuse and test that power is off before wiring!
- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are unsure about any part of these instructions, consult an electrician.
- This product is intended only for use indoors and in dry locations.

NOTES:
- For use with Leviton® LevNet RF™ 902 MHz products.
- It may be more convenient to link the transmitters to controllers prior to final installation.

DESCRIPTION
Use the Fixture Controller to control any 0-10V compatible load including LED drivers, fluorescent ballasts, motor controllers, actuators, etc., using wireless signals from self-powered wireless switches, wireless sensors, and/or gateways, etc. The controller is compatible with all 120VAC, 240VAC, or 277VAC circuits.

FEATURES
- **Power consumption** - save 70% over other wireless technologies.
- **Long range** - with a 50-150' range, LevNet RF provides the longest reliable range in the industry.
- **Built-in repeater** - for optimal wireless performance.
- **Easy-to-use** - programs in seconds; run zero switch-leg or traveler wires.
- **Increased memory** - each unit stores up to 25 Transmitter IDs; error checking ensures the controller only responds to appropriate transmitters on all packet transfers.
- **Save energy** - teach the controllers to respond to a LevNet RF sensor or teach all lights to respond to a single master switch.
- **Control the way you want it** - control the dimming area and fixture controllers with a variety of devices - wireless self-powered entry stations, sensors and more.
- **Simple wireless controls** - single-pole, 3-way, and 4-way switches; architectural lighting control; motor control; and Manual-ON/OFF and Auto-OFF controls.

COMPATIBLE DEVICES:	EEPS:
WSC12-M9N	A5-38-08 - non timed commands only
WSD20-9Dx	F6-02-01, F6-02-02, F6-03-01, F6-03-02, F6-04-01
WSS0S-x9x	A5-07-01, A5-07-02, A5-07-03
WSTLT-9Dx	D5-00-01, A5-30-01
WSWDR-H9W	A5-06-02, A5-06-03

SPECIFICATIONS	
Frequency	902 MHz
Range	50-150 feet (typical)
Power Input	100-277 VAC 50/60 Hz
Output	(1) 20A Latching Form A Relay, (1) 0-10V, 100mA sink/1mA src
Maximum Load	General Duty, Tungsten (Incand.), Fluorescent Ballast: 5A, Motor Load: 1/3 HP
Operating Temp	32° to +122°F (0° to +50°C)
Storage Temp	-4° to +176°F (-20° to +80°C)
Humidity	10-90% non-condensing

EQUIPMENT NEEDED FOR INSTALLATION
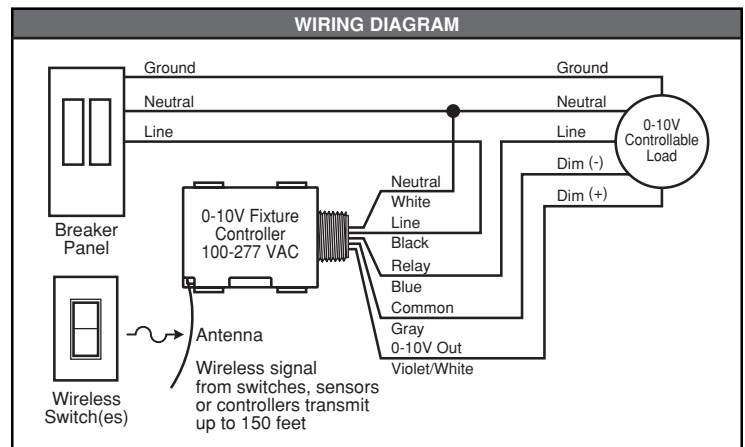- Slotted/Philips Screwdriver
- Wire Connectors
- Electrical Tape

CHOOSE THE OPTIMAL MOUNTING LOCATION
The long term reliability and wireless performance of the Controller is strongly influenced by the mounting location. Choose a mounting location carefully. For best radio performance:
- Straighten antenna out and away from metal.
- Create separation distance away from interfering electronics such as fluorescent tube ends, electronic transformers/power supplies, motors, etc.
- Avoid mounting inside metal enclosures.
- Obstructions of metal, concrete, and dense building materials will reduce the range. Mount higher and away from obstructions to maximize the range.
- Installation above a hot fixture may result in overheating or melting. Confirm operating environment does not exceed temperature or humidity specs.
- Site survey tools are available to help fine tune wireless communications.

INSTALLATION
1. **WARNING: TO AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER** at circuit breaker or fuse and test that power is off before wiring!
2. **PLAN -** Identify best mounting locations for receiver and transmitter. Perform range test to confirm operation prior to installation.
3. **CONNECT -** Make connections to the Controller following wiring diagram and local electrical codes. Restore power.
4. **TEST -** Press SELECT button to toggle output. Hold to dim.
5. **LINK** Transmitters and Receivers following Linking Instructions below.

WIRING DIAGRAM

LINKING INSTRUCTIONS
The Controller must be powered on while linking. After linking, the Controller retains all settings in the event of power loss. Link up to 25 devices.

SIMPLE LINKING
Use Simple Link Mode for common applications:
1. **HOLD** the MENU button until the controller clicks (about 5 seconds), then release. The receiver will toggle a steady pattern indicating Simple Link Mode is active: — — —
2. **TRANSMIT** the Link Signal by triple pressing the top button on switches or single pressing the Link (or teach) button on sensors. Controller pauses in ON position for 3 seconds when the link is created, then toggling resumes. Link additional transmitters (up to 25) as needed. (Controller pauses in OFF position for 3 seconds when the link is deleted.)
3. **WAIT** 30 seconds for Link Mode to exit automatically (toggling stops).

SIMPLE LINK MODE OPERATING BEHAVIOR
- **Manual Switch Control** (top button ON / bottom button OFF, hold to dim): Link any switch.
- **Motion Sense Auto ON / Auto OFF:** Link only Occupancy sensors.
- **Manual Switch ON / Motion Sense Auto OFF:** Link both Occ Sensors & Switches.
- **Window/Door Sensor:** Closed ON / Open OFF.
- **Key Card Control:** Card in ON, Card out OFF.
- **Control Transmitter:** ON and OFF.
- **Master Dimming Control:** Link an Area Controller with 0-10V input as master.
- **Other Functionality:** See instructions on page 2.

ADDITIONAL FUNCTIONS
TEST FUNCTION
Press and release the SELECT button to toggle Controller ON and OFF. Hold to dim.

SENSOR LINK TEST MODE
After linking, press the Link button on a sensor 6 times to activate the Link Test Mode. Subsequent presses from any linked sensor will cause the controller to toggle confirming the sensor is linked and testing the reliability of wireless communications. Link Test Mode will time out after 60 seconds of no activity.

CLEAR ALL LINKS
1. Activate Simple Link Mode by holding the MENU button until the Controller starts toggling.
2. Hold the SELECT button for 10 seconds to Clear All Links from the Controller.

SELECTIVE LINK DELETION
To remove one Link from Controller and leave others unaffected:
1. **HOLD** the MENU button to activate Link Mode. The toggling output confirms Link Mode is active.
2. **TRANSMIT** the Link Signal by triple pressing the top button on switches or single pressing the Link (or teach) button on sensors. Controller pauses in OFF position for 3 seconds when the link is deleted, then toggling resumes.
3. **WAIT** 30 seconds for Link Mode to exit automatically (toggling stops).

REPEATER MODE
Repeater function is DISABLED by default and may be enabled on specific controllers to extend the range by retransmitting all packets 1 or 2 times. Repeater mode may be changed using Advanced Setup instructions.
Transmit - - --> Repeater 1x - - --> Repeater 2x - - --> Receive

ADVANCED SETUP

Advanced Setup uses the Status LED to navigate a hierarchy of menus with blink patterns in one of 3 colors: Amber, Green, and Red. The controller output does not toggle while using Advanced Setup. Navigation overview:
1. **Hold MENU button 15 seconds** until Status LED blinks Amber pattern.
2. **Press SELECT button** to cycle through blink count options.
3. **Press MENU button** to enter/save menu item.
4. **Hold MENU for 5 seconds** to exit menu level.

1 - ACTIVATE ADVANCED SETUP
   A. Hold MENU button 15 seconds until Status LED blinks Amber pattern.
   B. Jump to **2 Link - Mode** or **3 Setup**.

2 - LINK MODE: AMBER MENU BLINKS 1-5
   A. Press SELECT button to cycle blink count and choose a Link Mode. Different devices may be linked in different modes.
   B. Transmit Link Signal with fast triple press of switch button or single press of Link button on sensors. Status LED will pause Green when link is added. If Link Signal is transmitted a second time, Status LED will pause Red indicating link is removed.
   C. Optional - Press MENU button to see Green blinks indicating number of devices linked in the active mode. Red blink means no devices linked. Hold MENU button 5 seconds to return to Amber Menu.
   D. Wait 60 seconds or hold MENU button for 5 seconds to return to Operating Mode.

3 - SETUP: AMBER MENU BLINKS 6-7
   A. Press SELECT button to cycle to Config (6 Amber blinks) or Dim (7 Amber blinks) options.
   B. Press MENU button to activate Green Menu.
   C. Press SELECT button to cycle through Green blink options.
   D. Press MENU button to activate Red Menu.
   E. Press SELECT button to cycle through Red blink options or hold SELECT button to adjust level if applicable.
   F. Press MENU button to save selection.
   G. Hold MENU button for 5 seconds to return to Green Menu.
   H. Hold MENU button for 5 seconds to return to Amber Menu.
   I. Hold MENU button for 5 seconds to exit to Operating Mode or power cycle or wait 60 seconds to exit.
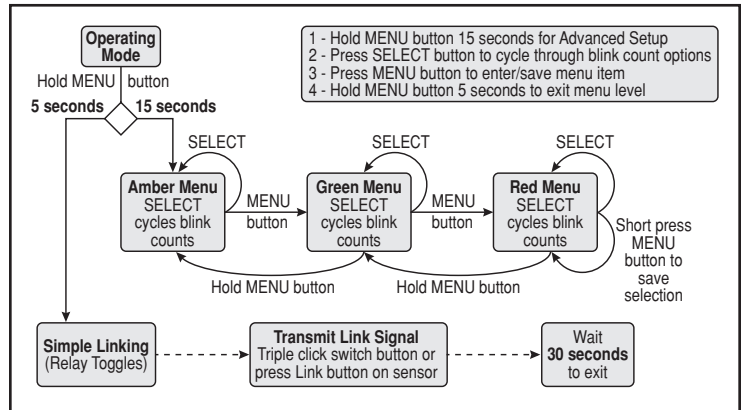
Table 1 - Amber Menu

Amber Blink count	Options	Hold MENU button 15 seconds until Status LED blinks Amber pattern. Press SELECT button to cycle through Amber blink counts. See Diagram.
1	Link Mode 1 Equal to Simple Link Mode	Switches: Rocker Mode (top button ON / bottom button OFF) triple press to link. Occ sensor: Manual ON / Auto OFF w/ switch linked, Auto ON/Auto OFF with no switch, 15 min default timeout. Window/Door Sensor: Closed ON / Open OFF. Control Transmitter: synchronize state. Central Command: synchronize state.
2	Link Mode 2	Switches: Momentary button, triple press to link. Keycard: In ON / Out OFF, triple insertion to link. Occ Sensor: Auto ON / Auto OFF, 15 min default timeout.
3	Link Mode 3	Switches: Toggle button, triple press to link. Occ Sensor: Auto ON / OFF, 5 min timeout.
4	Link Mode 4	Switches: Scene button (recall specific dim level, adjust level with SELECT button), triple press to link/save.
5	Clear Mode	Selective Clear: Triple press switch button or transmit Link Signal from sensor to selectively delete from all modes. Clear Links: Hold SELECT button for 5 seconds to clear all links. Clear All: Hold SELECT button for 15 seconds to restore factory defaults, solid red for 10 seconds confirms clear all success.
6	Config Options	See Table 2 "Config Options Green Menu."
7	Dim Options	See Table 3 "Dim Options Green Menu."

Table 2 - Config Options Green Menu (6 Amber Blinks)

Green Blink count	Config Options	Activate 6 blink Amber Menu, Press MENU to enter. Press SELECT button to cycle through Green blink counts. See Diagram.
1	Auto-OFF timeout	1: Disabled (default), 2: 5 min, 3: 10 min, 4: 15 min (Occ default), 5: 20m, 6: 25m, 7: 30m, 8: 60m, 10: Other
2	Repeater	1: 1x repeating, 2: 2x repeating, 3: OFF (default).
3	Power up state	1: Auto (default), 2: State Memory, 3: Scene A (Default: 100%), 4: Scene B (Default: 0%).
4	Status reporting	1: A5-38-08 (default), 2: A5-11-01, 3: disabled (when enabled transmits on change and every 2 +/minutes by default).
5	Invert relay	1: Relay asserted Closed (default). 2: Relay asserted Open: inverted logic.
6	N/A	Reserved
7	Set Daylighting Threshold	Set the Daylighting Threshold between 10% and 90%. Hold SELECT button to adjust . LED blinks indicate Daylight Threshold setting: RED 1-9x.

Table 3 - Dim Options Green Menu (7 Amber Blinks)

Green Blink count	Dim Options	Activate 7 blink Amber Menu, Press MENU to enter. Press SELECT button to cycle through Green blink counts. See Diagram.
1	Future use	Future use
2	Set 100% output trim level	Set 0-10V output by holding SELECT. Press MENU button to save current level as 100%.
3	Set 1% output trim level	Set 0-10V output by holding SELECT. Press MENU button to save current level as 1%.
4	N/A	Reserved
5	N/A	Reserved
6	Occupancy dim behavior	1 - (Default) occupied: Preferred level, unoccupied: Scene B. 2 - Occupied: Scene A, unoccupied: Preferred level. 3 - Occupied: Scene A, unoccupied: Scene B. Manual override is active until occ/unocc status change.
7	Scene A	Scene A may be recalled when occupied. Default: 100%. Adjust with SELECT button. Press MENU to save.
8	Scene B	Scene B may be recalled when unoccupied. Default: 0%. Adjust with SELECT button. Press MENU to save.


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Operating Mode

Hold MENU button
5 seconds    15 seconds

1 - Hold MENU button 15 seconds for Advanced Setup
2 - Press SELECT button to cycle through blink count options
3 - Press MENU button to enter/save menu item
4 - Hold MENU button 5 seconds to exit menu level

SELECT          SELECT          SELECT

Amber Menu      MENU    Green Menu      MENU    Red Menu
SELECT          button  SELECT          button  SELECT
cycles blink            cycles blink            cycles blink
counts                  counts                  counts

                                                Short press
                                                MENU button to
                                                save selection

Hold MENU button        Hold MENU button

Simple Linking          Transmit Link Signal        Wait
(Relay Toggles)  ---->  Triple click switch button or ----> 30 seconds
                        press Link button on sensor         to exit
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