



SIMPLICITY FLEXIBILITY SCALABILITY

The adaptable Digital Lighting Management (DLM) technology platform provides control infrastructure at every switch, outlet and lighting load for optimal energy performance. Built on open standards, DLM makes every control point accessible. In real time. From anywhere in the world.

class solution you'd expect from the original innovators of energy-efficient lighting controls.

In short, DLM delivers the most powerful and robust customer experience on the road to a net zero future.

Engineered for customers from designers to installers to end users, DLM is the best-of-

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THE ULTIMATE SOLUTION, TODAY AND TOMORROW

SIMPLICITY..

Less is more. DLM makes it simple to optimize energy performance and meet the latest code requirements.

- fewer essential components for easy specification in any type of space
- plug-together devices and free topology for effortless wiring
- out-of-the-box code compliance with patented Plug n' Go™ automatic configuration
- intuitive user interfaces and convenient remote management options

iPrep Academy
 Fast-track retrofit project implemented LED lighting upgrade + DLM controls in classrooms, offices, restrooms and lounges. Installed and operational two weeks after specification.

"I've installed a lot of different lighting controls over the years, and DLM was the easiest. The wiring is extremely simple and Plug n' Go automatic configuration is a real time saver."

*Guillermo Lugo, Head Electrician
 iPrep Academy
 Miami-Dade Unified School District*



FLEXIBILITY...

It's hard to anticipate everything you might need for each control solution. DLM lets you tune each space to meet occupant needs, and expand or transform your lighting control systems in the future.

- building block architecture for design and installation freedom
- Push n' Learn™ personalization for simple to complex control sequences of operation — without premium pricing
- easy integration with other systems including A/V, motorized shades and HVAC



SCALABILITY...

Supporting the drive toward a net zero future, DLM scales up to accommodate whole buildings or campuses designed for the highest levels of energy performance.

- single point of connection per room for centralized maintenance and reduced cost of ownership
- intelligent monitoring capabilities to verify performance
- integration with building automation systems (BAS) using open standards
- capable of smart grid integration with the peace of mind provided by enterprise-grade IT security

Adobe Systems, Inc.

Building-wide sustainability measures, including integrating DLM occupancy + daylighting controls with HVAC and building management systems, put Adobe's San Jose headquarters in the top percentile of energy efficiency in the U.S.

"An array of submeters and other points are continuously monitored through the energy management system...The system spots deviations from expected flows and writes its own work orders...Tying motion sensors to HVAC to reduce heating or cooling empty conference rooms alone conserved some 300,000 kWh per year."

George Denise Sr. "Defining Performance" High Performing Buildings, Fall 2012



BOTTOM UP CONTROL SOLUTIONS

Room Solutions

Whether you want code compliance or LEED certification, simply plug together your choice of components for autonomous, distributed control in each room.

In offices, conference rooms, classrooms, or hospital rooms, let room controllers, occupancy sensors, daylighting sensors, and wall switches work together automatically to coordinate control of lighting and plug loads.

Add convenience with sophisticated personalized sequences of operation, or by integrating AV and motorized shade control, or partition controls.



Area Solutions

For larger spaces, from open offices, to lobbies, to gymnasiums, or warehouses, start with your choice of room controllers or lighting control panels.

For panel controlled spaces, plug in sensors and switches to reap the benefits of both time-based and more nuanced control strategies.

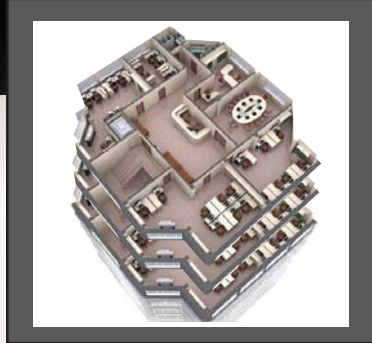




Whole Building Solutions

Connect already functional room and area solutions via a network to monitor energy use and adjust control sequences from a central location.

Harness open source BACnet and Niagara connectivity to integrate any sized network with a building automation system (BAS) delivering data and control from a common interface. Employ strategies from occupancy-based HVAC setbacks to granular override operations for monitoring, scheduling and control.























CONTROL STRATEGIES FOR SUPERIOR ENERGY PERFORMANCE MANAGEMENT

CONTROL STRATEGY	ROOM	AREA	WHOLE BLDG
 <p>On/off Switching Relays controlled by occupancy sensors, daylighting sensors, scheduling and/or personal controls turn lighting on when it is needed and off at other times to save energy</p>	●	●	●
 <p>Dimming/Multi-level Control Manages energy by adjusting the lighting level, or recalling lighting scenes, in response to occupancy, daylight contribution, scheduling and/or personal controls</p>	●	●	●
 <p>High End Trim Reduces the maximum light level for energy savings when the lighting is on</p>	●	●	●
 <p>Plug Load Control Turns off task lighting and devices plugged in to selected outlets after hours or when an area is vacant</p>	●	●	●
 <p>Occupancy-based Control Turns lighting off when an area is vacant using passive infrared (PIR), ultrasonic or dual technology sensors</p>	●	●	●
 <p>Daylighting Control Manages the electric light level as the daylight contribution changes</p>	●	●	●
 <p>Personal Control Saves energy through manual-on and auto-on to 50% control strategies that keep lights off, or at reduced levels, until needed</p>	●	●	●
 <p>Shade Control Adjusts motorized shades to reduce glare and minimize thermal gain</p>	●	●	●



CONTROL STRATEGY		ROOM	AREA	WHOLE BLDG
	AV Integration Allows third party systems to command DLM, and enables coordination of A/V, touch screens, shading and lighting controls	●	●	●
	Scheduling Saves energy by establishing time-based normal hours and after hours behaviors and sequences of operation	●	●	●
	Contact Closure Integration Communicates occupancy status to HVAC and enables third party inputs for efficient operation	●	●	●
	Power Monitoring Provides fast, affordable access to lighting and plug load energy use with per occupant granularity	●	●	●
	BACnet Integration Turns lighting off when an area is vacant using passive infrared (PIR), ultrasonic or dual technology sensors	●	●	●
	Remote Device Configuration Makes it easier to fine tune settings including sensitivity and time delay to maximize energy savings			●
	Demand Response Dims lighting or turns off selected electrical loads in response to utility requests to minimize peak loads			●
	Web Browser-based Control Manage from anywhere, on- or off-site, using standard web browser-based user interface			●
	Advanced Integration and Customization Ultimate native control of data points and additional DLM parameters built on the Niagara framework			●


PRODUCT MATRIX

MODEL AND PAGE #	DESCRIPTION	VOLTAGE	LOAD RATINGS	FEATURES					
				ON/OFF	DIM	NOR	0-10V/DIM	CM	RJ45
ROOM CONTROLLERS									
 LMRC-101 P. A19-20	1-relay On/Off Room Controller	120/277VAC	Ballast: 20A Incan: 20A Motor: 1Hp	●		1			3
 LMRC-102 P. A19-20	2-relay On/Off Room Controller	120/277VAC	Ballast: 20A Incan: 20A Motor: 1Hp	●		2			3
 LMRC-211 P. A21-22	1-relay On/Off 0-10V Dimming Room Controller	120/277VAC	Ballast: 20A Incan: 20A Motor: 1Hp	●	●	1	1		4
LMRC-211-347* P. A21-22		347VAC*							
 LMRC-212 P. A21-22	2-relay On/Off 0-10V Dimming Room Controller	120/277VAC	Ballast: 20A Incan: 20A Motor: 1Hp	●	●	2	2	●	4
LMRC-212-347* P. A21-22		347VAC*							
 LMRC-213 P. A21-22	3-relay On/Off 0-10V Dimming Room Controller	120/277VAC	Ballast: 20A Incan: 20A Motor: 1Hp	●	●	3	3	●	4
LMRC-213-347* P. A21-22		347VAC*							
 LMRC-221 P. A23-26	1-relay On/Off Forward Phase Dimming Room Controller	120/277VAC	Incandescent, MLV, LED: 20A 2-wire or 3-wire ballast: 16A	●	●	1		●	4
 LMRC-222 P. A23-26	2-relay On/Off Forward Phase Dimming Room Controller	120/277VAC	Incandescent, MLV, LED: 20A 2-wire or 3-wire ballast: 16A	●	●	2		●	4
PLUG LOAD CONTROLLERS									
 LMPL-101 P. A25-26	Plug Load Room Controller	120VAC	Ballast: 20A Incan: 20A Motor: 1Hp	●		1			3
 LMPL-201 P. A27-28	Plug Load Room Controller with Current Monitoring	120VAC	Ballast: 20A Incan: 20A Motor: 1Hp	●		1		●	4

*15A Ballast only

FEATURE LEGEND

 ON/OFF - ON/OFF SWITCHING	 0-10V DIM - 0-10V DIMMING OUTPUT
 DIM - DIMMING	 CM - CURRENT MONITORING
 NOR - NUMBER OF RELAYS	 RJ45 - NUMBER OF RJ45 PORTS

MODEL AND PAGE #	DESCRIPTION	FUNCTION
LIGHTING CONTROL PANELS		
 NEW LMCP8 LMCP24 LMCP48 P. A31-37	LMCP Series Relay Panel Interiors and Enclosures and LI Emergency Relay Panel Option	Switches lighting and plug loads in areas not suitable for room controllers Can be scheduled by segment manager, LMCT-100 or BAS






MODEL AND PAGE #	DESCRIPTION	VOLTAGE	COVERAGE	FEATURES	
				RJ45	LCD
OCCUPANCY SENSORS					
LMPW-101 P. A41-42	1-button PIR Wall Switch Occupancy Sensors	24VDC; 8mA	Up to 40 ft. (major motion) Up to 25 ft. (minor motion)	2	●
LMPW-102 P. A41-42	2-button PIR Wall Switch Occupancy Sensors	24VDC; 8mA	Up to 40 ft. (major motion) Up to 25 ft. (minor motion)	2	●
LMDW-101 P. A43-44	1-button Dual Technology Wall Switch Occupancy Sensors	24VDC; 20mA	Up to 40 ft. (major motion) Up to 25 ft. (minor motion)	2	●
LMDW-102 P. A43-44	2-button Dual Technology Wall Switch Occupancy Sensors	24VDC; 20mA	Up to 40 ft. (major motion) Up to 25 ft. (minor motion)	2	●
LMPX-100 P. A45-46	Corner Mount PIR Occupancy Sensor	24VDC; 7mA	LMPX-100: high density lens, up to 1,000 ft ² LMPX-100-1: long range lens, up to 90 ft. LMPX-100-3: 2-sided aisleway lens, up to 60 ft. LMPX-100-4: 1-sided aisle lens, up to 60 ft.	1	●
NEW LMPC-100 P. A47-48	Ceiling Mount PIR Occupancy Sensor	24VDC; 7mA	LMPC-100: extended range lens, up to 1,200 ft ² LMPC-100-1: high density lens, up to 500 ft ² LMPC-100-5: extended height lens, up to 3,800 ft ²	2	●
LMUC-100 P. A49-50	Ceiling Mount Ultrasonic Occupancy Sensor	24VDC; 20mA	LMUC-100-2: up to 1,000 ft ²	2	●
LMDX-100 P. A51-52	Corner Mount Dual Technology Occupancy Sensor	24VDC; 20mA	LMDX-100: up to 2,000 ft ² (walking) up to 1,000 ft ² (desktop)	1	●
LMDC-100 P. A53-54	Ceiling Mount Dual Technology Occupancy Sensor	24VDC; 20mA	LMDC-100: up to 1,000 ft ²	2	●

MODEL AND PAGE #	DESCRIPTION	VOLTAGE	FEATURES					FEATURE LEGEND
			LS	LD	SC	RJ45	CP	
PERSONAL CONTROLS								
LMSW-100 Series P. A57-58	1-, 2-, 3-, 4- and 8-button Digital Wall Switches	24 VDC; 5mA	●	●	●	2		LS - LOAD SWITCHING
LMDM-101 P. A59-60	1-button Dimming Wall Switch	24 VDC; 5mA	●	●	●	2		LD - LOAD DIMMING
LMSW-105 P. A61-62	5-button Scene Switch	24 VDC; 5mA	●		●	2		SC - SCENE CONTROL
NEW LMPS-104 P. A63-64	4-button Partition Switch	24 VDC; 5mA				2	16	RJ45 - NUMBER OF RJ45 PORTS
LMRH-102 P. A65-66	2-button IR Remote Control	3 AAA batteries	●					LCD - LCD- DISPLAY
LMRH-101 P. A67-68	1-button Dimming IR Remote Control	3 AAA batteries	●	●				CP - CONFIGURATION PROFILES
LMRH-105 P. A69-70	5-button Scene IR Remote Control	3 AAA batteries	●	●				

Optional switch engraving is available, for details see page A71-72








PRODUCT MATRIX

MODEL AND PAGE #	DESCRIPTION	VOLTAGE	FEATURES					
			ON/OFF	DIM	NOZ	RJ45	PNG	AC
DAYLIGHTING SENSORS								
 LMLS-400 P. A75-76	Single-zone On/Off and Dimming Closed Loop Photosensor	24 VDC; 7mA	●	●	1	1	●	●
 LMLS-500 P. A77-78	Multi-zone On/Off and Dimming Open Loop Photosensor	24 VDC; 7mA	●	●	3	1		
 NEW LMLS-600 P. A79-80	Single-zone Dual Loop Switching and Dimming Photosensor	24 VDC; 7mA	●	●	1	1	●	●

FEATURE LEGEND	
 ON/OFF - ON/OFF SWITCHING	 RJ45 - NUMBER OF RJ45 PORTS
 DIM - DIMMING	 PNG - PLUG N' GO
 NOZ - NUMBER OF ZONES	 AC - AUTOMATIC CALIBRATION

MODEL AND PAGE #	DESCRIPTION	FUNCTION
INTERFACES AND ACCESSORIES		
 LMRL-100 P. A83-84	Isolated Relay Interface	Single-pole, double throw relay communicates occupancy status
 LMIO-101 P. A85-86	Input/Output Interface	Single-pole, double throw relay communicates occupancy status of selected sensor(s) Accepts inputs from up to three 3rd party devices
 NEW LMIO-102 P. A87-88	Partition Interface	Accepts inputs from 3rd party contact closures on 4 moveable walls
 LMIO-301 P. A89-90	Photocell Input Module	Reads input from analog photocells
 NEW LMDI-100 P. A91-92	Serial Data Interface	Communicates with 3rd party control system via RS-232 signals
 LMIR-100 P. A93	Digital IR Ceiling Mount Receiver	Infrared transceiver accepts commands from DLM IR remote controls and transmits them over DLM local network
 LMRJ P. A96	Pre-terminated cable	Cable connects DLM components on local network, segment wire creates segment network
 LMKT-100 P. 97-98	Pre-packaged Room level solution	Contains room controller, dual technology ceiling mount sensor, digital wall switch and LMRJ cables
CONFIGURATION TOOLS		
 LMCT-100 P. A103-104	Wireless Configuration Tool	Enables convenient system and device modifications via pushbutton. Stores up to nine sensor profiles.
 LMCI/LMCS P. A105-106	Computer Interface Tools and Software	Enables PC connection to DLM local network in order to modify or document device and system settings.



MODEL AND PAGE #	DESCRIPTION	FUNCTION	
NETWORK COMPONENTS			
 LMBC-300 P. A109-110	Network Bridge	Provides segment network connectivity to one DLM local network	
	LMSM-3E P. A111-112	Segment Manager, 3 MS/TP segment networks	Provides browser based remote control and management for DLM devices connected to a segment network
	LMSM-6E P. A111-112	Segment Manager, for use with NB-ROUTER(s)	
 NB-SWITCH NB-SWITCH-8 NB-SWITCH-16 P. A113	Global Network Switches	Provides high speed connectivity for Digital Lighting Management (DLM) networked systems	
 NB-ROUTER P. A114	Segment Network to IP Router	Provides a connection point between a single Digital Lighting Management (DLM) segment network and an Ethernet LAN	
 Powered by niagara ^{AX} FRAMEWORK® LMAX-100 NIAGARA AX DRIVER MODULE P. A115-116	Niagara AX Driver Module	Free driver streamlines integration between DLM and Niagara AX framework	

SERVICES	P. A117-118	Comprehensive services include design, startup, onsite training and troubleshooting as necessary.
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Digital Lighting Management

Plug n' Go™ automatic configuration for quick installation and maximum energy savings

Push n' Learn™ for simple personalization and exclusive wireless tool for ladder-free configuration

Optional networking for scheduled control and remote system management

Plugs together using Cat 5e cables with RJ45 connectors eliminating wiring errors

First suite of digital room controllers, occupancy sensors, switches, panels and more

Integrates plug load and lighting control



PROJECT
LOCATION/TYPE

Product Overview

Description

Digital Lighting Management (DLM) is an intelligent, distributed control system that automatically maximizes lighting energy efficiency. DLM includes room controllers, occupancy sensors, switches, daylighting sensors, plug load controls, lighting control panels, interfaces and accessories that provide convenient, energy-saving control of dimmed and switched loads. DLM can be used for stand-alone control of individual building spaces, or for centralized control of a floor, a building, or an entire campus.

Operation

Digital Lighting Management components operate on a free-topology DLM local network. Each DLM local network is managed by one or more room controllers that, upon startup, automatically configure system components for the most energy-efficient sequence of operation using Plug n' Go technology. Devices may be personalized using Push n' Learn pushbutton programming. DLM sensors and switches feature two-way infrared (IR) communication that enables personal control from handheld remotes. An optional handheld IR wireless configuration tool may be used to view and modify system parameters, and store occupancy sensor settings. Additionally, multiple local networks may be connected to a BACnet-compatible segment network for centralized monitoring and management (see Segment Network section).

Plug n' Go and Push n' Learn

Plug n' Go establishes default functionality based on the installed components. If a local network includes only a room controller and an occupancy sensor, it will default to auto-on/auto-off operation. If it includes a single relay room controller, an occupancy sensor and a switch, it will default to manual-on/auto-off operation. A dual relay room controller, an occupancy sensor and a switch will default to bi-level auto-on/auto-off operation; relay 1 turns on automatically while relay 2 defaults to manual-on (both automatically shut off). Push n' Learn mode allows any load to be selected and assigned to any sensor(s), switch(es) and switch button(s). It also allows load parameters such as operating mode (manual- or auto-on), blink warning and daylighting setpoints to be modified.

Energy Savings Beyond Code

Digital Lighting Management has been engineered to meet and exceed energy codes, facilitate sustainable development and provide an unprecedented return on investment for both new construction and retrofit projects. Features, such as bi-level control, daylight harvesting, plug load control and dimming are provided by a range of room controllers, sensors and switches that control virtually all lighting sources in a wide variety of applications. DLM simplifies designing for ASHRAE 90.1, IECC, EPA Act, California Title 24 and LEED.

Features

- Sensors and switches include infrared (IR) transceiver for bi-directional communication
- On/off and dimming control options
- Handheld remotes for personal control
- Digital sensors feature easy-to-read LCD displays
- Includes self-calibrating daylighting sensors
- Components plug together in any configuration on free-topology Category 5e DLM local networks
- Boot loading capabilities for firmware upgrades
- All DLM products are RoHS compliant

Network Characteristics

WattStopper DLM Local Network Parameters

- Communication and power delivered via Cat 5e cables with RJ45 connectors
- 24VDC power provided by room controller(s)
- Room controllers provide cumulative current output; maximum network capacity 800mA
- Free topology permits both star and daisy-chain connection patterns
- Up to 1,000' of cable per DLM local network; 150' allowance per communicating device
- Supports Plug n' Go and Push n' Learn patent pending technologies

When only LMRC-100 Series and/or LMPL-101 Room Controllers are used:

- 150mA per room controller (maximum 4)
- Up to 24 communicating devices
- Up to 8 loads

When LMRC-2xx and/or LMPL-201 Room Controllers are used:

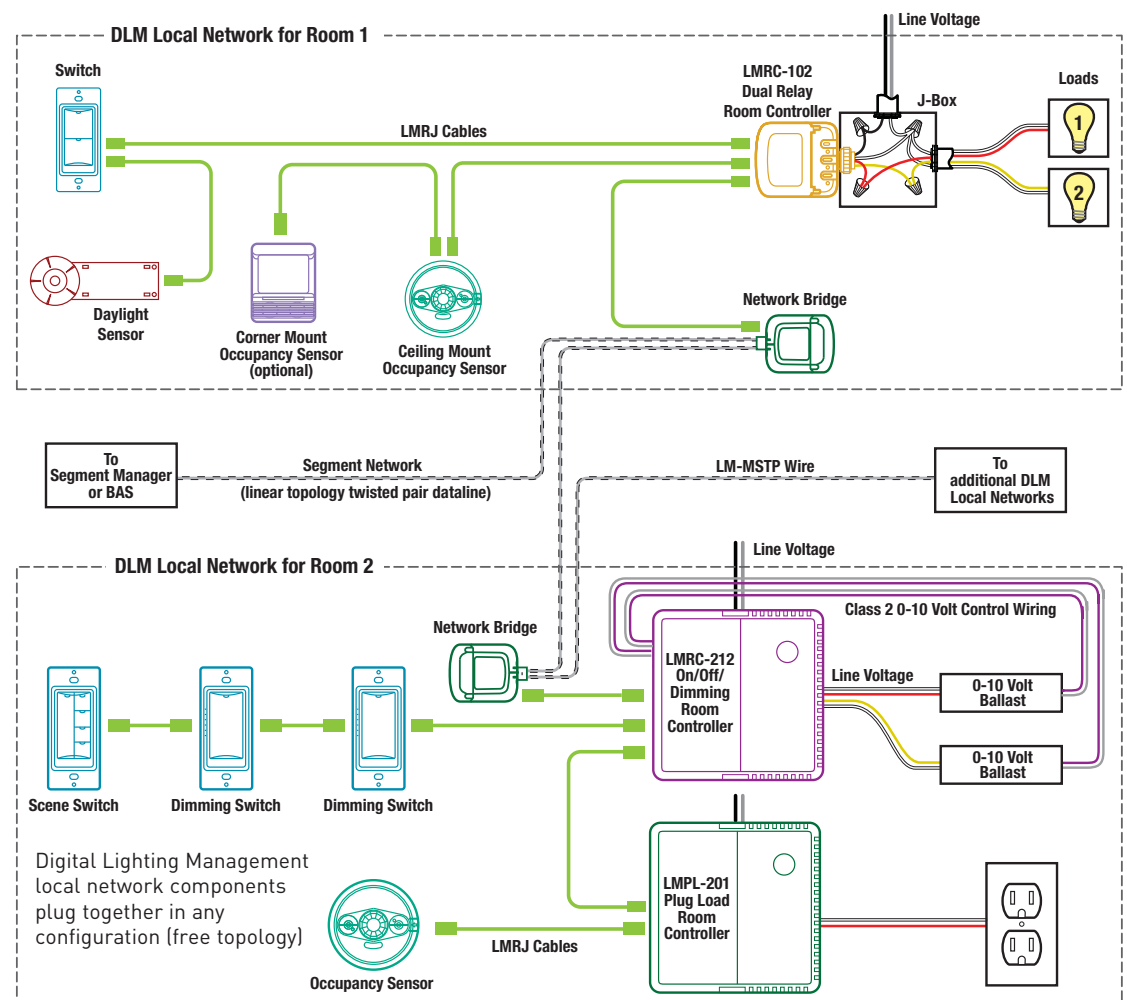
- Up to 250mA per room controller (output is limited if network is fully powered)
- Up to 48 communicating devices
- Up to 64 loads
- Up to 4 LMRC-100 Series and/or LMPL-101 Room Controllers

DLM Segment Network (MS/TP) Parameters

- RS485 network, BACnet MS/TP twisted pair, baud rate 9600, 19200, 38400 or 76800 selectable
- WattStopper LM-MSTP wire, rated for BACnet MS/TP (RS485)
- Linear topology (daisy chain wiring); 4,000' maximum per segment
- Up to 40 DLM local networks, connected via LMBC-300 Network Bridge. LMCP panels added via equivalency chart (see TB# 189).

Connecting

Two DLM local networks connected to optional DLM segment network



Each segment network can connect up to 40 local networks for centralized monitoring and control

Segment Network Control Options

Description

Digital Lighting Management is designed to scale from individual rooms to whole buildings. For building-wide monitoring and management, multiple DLM local networks may be connected to an industry standard open protocol network for control by a segment manager or building automation system (BAS). Networking also allows lighting control panels to be incorporated into a DLM system.

Operation

Because DLM architecture is designed from the bottom up, segment network operation is simple, and builds on the Plug n' Go and Push n' Learn functionality of each local network. Building operators can create normal and after hours lighting control schedules and conveniently monitor and fine tune DLM operation for even greater energy savings. They can also monitor power consumption in real time.

BACnet Compatibility

System integrators can quickly and easily incorporate new or existing DLM systems into BACnet MS/TP networks. DLM Network Bridge devices are standard MS/TP master devices, and the MS/TP MAC address is automatically configured through arbitration with other devices on the network.

Applications

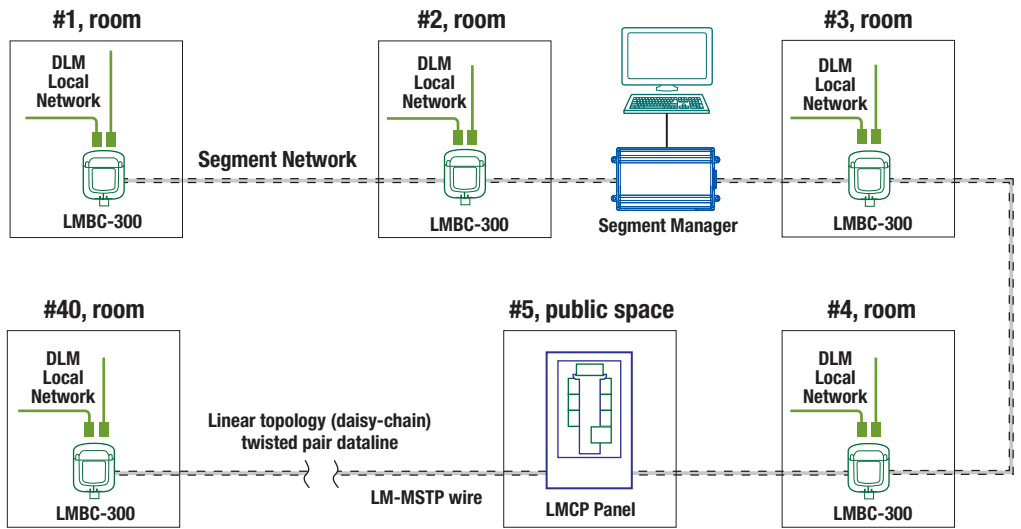
Network capability is an ideal solution when remote access to DLM local networks is desired. It can help energy managers take advantage of demand response opportunities and help cut operating costs. It is also recommended for control of lighting in areas best suited to schedule-based control, such as lobbies, corridors and exteriors. If enhanced Room Controllers or Plug Load Controllers are used, energy data can also be made available to BAS.

Features

- Enables centralized control of individual DLM local networks
- Connects to LMCP lighting control panels
- Allows scheduling of DLM devices
- Enables remote system management that includes real-time current monitoring
- Web browser user interface can be accessed via direct TCP/IP connection, local LAN or via the Internet
- Easy integration with BAS through use of standard BACnet objects to represent DLM local network device settings and states

Network Wiring

DLM segment network with optional segment manager



The segment manager may be located at any point along the segment network so long as the linear topology (daisy chain wiring) is maintained. Best practice is to locate it in the middle of the segment network such that an equal number of bridges are on either side.

DLM Components

Room Controllers	
LMRC-101 Digital On/Off Room Controller with 1 relay LMRC-102 Digital On/Off Room Controller with 2 relays LMRC-211 Digital On/Off/0-10 Volt Dimming Room Controller with 1 relay and 1 0-10 volt dimming output LMRC-212 Digital On/Off/0-10 Volt Dimming Room Controller with 2 relays and 2 0-10 volt dimming outputs LMRC-213 Digital On/Off/0-10 Volt Dimming Room Controller with 3 relays and 3 0-10 volt dimming outputs LMRC-221 Digital Forward Phase Dimming Room Controller, 1 line voltage dimming output LMRC-222 Digital Forward Phase Dimming Room Controller, 2 line voltage dimming outputs LMPL-101 Digital Plug Load Room Controller LMPL-201 Digital Plug Load Room Controller	
Occupancy Sensors	Personal Controls
LMPW-100 Digital PIR Wall Switch Occupancy Sensor LMPX-100 Digital PIR Corner Mount Occupancy Sensor LMPC-100 Digital PIR Ceiling Mount Occupancy Sensor LMUC-100 Digital Ultrasonic Ceiling Mount Occupancy Sensor LMDW-100 Digital Dual Technology Wall Switch Occupancy Sensor LMDX-100 Digital Dual Technology Corner Mount Occupancy Sensor LMDC-100 Digital Dual Technology Ceiling Mount Occupancy Sensor	LMSW-101 Digital 1-Button Wall Switch LMSW-102 Digital 2-Button Wall Switch LMSW-103 Digital 3-Button Wall Switch LMSW-104 Digital 4-Button Wall Switch LMSW-108 Digital 8-Button Wall Switch LMDM-101 Digital 1-Button Dimming Wall Switch LMSW-105 Digital 5-Button Scene Switch LMPS-104 Digital Partition Switch DLM Switch Button Kits and Switch Button Engraving LMRH-102 Digital 2-Button IR Remote Control LMRH-101 Digital Dimming IR Remote Control LMRH-105 Digital Scene IR Remote Control
Daylighting Sensors	Configuration Tools
LMLS-400 Digital Single Zone On/Off and Dimming Closed Loop Photosensor LMLS-500 Digital Multi-zone On/Off and Dimming Open Loop Photosensor LMLS-600 Digital Dual Loop Switching and Dimming Photosensor	LMCT-100 Digital Wireless Configuration Tool DLM Computer Interface Tools and Software
Network Components	Lighting Control Panels
LMBC-300 Network Bridge LMSM Series Segment Manager NB-ROUTER DLM Segment Network to IP Router NB-SWITCH DLM Global Network 5-Port Switch NB-SWITCH 8 DLM Global Network 8-Port Switch NB-SWITCH 16 DLM Global Network 16-Port Switch LMAX-100 Niagara AX Router	LMCP Series Panels
Interfaces and Accessories	
LMRJ Series Pre-Terminated Cables (available in 6', 3', 10', 15', 25', 50', and 100' lengths, in plenum and non-plenum rated versions) and Segment Network Wire LMIR-100 Digital IR Ceiling Mount Receiver LMRL-100 Isolated Relay Interface LMIO-101 Digital Input/Output Interface LMIO-102 Digital Partition Interface LMIO-301 Photocell Input Module LMDI-100 Serial Data Interface LMSM-ENC1 Enclosure for LMSM Segment Manager	





ROOM CONTROLLERS

Room Controllers are the intelligent foundation of a distributed Digital Lighting Management system. They drive the loads, in place of basic power packs.

DLM room controllers are available for lighting circuits and plug loads. Enhanced room controllers even include power monitoring capabilities.

DESIGNED FOR VERSATILITY AND RELIABILITY

- Onboard control button and status LED for each load
- Accept inputs from occupancy sensors, switches, daylighting sensors and third party systems
- Hinged dust cover and strain reliefs to protect low voltage connections

ON/OFF OR DIMMING CONTROL

- High capacity relays for switching
- 0-10 volt output for dimming
- Forward phase dimming including 3-wire fluorescent

MULTIPLE ZONES OR CONTROL CHANNELS WITH ONE OR MORE CONTROLLERS

- Single or dual relay basic controllers
- Enhanced controllers for 1, 2 or 3 zones or channels
- Single relay plug load controllers





LMRC-100 Series Digital On/Off Room Controllers

Plenum-rated controllers with line voltage relay(s) and switching power supply

Components of Digital Lighting Management integrated control systems

Plug to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors



Plug n' Go automatic configuration for maximum energy efficiency

Support energy saving manual-on and bi-level lighting control strategies

PROJECT

LOCATION/TYPE

Product Overview

Description

LMRC-100 Series Digital Room Controllers include one or two relay(s) for on/off control of a total of 20 amps, and a high-efficiency switching power supply. They are the foundation of a WattStopper Digital Lighting Management (DLM) system, and allow integration of occupancy sensors, daylighting sensors and switches for energy-efficient lighting control.

Operation

LMRC-100 Series Room Controllers operate on one 120 or 277 volt, 20 amp, feed and provide Class 2 power to sensors and switches via the DLM local network. Once powered up, Plug n' Go automatically configures system components for the most energy-efficient operation. The room controllers then switch lighting or motor loads on and off in response to input from the communicating devices. The DLM system may be reconfigured using Push n' Learn without the need for tools or a PC.

Plug n' Go Automatic Configuration

DLM room controllers manage Plug n' Go automatic system configuration, which establishes functionality based on the installed components. When room controllers are connected only to occupancy sensors, the system defaults to automatic on/off operation. If a wall switch is added to a system with one load, the load defaults to manual-on/automatic-off operation. If there is a wall switch and multiple loads, load one turns on automatically, while additional loads default to manual-on control; all loads turn off automatically.

Applications

LMRC-100 Series Room Controllers are ideal for single or multiple zone on/off lighting control applications. The LMRC-101 helps specifiers comply with basic ASHRAE 90.1 requirements, while the LMRC-102 is designed for bi-level switching in IECC, EAct, California Title 24 or LEED projects. Both controllers are appropriate for applications in private offices, open offices, conference rooms, lunch rooms and break rooms in any commercial building.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for personalization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Cat 5e DLM local network
- On/Off button for each load
- LED indicates status of connected load
- 3 RJ45 ports with integral strain relief and hinged dust cover
- Zero-crossing circuitry for each relay for reliability and increased product life
- Attach to standard electrical box through ½" knockout; UL2043 plenum rated
- RoHS compliant

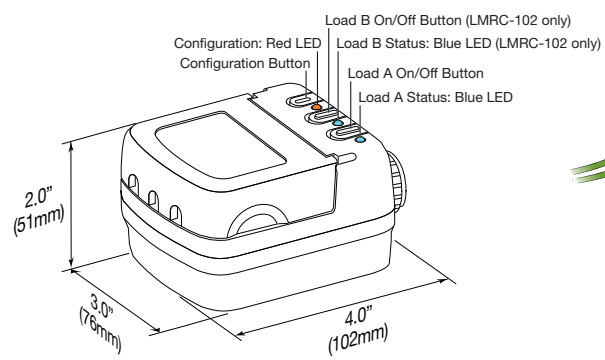


Specifications

- Input/output voltage: 120/277VAC, 50/60Hz
- Maximum 20A combined load per Room Controller; each relay rated for:
 - Ballast or incandescent: 20A
 - Motor load: 1Hp
- Class 2 output to DLM local network: 24VDC, 150mA across 3 RJ45 ports
- DLM local network parameters with LMRC-100 Series and/or LMPL-101 Room Controllers only:
 - Maximum current: 600mA
- Category 5e cable, up to 1,000'
- Maximum of 4 room controllers, controlling up to 8 loads
- Up to 24 communicating devices
- Operating conditions: for indoor use only; 32-104°F (0-40°C); 5-95% RH, non-condensing
- UL (88T9) and cUL listed
- FCC part 15 compliant
- Five-year warranty

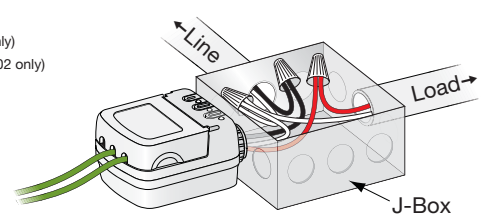
Controls & Mounting

Controls and Dimensions

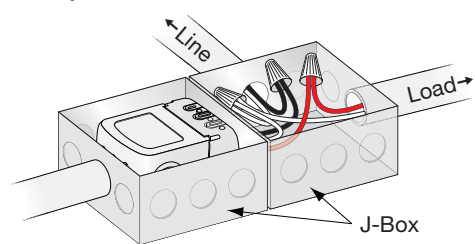


LMRC-100 Series Room Controllers include a 1/2" (12.7mm) threaded nipple and locking ring.

Mounting and Wiring



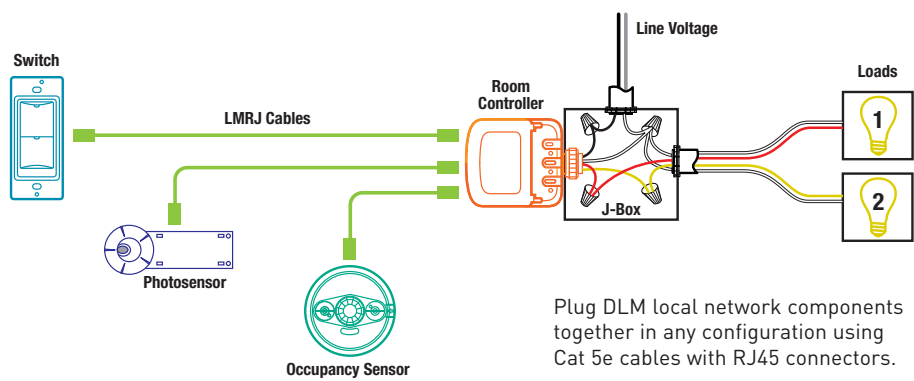
Mounting outside a j-box (plenum space). Two LMRC Room Controllers may be mounted to the j-box.



Mounting inside a j-box. Low voltage wiring is run to the LMRC Room Controller in conduit.

Connecting

Sample Connection Diagram for Bi-Level Control Using LMRC-102



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Description	Total Load Rating				Class 2 Output
		Voltage	Ballast(A)	Incan(A)	Motor	
<input type="checkbox"/> LMRC-101	Single Relay Room Controller	120/277VAC	20	20	1 Hp	24VDC
<input type="checkbox"/> LMRC-102	Dual Relay Room Controller	50/60Hz				150mA

LMRC-210 Series Digital On/Off/0-10 Volt Dimming Room Controllers

Plenum-rated controllers with line voltage relay(s) and 0-10 volt dimming output(s)

120/277 volt and 347 volt models

Plug to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors



Plug n' Go automatic configuration for maximum energy efficiency

Store load preset level and 16 scene preset levels for each load

Support energy saving manual-on, bi-level, tri-level and dimming control strategies

PROJECT

LOCATION/TYPE

Product Overview

Description
LMRC-210 Series Digital Room Controllers include one, two or three relay(s) to switch a total of 15 or 20 amps, a high-efficiency switching power supply and one 0-10 volt output per relay for control of dimmable loads including electronic ballasts (Advance Mark 7, or equivalent). They are the foundation of a WattStopper Digital Lighting Management (DLM) system, and allow integration of occupancy sensors, daylighting controls and switches for energy-efficient lighting control.

Operation

LMRC-210 Series Room Controllers operate on one 120 or 277 volt, 20 amp, or 347 volt, 15 amp, feed and provide Class 2 power to sensors and switches via the DLM local network. Once powered up, Plug n' Go automatically configures system components for the most energy-efficient operation. The room controllers then dim or switch lighting or motor loads in response to input from the communicating devices. When a dimming input is received, the relay switches on when the dimmed level rises above zero, and off when it reaches zero, to coordinate control of power and the 0-10 volt signal to the load. They also monitor the current draw of the total connected load. Each room controller stores up to 16 scene preset levels for each dimmed output.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for personalization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Cat 5e DLM local network
- On/Off/Dim local override button for each load
- LED indicates status of each load
- Integral current monitoring of total connected load
- Optional lamp burn in; 12 or 100 hours
- 4 RJ45 ports with integral strain relief
- Zero-crossing circuitry for each relay for reliability and increased product life
- UL 2043 plenum rated
- RoHS compliant
- Qualifies for ARRA-funded public works projects

Plug n' Go Automatic Configuration

DLM room controllers manage Plug n' Go automatic system configuration, which establishes functionality based on the installed components. When room controllers are connected only to occupancy sensors, the system defaults to automatic on/off operation. If a wall switch is added to a system with one load, the load defaults to manual-on/automatic-off operation. If there is a wall switch and multiple loads, load one turns on automatically, while additional loads default to manual-on control; all loads turn off automatically. At system startup, default dimming parameters are established including: levels for scene presets 1-4; fade times; and fade and ramp rates. Dimming and system parameters may be customized using Push n' Learn.

Applications

LMRC-210 Series Room Controllers are ideal for single or multiple zone on/off or dimming lighting control applications. They are appropriate for applications in private offices, open offices, conference rooms and classrooms in any commercial building. LMRC-210 Series Room Controllers also help facility managers who want to track building power usage by monitoring current for lighting or other loads. A network bridge (LMBC-300) is required to expose DLM local network power data readings to a Segment Manager or BAS.

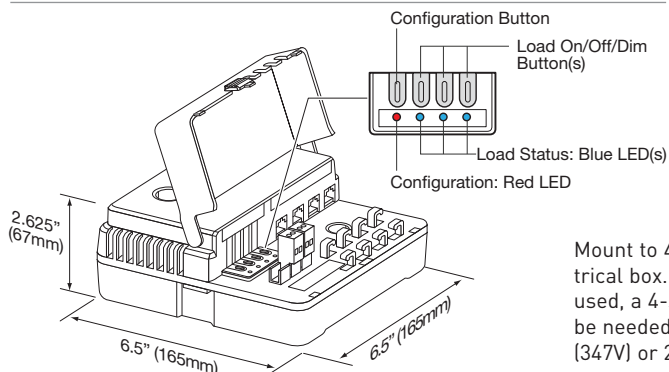


Specifications

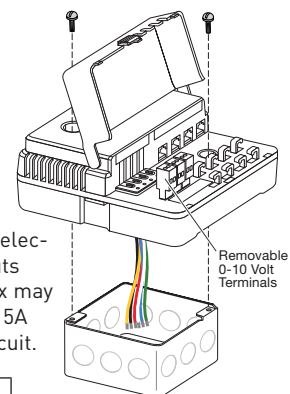
- Voltage: 120/277VAC or 347VAC; 50/60Hz
- Maximum 20A combined load per Room Controller; each relay rated for:
 - @120/277V, 20A ballast or incandescent or 1Hp motor load; @347V, 15A ballast only
- Class 2 dimming control signal: 0-10VDC, sinks up to 100mA per channel for control of compatible ballasts (50 if each sources 2mA)
- Class 2 output to DLM local network: 24VDC, up to 250mA across 4 RJ45 ports
- DLM local network parameters:
 - Maximum current: 800mA
 - Category 5e cable, up to 1,000'
 - Up to 64 loads
 - Up to 48 communicating devices
 - Maximum 4 LMRC-100 Series Room Controllers
- Operating conditions: for indoor use only; @120/277V: 32-158°F (0-70°C), @347V 32-140°F (0-60°C); 5-95% RH, non-condensing
- UL (88T9) and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Mounting

Controls and Dimensions



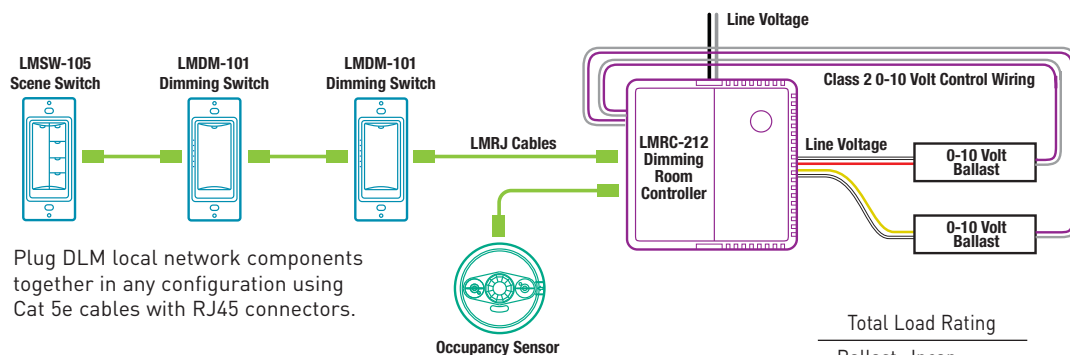
Mounting and Wiring



Mount to 4" x 4" x 2 1/8" deep electrical box. Depending on outputs used, a 4-square extension box may be needed. Connect to single 15A (347V) or 20A (120 or 277V) circuit.

Load Parameter (for each dimmed output)	Default Setting	Available Options
High trim	100%	1-100%
Low trim	0%	0-99%
Preset level: Scenes 1-16	1: 100%, 2: 75%, 3: 50%, 4: 25%, 5-16: 100%	all: 0-100%
Preset fade time	2 seconds	0 seconds - 18 hours
Lamp burn in time	0	0, 12 or 100 hours

Connecting Sample Connection Diagram with Dimming Switches and Scene Control



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog. No.	Description	Voltage	Ballast (A)	Incan (A)	Motor	Class 2 Outputs
<input type="checkbox"/> LMRC-211	1 Relay Room Controller, 0-10V dimming	120/277VAC	20	20	1 Hp	24VDC, 250mA and 0-10VDC
<input type="checkbox"/> LMRC-211-U	1 Relay Room Controller, 0-10V dimming, ARRA compliant*					
<input type="checkbox"/> LMRC-211-347	1 Relay Room Controller, 0-10V dimming	347VAC only	15	-	-	
<input type="checkbox"/> LMRC-212	2 Relay Room Controller, 0-10V dimming	120/277VAC	20	20	1 Hp	
<input type="checkbox"/> LMRC-212-U	2 Relay Room Controller, 0-10V dimming, ARRA compliant*					
<input type="checkbox"/> LMRC-212-347	2 Relay Room Controller, 0-10V dimming	347VAC only	15	-	-	
<input type="checkbox"/> LMRC-213	3 Relay Room Controller, 0-10V dimming	120/277VAC	20	20	1 Hp	
<input type="checkbox"/> LMRC-213-U	3 Relay Room Controller, 0-10V dimming, ARRA compliant*					
<input type="checkbox"/> LMRC-213-347	3 Relay Room Controller, 0-10V dimming	347VAC only	15	-	-	
<input type="checkbox"/> LMRC-CA	Conduit Adapter for Low Voltage Connections					

*Product produced in the U.S.

LMRC-220 Series Digital Forward Phase Dimming Room Controllers

Versatile 20A controllers with line voltage relay(s) and triac-based forward phase control dimming

Compatible with most load types; three selectable dimming curves for each load

Plug to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors



Plug n' Go automatic configuration for quick startup

Store load preset level and 16 scene preset levels for each load

Facilitate energy saving dimming control strategies including automatic daylight harvesting

Product Overview

Description
LMRC-220 Series Digital Room Controllers include one or two output(s) to control a total of up to 20 amps. Load ratings include incandescent, magnetic low voltage, forward phase compatible electronic low voltage and LED drivers, neon and cold cathode, and dimmable two-wire and three-wire fluorescent ballasts. They are the foundation of a WattStopper Digital Lighting Management (DLM) system, and allow integration of occupancy sensors, daylighting controls and switches for energy-efficient lighting control.

Operation
LMRC-220 Series Room Controllers operate on one 120 or 277 volt, 20 amp, feed and provide Class 2 power to sensors and switches via the DLM local network. Each output can control a different load type and is capable of dimming up to the full 20 amp rating of the device. Once powered up, Plug n' Go automatically configures system components for the most energy-efficient operation based on the installed components. The room controllers then dim or switch lighting in response to input from the communicating devices. They also monitor the current draw of the total connected load. Each room controller stores up to 16 scene preset levels for each dimmed output.

- Features**
- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
 - Push n' Learn™ functionality for personalization without the need for tools or a PC
 - Digital Lighting Management components plug together on free-topology Cat 5e DLM local network
 - On/Off/Dim local override button for each load
 - LED indicates status of each load

PROJECT
LOCATION/TYPE

Plug n' Go and Push n' Learn Configuration

At system startup, default dimming parameters are automatically established including: levels for scene presets 1-4; fade times; and fade and ramp rates. The default square law dimming curve for each output can be changed to one of two fluorescent/LED curves using a button on the room controller. An On/Off/Dim load override button is available to test each load. Dimming and system parameters may be customized from a wireless handheld configuration tool and using Push n' Learn. Customizable parameters include a low level trim to prevent loads from flickering at low levels, and a high level trim and a load preset level to save energy and increase lamp life.

Applications

LMRC-220 Series Room Controllers are ideal for manual or automatic lighting control, including daylight harvesting. They are appropriate for applications in conference and training rooms, classrooms, lecture halls, executive offices, restaurants and galleries. LMRC-220 Series Room Controllers also help facility managers who want to track building power usage by monitoring current in real time. A network bridge (LMBC-300) is required to expose DLM local network power data readings to a Segment Manager or BAS.

- Integral current monitoring of total connected load
- Optional lamp burn in; 12 or 100 hours
- Square law, 2-wire and 3-wire fluorescent/LED curves
- 4 RJ45 ports with integral strain relief
- Zero-crossing circuitry for each relay for reliability and increased product life
- UL 2043 plenum rated
- RoHS compliant

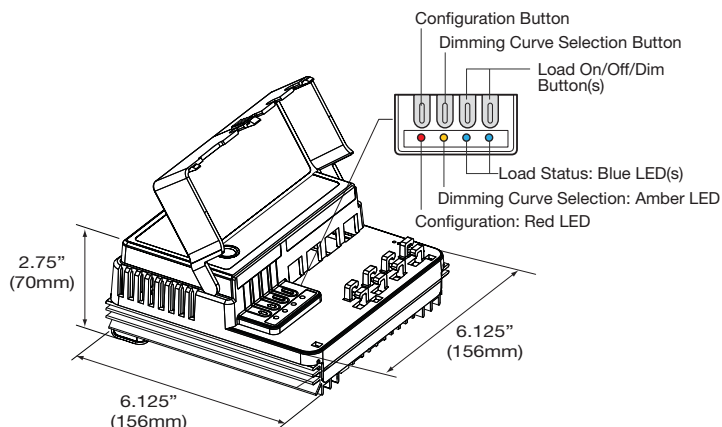


Specifications

- Input/output voltage: 120/277VAC, 50/60Hz
- Maximum 20A combined load per Room Controller; each output individually rated for:
 - 20A: tungsten, MLV, ELV or LED (forward phase compatible transformers or drivers)
 - 16A: 2-wire fluorescent or neon/cold cathode (electronic or magnetic dimming ballast) or 3-wire fluorescent (electronic dimming ballast)
- Minimum load: 10W
- Class 2 output to DLM local network: 24VDC, up to 250mA across 4 RJ45 ports
- DLM local network parameters:
 - Maximum current: 800mA
 - Category 5e cable, up to 1,000'
 - Up to 64 loads
 - Up to 48 communicating devices
 - Max. 4 LMRC-100 Series Room Controllers
- Operating conditions: for indoor use only; 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

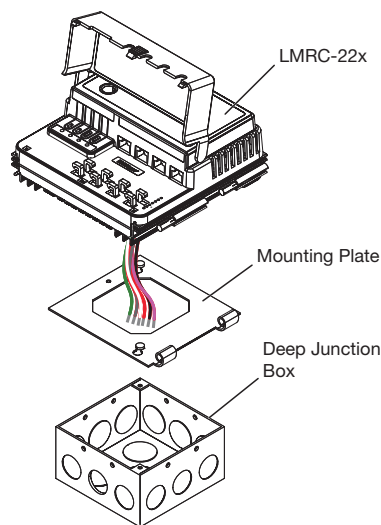
Controls & Mounting

Controls and Dimensions



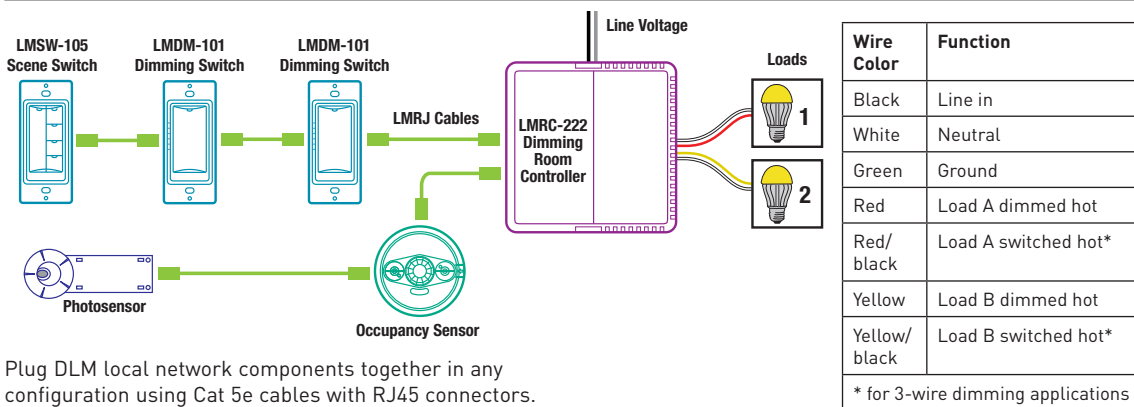
Load Parameter (for each dimmed output)	Default Setting	Available Options
High trim	100%	1-100%
Low trim	0%	0-99%
Preset level: Scenes 1-16	1: 100%, 2: 75%, 3: 50%, 4: 25%, 5-16: 100%	all: 0-100%
Preset fade time	2 seconds	0 seconds - 18 hours
Lamp burn in time	0	0, 12 or 100 hours

Mounting and Wiring



Mount to 4" x 4" x 2 1/8" deep electrical box. Depending on outputs used, a 4-square extension box may be needed. Connect to single 20A circuit.

Connecting Sample Connection Diagram with Dimming Switches and Scene Control



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog. No.	Description	Voltage	Total Load Rating	Class 2 Output
<input type="checkbox"/> LMRC-221	1 Load Forward Phase Dimming Room Controller	120/277 VAC, 50/60Hz	20 A (see details above)	24 VDC, 250mA
<input type="checkbox"/> LMRC-222	2 Load Forward Phase Dimming Room Controller			
<input type="checkbox"/> LMRC-CA2	Hinged Conduit Adapter for Low Voltage Connections			

LMPL-101 Digital Plug Load Room Controller

Plenum-rated controller with line voltage relay and switching power supply

Component of Digital Lighting Management integrated control systems

Plugs to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors



Plug n' Go automatic configuration and Push n' Learn for personalization

Accepts occupancy sensor signal for energy saving control of plug loads

Product Overview

Description

LMPL-101 Plug Load Room Controllers include a 20 amp relay for on/off control of connected outlets, and a high-efficiency switching power supply. They are part of a WattStopper Digital Lighting Management (DLM) system, and enable energy-efficient control of plug loads.

Operation

LMPL-101 Plug Load Room Controllers operate on 120 volts and provide Class 2 power to sensors and switches via the DLM local network. Once powered up, Plug n' Go automatically configures system components for the most energy-efficient operation. The plug load controllers then switch controlled outlets on and off in response to input from any communicating occupancy sensors. The DLM system may be reconfigured using Push n' Learn without the need for tools or a PC.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for personalization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Cat 5e DLM local network
- Load On/Off button
- LED indicates status of connected load
- 3 RJ45 ports with integral strain relief and hinged dust cover
- Zero-crossing circuitry for reliability and increased product life
- Attach to standard electrical box through 1/2" knockout; UL2043 plenum rated
- Ships with "Sensor Controlled" labels for connected outlets
- RoHS compliant
- Qualifies for ARRA-funded public works projects

PROJECT
LOCATION/TYPE

Plug n' Go & Push n' Learn Configuration

Plug n' Go automatic configuration establishes system functionality based on the installed components. Plug Load Room Controllers are initially controlled by all of the occupancy sensors on the DLM local network, and default to automatic on/off operation whether or not there is a switch on the local network. DLM system operation may be reconfigured using Push n' Learn. As an example, a selected switch button may be bound to a plug load controller for manual-off control of outlets. Similarly, the plug load controller could be bound only to selected occupancy sensors.

Applications

LMPL-101 Plug Load Room Controllers ensure that energy is not wasted when portable loads such as task lighting and computer monitors are plugged into building outlets. Plug Load Room Controllers should be installed to switch outlets for lighting and non-essential equipment in private offices, open offices, lunch rooms and break rooms and other areas in commercial buildings. They are appropriate for LEED projects and help building owners realize a higher return on investment on energy code-required occupancy sensors.

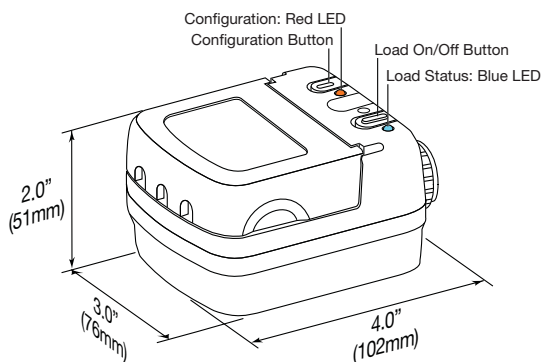


Specifications

- Input/output voltage: 120VAC, 50/60Hz
- Load ratings:
 - Ballast: 20A
 - Incandescent: 20A
 - Motor load: 1Hp
- Class 2 output to DLM local network: 24VDC, 150mA across 3 RJ45 ports
- DLM local network parameters with LMPL-101 and/or LMRC-100 Series Room Controllers only:
 - Maximum current: 600mA
- Category 5e cable, up to 1,000'
- Maximum of 4 room controllers, controlling up to 8 loads
- Up to 24 communicating devices
- Operating conditions: for indoor use only; 32-104°F (0-40°C); 5-95% RH, non-condensing
- UL (88T9) and cUL listed
- FCC part 15 compliant
- Five year warranty

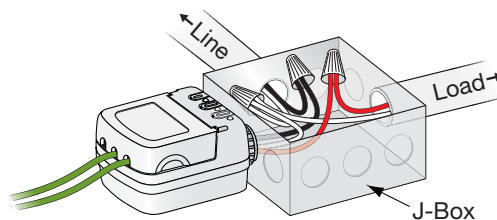
Controls & Mounting

Controls and Dimensions

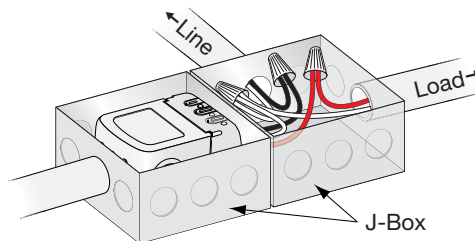


LMPL-101 Plug Load Room Controllers include a 1/2" (12.7mm) threaded nipple and locking ring.

Mounting and Wiring



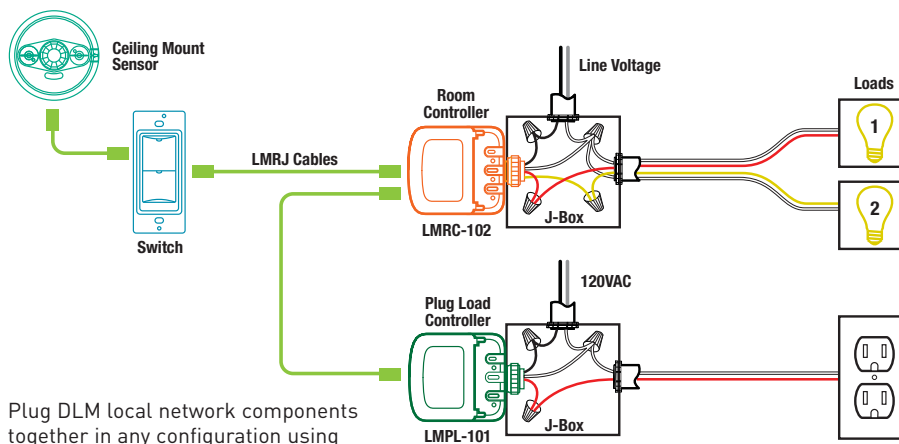
Mounting outside a j-box (plenum space). Two LMPL and/or LMRC Room Controllers may be mounted to the j-box.



Mounting inside a j-box.

Connecting

Sample Connection Diagram for Bi-Level Lighting and Plug Load Control



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Description	Voltage	Load Rating			Class 2 Output
			Ballast(A)	Incan(A)	Motor	
<input type="checkbox"/> LMPL-101	Plug Load Room Controller	120VAC, 50/60Hz	20	20	1 Hp	24 VDC
<input type="checkbox"/> LMPL-101-U						150 mA

-U = ARRA compliant. Product produced in the U.S.

LMPL-201 Digital Plug Load Room Controller

Plenum-rated controller with line voltage relay and switching power supply

Plug n' Go automatic configuration and Push n' Learn for personalization

Component of Digital Lighting Management integrated control systems

Integral current monitoring of total connected load

Plugs to other components using Cat 5e cable and RJ45 connectors eliminating wiring errors

Accepts occupancy sensor signal for energy saving control of plug loads



Product Overview

Description

LMPL-201 Plug Load Room Controllers include a 20 amp relay for on/off control of connected outlets, and a high-efficiency switching power supply. They are part of a WattStopper Digital Lighting Management (DLM) system, and enable energy-efficient control of plug loads.

Operation

LMPL-201 Plug Load Room Controllers operate on 120 volts and provide Class 2 power to sensors and switches via the DLM local network. Once powered up, Plug n' Go automatically configures system components for the most energy-efficient operation. The plug load controllers then switch controlled outlets on and off in response to input from any communicating occupancy sensors. The DLM system may be reconfigured using Push n' Learn without the need for tools or a PC.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for personalization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Cat 5e DLM local network
- Load On/Off local override button
- LED indicates status of connected load

PROJECT

LOCATION/TYPE

Plug n' Go & Push n' Learn Configuration

Plug n' Go automatic configuration establishes system functionality based on the installed components. Plug Load Room Controllers are initially controlled by all of the occupancy sensors on the DLM local network, and default to automatic on/off operation whether or not there is a switch on the local network. DLM system operation may be reconfigured using Push n' Learn. As an example, a selected switch button may be bound to a plug load controller for manual-off control of outlets. Similarly, the plug load controller could be bound only to selected occupancy sensors.

Applications

LMPL-201 Plug Load Room Controllers should be installed to switch outlets used for task lighting and non-essential equipment in private offices, open offices, lunch rooms and break rooms and other areas in commercial buildings. They are appropriate for LEED projects and help building owners realize a higher return on investment on energy code-required occupancy sensors. They also help facility managers who want to track building power usage. A network bridge (LMBC-300) is required to expose DLM local network power data readings to a Segment Manager or BAS.

- Integral current monitoring of connected load
- 4 RJ45 ports with integral strain relief and hinged dust cover
- Zero-crossing circuitry for reliability and increased product life
- UL2043 plenum rated
- Ships with "Sensor Controlled" labels for connected outlets
- RoHS compliant

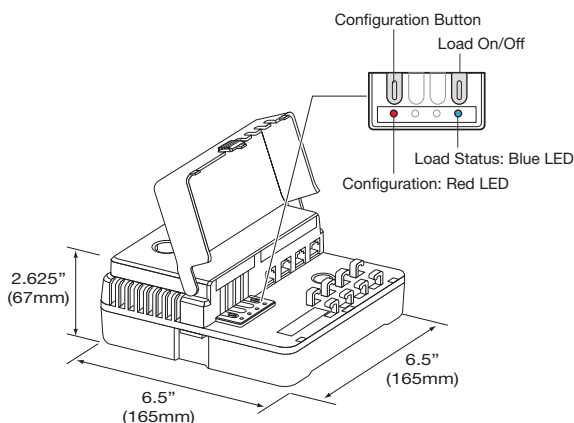


Specifications

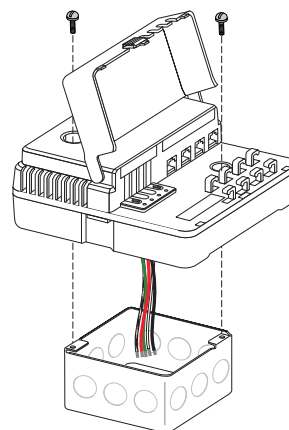
- Input/output voltage: 120VAC, 50/60Hz
- Load ratings:
 - Ballast or incandescent: 20A
 - Motor load: 1Hp
- Class 2 output to DLM local network: 24VDC, 250mA across 4 RJ45 ports
- DLM local network parameters:
 - Maximum current: 800mA
 - Category 5e cable, up to 1,000' total
- Up to 48 communicating devices
- Up to 64 loads
- Maximum 4 LMRC-100 Series Room Controllers
- Operating conditions: for indoor use only; 32-158°F (0-70°C); 5-95% RH, non-condensing
- UL (88T9) and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Mounting

Controls and Dimensions



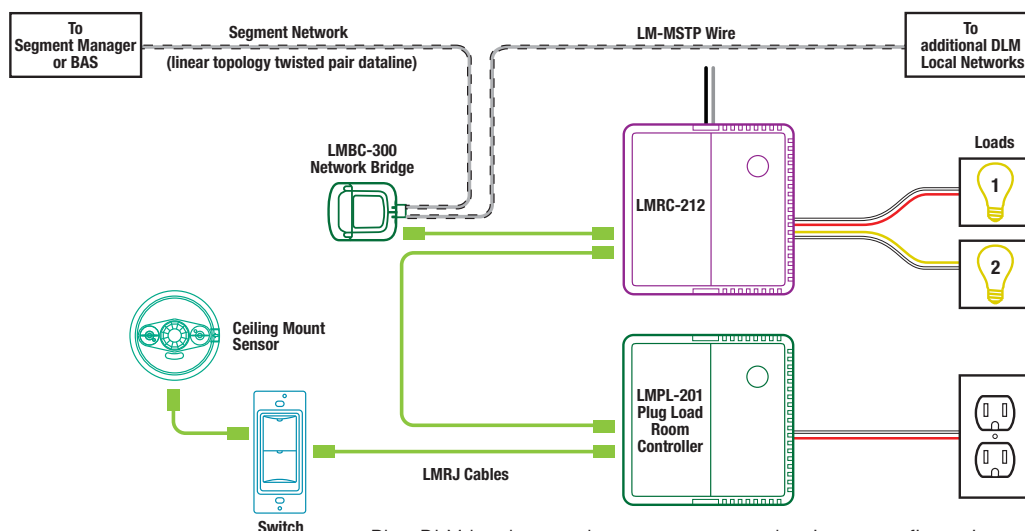
Mounting and Wiring



Mount to 4" x 4" x 2 1/8" deep electrical box.

Connecting

Sample Connection Diagram for Bi-Level Lighting and Plug Load Control



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Description	Voltage	Load Rating			Class 2 Output
			Ballast(A)	Incan(A)	Motor	
□ LMPL-201	Plug Load Room Controller	120VAC; 50/60Hz	20	20	1 Hp	24 VDC 250 mA



LIGHTING CONTROL PANELS

Based on WattStopper's Lighting Integrator platform, LMCP panels are the perfect control solution for applications best suited to scheduling. This includes lobbies, corridors, exterior lighting and signage.

Lighting control panels feature heavy duty mechanically held latching relays and are available in three sizes to fit any project.

EASY INTEGRATION WITH DLM CONTROLS AND BAS

- Compatible with DLM sensors and switches
- Connects to BACnet-compatible segment network

ROBUST HDR LOW VOLTAGE RELAY

- Individually replaceable
- Manual override switch
- 14,000 Amp SCCR rating
- Meets NEMA 410-2004 standard for withstanding electronic ballast loads

MULTIPLE CONTROL OPTIONS

- Schedule from segment manager, BAS or LMCP via LMCT handheld tool
- Compatible with analog photocell
- Emergency lighting control options





LMCP Series Relay Panel Interiors (LMCP8, LMCP24, LMCP48)

Runs scheduled and photocell events autonomously

Easy setup via LMCT-100 handheld configuration tool

HDR relays include switch for manual override even when panel is powered off



Native BACnet communications for network control solutions

Compatible with Digital Lighting Management switches, sensors and input devices

99 control groups accessible via handheld configuration tool

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMCP series panel provides simple network-capable lighting control enabling the automation of lighting functions throughout an entire facility. The HDR relays in the panel can respond directly to inputs from Digital Lighting Management (DLM) switches, occupancy sensors, daylight sensors, and input modules.

Operation

Relays in each LMCP panel can be assigned to up to 99 automation groups in any combination. Each group can respond to unique scheduled events and light/dark photocell operations set up via an LMCT-100 handheld configuration tool. A group can also respond to schedules sent from a Segment Manager or a BACnet-enabled building automation system (BAS). Individual relays, or groups of relays, can also be controlled by DLM digital switches, occupancy sensors, LMLS series daylight sensors, and LMIO series input modules. Controls are assigned to relays using Push n' Learn directly from the user input device, or via an LMCT-100.

Networking

Multiple panels may be networked together for global control operation without the use of a Segment Manager or BAS. The LMCP panel also provides a native-BACnet integration solution via BACnet MS/TP. Relay, group, and control device status, including occupancy sensor status, are available as BACnet objects. When a WattStopper Segment Manager is used, it will automatically recognize LMCP panels and map them to the browser-based user interface so that they can be configured with minimal additional setup.

Applications

LMCP panels provide effective, code-compliant control of building exterior lighting as well as larger interior areas that are not suited for DLM distributed controls. Recommended applications include office building lobbies, corridors, loading docks, etc., as well as school gymnasiums, commons areas and hallways. LMCP panels are also ideal for retrofit scenarios where mounting control equipment near existing branch circuit breakers is beneficial and digital switch and sensor devices and load parameter configurability are required to meet complex operational sequences.

Features

- Standard single pole heavy duty relays UL and cUL listed for both lighting and plug loads
- Available in interiors sized for 8, 24, or 48 relays maximum
- LMCT-100 handheld configuration tool recommended for setup
- Runs event-based schedule routines independently (does not require BAS or Segment Manager)
- Supports astronomical, time-based, and photocell-based event types
- Two free-topology DLM Category 5e local networks for DLM sensors, switches, and LMIO series input modules
- Additional power available for low voltage switches or accessories
- Qualifies for use in ARRA-funded projects

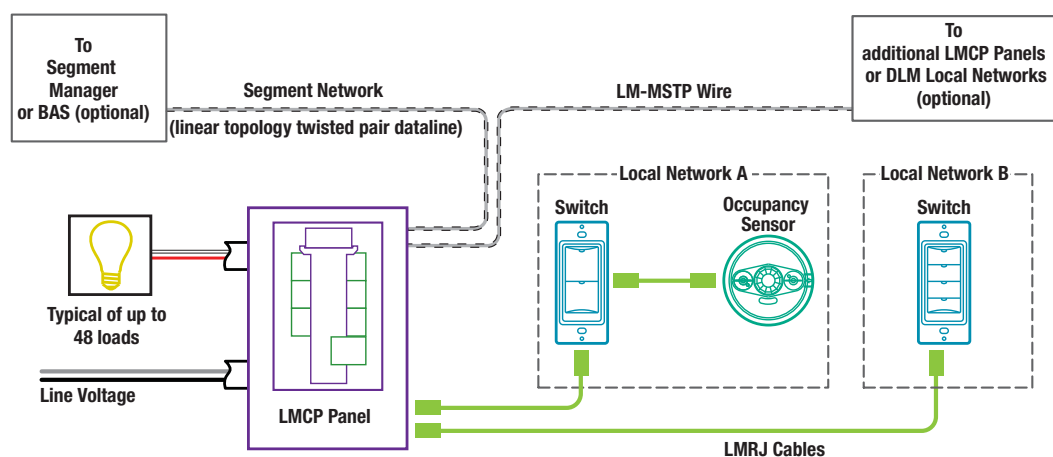


Specifications

- Input voltage options, 120/277V 60 Hz, 120/347V, 60 Hz, 240V 50 Hz
- Class 2 connection to two independent DLM local networks:
 - 24VDC output, up to 250mA across 2 RJ45 ports per local network
- Free-topology DLM local network segments may include digital switches and sensors; Category 5e cable, up to 1,000 ft. total per local network
- Terminals for connection to DLM segment network (BACnet MS/TP)
- Segment network parameters:
 - WattStopper LM-MSTP wire
 - Linear topology; 4000 ft. maximum per segment
- Accessory power available:
 - LMCP8, 800 mA @ 24VDC
 - LMCP24, 1000 mA @ 24VDC
 - LMCP48, 1000 mA @ 24VDC
- HDR relays:
 - Coil voltage, 24 VDC, pulse ON and pulse OFF
 - Mechanically latched contacts
 - ½" K.O. mounting, LV plug-connection, individually replaceable
 - Contact ratings:
 - 30 amps ballast @ 277V
 - 20 amps ballast @ 347V
 - 20 amps tungsten @ 120V
 - 30 amps resistive @ 347V
 - 1.5 HP @ 120V
- SCCR (short circuit current rating) 14,000 amps with HDR Heavy Duty Relay
- Operating conditions: for indoor use only; 32-131 OF (0 – 55 OC); 5-95% RH, non-condensing
- UL and cUL listed
- Five year warranty

Connecting

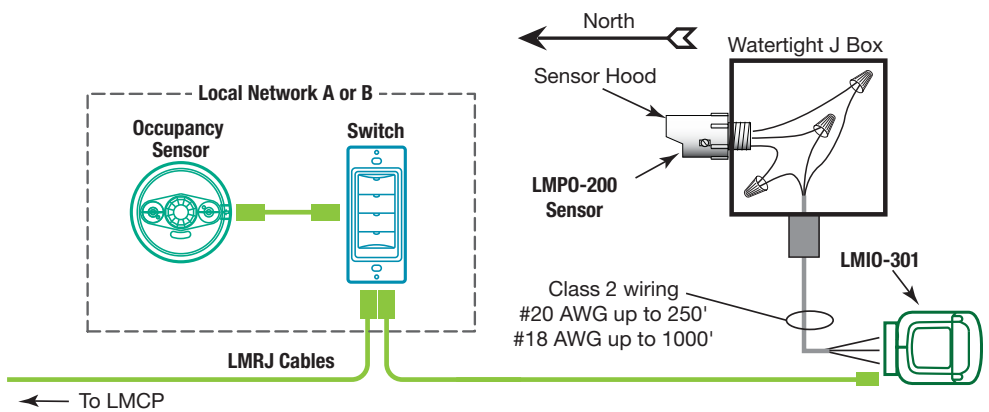
Sample DLM Panel Connection Diagram





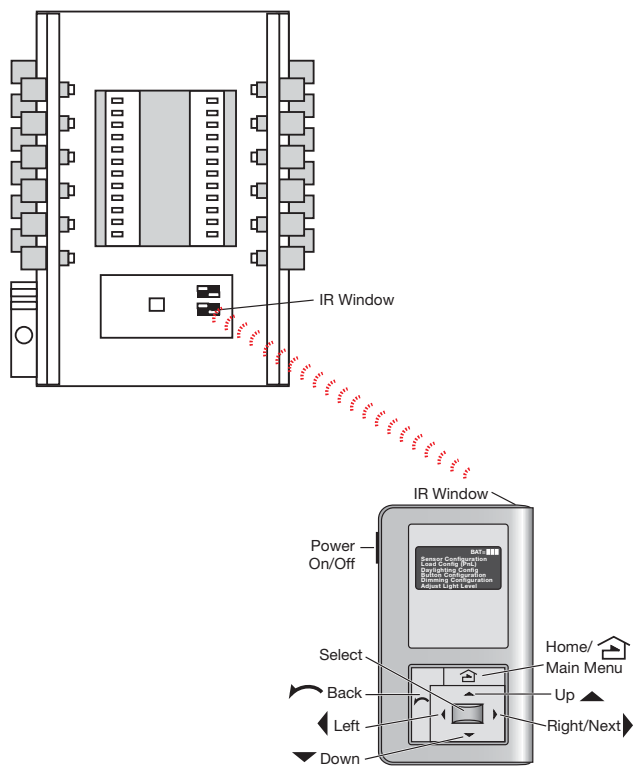
Connecting

LMIO-301 Connection and Wiring Diagram



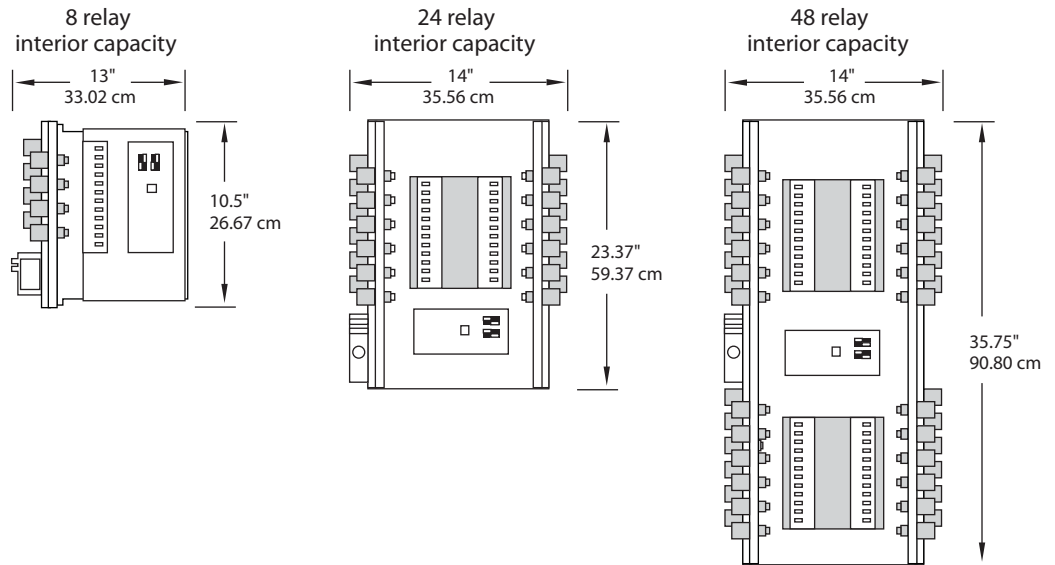
Set Up and Diagnostics

LMCP Set Up using LMCT-100 Handheld Configuration Tool





Panel Interior Dimensions



Ordering Information

Interior Capacity	Installed Options			
	Voltage Options	Relay Count	Emergency Relays	Coil Voltage
<input type="checkbox"/> LMCP8	<input type="checkbox"/> 115/277	___ HDR relays	___ EM relay count	<input type="checkbox"/> 115
<input type="checkbox"/> LMCP24	<input type="checkbox"/> 115/347	installed (max	(Not available in 8-relay size	<input type="checkbox"/> 240
<input type="checkbox"/> LMCP48	<input type="checkbox"/> 240	of interior	panels; max. of 24 in 24-relay	<input type="checkbox"/> 277
		capacity)	or 48-relay size interior)	<input type="checkbox"/> 347
<input type="checkbox"/> LMCT-100	Digital Wireless Configuration Tool			

Order enclosures for LMCP panel interiors separately.

Panel Enclosures

16-gauge all steel tubs with galvineal finish

Screw on, powder coated cover permits temporary hanging via key hole screw slots

Surface or flush mounting with back mounting holes, screw cover

Lockable door access to Class 2 panel section, meets NFPA 70

Studs provided for quick installation of panel interior section

UL and CUL listed; one year warranty



PROJECT
LOCATION/TYPE

Product Overview

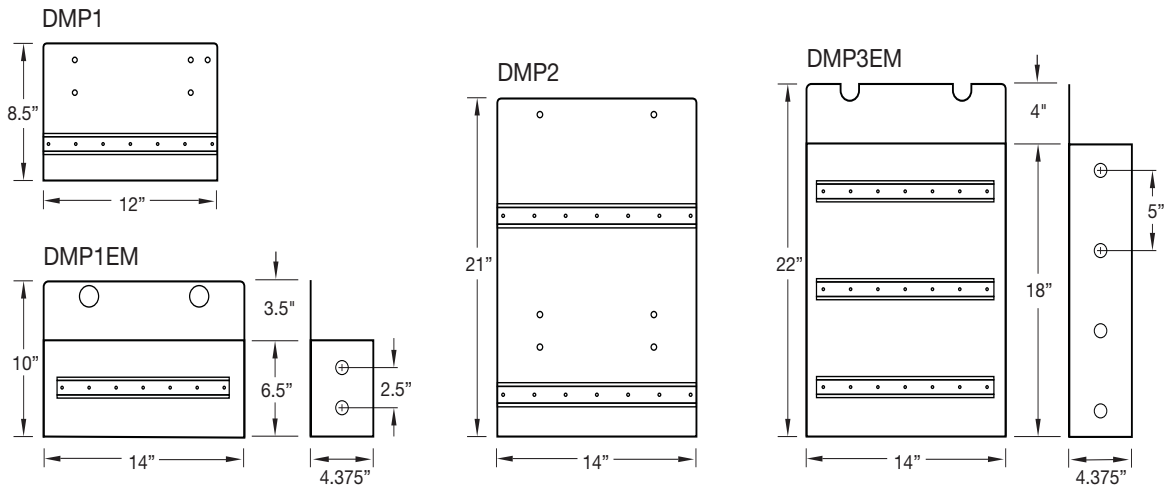
Description

Panel enclosures are designed specifically to work with all configurations of LMCP panel interiors containing 8 to 48 relays. The enclosures are provided with integral mounting studs that are configured to accept the panel interior making the installation quick and easy. Covers are secured to the tubs with screws and have keyhole style mounting. This allows the cover to be temporarily hung on the tub during the construction phase of the project. All covers have hinged doors that expose only the low voltage (Class 2) section of the panel and are equipped with key locks and two keys each. All Lighting Integrator enclosures are NEMA 1 rated. Consult factory for other NEMA rated applications.

Configurations

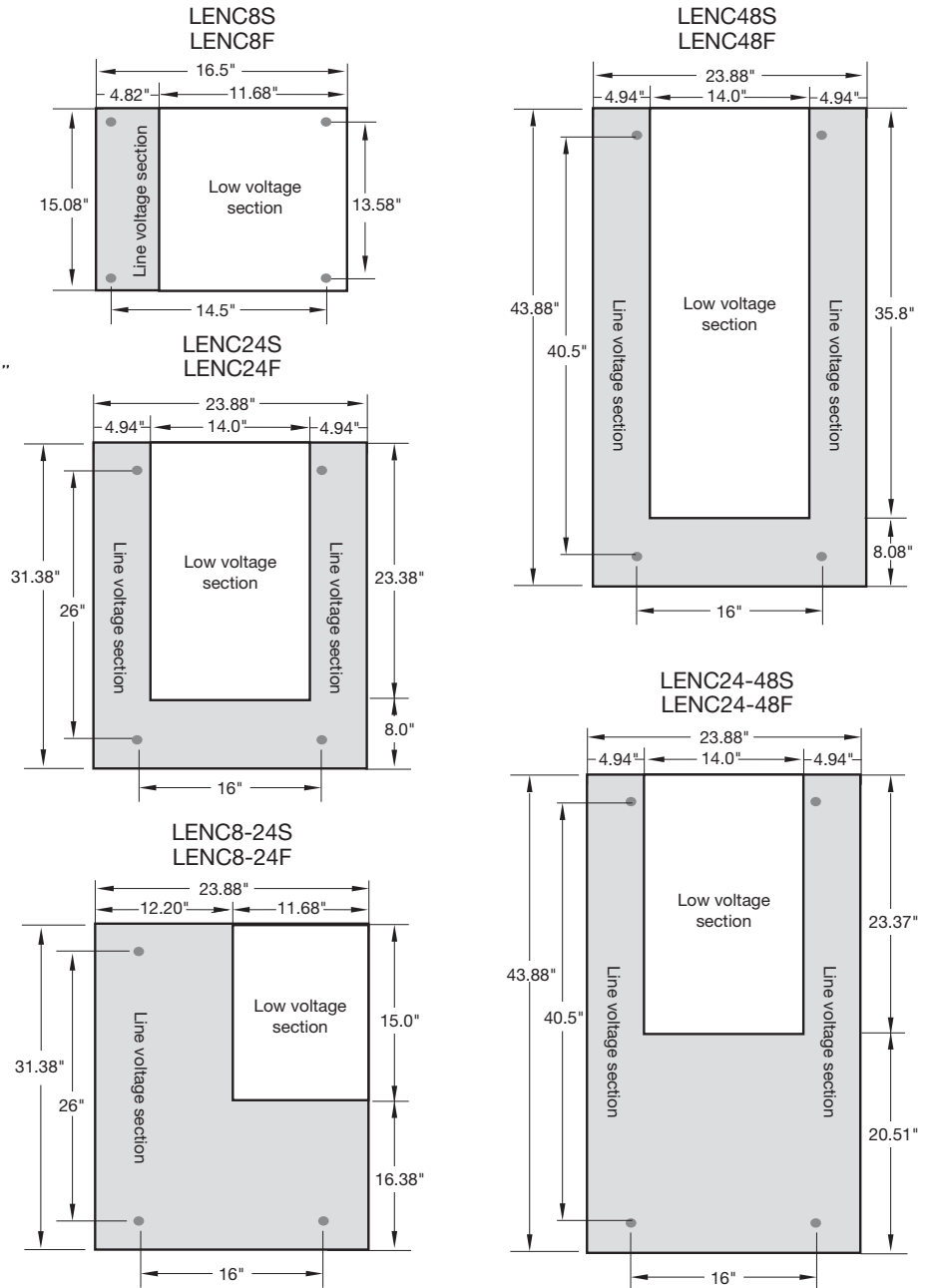
Enclosures rated for 24 or 48 relay capacity have space provided at the bottom for optional mounting plates (DMP) to accept DIN rail mounted accessories such as multi-pole contactors and ELCU-100 Emergency Lighting Control Units. Standard LENC24 and LENC48 enclosures will accommodate up to six four pole contactors (requires DMP mounting plate) or four ELCU-100 units (requires DMP-1EM mounting plate). LENC8-24 and LENC24-48 enclosures have additional space provided and will accommodate up to twelve four pole contactors (requires DMP-2 mounting plate) or 12 ELCU-100 units (requires DMP-3EM mounting plate).

DIN Rail Mounting Options



Tub Dimensions

Note:
Tub depth 4.50"
Cover thickness .075"



Ordering Information

Catalog No.	Description	Overall Dimensions Including Cover (HxWxD)	Overall Weight
<input type="checkbox"/> LENC8S	8 relay capacity, surface mount	15.75" x 16.62" x 4.575"	18 lbs
<input type="checkbox"/> LENC8F	8 relay capacity, flush mount	17.10" x 18.48" x 4.575"	20 lbs
<input type="checkbox"/> LENC8-24S	8 relay capacity with 24 size tub, surface mount	32.00" x 24.00" x 4.575"	45 lbs
<input type="checkbox"/> LENC8-24F	8 relay capacity with 24 size tub, flush mount	33.35" x 25.85" x 4.575"	50 lbs
<input type="checkbox"/> LENC24S	24 relay capacity, surface mount	32.00" x 24.00" x 4.575"	45 lbs
<input type="checkbox"/> LENC24F	24 relay capacity, flush mount	33.35" x 25.85" x 4.575"	50 lbs
<input type="checkbox"/> LENC24-48S	24 relay capacity with 48 size tub, surface mount	44.50" x 24.00" x 4.575"	62 lbs
<input type="checkbox"/> LENC24-48F	24 relay capacity with 48 size tub, flush mount	45.85" x 25.85" x 4.575"	66 lbs
<input type="checkbox"/> LENC48S	48 relay capacity, surface mount	44.50" x 24.00" x 4.575"	62 lbs
<input type="checkbox"/> LENC48F	48 relay capacity, flush mount	45.85" x 25.85" x 4.575"	66 lbs
<input type="checkbox"/> DMP	mounting plate, one DIN rail for up to 6 contactors	8" x 12" x 4.625"	1.86 lbs
<input type="checkbox"/> DMP-2	mounting plate, two DIN rail for up to 12 contactors	21" x 14" x 4.625"	5.30 lbs.
<input type="checkbox"/> DMP-1EM	mounting plate, one DIN rail with barrier for up to 4 ELCU-100s	10" x 14" x 4.37"	3.64 lbs.
<input type="checkbox"/> DMP-3EM	mounting plate, three DIN rail with barrier for up to 12 ELCU-100s	22" x 14" x 4.37"	7.60 lbs.

Qualify for use in ARRA-funded projects.

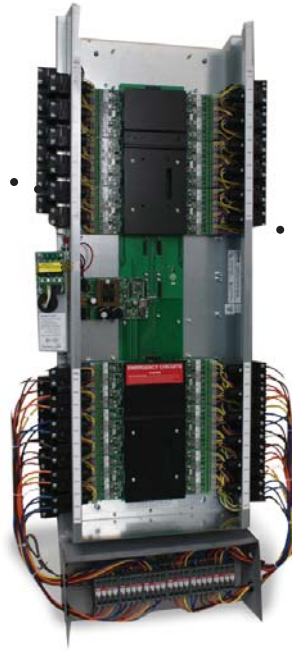


Emergency Relay Panel Option

UL924 listed for use on emergency circuits

Factory-assembled interior mounts in standard enclosure, ships completely wired

Meets NEC (NFPA70) UL 924 requirements for emergency lighting control



Allows normal control of emergency circuits via schedule, switch, photocell or other device

Guarantees that emergency lighting will turn on upon loss of normal power

PROJECT
LOCATION/TYPE

Product Overview

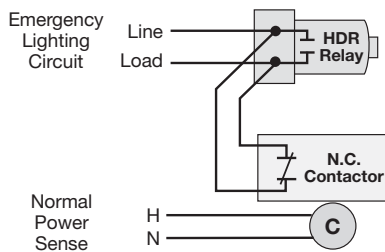
Description

The Emergency Relay Panel option provides certified fail-safe operation of lighting control circuits controlled by HDR relays in an LMCP lighting control panel. The option is available with any 24 or 48 size LI or LMCP panel.

Operation

A dedicated normal power sense connection monitors the presence of normal power and allows the HDR relays to control the emergency lighting circuits based on ordinary control schedules and devices, such as switches, occupancy sensors, and daylighting control devices. When normal power is lost for any reason, all HDR relays controlling emergency circuits are each individually bypassed automatically by a set of normally closed contacts. The HDR relays do not change state during a power outage so lighting is restored when normal power is restored.

Wiring



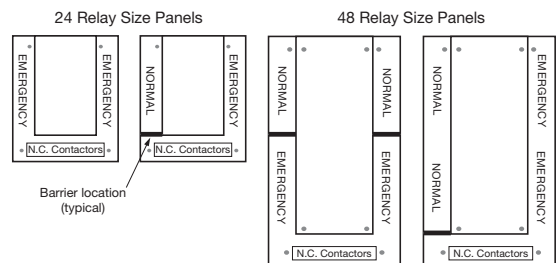
Applications

The emergency lighting control panel option is ideal for applications where always-hot emergency lighting circuits need to be controlled along with the normal lighting circuits. Because the lighting control panel with integrated yet dedicated emergency relays operates normally based on the type of intelligence card installed in the panel, this is suitable for virtually any type of application. These panels can be used reliably for fail safe emergency lighting operation in schools, office buildings, libraries, airports, industrial plants, warehouses, and auditoriums.

Specifications

- 30 Amp normally closed contactors used for shunt operation
- One to 24 emergency relays per panel, 24 or 48 size enclosure only
- Emergency relay rating: same as HDR
- Normal power sense input, 120, 277 or 347 volts, voltage specific
- UL listed for use on emergency circuits

Emergency Relay Panel Configurations



Description

Order Emergency Relay Panel option using the ordering section on the LMCP panel cut sheet.

Ordering Information

WattStopper
www.wattstopper.com
8 0 0 . 8 7 9 . 8 5 8 5





OCCUPANCY SENSORS

New digital occupancy sensors are the smallest and lowest profile available, and include many industry firsts.

DLM sensors are available to suit any application. Simply choose the appropriate sensing technology and coverage pattern.

FULLY DIGITAL USER INTERFACE FOR SPEED AND PRECISION

- LCD display shows exact sensor and system settings
- Pushbuttons allow fast and accurate programming

INFRARED (IR) TRANSCEIVER FOR WIRELESS CONTROL

- Accepts input from handheld remotes
- Allows ladder-free configuration

SLEEK DESIGN FOR ARCHITECTURAL APPEAL

- Low profile ceiling sensors
- Compact corner mount sensors
- Convenient wall switch sensors

MULTIPLE SENSING TECHNOLOGIES

- Passive infrared (PIR)
- Ultrasonic
- Dual technology





LMPW-100 Series Digital PIR Wall Switch Occupancy Sensors

Passive infrared sensor with On/Off button(s) to switch selected load(s)



Digital sensor with LCD display and programming pushbuttons

Component of Digital Lighting Management integrated control system

IR transceiver for wireless configuration and remote control

Quick access to Push n' Learn for system personalization

Plug to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors

PROJECT
LOCATION/TYPE

Product Overview

Description

LMPW-100 Series Digital PIR Wall Switch Occupancy Sensors use passive infrared (PIR) technology to detect occupancy for energy-efficient control of lighting and plug loads. They also include one or two switch buttons for manual control of selected loads, and are part of a WattStopper Digital Lighting Management (DLM) system.

Operation

The LMPW-100 Series sensors operate on Class 2 power supplied to a DLM local network by one or more DLM room controllers. They work with the room controller(s) to turn loads on and off based on occupancy. Default operation is automatically established by Plug n' Go, which recognizes the device as both an occupancy sensor and a switch. The sensor and switch button functionality and load assignments will be the same as stand-alone sensors and switches. A system with one load defaults to manual-on, while a system with two or more loads defaults to auto-on for load 1 and manual on for other loads. Initially, all occupancy sensors control all loads, and all switches provide multi-way control of all loads. Each switch button can dim the load up and down. Each LMPW-100 Series Wall Switch Sensor occupancy sensor and switch button(s) may be assigned to specific loads.

Digital Settings and IR Communications

LMPW-100 Series sensors may be reconfigured at the device with easy-to-use pushbuttons, or via a wireless configuration tool that communicates with the sensor using a bi-directional infrared (IR) signal. Each sensor is equipped with a unique, easy-to-access, scrolling LCD screen that displays sensor parameters and simplifies changing those parameters. Time delay and sensitivity can be precisely adjusted and walk through mode can be activated. The LCD display also facilitates system personalization, scrolling load information when in Push n' Learn mode. Both load assignments and load parameters may be changed using Push n' Learn. Additionally, each sensor includes an IR transceiver that allows wireless system operation in addition to configuration.

Applications

LMPW-100 Series sensors are ideal for small enclosed spaces without line voltage switches, and with a clear line of sight to the occupant. Applications include small offices, conference rooms and lunch/break rooms.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for customization without the need for tools or a PC
- Infrared (IR) transceiver for wireless configuration and control
- Sleek single gang devices fit decorator wall plates; 1- and 2-button models; six color options
- Each switch button can control individual or multiple loads, or one scene; LED indicates status
- Each switch button can be used to dim the load
- Sensors may be used for multi-way control
- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- RoHS compliant

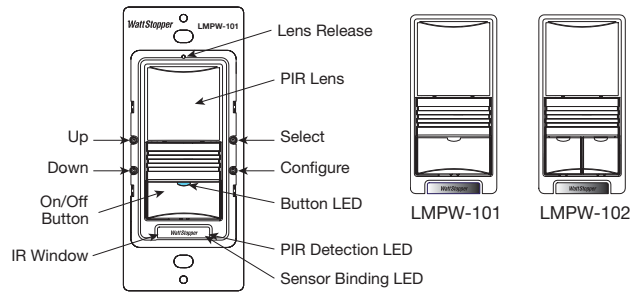


Specifications

- Input voltage: 24VDC from DLM network
- Current consumption: 8mA
- DLM local network connection: 2 RJ45 ports
- 1 or 2 switch buttons, each with LED status indicator
- Scrolling LCD display and pushbuttons for setting sensor and system parameters
- Infrared (IR) transceiver
- Operating conditions: for indoor use only; 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Settings

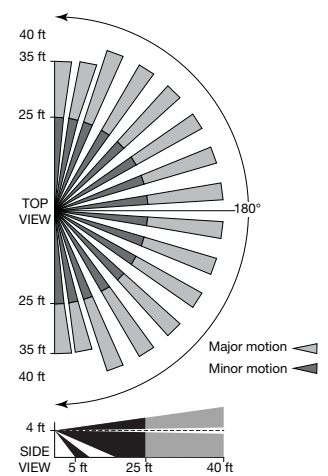
Product Controls, Models and Sensor Settings



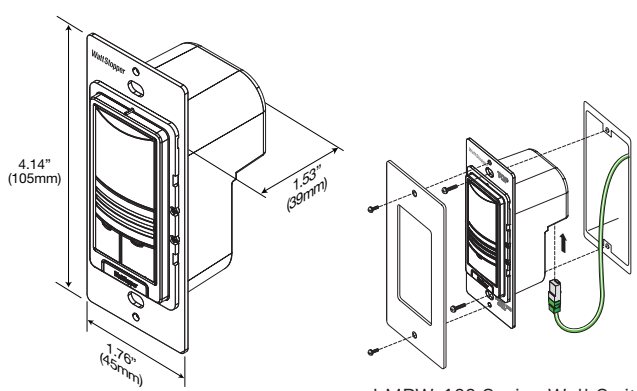
Sensor Parameter	Available Options	Default Setting
Time Delay	1-30 min. (1 min. increments)/Override	20 minutes
Walk Thru	On/Off	Off
PIR Sensitivity	10-100% (10% increments)/Off	90%
Test Mode	Activate	Off

Coverage & Mounting

Coverage Patterns



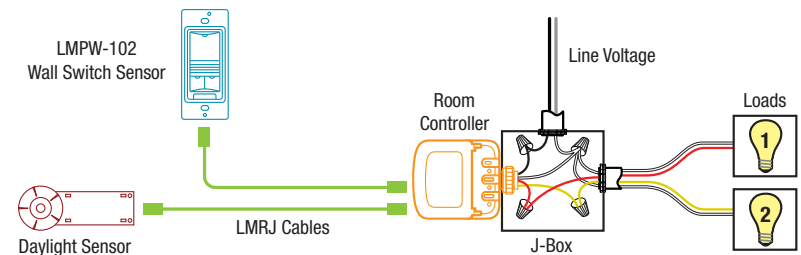
Product Dimensions and Mounting



LMPW-100 Series Wall Switch Occupancy Sensors fit in standard gang boxes, or in a four square box with a one or two gang mud ring.

Wiring

Sample Connection Diagram



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Color	Description	Catalog No.	Color	Description
<input type="checkbox"/> LMPW-101-W	White	1-button Digital PIR Wall Switch Occupancy Sensor	<input type="checkbox"/> LMPW-102-W	White	2-button Digital PIR Wall Switch Occupancy Sensor
<input type="checkbox"/> LMPW-101-LA	Light Almond		<input type="checkbox"/> LMPW-102-LA	Light Almond	
<input type="checkbox"/> LMPW-101-I	Ivory		<input type="checkbox"/> LMPW-102-I	Ivory	
<input type="checkbox"/> LMPW-101-G	Grey		<input type="checkbox"/> LMPW-102-G	Grey	
<input type="checkbox"/> LMPW-101-B	Black		<input type="checkbox"/> LMPW-102-B	Black	
<input type="checkbox"/> LMPW-101-R	Red		<input type="checkbox"/> LMPW-102-R	Red	

Wall switch sensors do not include face plates. Order decorator style plate separately.

LMDW-100 Series Digital Dual Technology Wall Switch Occupancy Sensors

Dual Technology sensor with On/Off button(s) to switch selected load(s)



Digital sensor with LCD display and programming pushbuttons

Component of Digital Lighting Management integrated control system

IR transceiver for wireless configuration and remote control

Quick access to Push n' Learn for system personalization

Plug to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors

PROJECT
LOCATION/TYPE

Product Overview

Description

LMDW-100 Series Digital Dual Technology Wall Switch Occupancy Sensors use PIR and ultrasonic technology to detect occupancy for energy-efficient control of lighting and plug loads. They also include one or two switch buttons for manual control of selected loads, and are part of a WattStopper Digital Lighting Management (DLM) system.

Operation

The LMDW-100 Series sensors operate on Class 2 power supplied to a DLM local network by one or more DLM room controllers. They work with the room controller(s) to turn loads on and off based on occupancy. Default operation is automatically established by Plug n' Go, which recognizes the device as both an occupancy sensor and a switch. The sensor and switch button functionality and load assignments will be the same as stand-alone sensors and switches. A system with one load defaults to manual-on, while a system with two or more loads defaults to auto-on for load 1 and manual on for other loads. Initially, all occupancy sensors control all loads, and all switches provide multi-way control of all loads. Each switch button can dim the load up and down. Each LMDW-100 Series Wall Switch Sensor occupancy sensor and switch button(s) may be assigned to specific loads.

Digital Settings and IR Communications

LMDW-100 Series sensors may be reconfigured at the device with easy-to-use pushbuttons, or via a wireless configuration tool that communicates with the sensor using a bi-directional infrared (IR) signal. Each sensor is equipped with a unique, easy-to-access, scrolling LCD screen that displays sensor parameters and simplifies changing those parameters. Time delay and sensitivity can be precisely adjusted and walk through mode can be activated. The LCD display also facilitates system personalization, scrolling load information when in Push n' Learn mode. Both load assignments and load parameters may be changed using Push n' Learn. Additionally, each sensor includes an IR transceiver that allows wireless system operation in addition to configuration.

Applications

WattStopper's dual technology has the flexibility to work in a variety of applications where one technology alone may not be sufficient. Common LMDW-100 Series sensor applications include small private offices, executive offices, small and medium conference rooms and lunch/break rooms.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for customization without the need for tools or a PC
- Infrared (IR) transceiver for wireless configuration and control
- Sleek single gang devices fit decorator wall plates; 1- and 2-button models; six color options
- Each switch button can control individual or multiple loads, or one scene; LED indicates status
- Each switch button can be used to dim the load
- Sensors may be used for multi-way control
- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- RoHS compliant

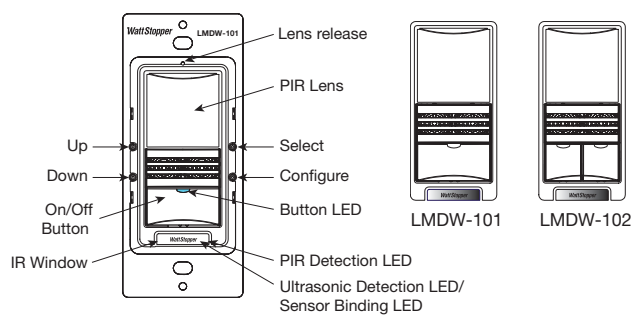


Specifications

- Input voltage: 24VDC from DLM network
- Current consumption: 20mA
- DLM local network connection: 2 RJ45 ports
- 1 or 2 switch buttons, each with LED status indicator
- Scrolling LCD display and pushbuttons for setting sensor and system parameters
- Infrared (IR) transceiver
- Operating conditions: for indoor use only; 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Settings

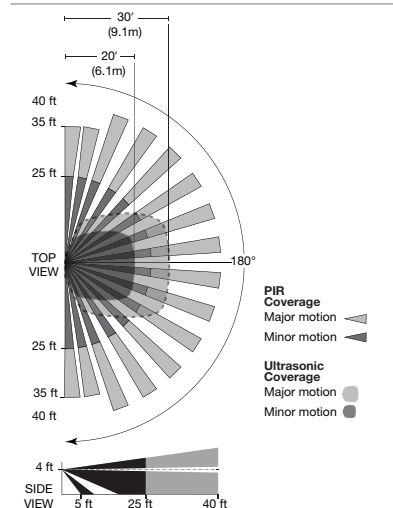
Product Controls, Models and Sensor Settings



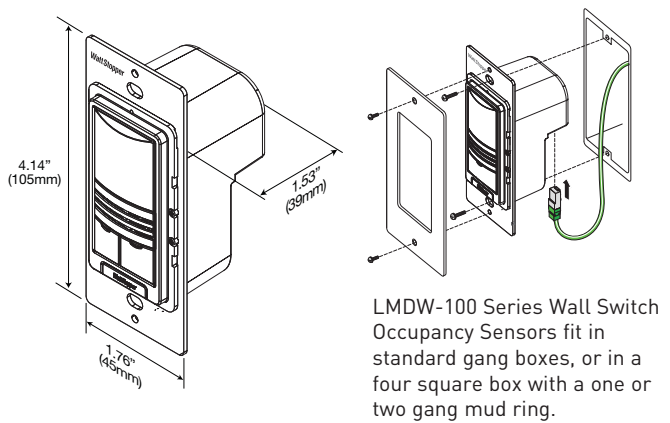
Sensor Parameter	Available Options	Default Setting
Time Delay	1-30 min. (1 min. increments)/Override	20 minutes
Walk Thru	On/Off	Off
PIR Sensitivity	10-100% (10% increments)/Off	90%
Ultrasonic Sensitivity	10-100% (10% increments)/Off	70%
Test Mode	Activate	Off
Detection Technology	Ultrasonic/PIR/Both/ Either	Both
Retrigger Technology	Ultrasonic/PIR/Both/ Either	Either

Coverage & Mounting

Coverage Patterns

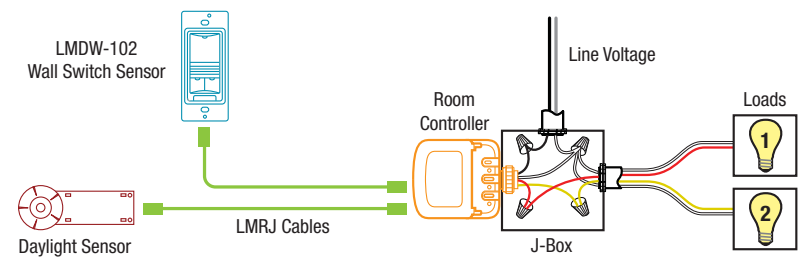


Product Dimensions and Mounting



Wiring

Sample Connection Diagram



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Color	Description	Catalog No.	Color	Description
<input type="checkbox"/> LMDW-101-W	White	1-button Digital Dual Technology Wall Switch Occupancy Sensor	<input type="checkbox"/> LMDW-102-W	White	2-button Digital Dual Technology Wall Switch Occupancy Sensor
<input type="checkbox"/> LMDW-101-LA	Light Almond		<input type="checkbox"/> LMDW-102-LA	Light Almond	
<input type="checkbox"/> LMDW-101-I	Ivory		<input type="checkbox"/> LMDW-102-I	Ivory	
<input type="checkbox"/> LMDW-101-G	Grey		<input type="checkbox"/> LMDW-102-G	Grey	
<input type="checkbox"/> LMDW-101-B	Black		<input type="checkbox"/> LMDW-102-B	Black	
<input type="checkbox"/> LMDW-101-R	Red		<input type="checkbox"/> LMDW-102-R	Red	

Wall switch sensors do not include face plates. Order decorator style plate separately.

LMPX-100 Digital PIR Corner Mount Occupancy Sensor

Passive infrared sensor with a choice of four coverage patterns

Component of Digital Lighting Management integrated control system

Quick access to Push n' Learn for system personalization



Digital sensor with LCD display and programming pushbuttons behind snap-down cover

IR transceiver for wireless configuration and remote control

Compact 2.4" x 3" sensor mounts easily on a wall or ceiling

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMPX-100 Digital PIR Corner Mount Occupancy Sensor uses passive infrared (PIR) technology and one of four lenses to detect occupancy in different types of spaces for energy-efficient control of lighting and plug loads. It is a digital sensor, and is part of a WattStopper Digital Lighting Management (DLM) system.

Operation

The LMPX-100 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. It works with the room controller(s) to turn loads on and off based on occupancy. Default operation is established by Plug n' Go, which automatically configures system components to maximize energy savings. Initially, all occupancy sensors control all loads on the same local network. Each LMPX-100 may be assigned to a specific load; load assignments and load parameters may be changed using Push n' Learn. The LMPX-100 may be reconfigured either using the pushbuttons and an LCD screen conveniently located behind a snap-down cover on the front of the sensor, or with a wireless configuration tool.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for customization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Category 5e DLM local network

Digital Settings and IR Communications

The LMPX-100 includes a unique, easy-to-access, LCD screen that displays sensor parameters and simplifies changing those parameters. Time delay and sensitivity can be precisely adjusted and walk through mode can be activated. Changes are made at the sensor with easy-to-use pushbuttons, or via a wireless configuration tool that communicates with the sensor using a bi-directional infrared (IR) signal. The LMPX-100 IR transceiver allows wireless system operation in addition to configuration. The LCD display also facilitates system personalization, showing load information when in Push n' Learn mode.

Applications

LMPX-100 sensors, with different lenses for different spaces, are ideal for large areas including large offices, computer rooms, kindergarten classrooms, aiseways, warehouses and open offices where coverage cut-off is desired. The sensors can detect walking motion throughout an area of approximately 2,000 square feet. The high density lens provides coverage of desktop activity for an area up to 1,000 square feet. The long range and aisleway lenses detect motion approaching the sensor as far out as 85 to 90 feet and 55 to 60 feet, respectively.

- Infrared (IR) transceiver for wireless configuration and control
- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- RoHS compliant
- Qualifies for ARRA-funded public works projects

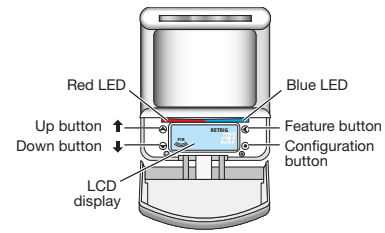


Specifications

- Input voltage: 24VDC from DLM network
- Current consumption: 7mA
- DLM local network connection: 1 RJ45 port via RJ45 plug and coupler (included)
- LCD display and pushbuttons for setting sensor and system parameters
- Infrared (IR) transceiver
- Operating conditions: for indoor use only; 32-104°F (0-40°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

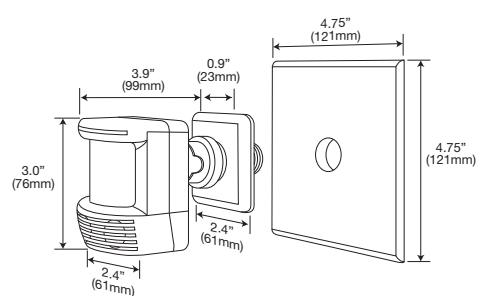
Controls & Dimensions

Product Controls and Sensor Settings



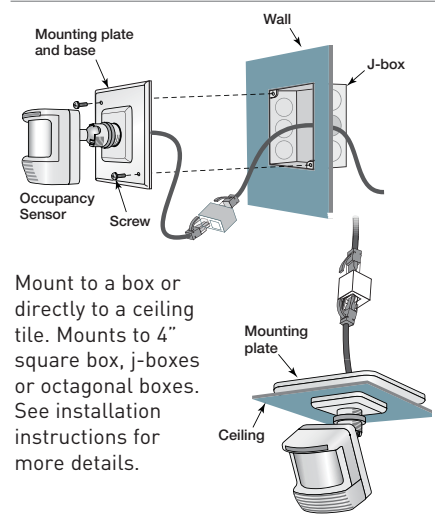
Sensor Parameter	Available Options	Default Setting
Time Delay	1-30 min. (1 min. increments) / Override	20 minutes
Walk Thru	On/Off	Off
PIR Sensitivity	10-100% (10% increments)/Off	90%
Test Mode	Activate	Off

Product Dimensions



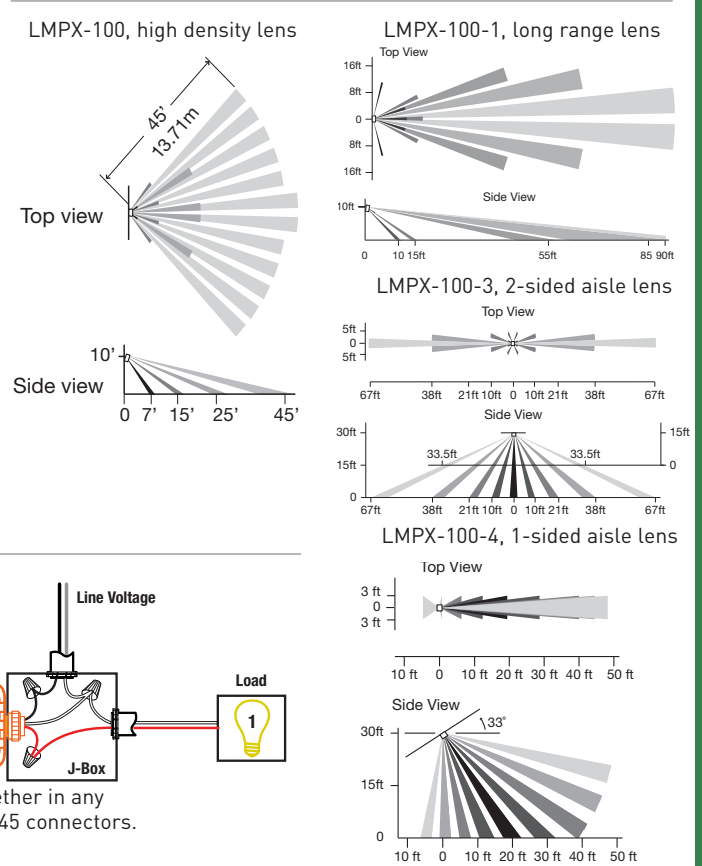
Mounting & Coverage

Mounting Options



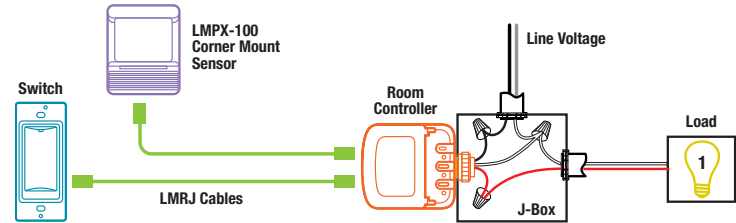
Mount to a box or directly to a ceiling tile. Mounts to 4" square box, j-boxes or octagonal boxes. See installation instructions for more details.

Coverage Patterns



Wiring

Sample Connection Diagram



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMPX-100	White	Digital PIR Corner Mount Occupancy Sensor, high density lens
<input type="checkbox"/> LMPX-100-U	White	Digital PIR Corner Mount Occupancy Sensor, high density lens, ARRA-compliant*
<input type="checkbox"/> LMPX-100-1	White	Digital PIR Corner Mount Occupancy Sensor, long range lens
<input type="checkbox"/> LMPX-100-1-U	White	Digital PIR Corner Mount Occupancy Sensor, long range lens, ARRA-compliant*
<input type="checkbox"/> LMPX-100-3	White	Digital PIR Corner Mount Occupancy Sensor, 2-sided aisle lens
<input type="checkbox"/> LMPX-100-3-U	White	Digital PIR Corner Mount Occupancy Sensor, 2-sided aisle lens, ARRA-compliant*
<input type="checkbox"/> LMPX-100-4	White	Digital PIR Corner Mount Occupancy Sensor, 1-sided aisle lens
<input type="checkbox"/> LMPX-100-4-U	White	Digital PIR Corner Mount Occupancy Sensor, 1-sided aisle lens, ARRA-compliant*

*Product produced in the U.S.

LMPC-100 Digital PIR Ceiling Mount Occupancy Sensor

Passive infrared sensor with a choice of three 360° coverage patterns

Extended height lens option for mounting heights up to 40'

Quick access to Push n' Learn for system personalization



Digital sensor with LCD display and programming pushbuttons behind snap-off cover

IR transceiver for wireless configuration and remote control

Low profile design for architectural appeal

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMPC-100 low profile Digital PIR Ceiling Mount Occupancy Sensor uses passive infrared (PIR) technology and one of three lenses to detect occupancy in different types of spaces for energy-efficient control of lighting and plug loads. It is a digital sensor, and is part of a WattStopper Digital Lighting Management (DLM) system.

Operation

The LMPC-100 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. It works with the room controller(s) to turn loads on and off based on occupancy. Default operation is established by Plug n' Go, which automatically configures system components to maximize energy savings. Initially, all occupancy sensors control all loads on the same local network. Each LMPC-100 may be assigned to a specific load; load assignments and load parameters may be changed using Push n' Learn. The LMPC-100 may be reconfigured either using the pushbuttons and an LCD screen conveniently located behind the snap-off front sensor cover, or with a wireless configuration tool.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for customization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Category 5e DLM local network
- Infrared (IR) transceiver for wireless configuration and control

Digital Settings and IR Communications

The LMPC-100 includes a unique, easy-to-access, LCD screen that displays sensor parameters and simplifies changing those parameters. Time delay and sensitivity can be precisely adjusted and walk through mode can be activated. Changes are made at the sensor with easy-to-use pushbuttons, or via a wireless configuration tool that communicates with the sensor using a bi-directional infrared (IR) signal. The LMPC-100 IR transceiver allows wireless system operation in addition to configuration. The LCD display also facilitates system personalization, showing load information when in Push n' Learn mode.

Applications

The LMPC-100 sensors, with different lenses for different spaces, are ideal for high and low ceiling areas including open offices, computer rooms, conference rooms, classrooms, warehouses and gyms. Sensor coverage for walking motion is approximately 1,000 square feet using the extended range lens, 450 square feet using the high density lens and 3,800 square feet using the extended height lens. The high density lens is ideal for detecting desktop activity, and small motion coverage is up to 300 square feet.

- 360 degree PIR coverage
- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- RoHS compliant
- Qualifies for ARRA-funded public works projects

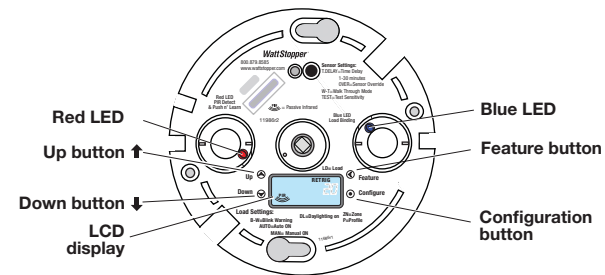


Specifications

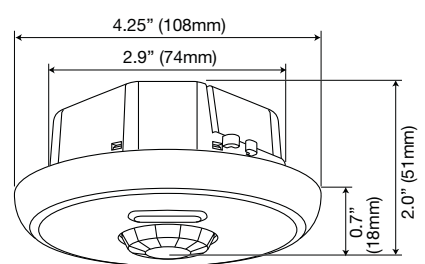
- Input voltage: 24VDC from DLM network
- Current consumption: 7mA
- DLM local network connection: 2 RJ45 ports
- LCD display and pushbuttons for setting sensor and system parameters
- Infrared (IR) transceiver
- Operating conditions: for indoor use only; 32-104°F (0-40°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Dimensions

Product Controls and Sensor Settings

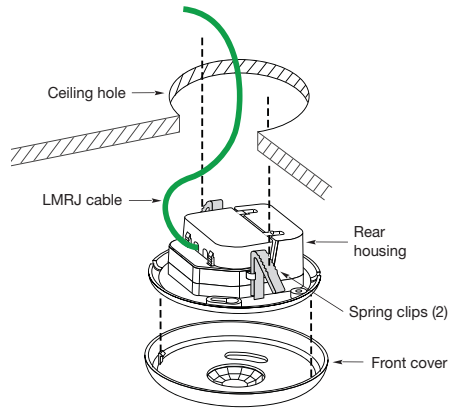


Product Dimensions



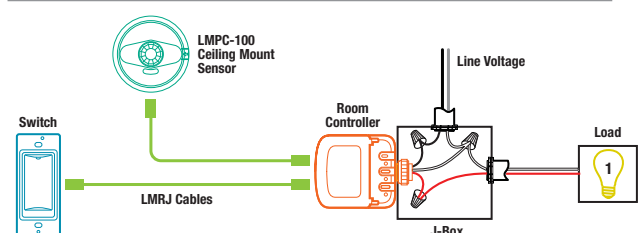
Sensor Parameter	Available Options	Default Setting
Time Delay	1-30 min. (1 min. increments) / Override	20 minutes
Walk Thru	On/Off	Off
PIR Sensitivity	10-100% (10% increments)/Off	90%
Test Mode	Activate	Off

Mounting Options



Mounting & Connecting

Sample Connection Diagram

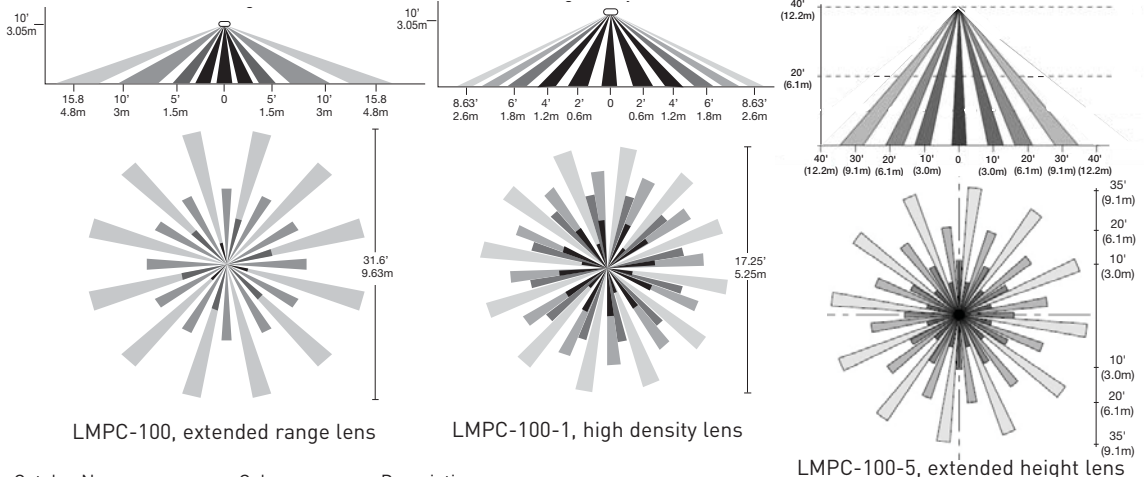


Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Mount directly to ceiling tile using spring clips (included) or to a 4" octagonal box. See installation instructions for more details.

Coverage

Coverage Patterns



Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMPC-100	White	Digital PIR Ceiling Mount Occupancy Sensor, extended range lens
<input type="checkbox"/> LMPC-100-U	White	Digital PIR Ceiling Mount Occupancy Sensor, extended range lens, ARRA-compliant*
<input type="checkbox"/> LMPC-100-1	White	Digital PIR Ceiling Mount Occupancy Sensor, high density lens
<input type="checkbox"/> LMPC-100-1-U	White	Digital PIR Ceiling Mount Occupancy Sensor, high density lens, ARRA-compliant*
<input type="checkbox"/> LMPC-100-5	White	Digital PIR Ceiling Mount Occupancy Sensor, extended height lens

*Product produced in the U.S.

LMUC-100 Digital Ultrasonic Ceiling Mount Occupancy Sensor

Ultrasonic sensor with diffusers for comprehensive coverage

Digital sensor with LCD display and programming pushbuttons behind snap-off cover

Component of Digital Lighting Management integrated control system

IR transceiver for wireless configuration and remote control

Quick access to Push n' Learn for system personalization

Low profile design for architectural appeal



PROJECT
LOCATION/TYPE

Product Overview

Description

The LMUC-100 low profile Digital Ultrasonic Ceiling Mount Occupancy Sensor uses ultrasonic diffusion technology to achieve 360° occupancy sensing for energy-efficient control of lighting and plug loads. It is a digital sensor, and is part of a WattStopper Digital Lighting Management (DLM) system.

Operation

The LMUC-100 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. It works with the room controller(s) to turn loads on and off based on occupancy. Default operation is established by Plug n' Go, which automatically configures system components to maximize energy savings. Initially, all occupancy sensors control all loads on the same local network. Each LMUC-100 may be assigned to a specific load; load assignments and load parameters may be changed using Push n' Learn. The LMUC-100 may be reconfigured either using the pushbuttons and an LCD screen conveniently located behind the snap-off front sensor cover, or with a wireless configuration tool.

Digital Settings and IR Communications

The LMUC-100 includes a unique, easy-to-access, LCD screen that displays sensor parameters and simplifies changing those parameters. Time delay and sensitivity can be precisely adjusted and walk through mode can be activated. Changes are made at the sensor with easy-to-use pushbuttons, or via a wireless configuration tool that communicates with the sensor using a bi-directional infrared (IR) signal. The LMUC-100 IR transceiver allows wireless system operation in addition to configuration. The LCD display also facilitates system personalization, showing load information when in Push n' Learn mode.

Applications

The LMUC-100 can sense motion in areas with partial obstructions, and is ideal for spaces with ceilings up to ten feet high. The LMUC-100 sensor is recommended for restrooms and open office areas. Multiple sensors may be used to control large partitioned office spaces when configured in zone patterns.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for customization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Category 5e DLM local network
- Infrared (IR) transceiver for wireless configuration and control
- Ultrasonic diffusion technology spreads coverage to a wider area (patented); 40KHz signal
- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- RoHS compliant
- Qualifies for ARRA-funded public works projects

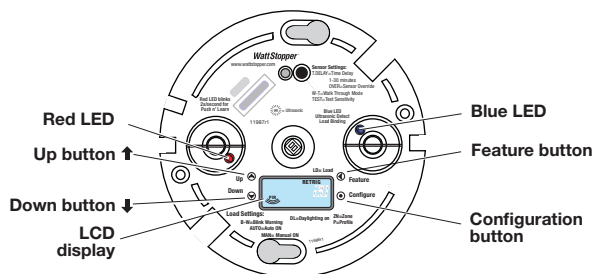


Specifications

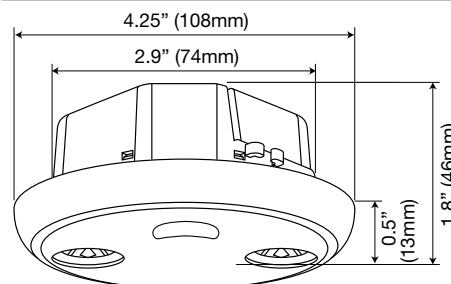
- Input voltage: 24VDC from DLM network
- Current consumption: 20mA
- DLM local network connection: 2 RJ45 ports
- LCD display and pushbuttons for setting sensor and system parameters
- Infrared (IR) transceiver
- Ultrasonic frequency: 40 kHz
- Coverage: Major motion, 1,000 ft² (93 m²)
Minor motion, 450 ft² (42 m²)
- Operating conditions: for indoor use only; 32-104°F (0-40°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Dimensions

Product Controls and Sensor Settings



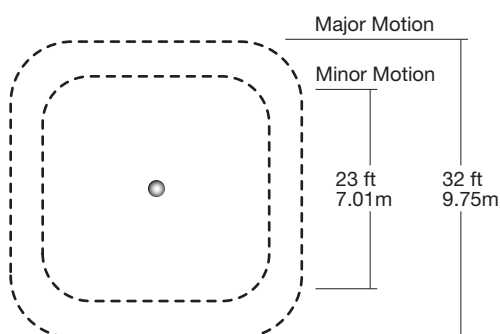
Product Dimensions



Sensor Parameter	Available Options	Default Setting
Time Delay	1-30 min. (1 min. increments) /Override	20 minutes
Walk Thru	On/Off	Off
Ultrasonic Sensitivity	10-100% (10% increments)/Off	70%
Test Mode	Activate	Off

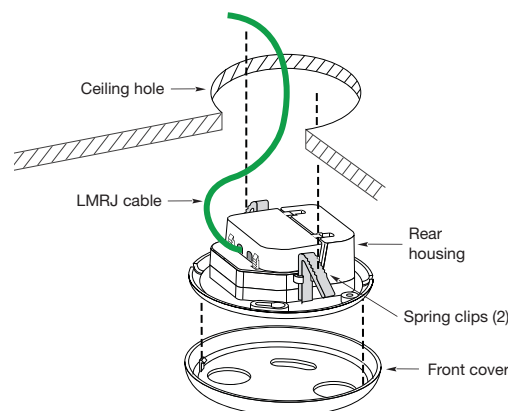
Coverage & Mounting

Coverage Pattern



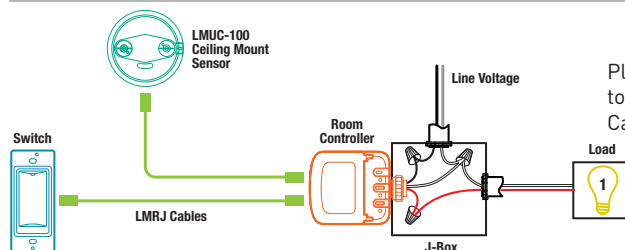
For optimal sensing of large spaces, place sensors so that coverage overlaps.

Mounting Options



Mount directly to ceiling tile using spring clips (included) or to a 4" octagonal box. See installation instructions for more details.

Wiring Sample Connection Diagram



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMUC-100-2	White	Digital Ultrasonic Ceiling Mount Occupancy Sensor, 1,000 ft ² coverage
<input type="checkbox"/> LMUC-100-2-U	White	Digital Ultrasonic Ceiling Mount Occupancy Sensor, 1,000 ft ² coverage, ARRA-compliant*

*Product produced in the U.S.

LMDX-100 Digital Dual Technology Corner Mount Occupancy Sensor

Combines passive infrared and ultrasonic technologies for most comprehensive coverage

Component of Digital Lighting Management integrated control system

Quick access to Push n' Learn for system personalization



Digital sensor with LCD display and programming pushbuttons behind snap-down cover

IR transceiver for wireless configuration and remote control

Compact 2.4" x 3" sensor mounts easily on a wall or ceiling

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMDX-100 Digital Dual Technology Corner Mount Occupancy Sensor uses both passive infrared (PIR) and ultrasonic technologies to achieve precise occupancy sensing for energy-efficient control of lighting and plug loads. It is a digital sensor, and is part of a WattStopper Digital Lighting Management (DLM) system.

Operation

The LMDX-100 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. It works with the room controller(s) to turn loads on and off based on occupancy. Default operation is established by Plug n' Go, which automatically configures system components to maximize energy savings. Initially, all occupancy sensors control all loads on the same local network. Each LMDX-100 may be assigned to a specific load; load assignments and load parameters may be changed using Push n' Learn. The LMDX-100 may be reconfigured either using the pushbuttons and an LCD screen conveniently located behind a snap-down cover on the front of the sensor, or with a wireless configuration tool.

Digital Settings and IR Communications

The LMDX-100 includes a unique, easy-to-access, LCD screen that displays sensor parameters and simplifies changing those parameters. Time delay and sensitivity can be precisely adjusted. Additionally, walk through mode can be activated and detection and retrigger technologies may be changed. Changes are made at the sensor with easy-to-use pushbuttons, or via a wireless configuration tool that communicates with the sensor using a bi-directional infrared (IR) signal. The LMDX-100 IR transceiver allows wireless system operation in addition to configuration. The LCD display also facilitates system personalization, showing load information when in Push n' Learn mode.

Applications

The LMDX-100 senses both large and small motions and is recommended for spaces including conference rooms, private offices, classrooms and computer rooms where using just one detection technology could result in false triggers. Mounted at ten feet, the LMDX-100 can detect walking motion throughout an area of approximately 2,000 square feet, and desktop motion for up to 1,000 square feet.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for customization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Category 5e DLM local network
- Infrared (IR) transceiver for wireless configuration and control
- Ultrasonic diffusion technology spreads coverage to a wider area (patented); 40KHz signal
- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- RoHS compliant
- Qualifies for ARRA-funded public works projects

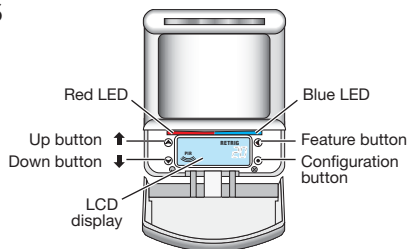


Specifications

- Input voltage: 24VDC from DLM network
- Current consumption: 20mA
- DLM local network connection: 1 RJ45 port via RJ45 plug and coupler (included)
- LCD display and pushbuttons for setting sensor and system parameters
- Infrared (IR) transceiver
- Ultrasonic frequency: 40 kHz
- Operating conditions: for indoor use only; 32-104°F (0-40°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Indicators

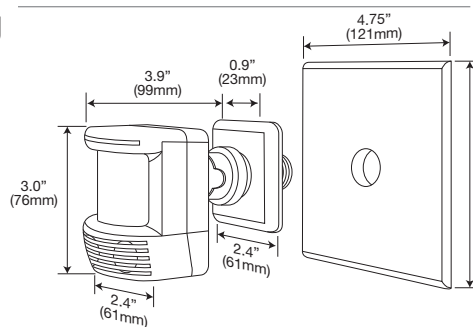
Product Controls and Sensor Settings



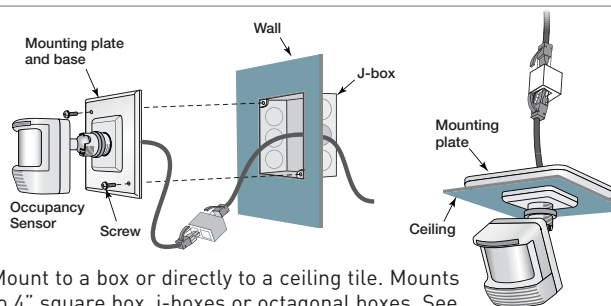
Sensor Parameter	Available Options	Default Setting
Time Delay	1-30 min. (1min. increments) /Override	20 minutes
Walk Thru	On/Off	Off
PIR Sensitivity	10-100% (10% increments)/Off	90%
Ultrasonic Sensitivity	10-100% (10% increments)/Off	70%
Test Mode	Activate	Off
Detection Technology	Ultrasonic/PIR/Both/Neither	Both
Retrigger Technology	Ultrasonic/PIR/Both/Neither	Neither

Dimensions & Mounting

Product Dimensions



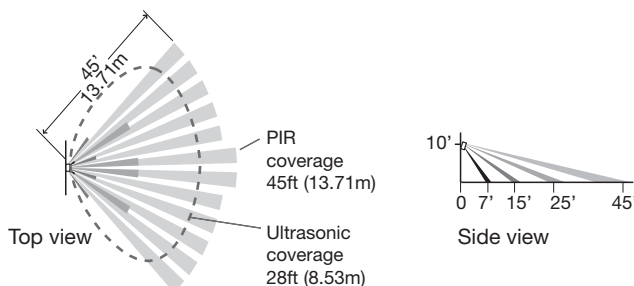
Wall and Ceiling Mounting Options



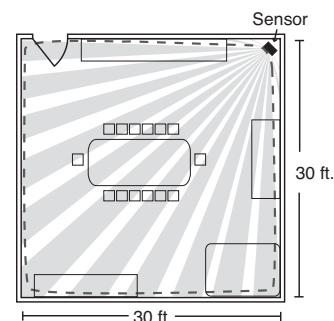
Mount to a box or directly to a ceiling tile. Mounts to 4" square box, j-boxes or octagonal boxes. See installation instructions for more details.

Coverage & Placement

Coverage Patterns

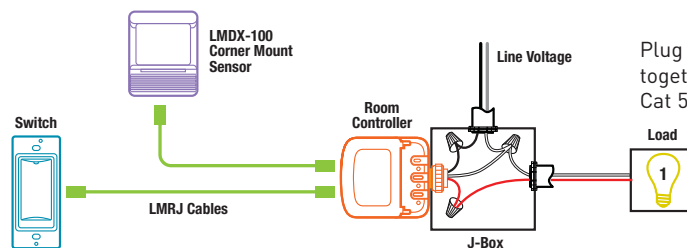


Sensor Placement



Wiring

Sample Connection Diagram



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMDX-100	White	Digital Dual Technology Corner Mount Occupancy Sensor
<input type="checkbox"/> LMDX-100-U	White	Digital Dual Technology Corner Mount Occupancy Sensor, ARRA-compliant*

*Product produced in the U.S.

LMDC-100 Digital Dual Technology Ceiling Mount Occupancy Sensor

Combines passive infrared and ultrasonic technologies for most comprehensive coverage

Component of Digital Lighting Management integrated control system

Quick access to Push n' Learn for system personalization



Digital sensor with LCD display and programming pushbuttons behind snap-off cover

IR transceiver for wireless configuration and remote control

Low profile design for architectural appeal

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMDC-100 low profile Digital Dual Technology Ceiling Mount Occupancy Sensor uses both passive infrared (PIR) and ultrasonic technologies to achieve precise occupancy sensing for energy-efficient control of lighting and plug loads. It is a digital sensor, and is part of a WattStopper Digital Lighting Management (DLM) system.

Operation

The LMDC-100 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. It works with the room controller(s) to turn loads on and off based on occupancy. Default operation is established by Plug n' Go, which automatically configures system components to maximize energy savings. Initially, all occupancy sensors control all loads on the same local network. Each LMDC-100 may be assigned to a specific load; load assignments and load parameters may be changed using Push n' Learn. The LMDC-100 may be reconfigured either using the pushbuttons and an LCD screen conveniently located behind the snap-off front sensor cover, or with a wireless configuration tool.

Digital Settings and IR Communications

The LMDC-100 includes a unique, easy-to-access, LCD screen that displays sensor parameters and simplifies changing those parameters. Time delay and sensitivity can be precisely adjusted. Additionally, walk through mode can be activated and detection and retrigger technologies may be changed. Changes are made at the sensor with easy-to-use pushbuttons, or via a wireless configuration tool that communicates with the sensor using a bi-directional infrared (IR) signal. The LMDC-100 IR transceiver allows wireless system operation in addition to configuration. The LCD display also facilitates system personalization, showing load information when in Push n' Learn mode.

Applications

The LMDC-100 senses both large and small motions and is recommended for spaces including conference rooms, private offices, open offices and classrooms where using just one detection technology could result in false triggers. Mounted at ten feet, the LMDC-100 can detect motion throughout an area of approximately 1,000 square feet.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Push n' Learn™ functionality for customization without the need for tools or a PC
- Digital Lighting Management components plug together on a free-topology Category 5e DLM local network
- Infrared (IR) transceiver for wireless configuration and control
- Ultrasonic diffusion technology spreads coverage to a wider area (patented); 40KHz signal
- 360 degree PIR coverage
- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- RoHS compliant
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Qualifies for ARRA-funded public works projects

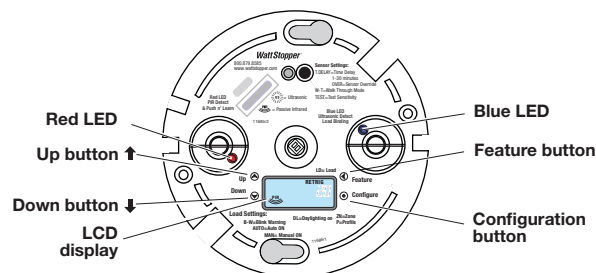


Specifications

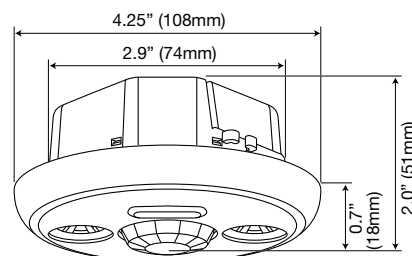
- Input voltage: 24VDC from DLM network
- Current consumption: 20mA
- DLM local network connection: 2 RJ45 ports
- LCD display and pushbuttons for setting sensor and system parameters
- Infrared (IR) transceiver
- Ultrasonic frequency: 40 kHz
- Operating conditions: for indoor use only; 32-104°F (0-40°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Dimensions

Product Controls and Sensor Settings



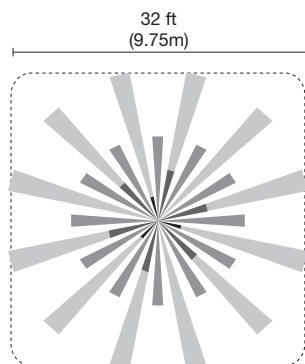
Product Dimensions



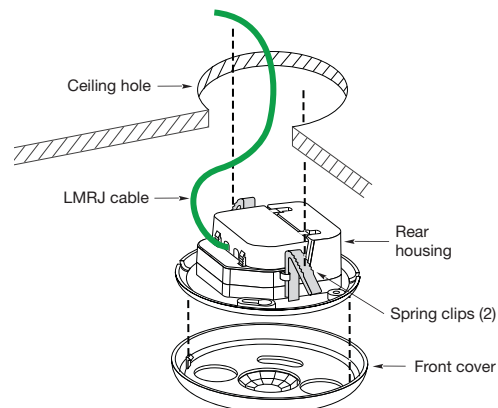
Sensor Parameter	Available Options	Default Setting
Time Delay	1-30 min. [1 min. increments] /Override	20 minutes
Walk Thru	On/Off	Off
PIR Sensitivity	10-100% (10% increments)/Off	90%
Ultrasonic Sensitivity	10-100% (10% increments)/Off	70%
Test Mode	Activate	Off
Detection Technology	Ultrasonic/PIR/Both/Either	Both
Retrigger Technology	Ultrasonic/PIR/Both/Either	Either

Coverage & Mounting

Coverage Patterns



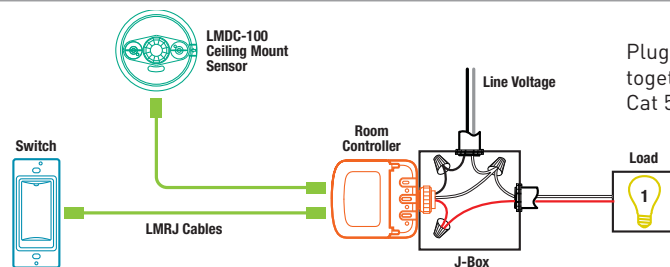
Mounting Options



Mount directly to ceiling tile using spring clips (included) or to a 4" octagonal box. See installation instructions for more details.

Wiring

Sample Connection Diagram



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMDC-100	White	Digital Dual Technology Ceiling Mount Occupancy Sensor
<input type="checkbox"/> LMDC-100-U	White	Digital Dual Technology Ceiling Mount Occupancy Sensor, ARRA-compliant*

*Product produced in the U.S.



PERSONAL CONTROLS

Elegantly styled low profile wall switches and handheld remotes give users control of dimmed and switched loads.

Including personal control switches or remotes, in addition to DLM sensors, improves both return on investment and occupant satisfaction.

MULTIPLE CONTROL OPTIONS

- On/off
- Dimming
- Scene control
- Partition control

SIMPLE ERGONOMIC CONTROL

- Positive button feel
- LED status indicators
- Wireless control

COMPATIBLE WITH BUILDING DESIGN STANDARDS

- Wall switches in 6 colors fit decorator style faceplates
- Infrared (IR) handheld remotes include wall holster





LMSW-100 Series Digital Wall Switches

Low voltage pushbutton switches for control of multiple loads

Components of Digital Lighting Management integrated control system

Plug to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors



Customizable buttons with LED status indicators

IR transceiver for wireless configuration and remote control

Plug n' Go automatic configuration and Push n' Learn for personalization

PROJECT

LOCATION/TYPE

Product Overview

Description

LMSW-100 Series Digital Wall Switches are low voltage devices for energy-saving manual on/off control of one or more loads from one or more locations. They are part of a Digital Lighting Management (DLM) system and can control any load(s) connected to DLM room controllers.

Operation

LMSW-100 Series Switches operate on Class 2 power supplied to a DLM local network by one or more room controllers. The switches send a digital signal for on or off whenever a pushbutton is pressed by a user. Plug n' Go automatic configuration assigns each load to a switch button upon system startup. If the number of buttons equals the number of loads, each button operates one load. If there are more loads than buttons, the last button controls multiple loads. Any extra buttons are unassigned. When multiple switches are installed, default operation is for multi-way control; each switch controls all of the loads on the system. Button assignments may be quickly reconfigured using Push n' Learn. Button configuration may be changed from load control to scene control using DLM configuration tools.

Features

- Hidden configuration button for easy access to Push n' Learn
- Digital Lighting Management components plug together on a free-topology Category 5e DLM local network
- Infrared (IR) transceiver for wireless configuration and control
- Sleek single gang devices fit decorator wall plates; 1-, 2-, 3-, 4-, and 8-button models
- Each button can control individual or multiple loads, or one scene; LED indicates status
- Each switch button can be used to dim the load
- Switches may be used for multi-way control
- Six color options and custom engraving options; standard buttons may be replaced in the field
- RoHS compliant
- Qualifies for ARRA-funded public works projects

Button Features and IR Communications

An LED shows the status of the load(s) or scene assigned to each button on a switch. Switches are available with one, two, three, four or eight buttons. When an unassigned button is pressed, the LED will blink. Each button can dim the load up and down. Each switch may be personalized in the field with custom-engraved buttons. The IR transceiver in each LMSW-100 Series Digital Wall Switch allows two-way communication for both wireless system configuration and operation.

Applications

LMSW-100 Series Digital Wall Switches are recommended for virtually all applications, including offices, conference rooms and classrooms. They are ideal for any area where manual on/off control is desired. They are also perfect for applications requiring multi-way control. LMSW-100 Series Switches increase energy savings and improve the return on investment of any Digital Lighting Management system.

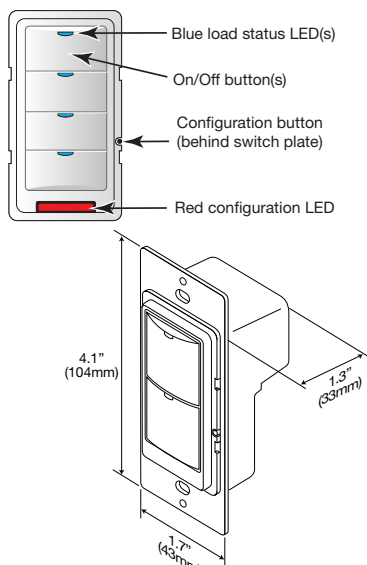


Specifications

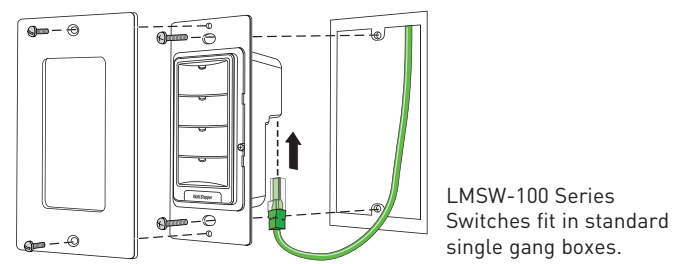
- Input voltage: 24VDC from DLM local network
- Current consumption: 5mA
- DLM local network connection: 2 RJ45 ports
- 1, 2, 3, 4 or 8 control buttons, each with LED status indicator
- Hidden configuration button to access Push n' Learn
- Infrared (IR) transceiver
- Operating conditions: for indoor use only; 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Mounting

Product Controls, Dimensions and Models



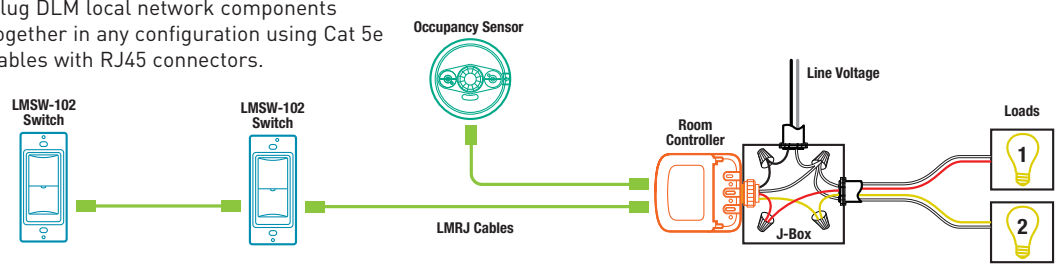
Mounting



Connecting

Sample Connection Diagram with Multi-way Bi-level Control

Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.



Ordering Information

Catalog No.	Color	Product Description
<input type="checkbox"/> LMSW-101-W	White	1-Button Digital Wall Switch
<input type="checkbox"/> LMSW-101-LA	Light Almond	
<input type="checkbox"/> LMSW-101-I	Ivory	
<input type="checkbox"/> LMSW-101-G	Grey	
<input type="checkbox"/> LMSW-101-B	Black	
<input type="checkbox"/> LMSW-101-R	Red	
<input type="checkbox"/> LMSW-101-W-U	White	1-Button Digital Wall Switch, ARRA-compliant*
<input type="checkbox"/> LMSW-101-I-U	Ivory	
<input type="checkbox"/> LMSW-102-W	White	2-Button Digital Wall Switch
<input type="checkbox"/> LMSW-102-LA	Light Almond	
<input type="checkbox"/> LMSW-102-I	Ivory	
<input type="checkbox"/> LMSW-102-G	Grey	
<input type="checkbox"/> LMSW-102-B	Black	
<input type="checkbox"/> LMSW-102-R	Red	
<input type="checkbox"/> LMSW-102-W-U	White	2-Button Digital Wall Switch, ARRA compliant*
<input type="checkbox"/> LMSW-102-I-U	Ivory	
<input type="checkbox"/> LMSW-103-W	White	3-Button Digital Wall Switch
<input type="checkbox"/> LMSW-103-LA	Light Almond	
<input type="checkbox"/> LMSW-103-I	Ivory	
<input type="checkbox"/> LMSW-103-G	Grey	
<input type="checkbox"/> LMSW-103-B	Black	
<input type="checkbox"/> LMSW-103-R	Red	

Catalog No.	Color	Product Description
<input type="checkbox"/> LMSW-103-W-U	White	3-Button Digital Wall Switch, ARRA-compliant*
<input type="checkbox"/> LMSW-103-I-U	Ivory	
<input type="checkbox"/> LMSW-104-W	White	4-Button Digital Wall Switch
<input type="checkbox"/> LMSW-104-LA	Light Almond	
<input type="checkbox"/> LMSW-104-I	Ivory	
<input type="checkbox"/> LMSW-104-G	Grey	
<input type="checkbox"/> LMSW-104-B	Black	
<input type="checkbox"/> LMSW-104-R	Red	
<input type="checkbox"/> LMSW-104-W-U	White	4-Button Digital Wall Switch, ARRA-compliant*
<input type="checkbox"/> LMSW-104-I-U	Ivory	
<input type="checkbox"/> LMSW-108-W	White	8-Button Digital Wall Switch
<input type="checkbox"/> LMSW-108-LA	Light Almond	
<input type="checkbox"/> LMSW-108-I	Ivory	
<input type="checkbox"/> LMSW-108-G	Grey	
<input type="checkbox"/> LMSW-108-B	Black	
<input type="checkbox"/> LMSW-108-R	Red	
<input type="checkbox"/> LMSW-108-W-U	White	8-Button Digital Wall Switch, ARRA-compliant*
<input type="checkbox"/> LMSW-108-I-U	Ivory	

Note: Switches do not include face plates. Order decorator style plate separately.
*Product produced in the U.S.

LMDM-101 Digital Dimming Wall Switch

Low voltage switch for control of dimmable loads

Component of Digital Lighting Management integrated control system

Plugs to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors



LED bar graph indicates relative light level of controlled load

Active Dim feature enables temporary adjustment of any selected load

Plug n' Go automatic configuration and Push n' Learn for personalization

Product Overview

Description

The LMDM-101 Digital Dimming Wall Switch is a low voltage device for dimming control of one or more lighting loads. It is part of a Digital Lighting Management (DLM) system and can dim load(s) connected to DLM dimming room controllers and switch load(s) connected to DLM on/off room controllers.

Operation

The LMDM-101 operates on Class 2 power supplied to a DLM local network by one or more room controllers. Plug n' Go automatic configuration assigns all loads connected to dimming room controllers to the dimming switch upon system startup. When multiple switches are installed, default operation is for multi-way control; each switch controls all of the loads on the system. Dimming switches may be reconfigured using Push n' Learn to control only selected loads. The LMDM-101 may be used to raise or lower light levels, recall a preset level and turn lights on or off. In Active Dim mode, users can temporarily adjust the level of any dimmable load or scene on the local network by selecting a load or scene button and then pressing and holding the paddle on the LMDM-101.

Features

- Hidden configuration button for easy access to Push n' Learn
- Used with DLM dimming room controller
- Digital Lighting Management components plug together on a free-topology Category 5e DLM local network
- Provides full function dimming control in multi-way applications, such as 3-way, 4-way, and beyond
- Infrared (IR) transceiver for wireless configuration and control
- LED status indicator
- Sleek single gang device fits decorator wall plates
- Six color options and custom engraving options; standard buttons may be replaced in the field
- RoHS compliant
- Qualifies for ARRA-funded public works projects

PROJECT

LOCATION/TYPE

LED Indicators and IR Communications

A single blue LED shows the on/off status of the load(s) assigned to the dimming switch. An LED array in the bezel of the switch tracks progress of a fade and indicates the output level to the load. Each dimming switch may be personalized in the field with custom-engraved buttons. The IR transceiver in the LMDM-101 allows two-way communication for both wireless configuration, using Push n' Learn and a wireless configuration tool, and system operation, using handheld remotes.

Applications

The LMDM-101 is ideal for use in applications where dimming control is desired, such as conference and board rooms, classrooms, training centers and private offices. Used together with the LMSW-105 DLM Scene Switch, the LMDM-101 works as part of a flexible scene-based preset dimming system. Digital Lighting Management's Active Dim feature gives designers the option of reducing wall clutter by facilitating scene setting without the need for individual dimming switches for each load.

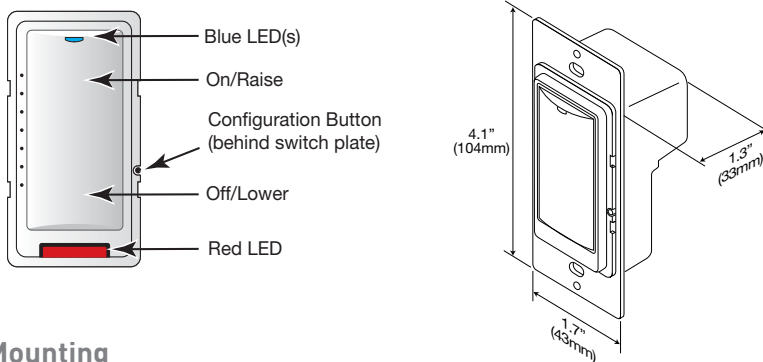


Specifications

- Input voltage: 24VDC from DLM local network
- Current consumption: 5mA
- DLM local network connection: 2 RJ45 ports
- Control button with LED status indicator
- 7-LED dimming level indicator
- Hidden configuration button for access to Push n'Learn mode
- Infrared (IR) transceiver
- Operating conditions: for indoor use only; 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

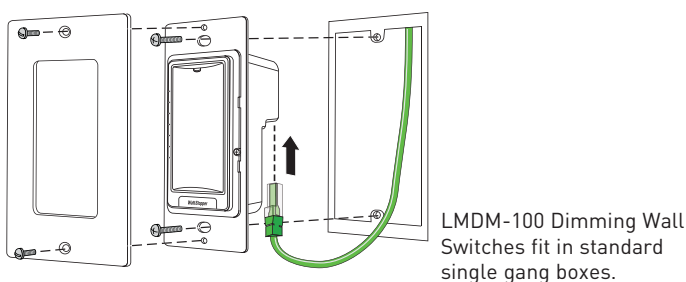
Controls & Dimensions

Product

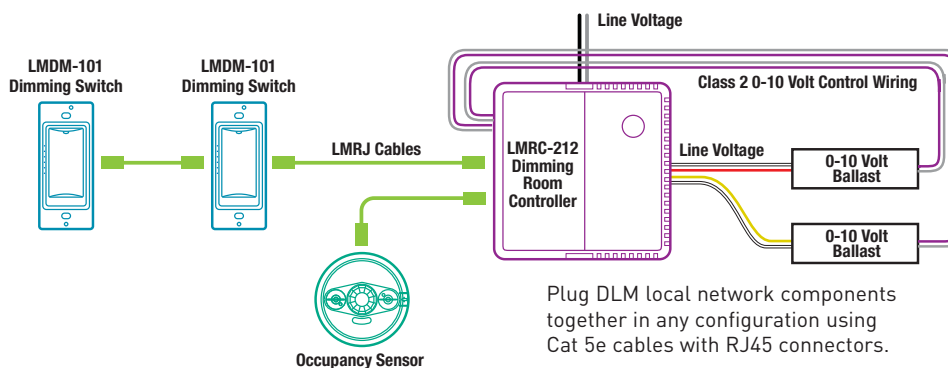


Mounting & Connecting

Mounting



Sample Connection Diagram with 0-10 Volt Dimming



Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMDM-101-W	White	Digital 1-Button Dimming Wall Switch
<input type="checkbox"/> LMDM-101-W-U	White	Digital 1-Button Dimming Wall Switch, ARRA-compliant*
<input type="checkbox"/> LMDM-101-LA	Light Almond	Digital 1-Button Dimming Wall Switch
<input type="checkbox"/> LMDM-101-I	Ivory	Digital 1-Button Dimming Wall Switch
<input type="checkbox"/> LMDM-101-I-U	Ivory	Digital 1-Button Dimming Wall Switch, ARRA-compliant*
<input type="checkbox"/> LMDM-101-G	Grey	Digital 1-Button Dimming Wall Switch
<input type="checkbox"/> LMDM-101-B	Black	Digital 1-Button Dimming Wall Switch
<input type="checkbox"/> LMDM-101-R	Red	Digital 1-Button Dimming Wall Switch

Switches do not include face plates. Order decorator style plate separately.
 *Product produced in the U.S.

LMSW-105 Digital 5-Button Scene Switch

Low voltage switch for control of four preset scenes and raise/lower control of scenes or loads

Component of Digital Lighting Management integrated control system

Plugs to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors



Plug n' Go automatic configuration and Push n' Learn for personalization

Customizable buttons with LED status indicators

Active Dim feature enables temporary adjustment of any selected load

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMSW-105 Digital Scene Switch is a low voltage device that sets and recalls preset lighting scenes and raises and lowers lighting levels. It is part of a Digital Lighting Management (DLM) system and controls loads connected to DLM room controllers by accessing four of the 16 scenes available in a DLM local network.

Operation

The LMSW-105 operates on Class 2 power supplied to a DLM local network by one or more room controllers. Plug n' Go automatic configuration assigns presets 1, 2, 3 and 4 to the scene buttons on the switch upon system startup. When multiple switches are installed, default operation is for multi-way control; each switch controls the same scenes. Scene buttons may be reconfigured to control different scenes or control loads instead of scenes. Users activate a scene by tapping one of the scene buttons. They may raise or lower light levels, and turn lights on or off, with the paddle. In Active Dim mode, users can temporarily adjust the level of any dimmable load or scene on the local network by selecting a load or scene button and then pressing and holding the paddle on the LMSW-105.

Features

- Hidden configuration button for easy access to Push n' Learn mode
- Used with DLM dimming room controller
- Master raise/lower paddle and all-on/all-off control
- Infrared (IR) transceiver for wireless configuration and control

Personalizing Scene Switches

Plug n' Go assigns all loads to each LMSW-105 upon system startup. Load assignments may be changed using Push n' Learn. Preset scene levels are stored by the room controllers, and default levels are established by Plug n' Go. Scene 1 is 100%, scene 2 is 75%, scene 3 is 50% and scene 4 is 25%. Preset levels can be easily changed by adjusting lighting to the desired level, typically using LMDM-101 dimming switches assigned to control each load, or channel, and pressing and holding a scene button on the LMSW-105 to memorize the new levels. Each scene switch may be personalized in the field with custom-engraved buttons. The integral IR transceiver allows both wireless configuration and system operation.

Applications

The LMSW-105's sleek low profile appearance is ideally suited for use in conference and board rooms, classrooms, training centers, and other applications where preset scene-based dimming control is desired. The LMSW-105 Scene Switch works with LMDM-101 Digital Dimming Wall Switches to create a flexible and elegant small dimming system. Digital Lighting Management's Active Dim feature gives designers the option of reducing wall clutter by facilitating scene setting without the need for individual dimming switches for each load.

- Sleek single gang device fits decorator wall plates
- May be used for multi-way control applications
- LED status indicators
- Six color options and custom engraving options; standard buttons may be replaced in the field
- RoHS compliant
- Qualifies for ARRA-funded public works projects

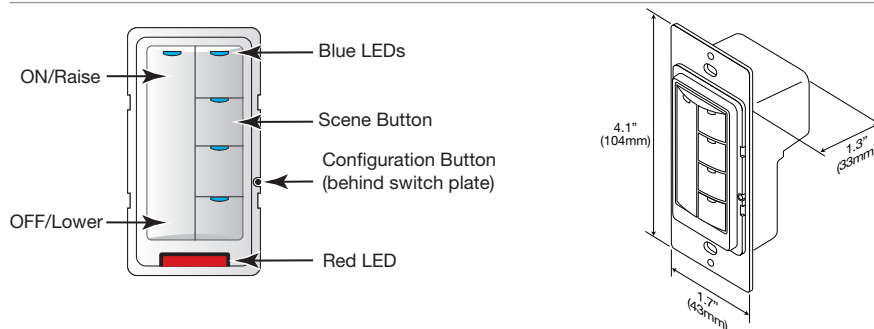


Specifications

- Input voltage: 24VDC from DLM local network
- Current consumption: 5mA
- DLM local network connection: 2 RJ45 ports
- Control button with LED status indicator
- Hidden configuration button for access to Push n'Learn mode
- Infrared (IR) transceiver
- Operating conditions: for indoor use only; 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

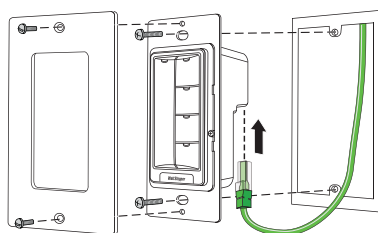
Controls & Dimensions

Switch Controls and Dimensions



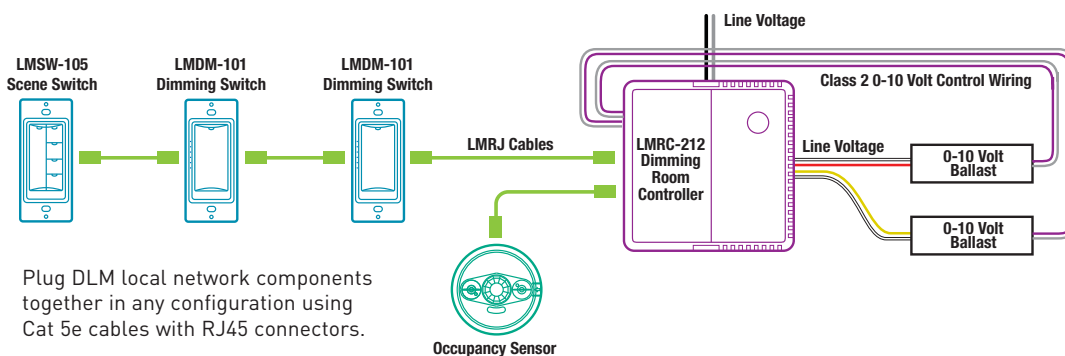
Mounting & Connecting

Mounting



LMSW-105 Scene Switches fit in standard single gang boxes.

Sample Connection Diagram with 0-10 Volt Dimming



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMSW-105-W	White	Digital 5-Button Scene Switch
<input type="checkbox"/> LMSW-105-W-U	White	Digital 5-Button Scene Switch, ARRA-compliant*
<input type="checkbox"/> LMSW-105-LA	Light Almond	Digital 5-Button Scene Switch
<input type="checkbox"/> LMSW-105-I	Ivory	Digital 5-Button Scene Switch
<input type="checkbox"/> LMSW-105-I-U	Ivory	Digital 5-Button Scene Switch, ARRA-compliant*
<input type="checkbox"/> LMSW-105-G	Grey	Digital 5-Button Scene Switch
<input type="checkbox"/> LMSW-105-B	Black	Digital 5-Button Scene Switch
<input type="checkbox"/> LMSW-105-R	Red	Digital 5-Button Scene Switch

Switches do not include face plates. Order decorator style plate separately.
*Product produced in the U.S.

LMPS-104 Digital Partition Switch

Reconfigures lighting controls for logical operation when movable walls are opened and closed

Each button represents one wall; LED indicates status

IR transceiver for wireless configuration and remote control



Recalls 16 configurations for spaces with up to 5 partitioned areas and 4 movable walls

Field-customizable control buttons

Plugs to other components using Cat 5e cables with RJ45 connectors eliminating wiring errors

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMPS-104 Digital Partition Switch enables quick manual coordination of lighting controls in flexible spaces with up to four movable walls. It is part of a Digital Lighting Management (DLM) system, and can reconfigure connected switches and occupancy sensors. The LMPS-104 may also be used as a status indicator when an LMIO-102 Digital Partition Interface is used for automatic coordination of controls.

Operation

The LMPS-104 operates on Class 2 power supplied to a DLM local network by one or more room controllers. Prior to operation, the user must establish load profiles for each possible configuration of the space, with up to four walls open and closed. Up to 16 load profiles may be configured using Push n' Learn or other DLM configuration tools. When the walls in the controlled space are all closed, the user must toggle the buttons so that all of the LEDs are on. When the controlled space is set up for a new function, the user toggles the buttons associated with each wall that has been opened so that the LED is off. Each different button combination recalls one of the 16 load profiles.

Features

- Hidden configuration button for easy access to Push n' Learn
- Digital Lighting Management components plug together on a free-topology Category 5e DLM local network
- Infrared (IR) transceiver for wireless configuration and control
- Sleek single gang device fits decorator wall plates
- Each button represents one wall; LED indicates status (open or closed)
- Five color options and custom engraving options; standard buttons may be replaced in the field
- RoHS compliant
- Qualifies for ARRA-funded public works projects

Button Engraving and Display Option

Each switch may be personalized in the field with custom-engraved buttons (e.g. Wall 1, Wall 2, Wall 3 and Wall 4). When the LMPS-104 is used with an LMIO-102, the buttons are inactive, but each LED automatically displays the status of the associated wall.

Applications

LMPS-104 Partition Switches are ideal for multi-use spaces that are frequently reconfigured. Applications include hotel and conference center ballrooms and meeting rooms, school multi-use rooms, and other spaces with movable walls.

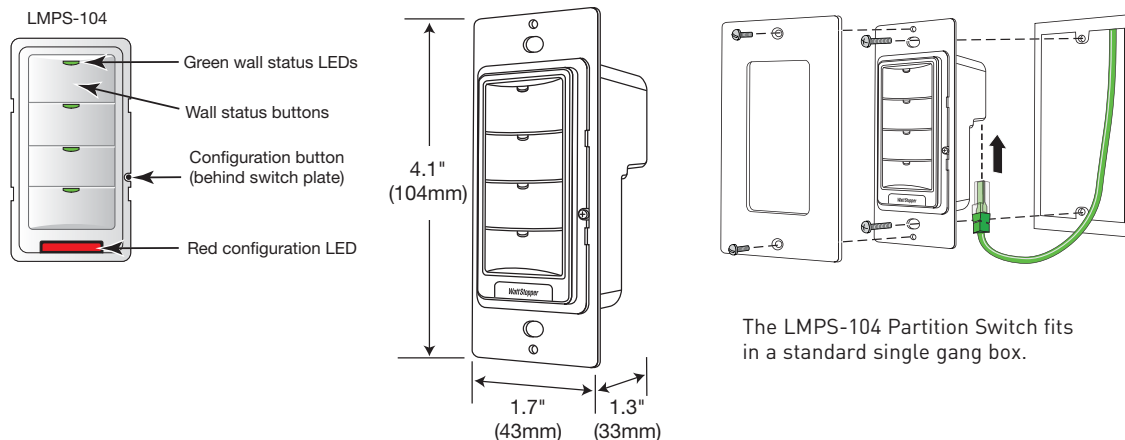


Specifications

- Input voltage: 24VDC from DLM local network
- Current consumption: 5mA
- DLM local network connection: 2 RJ45 ports
- 4 control buttons, each with LED status indicator
- Hidden configuration button to access Push n' Learn
- Infrared (IR) transceiver
- Operating conditions: for indoor use only; 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Controls & Mounting

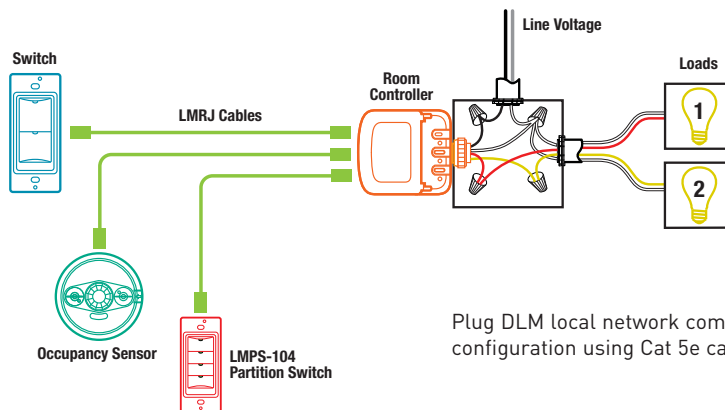
Product Controls, Dimensions and Mounting



The LMPS-104 Partition Switch fits in a standard single gang box.

Connecting

Sample Connection Diagram



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMPS-104-W-U	White	Digital Partition Switch, ARRA-compliant*
<input type="checkbox"/> LMPS-104-LA-U	Light Almond	Digital Partition Switch, ARRA-compliant*
<input type="checkbox"/> LMPS-104-I-U	Ivory	Digital Partition Switch, ARRA-compliant*
<input type="checkbox"/> LMPS-104-G-U	Grey	Digital Partition Switch, ARRA-compliant*
<input type="checkbox"/> LMPS-104-B-U	Black	Digital Partition Switch, ARRA-compliant*

LMSW-108 8-button Digital Wall Switches do not support partitioning. LMPS-104 Partition Switches are compatible with all other DLM switches and control devices.

Switches do not include face plates. Order decorator style plate separately.

*Product produced in the U.S.

LMRH-102 Digital 2-Button IR Remote Control

Provides wireless remote on/off control of two lighting loads

Component of Digital Lighting Management integrated control systems

Sleek, easy-to-operate design



Push n' Learn for personalization

Wall mount bracket and mounting hardware included

Infrared (IR) wireless signal for control within a 32 foot range

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMRH-102 Digital 2-Button IR Remote Control is a handheld on/off personal control device for convenient control of any loads connected to Digital Lighting Management (DLM) room controllers. It uses an infrared transceiver to communicate with a DLM system via any DLM IR-enabled devices.

Operation

The LMRH-102 operates on battery power and transmits a digital signal for on or off whenever a pushbutton is pressed by a user. By default, the top button controls the first load in the system and the bottom button controls the second load. Button assignments may be quickly reconfigured using Push n' Learn. The LMRH-102 will work with any DLM local network, operating loads one and two, if in default mode, or the loads it has been configured to control.

Personalized Control

To assign different lighting loads to the buttons, users can access Push n' Learn via the hidden configuration button on the remote. For instance, in a classroom a teacher might wish to assign all lighting loads to the second button so it serves as a master off button. Or, he or she may wish to assign whiteboard lighting to the second button while general classroom lighting is assigned to the first button.

Applications

The 2-button remote control can be used anywhere that convenient fingertip lighting control is desired. Conference rooms, training centers, lecture halls and private offices are all ideal applications for this device.

Features

- Provides infrared (IR) control of two lighting loads or zones in a DLM system
- Hidden configuration button for easy access to Push n' Learn
- Communicates with DLM local network through any DLM IR-enabled device
- Battery operated
- Includes wall mount holster and all necessary mounting hardware
- Each button can control individual or multiple loads
- LEDs confirm button presses
- RoHS compliant

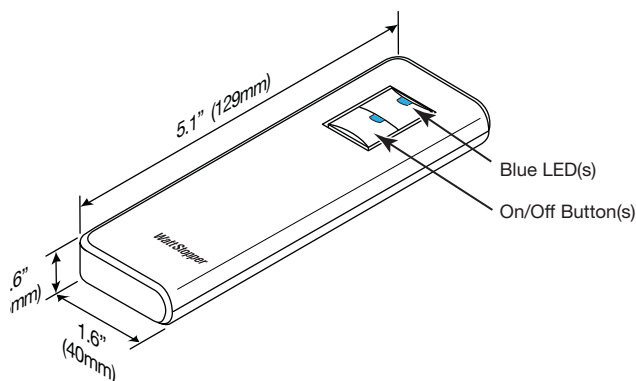


Specifications

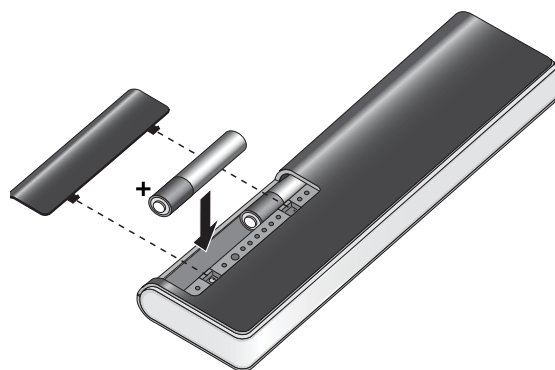
- Operates on 3 AAA 1.5 volt batteries (included)
- DLM local network connection: IR transceiver
 - Range of IR transmission: up to 32 ft. (10m)
 - Angle of IR reception: 30°
- 2 control buttons, each with LED indicator
- Hidden configuration button to access Push n' Learn
- Weight: approx. 3.2 oz. (91g), without mounting bracket
- Operating conditions: for indoor use only; 32-95°F (0-35°C); 5-95% RH, non-condensing
- FCC part 15 compliant
- Five year warranty

Controls & Dimensions

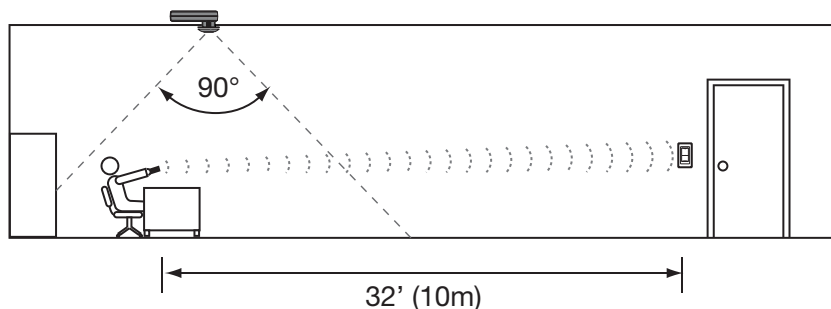
Product Controls and Dimensions



Inserting Batteries into the Remote



IR Range



The LMRH-102 operates DLM lighting loads by transmitting IR signals to any DLM IR-enabled device within line of sight in a range of approximately 32 feet (10 meters).

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMRH-102	Digital 2-Button IR Remote Control

LMRH-101 Digital Dimming IR Remote Control

Provides wireless remote on/off and raise/lower control

Component of Digital Lighting Management integrated control systems

Communicates with any IR-enabled DLM device



Push n' Learn for personalization

Wall mount bracket and mounting hardware included

Infrared (IR) wireless signal for control within a 32 foot range

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMRH-101 Digital Dimming IR Remote Control is a handheld personal control device for convenient on/off and raise/lower control of any load(s) connected to Digital Lighting Management (DLM) dimming room controllers. It uses an infrared transceiver to communicate with a DLM system via any DLM IR-enabled devices.

Operation

The LMRH-101 operates on battery power. By default, it controls all loads on the DLM local network. The load assignment may be quickly reconfigured using Push n' Learn. To turn the load on, the user simply presses the top of the control button. Pressing the bottom of the button turns lights off. To raise or lower dimmable loads, the user presses and holds the top or bottom of the button until lighting reaches the desired level. The LMRH-101 will work with any DLM local network, operating all loads if in default mode, or the load(s) it has been configured to control.

Personalized Control

To assign a different lighting load, or loads, to the LMRH-101, users can access Push n' Learn via the hidden configuration button on the remote or using the wireless configuration tool.

Applications

The LMRH-101 remote control can be used anywhere that convenient handheld dimming control is desired. Conference rooms, training centers, lecture halls and private offices are all ideal applications for this device.

Features

- Provides remote IR dimming control of lighting in a DLM system in conjunction with at least one dimming room controller
- Hidden configuration button for easy access to Push n' Learn
- Communicates with DLM local network through any DLM IR-enabled device
- Battery operated
- Includes wall mount holster and all necessary mounting hardware
- Can control one or more loads
- LED confirms button presses
- RoHS compliant

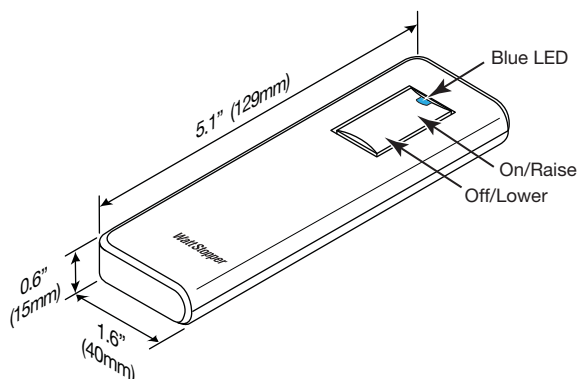


Specifications

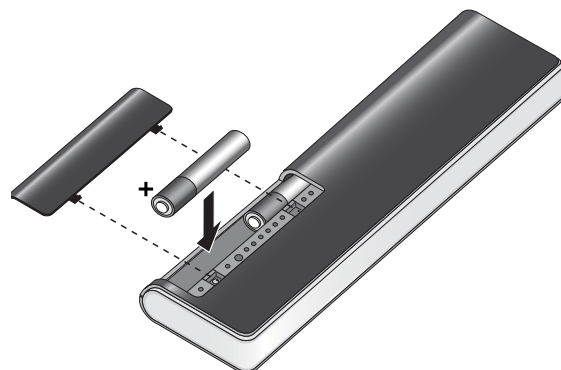
- Operates on 3 AAA 1.5 volt batteries (included)
- DLM local network connection: IR transceiver
 - Range of IR transmission: up to 32 ft. (10m)
 - Angle of IR reception: 30°
- 1 control button with LED indicator
- Hidden configuration button to access Push n' Learn
- Weight: approx. 3.2 oz. (91g), without mounting bracket
- Operating conditions: for indoor use only; 32-95°F (0-35°C); 5-95% RH, non-condensing
- FCC part 15 compliant
- Five year warranty

Controls & Dimensions

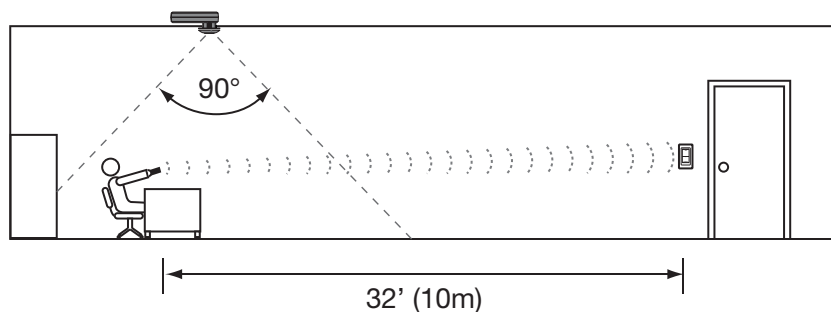
Product Controls and Dimensions



Inserting Batteries into the Remote Controls



IR Range



The LMRH-101 operates DLM lighting loads by transmitting IR signals to any DLM IR-enabled device within line of sight in a range of approximately 32 feet (10 meters).

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMRH-101	Digital 1-Button IR Dimming Remote Control

LMRH-105 Digital Scene IR Remote Control

Provides wireless remote control of four preset scenes plus on and off

Component of Digital Lighting Management integrated control systems

Communicates with any IR-enabled DLM device



Push n' Learn for personalization

Wall mount bracket and mounting hardware included

Infrared (IR) wireless signal for control within a 32 foot range

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMRH-105 Digital Scene IR Handheld Remote Control is a personal control device for convenient on/off and scene control. It is part of a Digital Lighting Management (DLM) system and controls loads connected to DLM room controllers by accessing four of the 16 scenes available in a DLM local network. It uses an infrared transceiver to communicate with a DLM system via any DLM IR-enabled devices.

Operation of LMRH-101

The LMRH-105 operates on battery power. By default, it controls all loads on the DLM local network, and the scene buttons operate presets 1, 2, 3 and 4. The remote may be reconfigured to control different loads and different scenes. Users activate a scene by pressing one of the small scene buttons. Pressing the top of the large control paddle turns all of the lights on to their previous level. Pressing the bottom of the paddle turns lights off. Pressing and holding the top or bottom of the paddle raises or lowers the active scene. The LMRH-105 will work with any DLM local network, operating the scenes and loads it has been configured to control.

Personalizing Scene Control

To assign a different lighting load, or loads, to the LMRH-105, users can access Push n' Learn via the hidden configuration button on the remote or using the wireless configuration tool. Scene assignments are changed using DIP switches located in the battery compartment. Preset scene levels are stored by the room controllers, and default levels are established by Plug n' Go. Scene 1 is 100%, scene 2 is 75%, scene 3 is 50% and scene 4 is 25%. Preset levels can be easily changed by adjusting lighting to the desired level, typically using LMDM-101 dimming switches assigned to control each channel, and pressing and holding a scene button on the LMRH-105 to memorize the new levels.

Applications

The LMRH-105 can be used anywhere that convenient dimming and scene control is desired. Conference rooms, training centers, lecture halls, and private offices are all ideal applications for this device.

Features

- Provides remote IR scene control of lighting in a DLM system in conjunction with at least one dimming Room Controller
- Hidden configuration button for easy access to Push n' Learn
- Communicates with DLM local network through any DLM IR-enabled device
- Battery operated
- Includes wall mount holster and all necessary mounting hardware
- Controls four scenes plus on/off and raise/lower
- LEDs confirm button presses
- RoHS compliant

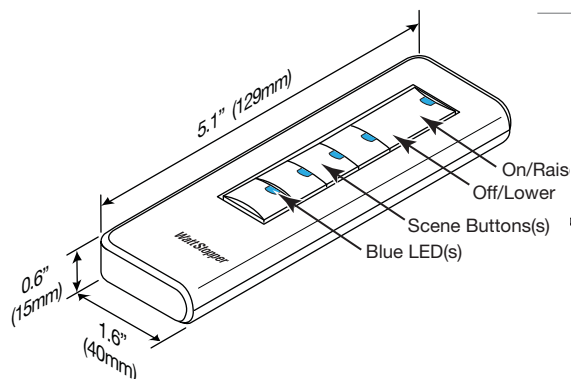


Specifications

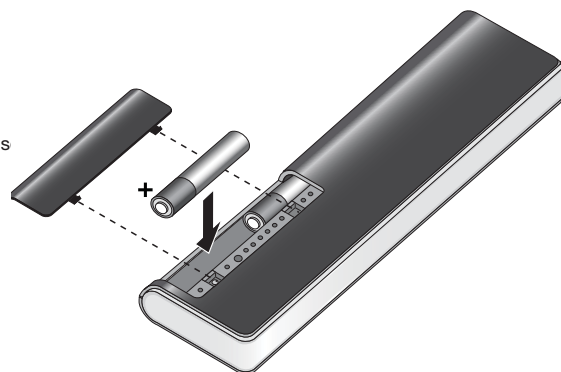
- Operates on 3 AAA 1.5 volt batteries (included)
- DLM local network connection: IR transceiver
 - Range of IR transmission: up to 32 ft. (10m)
 - Angle of IR reception: 30°
- 5 control buttons, each with LED indicator
- Hidden configuration button to access Push n' Learn
- Weight: approx. 3.2 oz. (91g), without mounting bracket
- Operating conditions: for indoor use only; 32-95°F (0-35°C); 5-95% RH, non-condensing
- FCC part 15 compliant
- Five year warranty

Controls & Dimensions

Product Controls and Dimensions

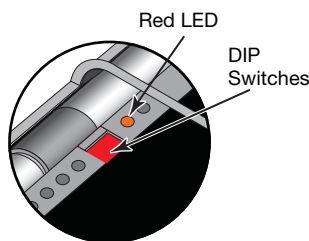


Inserting Batteries into the Remote Controls



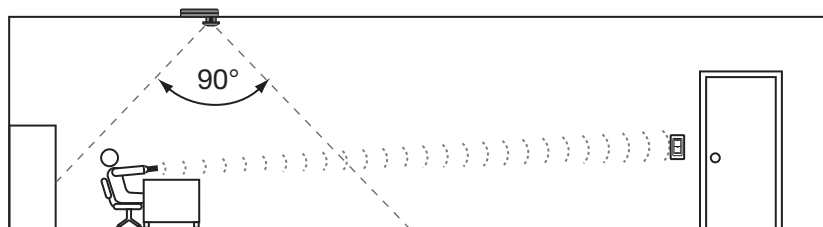
DIP Switch Settings for Selecting Controlled Scenes

Scenes	1-4	5-8	9-12	13-16
	(default)			
Setting	off off	off on	on off	on on
Switch #	1 2	1 2	1 2	1 2



By default, the LMRH-105 controls DLM scenes 1-4. Users can select a different group of four scenes by resetting DIP switches located in the battery compartment.

IR Range



The LMRH-105 operates DLM lighting loads by transmitting IR signals to any DLM IR-enabled device within line of sight in a range of approximately 32 feet (10 meters).

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMRH-105	Digital 5-Button IR Scene Remote Control

DLM Switch Button Kits and Switch Button Engraving

Field replaceable buttons for LMSW-100 Series and LMDM-101 Wall Switches

Available for 1-, 2-, 3-, 4-, 8-button wall switches, 1-button dimming switch and 5-button scene switch

Choice of white, light almond, ivory, grey and black; includes matching trim ring for complete color change



Customized engraving option

Button kits snap onto existing switches without tools for fast, easy color update or personalization

Ideal for switch labeling, building remodeling, or repurposing of controls

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMSW-KIT-100 Series and LMDM-KIT-101 are replacement button trim color kits that are compatible with all Digital Lighting Management (DLM) LMSW-100 Series switches and LMDM-101 Dimming Wall Switches. They are available with or without custom engraving.

Installation

The button kits can be easily installed without removing the switch from the wall. With the wall plate off, the installer simply presses gently on each side of the existing buttons and pulls the trim ring off, followed by the buttons, which are part of a single unit. The new button unit replaces the old one, and the new trim ring snaps on to hold the buttons in place.

Engraved Button Labels

If labeled buttons are required, complete an order form for custom engraving. Each button can be custom-engraved with exacting detail, using indelible ink applied by a high speed laser etching machine. Full-width button labels for 1-, 2-, 3-, and 4-button switches may include up to fifteen characters. Half-width button labels for 5- and 8-button switches may include up to seven characters.

Applications

DLM button kits are ideal for changing the appearance of a switch as part of a remodel or new decoration scheme, or because of damage. Engraved button kits provide an easy, professional-style solution to personalizing switches for any application. Button labels typically comprise the name of the controlled lights or the purpose of the lighting scene (e.g. sconces, downlights and wallwashers, or meeting, AV and whiteboard).

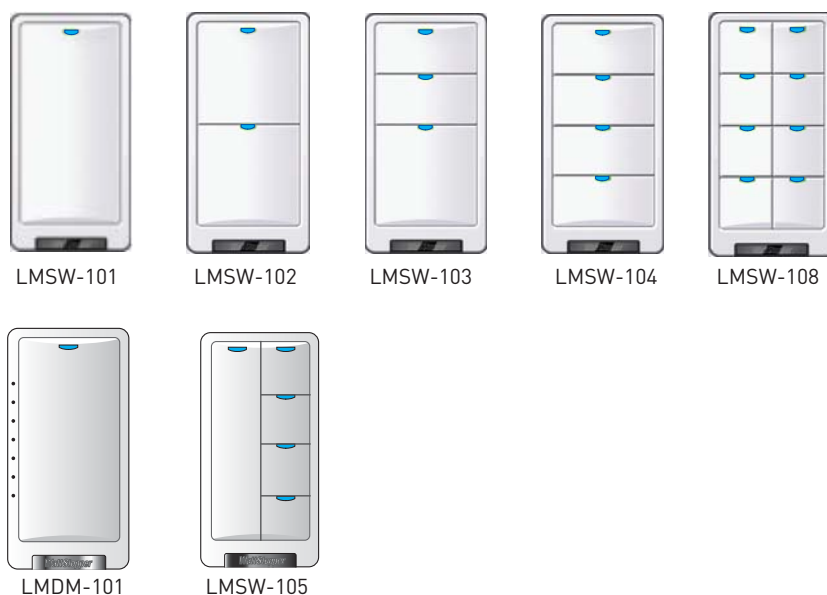
Features

- Kits available for all Digital Lighting Management wall switches, dimming switches and scene switches
- Six color options
- Optional engraving with custom text
- Easy to install in the field without removing the switch from the wall
- RoHS compliant



DLM Switch Models

Kits are Available for Wall Switches, Dimming Switch and Scene Switch



Ordering Information

Catalog No.	Color	Product Description	Catalog No.	Color	Product Description
<input type="checkbox"/> LMSW-KIT-101-W	White	1-Button Kit for Wall Switch, no engraving	<input type="checkbox"/> LMSW-KIT-104-W	White	4-Button Kit for Wall Switch, no engraving
<input type="checkbox"/> LMSW-KIT-101-LA	Light Almond		<input type="checkbox"/> LMSW-KIT-104-LA	Light Almond	
<input type="checkbox"/> LMSW-KIT-101-I	Ivory		<input type="checkbox"/> LMSW-KIT-104-I	Ivory	
<input type="checkbox"/> LMSW-KIT-101-G	Grey		<input type="checkbox"/> LMSW-KIT-104-G	Grey	
<input type="checkbox"/> LMSW-KIT-101-B	Black		<input type="checkbox"/> LMSW-KIT-104-B	Black	
<input type="checkbox"/> LMSW-KIT-101-R	Red		<input type="checkbox"/> LMSW-KIT-104-R	Red	
<input type="checkbox"/> LMDM-KIT-101-W	White	1-Button Kit for Dimming Wall Switch, no engraving	<input type="checkbox"/> LMSW-KIT-105-W	White	5-Button Kit for Scene Switch, no engraving
<input type="checkbox"/> LMDM-KIT-101-LA	Light Almond		<input type="checkbox"/> LMSW-KIT-105-LA	Light Almond	
<input type="checkbox"/> LMDM-KIT-101-I	Ivory		<input type="checkbox"/> LMSW-KIT-105-I	Ivory	
<input type="checkbox"/> LMDM-KIT-101-G	Grey		<input type="checkbox"/> LMSW-KIT-105-G	Grey	
<input type="checkbox"/> LMDM-KIT-101-B	Black		<input type="checkbox"/> LMSW-KIT-105-B	Black	
<input type="checkbox"/> LMDM-KIT-101-R	Red		<input type="checkbox"/> LMSW-KIT-105-R	Red	
<input type="checkbox"/> LMSW-KIT-102-W	White	2-Button Kit for Wall Switch, no engraving	<input type="checkbox"/> LMSW-KIT-108-W	White	8-Button Kit for Wall Switch, no engraving
<input type="checkbox"/> LMSW-KIT-102-LA	Light Almond		<input type="checkbox"/> LMSW-KIT-108-LA	Light Almond	
<input type="checkbox"/> LMSW-KIT-102-I	Ivory		<input type="checkbox"/> LMSW-KIT-108-I	Ivory	
<input type="checkbox"/> LMSW-KIT-102-G	Grey		<input type="checkbox"/> LMSW-KIT-108-G	Grey	
<input type="checkbox"/> LMSW-KIT-102-B	Black		<input type="checkbox"/> LMSW-KIT-108-B	Black	
<input type="checkbox"/> LMSW-KIT-102-R	Red		<input type="checkbox"/> LMSW-KIT-108-R	Red	
<input type="checkbox"/> LMSW-KIT-103-W	White	3-Button Kit for Wall Switch, no engraving			
<input type="checkbox"/> LMSW-KIT-103-LA	Light Almond				
<input type="checkbox"/> LMSW-KIT-103-I	Ivory				
<input type="checkbox"/> LMSW-KIT-103-G	Grey				
<input type="checkbox"/> LMSW-KIT-103-B	Black				
<input type="checkbox"/> LMSW-KIT-103-R	Red				

Engraving Option

Engraving Details

Catalog No.	Description
<input type="checkbox"/> LM-Engraving	Engraving for button kit(s) selected from Catalog Numbers above

To order custom-engraved button kits, complete the online ordering form and provide complete labeling information.



DAYLIGHTING SENSORS

WattStopper has pioneered the latest control technologies, and makes it easy for specifiers and installers to successfully incorporate daylighting control in their projects.

Compact, low profile DLM sensors feature calibration that is simple, or even automatic.

SINGLE OR MULTI-ZONE, OPEN, CLOSED, AND DUAL LOOP CONTROL

- On/off control
- Dimming control
- Compatible with personal controls

DEVELOPED FOR SIMPLIFIED START UP

- Self-calibrating single zone sensors
- Multi-zone sensor is configured with handheld remote

FULLY FEATURED FOR RELIABLE OPERATION

- Optimized field of view
- Accurate photocell response
- Adjustable setpoints and parameters





LMLS-400 Single Zone Switching and Dimming Closed Loop Digital Photosensor

Daylight responsive on/off, bi-level, tri-level or dimming control for one lighting zone

Extended tube model accommodates thicker ceiling materials

100 degree spatial response for optimal detection of ambient light level



Automatic calibration and configuration; optional hold off setting to maximize energy savings

Photodiode corrected to match the photopic response of the human eye

Can be calibrated in any daylight condition

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMLS-400 is a closed loop photosensor that measures the ambient light level in order to automatically switch or dim one zone of lighting. It is part of a Digital Lighting Management (DLM) system and sends light level signals to control loads connected to DLM on/off or dimming room controllers. The LMLS-400 has a photodiode with an extended range of 1-6,553 footcandles (fc), and photopic correction to mimic the human eye, for precise measurement of visible light.

Operation

The LMLS-400 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. When there is one LMLS-400, Plug n' Go assigns load 1 to daylighting control. An LMCT-100 is used to assign additional loads, and assign loads to multiple photosensors. Following an automatic setup process, the LMLS-400 monitors the ambient light in the controlled space and works with the room controller(s) to maintain the design light level. WattStopper's exclusive control algorithm uses on/off or dimming setpoints and other control parameters to establish the correct light levels throughout the day regardless of changing daylight contribution.

Features

- Digital Lighting Management components plug together on a free-topology Cat 5e DLM local network
- Test mode override of programmed time delay allows easy verification of selected settings
- Load status verification allows confirmation and testing of controlled load
- Infrared (IR) transceiver for wireless configuration and control

Automatic Setup

After installation, the LMLS-400 measures the daylight and electric light levels in order to automatically calibrate itself and establish setpoints. This process may be initiated from the photosensor or a handheld LMCT-100 wireless configuration tool. The LMCT-100 may also be used to adjust setpoints and other parameters including hold off functionality. Adjustable switching parameters include on and off setpoints and time delays. The off setpoint can be adjusted to a value of 25, 50 (default), 75, or 100 percent above the on setpoint. Adjustable dimming parameters include day and night setpoints, ramp up and down rates, and a cut-off time delay. Electric lights can be turned off (default) or dimmed to a user-selectable minimum level when daylight contribution is abundant.

Applications

The LMLS-400 photosensor is recommended for use in private offices, cafeterias, classrooms, atriums, lobbies and perimeter spaces with daylight contribution. It is designed to sense both daylight and electric light, and is typically ceiling mounted for sidelighting applications. The LMLS-400 can be used for on/off switching, bi-level or tri-level step switching or step dimming, or continuous dimming.

- Compatible with DLM wall switches for manual override, if desired
- LED status indicators
- Mounting options for hard ceilings, dropped ceilings and suspended lighting fixtures
- Complies with California Title 24, Section 119 requirements
- RoHS compliant
- Qualifies for ARRA-funded public works projects

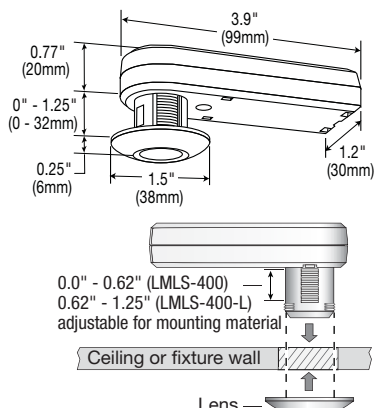


Specifications

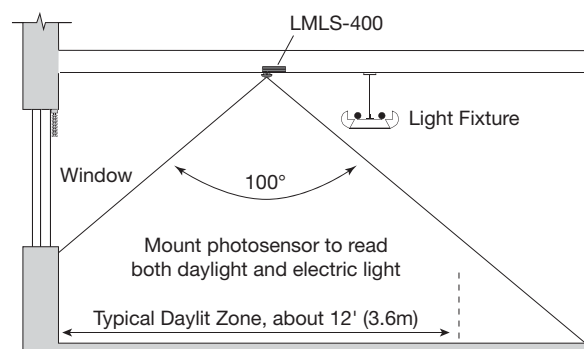
- Input voltage: 24VDC from DLM local network
- Current consumption: 7mA
- DLM local network connection: 1 RJ45 port
- Digital multi-band photodiode with extended range: 1-6,553 fc (10-70,536 lux)
- Spatial response: 100°
- LED status and configuration indicators
- Infrared (IR) transceiver
- Weight: 1.4 oz (40 g)
- Operating conditions: for indoor use only; 32-131°F (0-55°C); less than 90% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Dimensions & Mounting

Product Dimensions

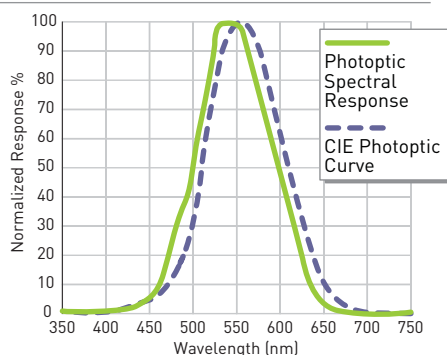


Placement for Sidelight Applications



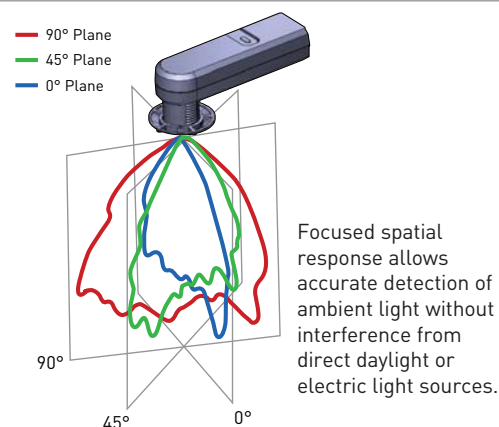
Photodiode Response

Spectral Response



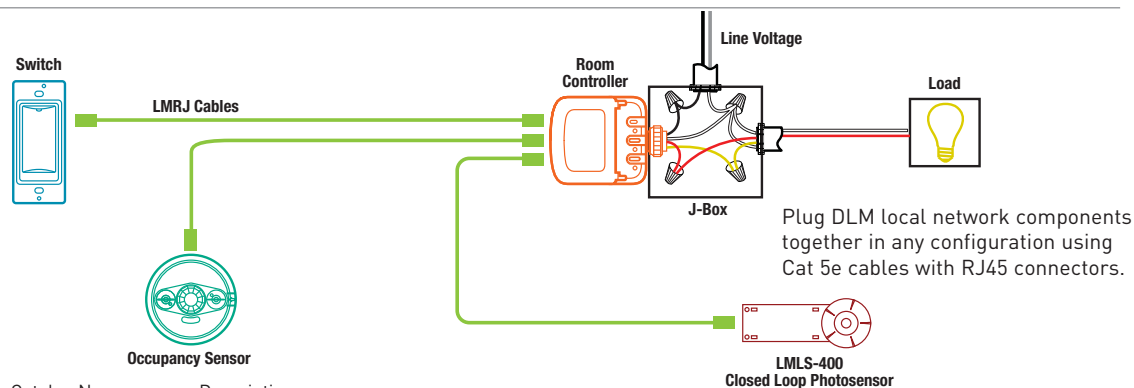
The photodiode detects just visible light, which ensures accurate lighting control.

Spatial Response



Connecting

Sample Connection Diagram for On/Off Switching Application



Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMLS-400	Digital Single Zone On/Off and Dimming Closed Loop Photosensor
<input type="checkbox"/> LMLS-400-U	Digital Single Zone On/Off and Dimming Closed Loop Photosensor, ARRA-compliant*
<input type="checkbox"/> LMLS-400-L	Digital Single Zone On/Off and Dimming Closed Loop Photosensor with extended tube
<input type="checkbox"/> LMLS-MB1	Photosensor mounting bracket for J-box mounting
<input type="checkbox"/> LMLS-MB2	Photosensor mounting bracket for wall mount applications
<input type="checkbox"/> LMCT-100	Digital Wireless Configuration Tool

LMLS-500 Multi-zone Switching and Dimming Open Loop Digital Photosensor

Daylight responsive on/off, bi-level, tri-level or dimming control for up to three lighting zones

Extended tube model accommodates thicker ceiling materials

60 degree spatial response for optimal detection of daylight contribution



Automatic setpoint recommendations; optional hold off setting to maximize energy savings

Photodiode corrected to match the photopic response of the human eye

Can be calibrated in any daylight condition

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMLS-500 is an open loop, multi-zone photosensor that measures the daylight contribution in order to automatically switch or dim up to three zones of lighting. It is part of a Digital Lighting Management (DLM) system and sends light level signals to control loads connected to DLM on/off or dimming room controllers. The LMLS-500 has a photodiode with an extended range of 1-6,553 footcandles (fc), and photopic correction to mimic the human eye, for precise measurement of visible light.

Operation

The LMLS-500 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. Daylighting loads are assigned using an LMCT-100 wireless configuration tool. Following a quick initial setup, the LMLS-500 monitors the daylight contribution through a window or skylight and works with the room controller(s) to maintain design light levels in each lighting zone. WattStopper's exclusive control algorithm uses on/off or dimming setpoints and other control parameters to establish the correct light levels throughout the day regardless of changing daylight contribution.

Features

- Digital Lighting Management components plug together on a free-topology Cat 5e DLM local network
- Test mode override of programmed time delay allows easy verification of selected settings
- Load status verification allows confirmation and testing of controlled load
- Infrared (IR) transceiver for wireless configuration and control

Simplified Setup and Configuration

The LMLS-500 is set up by entering the daylight and the workplane illuminance into an LMCT-100 wireless configuration tool. This handheld device then automates the calibration process, and recommends setpoints for easy completion of the setup process. The LMCT-100 may be used to adjust setpoints and other parameters including hold off functionality. Adjustable switching parameters include on and off setpoints and time delays. The off setpoint can be adjusted to a value of 25, 50 (default), 75, or 100 percent above the on setpoint. Adjustable dimming parameters include a setpoint, ramp up and down rates and a cut-off time delay. Electric lights can be turned off (default) or dimmed to a user-selectable minimum level when daylight contribution is abundant.

Applications

The LMLS-500 photosensor is recommended for open offices, cafeterias, classrooms, warehouses and any other indoor spaces with daylight contribution. It is designed to measure only daylight, not electric light, and can be mounted in a light well under a skylight, or on a ceiling for sidelighting applications. Each of the three control zones can initiate on/off switching, bi-level or tri-level step switching or step dimming, or continuous dimming.

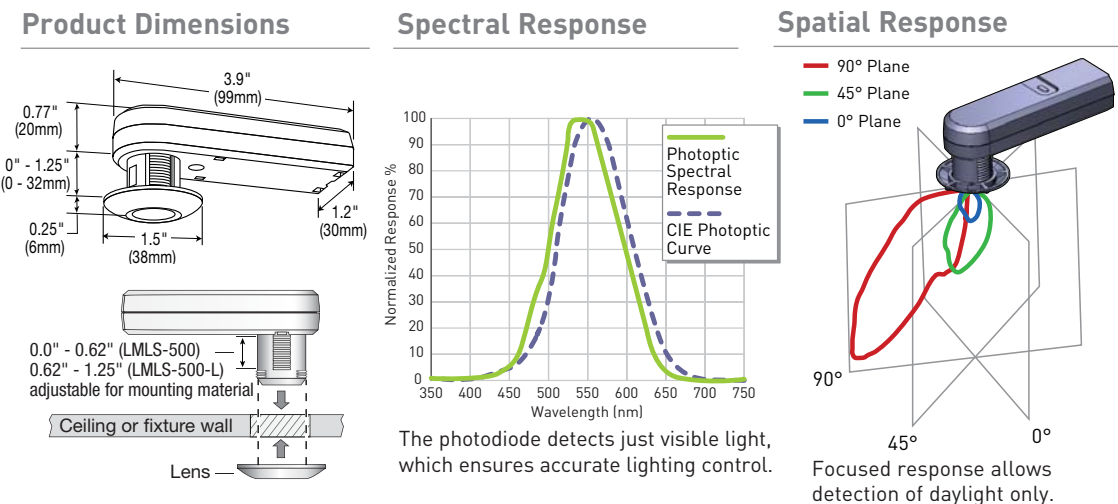
- Compatible with DLM wall switches for manual override, if desired
- LED status indicators
- Mounting options for toplit or sidelit applications
- Complies with California Title 24, Section 119 requirements
- RoHS compliant
- Qualifies for ARRA-funded public works projects



Specifications

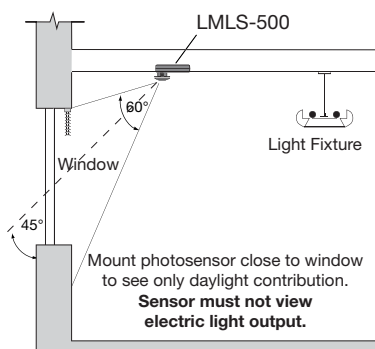
- Input voltage: 24VDC from DLM local network
- Current consumption: 7mA
- DLM local network connection: 1 RJ45 port
- Digital multi-band photodiode with extended range: 1-6,553 fc (10-70,536 lux)
- Spatial response: 60°
- LED status and configuration indicators
- Infrared (IR) transceiver
- Weight: 1.4 oz (40 g)
- Operating conditions: for indoor use only; 32-131°F (0-55°C); less than 90% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Dimensions & Response

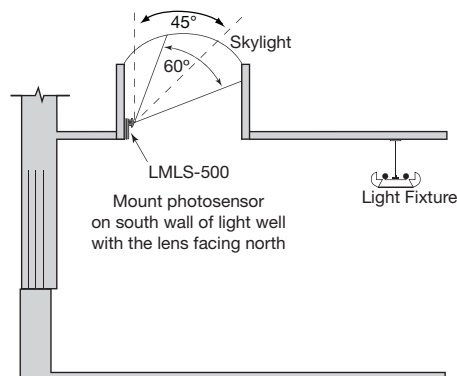


Placement

Sidelight Applications

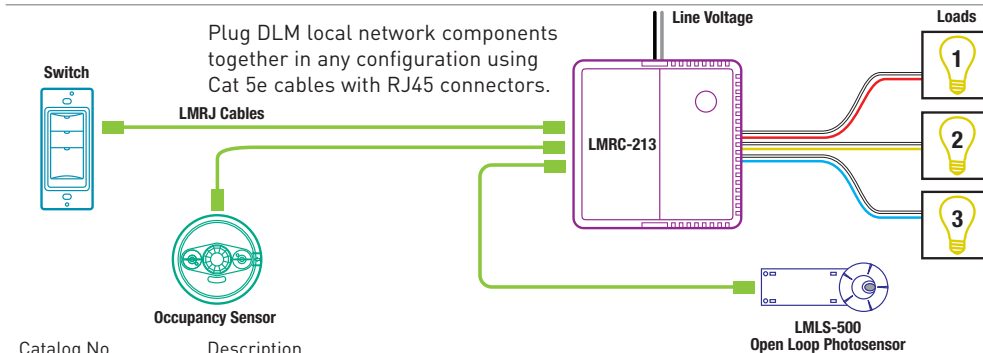


Skylight Applications



Connecting

Sample Connecting Diagram for Three Zone On/Off Switching Application



Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMLS-500	Digital Multi-zone On/Off and Dimming Open Loop Photosensor
<input type="checkbox"/> LMLS-500-U	Digital Multi-zone On/Off and Dimming Open Loop Photosensor, ARRA-compliant*
<input type="checkbox"/> LMLS-500-L	Digital Multi-zone On/Off and Dimming Open Loop Photosensor with extended tube
<input type="checkbox"/> LMLS-MB1	Photosensor mounting bracket for J-box mounting
<input type="checkbox"/> LMLS-MB2	Photosensor mounting bracket for wall mount applications
<input type="checkbox"/> LMCT-100	Digital Wireless Configuration Tool

LMLS-600 Dual Loop Switching and Dimming Photosensor

Single zone photosensor for toplit switching and dimming applications

Combines strengths of open loop and closed loop daylighting control in one product

Selectable 30° or 70° closed loop spatial response, 60° open loop spatial response for optimal detection of light levels



Automatic calibration and configuration

Shown to save 52% more energy than open loop daylighting control system

Photodiodes corrected to match the photopic response of the human eye

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMLS-600 is a dual loop photosensor that automatically switches or dims one zone of lighting based on ambient light and daylight levels. It has two silicon photodiodes with an extended range of 1-10,000 footcandles (fc) and features photopic correction to mimic the human eye's perception of daylight. The LMLS-600 is part of a Digital Lighting Management (DLM) system and sends light level signals to control loads connected to DLM on/off or dimming room controllers.

Operation

The LMLS-600 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. Following an automatic setup process it works with the room controller(s) to maintain the designed lighting level regardless of changes in the daylight contribution. WattStopper's exclusive control algorithm uses both open and closed loop technologies. During normal operation, the closed loop photosensor provides control based on the ambient light level. However, if the LMLS-600 detects occupant interference the open loop sensor takes control for the remainder of the day. Following automatic overnight recalibration, the closed loop sensor resumes control.

Features

- Can be calibrated in any daylight condition
- Test Mode override of programmed time delay allows easy verification of selected settings
- Infrared (IR) transceiver for wireless configuration and control
- Recalibrates every night to account for reflectance changes within the space
- Compatible with DLM wall switches for manual override, if desired
- LED status indicators
- RJ45 jack for connection to free-topology Cat 5e DLM local network
- Complies with California Title 24, Section 119 requirements
- RoHS compliant

Automatic Setup

After installation, the LMLS-600 measures the daylight and electric light levels in order to automatically calibrate itself and establish setpoints. Setup may be initiated from the photosensor or a handheld LMCT-100 wireless configuration tool. The LMLS-600 recalibrates every night to account for reflectance changes (furniture layout, retail display, interior colors, etc.) or lamp lumen depreciation. The LMCT-100 is also used to adjust setpoints and other parameters, if desired. Adjustable switching parameters include on and off setpoints and time delays. The off setpoint can be adjusted to a value of 25, 50 (default), 75, or 100 percent above the on setpoint. Adjustable dimming parameters include day and night setpoints, ramp up and down rates, and a cut-off time delay. Electric lights can be turned off (default) or dimmed to minimum level when daylight contribution is abundant.

Applications

The LMLS-600 Photosensor is recommended for spaces with skylights, including warehouses and big box retail stores. It is designed to sense both daylight and electric light, and is typically mounted under a skylight. The LMLS-600 can be used for on/off switching, bi-level or tri-level switching (step dimming) or continuous dimming.

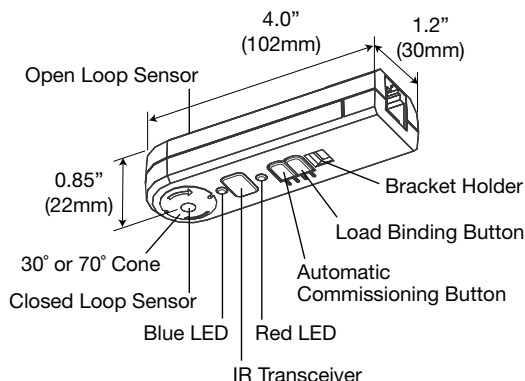


Specifications

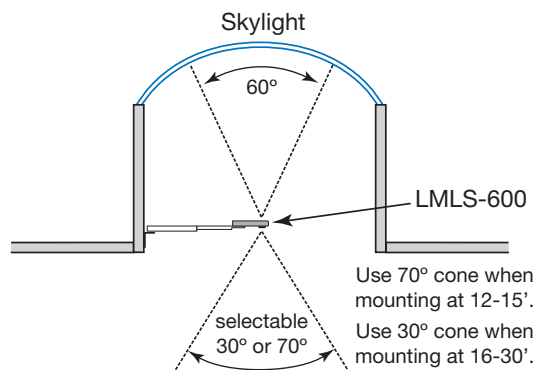
- Input voltage: 24 VDC from DLM local network
- Current consumption: 7 mA
- DLM local network connection: 1 RJ45 port
- Digital multi-band photosensor range: 1-10,000 fc (10-107,000 lux)
- Spatial response:
 - Closed loop, selectable 70° or 30°
 - Open loop, 60°
- LED status and configuration indicators
- Infrared (IR) transceiver
- Weight: 1.1 oz (31 g)
- Operating conditions: for indoor use only; 32-131°F (0-55°C); less than 90% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Dimensions & Mounting

Product Dimensions

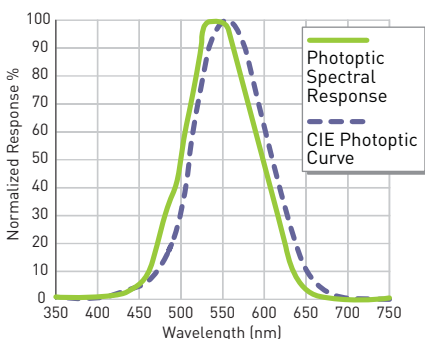


Placement for Skylight Application



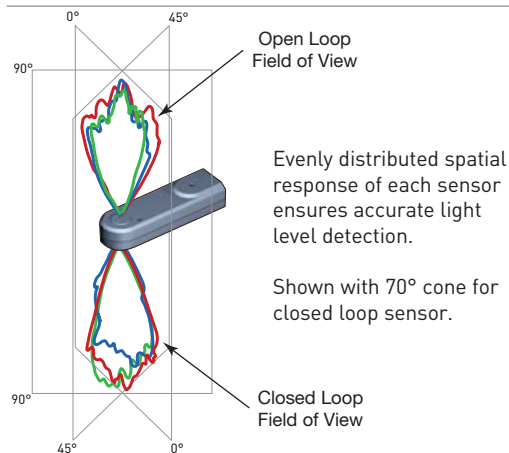
Photodiode Response

Spectral Response



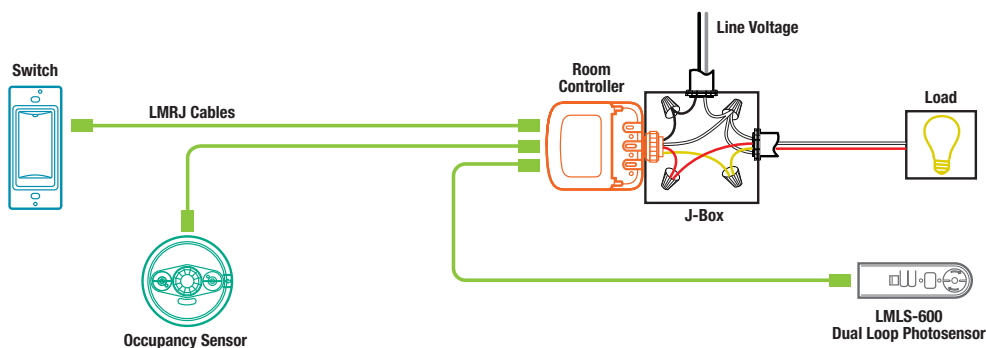
The photodiodes detect just visible light, which ensures accurate lighting control.

Spatial Response



Connecting

Sample Connection Diagram for On/Off Switching Application



Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMLS-600	Dual Loop Switching and Dimming Photosensor
<input type="checkbox"/> LMCT-100	Digital Wireless Configuration Tool



INTERFACES & ACCESSORIES

Interfaces provide connectivity to analog photocells, building automation systems and other third party systems for additional control options.

WattStopper cables, available in multiple lengths, provide guaranteed terminations and ensure good DLM local network communications. Unterminated segment network wire meets BACnet MS/TP and RS485 specifications. An infrared (IR) receiver expands the DLM local network.

CHOICE OF INTERFACES

- Isolated relay output interface
- Input/output interface models for a variety of inputs (serial data, partitioning etc.)
- Photocell module for analog input

ACCESSORIES ENHANCE DLM LOCAL NETWORKS

- Pre-terminated cables for convenience and reliability
- IR receiver extends the remote control range of a local network

INTEGRATION OPTIONS FOR GREATER ENERGY SAVINGS

- HVAC
- Exhaust fans
- Demand response



LMRL-100 Isolated Relay Interface

Output interface for integration of third party systems

Component of Digital Lighting Management integrated control systems

Hinged dust cover over two RJ45 ports



Single-pole double throw isolated relay

Fits into standard single gang wallbox; optional DIN rail mounting

Status LED for isolated relay

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMRL-100 Isolated Relay Interface is an optional component for a Digital Lighting Management (DLM) system. It enables seamless integration of third party devices such as HVAC systems or exhaust fans.

Operation

The LMRL-100 device contains a single-pole, double throw isolated relay with normally open (N/O), normally closed (N/C) and common outputs. While the LMRL-100 resides on a DLM local network, it only receives signals from other devices on the network and does not transmit data via the DLM protocol. Furthermore, the device is not assignable to a specific load or room controller. The LMRL-100 activates in response to a signal from any DLM occupancy sensor on the network.

Convenient, Flexible Form Factor

Featuring a small form factor, the Isolated Relay Interface fits within a single-gang wallbox as well as standard junction boxes. The sleek size enables the device to be conveniently located near VAV boxes or other building system devices for maximum installation flexibility. The LMRL-100 can also be DIN rail mounted if desired.

Applications

The LMRL-100 is ideal for integrating third party controls with DLM lighting controls in a variety of applications. Suitable applications include coordinated control of lighting and HVAC based on occupancy detection in lunch rooms, break rooms or classrooms.

Features

- Integrates WattStopper Digital Lighting Management with any analog low voltage device
- Single LED for relay status
- Over-current protection
- Two RJ45 ports with hinged dust cover
- UL 2043 plenum rated
- RoHS compliant

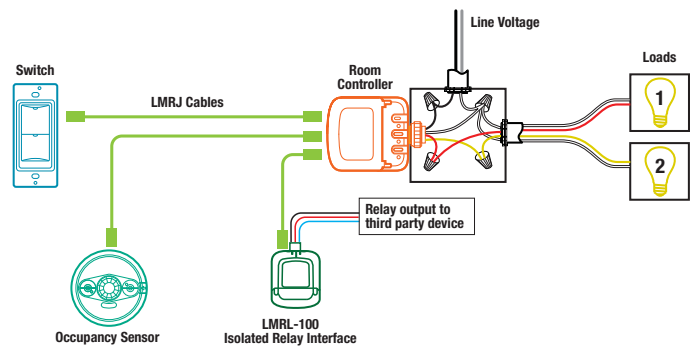


Specifications

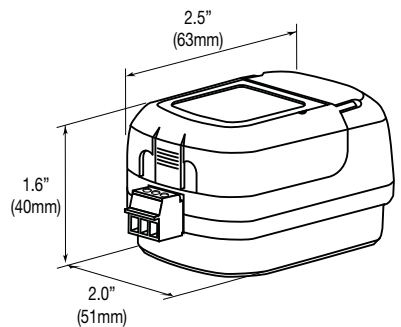
- Operating voltage: 24VDC from DLM network
- Isolated relay ratings:
 - 24VDC/VAC, 1A, SPDT
 - Normally open (N/O), normally closed (N/C) and common outputs
- Current consumption: 7mA
- DLM local network connection: 2 RJ45 ports
- Operating conditions: for indoor use only; 32-104°F (0-40°C)
- Fits inside 4" x 4" j-box, 1-gang back box or 3" octagonal box; optional DIN rail mounting
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Wiring and Mounting

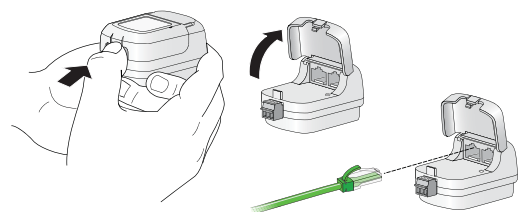
Connections to a DLM Network



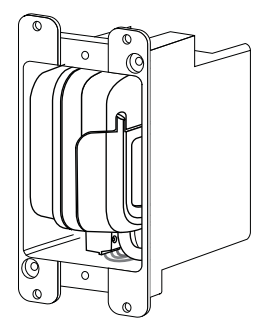
Dimensions



Mounting Options

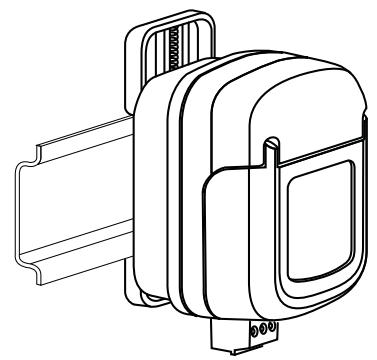
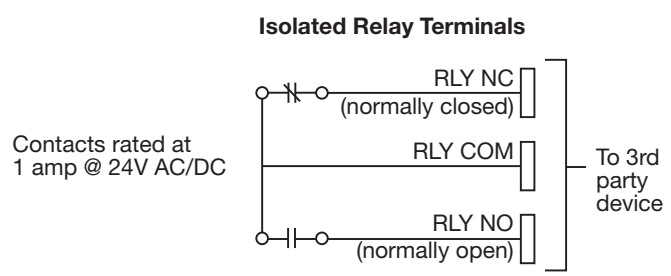


Installing LMRJ cable in Isolated Relay Interface.



Mounting inside single-gang wall box.

Isolated Relay Wiring



Mounting on DIN rail.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMRL-100	Isolated Relay Interface

LMIO-101 Digital Input/Output Interface

Input/output interface for integration of third party devices

Component of Digital Lighting Management integrated control systems

Hinged dust cover protecting two RJ45 ports



Isolated relay inputs for up to two control devices

Fits into standard single gang wallbox; optional DIN rail mounting

Status LED for each input and output

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMIO-101 Digital Input/Output Interface allows seamless integration with third party devices to provide additional functionality in a Digital Lighting Management (DLM) system.

Operation

The LMIO-101 operates on power from the DLM local network. It contains a 24VDC isolated relay (single-pole, double throw with normally open (N/O), normally closed (N/C), and common outputs) for output to other systems. The isolated relay can respond to any DLM occupancy sensor on the DLM local network. The LMIO-101 also includes a 24VDC output and four input terminals for maintained or momentary switch closure inputs, or third party logic inputs. Input signals may come from a wide variety of devices including building automation systems, time clocks and key switches, for purposes including hold-on/hold-off, load shedding and cleaning. The LMIO-101 has DIP switch-selectable profiles to allow different combinations of input signals to control different loads.

Default and Personalized Operation

In Plug n' Go automatic configuration mode, the isolated relay responds to every occupancy sensor on the DLM local network. Unlike the LMRL-100, the LMIO-101 can be reconfigured to respond only to selected occupancy sensors. Default operation for third party inputs is based on the configuration of the device's DIP switches. To change the occupancy sensor assignment, the user must access Push n' Learn mode, either directly from the LMIO device or via the LMCS software. With Push n' Learn, users may assign any load or sensor in a DLM local network to any input on the LMIO device.

Applications

The LMIO-101 is ideal for applications where integration of third party devices with lighting control is desired. The isolated relay allows coordinated control of lighting and HVAC based on occupancy detection while the multiple inputs permit control of any load on a DLM local network by other equipment, systems and devices. Applications include private and open offices, conference rooms, classrooms, training centers, lunch rooms and break rooms.

Features

- Plug n' Go configuration for quick and easy startup out of the box
- Push n' Learn functionality for personalizing system settings to accommodate application needs
- Self-contained switching power supply and relay system
- Five status LEDs and configuration LED
- Hold-on/hold-off, occupancy sensor, time clock, load shed, cleaning switch and key switch modes available through DIP switch configurations
- Over-current protection
- UL 2043 plenum rated
- RoHS compliant
- Qualifies for ARRA-funded public works projects

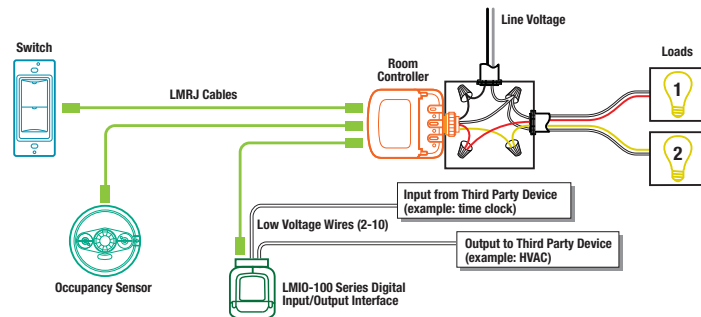


Specifications

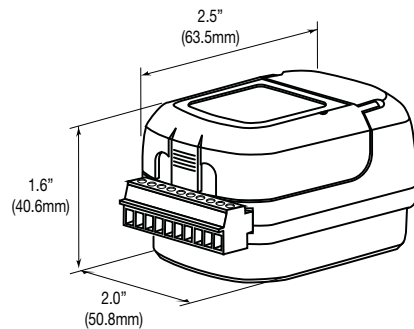
- Input/output voltage: 24VDC from DLM network
- Maximum current consumption: 20mA
- DLM local network connection: 2 RJ45 ports
- Removable terminal block for connections to isolated relay output and third party inputs
- Isolated relay ratings:
 - 24VDC/VAC, 1A, SPDT
 - Normally open (N/O), normally closed (N/C) and common outputs
 - Duplicates the functionality of the LMRL-100
- Input ratings:
 - Input max. sink/source current: 1- 5 mA
 - Logic input signal voltage High: >18 VDC
 - Logic input signal voltage Low: < 2 VDC
- Operating conditions; for indoor use only; 32-131°F (0-55°C)
- Fits inside 4" x 4" j-box, 1 gang back box or 3" octagonal box; optional DIN rail mounting
- UL and cUL listed
- Five year warranty

Wiring & Connection

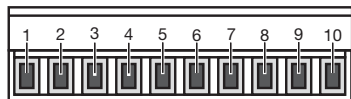
Connection to DLM Network



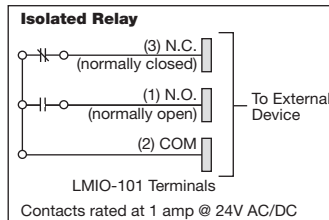
Dimensions



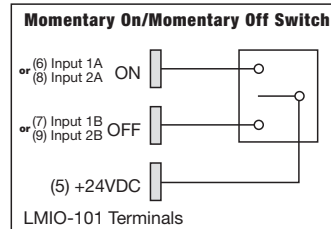
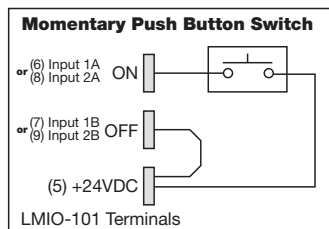
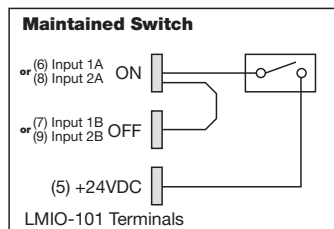
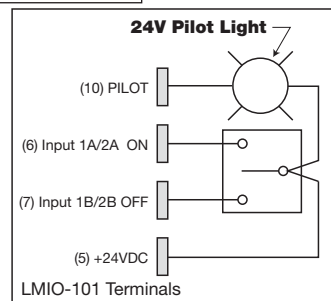
Wiring to 10-Position Terminal Block



Position (L - R)	Description
1	Relay Normally Open (N/O)
2	Relay Common
3	Relay Normally Closed (N/C)
4	COMMON
5	+24 VDC
6	Input 1A
7	Input 1B
8	Input 2A
9	Input 2B
10	Pilot Light



The isolated relay output is on terminals 1, 2 and 3. The relay responds to a signal from any DLM sensor.



Contact closure inputs from up to two low voltage switches are wired to inputs 1A (on) and 1B (off), terminals 6 & 7, and inputs 2A (on) and 2B (off), terminals 8 and 9. The LMIO-101 provides 24VDC to the switches on terminal 5.

Up to 3 logic inputs (e.g. load shed, hold-on/hold-off) from third party devices are wired to terminals 6, 7, 8 and 4 (common). The power for these inputs is provided by the logic device.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMIO-101	Digital Input/Output Interface
<input type="checkbox"/> LMIO-101-U	

-U = ARRA compliant. Product produced in the U.S.

LMIO-102 Digital Partition Interface

Automatically reconfigures lighting controls for logical operation when movable walls are opened and closed

Component of Digital Lighting Management integrated control systems

Works with third party contact closure inputs



Recalls 16 configurations for spaces with up to 5 partitioned areas and 4 movable walls

Fits into standard single gang wallbox; optional DIN rail mounting

Plugs to DLM local network via Cat 5e cables with RJ45 connectors

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMIO-102 Digital Partition Interface automatically coordinates lighting controls in flexible spaces with up to four movable walls equipped with contact closures. It is part of a Digital Lighting Management (DLM) system, and can reconfigure connected switches and occupancy sensors.

Operation

The LMIO-102 Partition Interface operates on Class 2 power supplied to a DLM local network by one or more room controllers. It includes a 24VDC output and four input terminals for maintained third party contact closure inputs, typically from limit switches on movable walls. Prior to operation, the user must establish load profiles for each possible configuration of the space, with up to four walls open and closed. Up to 16 load profiles may be configured using Push n' Learn or other DLM configuration tools. When the walls in the controlled space are reconfigured, the interface automatically recalls one of the 16 load profiles based on the combination of inputs.

Features

- Push n' Learn functionality for personalizing system settings to accommodate application needs
- Four status LEDs indicate if walls are open or closed
- Two RJ45 ports with hinged dust cover
- UL 2043 plenum rated
- RoHS compliant
- Qualifies for ARRA-funded public works projects

Remote Status Display Option

Four status LEDs under the hinged cover of the LMIO-102 indicate the position of each wall (open or closed). If a remote wall-mounted status display is required, the interface may be used in conjunction with an LMPS-104 Digital Partition Switch. When both devices are used together the switch buttons are inactive, but the switch LEDs display the status of each wall based on the contact closure signals to the interface.

Applications

LMIO-102 Partition Interfaces are ideal for multi-use spaces that are frequently reconfigured. Applications include hotel and conference center ballrooms and meeting rooms, school multi-use rooms, and other spaces with movable walls.

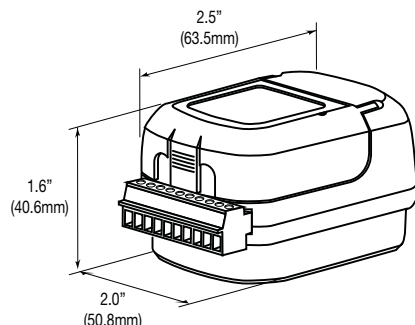


Specifications

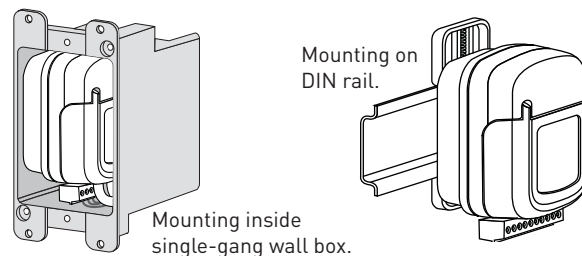
- Input voltage: 24VDC from DLM local network
- Current consumption: 20mA
- DLM local network connection: 2 RJ45 ports
- Removable terminal block for connections to third party contact closure inputs
- Input ratings:
 - Input max. sink/source current: 1- 5 mA
 - Logic input signal voltage High: >18 VDC
- Logic input signal voltage Low: < 2 VDC
- Operating conditions: for indoor use only; 32-104°F (0-40°C)
- Fits inside 4" x 4" j-box, 1 gang back box or 3" or 4" octagonal box; optional DIN rail mounting
- UL and cUL listed
- Five year warranty

Dimensions & Mounting

Dimensions

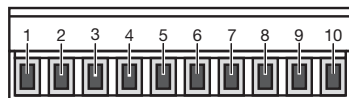


Mounting Options



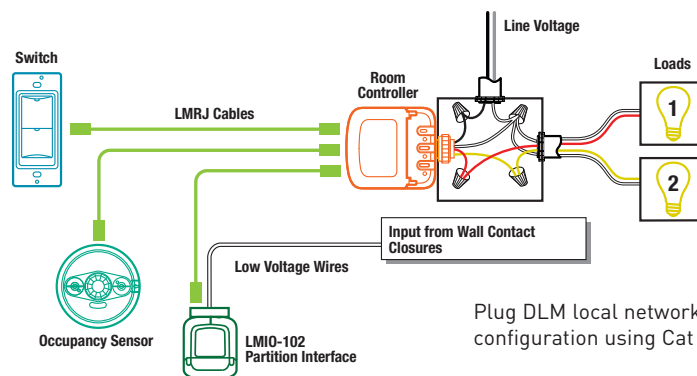
Wiring & Connection

Wiring to 10-Position Terminal Block



Position (L - R)	Description
5	+24 VDC
6	Wall 1 input
7	Wall 2 input
8	Wall 3 input
9	Wall 4 input

Connection to DLM Local Network



Plug DLM local network components together in any configuration using Cat 5e cables with RJ45 connectors.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMIO-102-U	Digital Partition Interface, ARRA-compliant*

LSW-108 8-button Digital Wall Switches do not support partitioning. LMIO-102 Partition Interfaces are compatible with all other DLM switches and control devices.

*Product produced in the U.S.

LMIO-301 Digital Photocell Input Module and Analog Photocells

Module and selected photocell read light levels for exterior or interior applications

Compatible with LILM panels and LMRC room controllers

Works with LMSM segment manager

DIN rail clamp allows mounting in LILM Series panel

Connects to segment network via DLM local network connection

Choice of photocells for exterior and skylight locations



PROJECT

LOCATION/TYPE

Product Overview

Description

The LMIO-301 photocell input module is an accessory for a networked Digital Lighting Management (DLM) installation that allows an LMSM segment manager to read ambient light levels for use in controlling exterior lighting or interior lighting installed in brightly daylit spaces such as atriums. The LMIO-301 works in conjunction with either the LMPO-200 exterior or LMPS-6000 skylight low voltage photocell heads.

Operation

The LMIO-301 operates on Class 2 power supplied to a DLM local network by one or more room controllers. It transmits light levels over the segment network as read from one of the optional remote analog LMPO or LMPS photocell sensors. The LMIO-301 converts the 0-10 VDC signal from the photocell sensor to a digital signal that is shared across the network. The segment manager is configured to control the lighting based on user-defined setpoints and time delay settings.

Network Communication

The LMIO-301 can be installed on any DLM local network. The actual ambient light level as reported by the connected LMPO or LMPS photocell is communicated to the segment network via an LMBC-300 network bridge, and made available for use by an LMSM segment manager or BAS system.

Applications

The LMIO-301 photocell input module is an ideal solution for any application where exterior lighting needs to be controlled based on actual ambient exterior light levels such as parking, site and landscape lighting. Applications with large expanses of skylight, clearstory or atrium glazing can also benefit from controlling lighting based on ambient light entering the building through the glazing. When controlling outdoor lighting, the photocell head is mounted on the roof of the building facing north. The LMPO-200 photocell head is waterproof and has a built in hood to shield the lens from direct sunlight. The LMPS-6000 photocell head is designed for direct exposure to extremely high light levels as would be present adjacent to the glass in an atrium, skylight or clearstory.

Features

- Requires LMSM segment manager
- Available accessory photocell heads for exterior and skylight/atrium applications
- Available range from 1 to 6000 footcandles
- Ambient light levels are available to connected building automation system
- Two RJ45 ports with hinged dust cover
- UL 2043 plenum rated
- Supplied with DIN rail adaptor for Class 2 installation
- RoHS compliant



Specifications

LMIO-301:

- Operating voltage: 24VDC from DLM local network
- Maximum current consumption: 17mA
- Maximum output power: 5mA
- Class 2 connection terminals: 24VDC photocell supply, common, 0-5VDC input, 0-10VDC input
- DLM local network connection: 2 RJ45 ports
- Adjustable sample rate: 1-60 seconds, 1 second resolution, 30 second default setting
- Percentage delta for sample: 1-100%, 1% resolution, 1% default setting
- Operating conditions: for indoor use only; 32-104°F (0-40°C)
- Fits inside 4" x 4" j-box, 1-gang back box or 3" octagonal box; optional DIN rail mounting

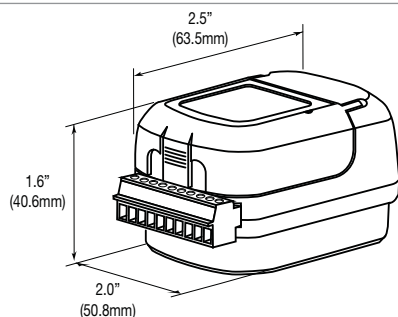
- UL and cUL listing pending
- FCC part 15 compliant
- Five year warranty

Analog Photocells:

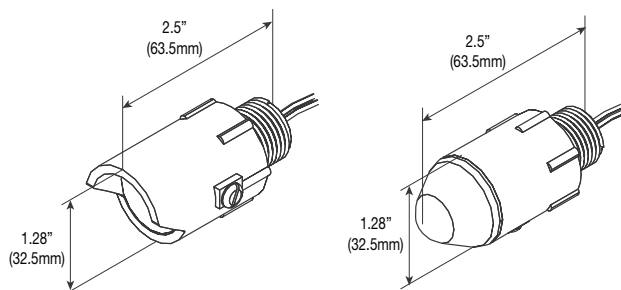
- Input voltage: 24 VDC, from LMIO-301
- Light level resolution:
 - LMPO-200: 0-200fc (0-2153 lux), 1fc/step
 - LMPS-6000: 0-6000fc (0-64583 lux), 24fc/step
- Mounting, 1/2" NPT x .69" threaded stem
- Housing, UV stabilized plastic
- Slew rate, one minute full scale response time
- Operating temperature: -40-140°F (-40-60°C)
- UL and cUL listed
- Five year warranty

Dimensions & Mounting

LMIO-301 Dimensions

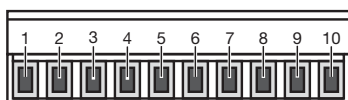


Photocell Dimensions



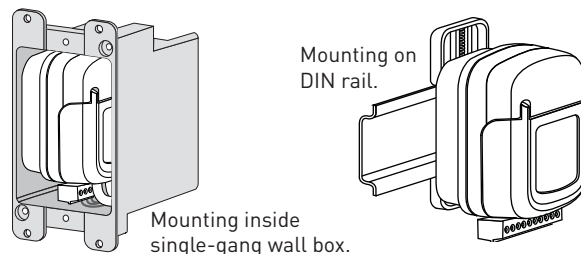
Wiring & Placement

LMIO-301 Low Voltage Terminals

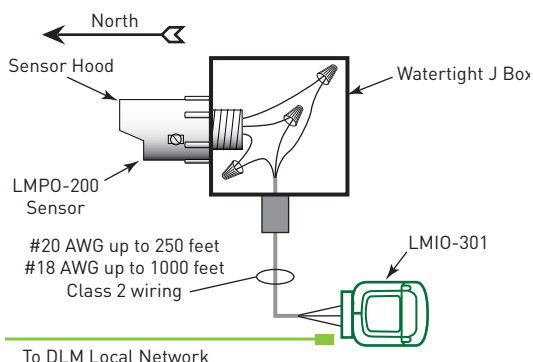


Position (L - R)	Description
4	+24 VDC
5	COMMON
9	0-5 V input
10	0-10 V input (standard)

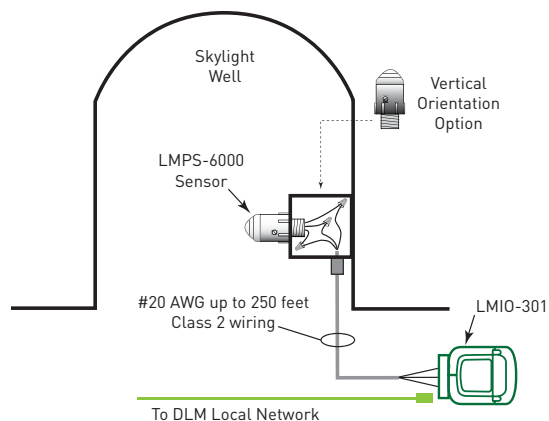
Mounting Options



LMPO-200 Outdoor Application



LMPS-6000 Skylight Application



Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMIO-301	Digital Photocell Input Module
<input type="checkbox"/> LMPO-200	Analog Exterior Photocell Accessory, 0-200 footcandles
<input type="checkbox"/> LMPS-6000	Analog Interior Photocell Accessory, 0-6000 footcandles

LMDI-100 Serial Data Interface

RS-232 interface connects DLM local network to 3rd party control system

Plugs to free topology DLM local network allowing mounting in remote location

Hinged dust cover protects two RJ45 ports



Facilitates combining DLM with A/V and shade control systems

Provides access to local network data including occupancy status

Fits into standard single gang wallbox; optional DIN rail mounting

PROJECT

LOCATION/TYPE

Product Overview

Description

The LMDI-100 Serial Data Interface connects a Digital Lighting Management (DLM) local network to a third party system for coordinated control of devices including lighting controls, AV equipment, shade controls and user interfaces by either system.

Operation

The LMDI-100 operates on power from the DLM local network and can transmit and receive industry standard RS-232 signals. A built-in protocol allows automatic response to message requests from third party devices. Message options include queries, such as load status, occupancy sensor status, power reading and other parameter data. Other messages can command scene recall or load operation.

A/V Interface Operation

The LMDI-100 allows an A/V system to control a DLM local network as a slave device. The A/V system can be added to the installation at any time, and is not required for implementation of code-compliant lighting control sequences of operation using Plug n' Go or Push n' Learn.

Applications

The serial data interface is ideal for use in conference rooms, training centers, auditoriums or theaters where specialized loads or equipment must be controlled by third party devices. Examples include applications with projectors, mechanical shade control systems and theatrical lighting.

Features

- RS-232 communication at 9600, 19200, 38400, 57600 or 115200 baud; default is 19200
- Integral message protocol eliminates the need for interface configuration
- Status LEDs for transmit and receive allow simple verification of connectivity
- UL 2043 plenum rated
- RoHS compliant
- Qualifies for ARRA-funded public works projects

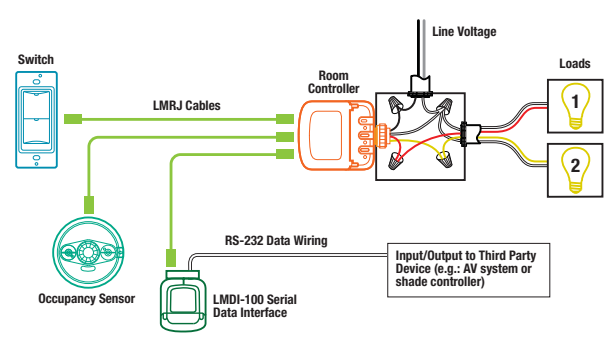


Specifications

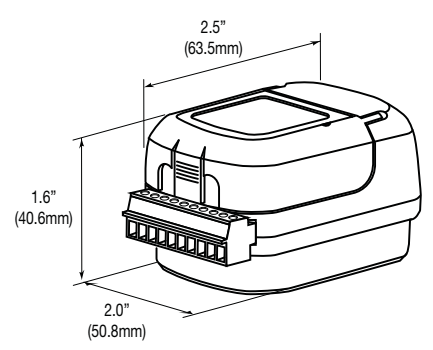
- Operating voltage: 24VDC from DLM network
- Maximum current consumption: 15mA
- DLM local network connection: 2 RJ45 ports
- Removable terminal block for connection to third party system
- Baud rate configurable to 9600, 19200, 38400, 57600 or 115200
- Operating conditions: for indoor use only; 32-104°F [0-40°C]; 9-95% RH, non-condensing
- Fits inside 4" x 4" j-box, 1 gang back box or 3" octagonal box; optional DIN rail mounting
- UL and cUL listed
- Five year warranty

Wiring & Connection

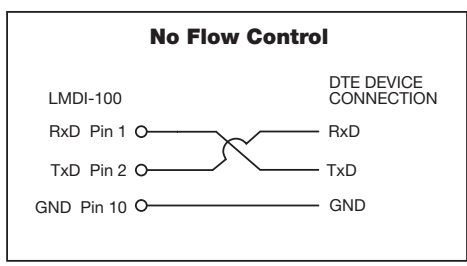
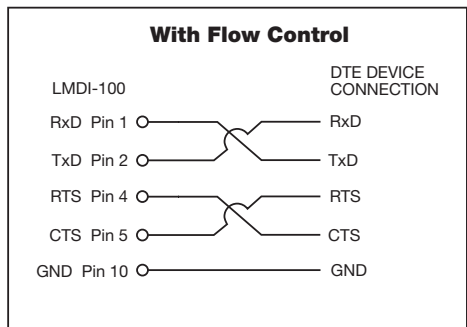
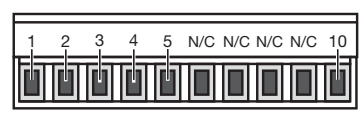
Connection to DLM Network



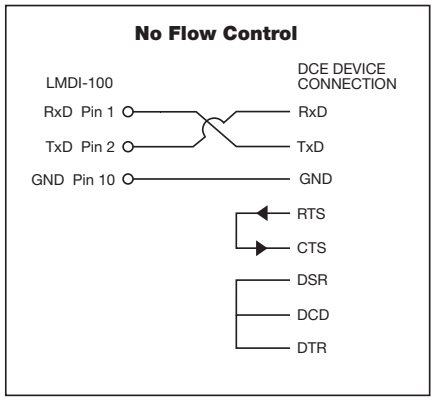
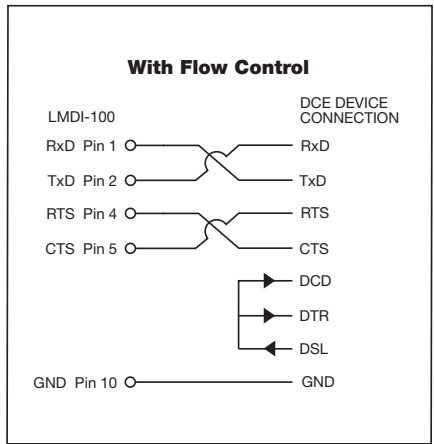
Dimensions



Wiring to 10-Position Terminal Block



Connections to Data Terminal Equipment (DTE)



Connections to Data Communication Equipment (DCE) such as computer or modem

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMDI-100-U	Serial Data Interface

-U = ARRA compliant. Product produced in the U.S.

LMIR-100 Digital IR Ceiling Mount Receiver

Extends the operating range for DLM IR-enabled handheld remotes controls

Component of Digital Lighting Management integrated control systems



Low profile styling fits in fixture or blends seamlessly with any ceiling

Communication LED

PROJECT
LOCATION/TYPE

Product Overview

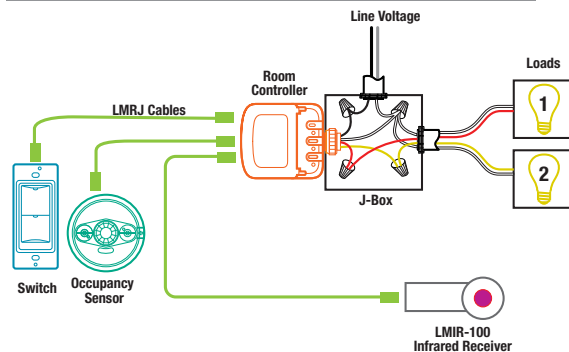
Description

The LMIR-100 Digital IR Ceiling Mount Receiver provides an infrared (IR) interface so that Digital Lighting Management (DLM) IR remote controls can be used where DLM sensors or switches are not easily accessible for wireless communication.

Operation

The LMIR-100 operates on power from the DLM local network. It uses an infrared transceiver to accept commands from DLM IR remote controls and transmits them over the DLM local network. It is recommended for applications where the wall- and ceiling-mounted IR-enabled DLM devices are not within direct line of sight of the occupant using the IR remote control, or are not close enough to the user.

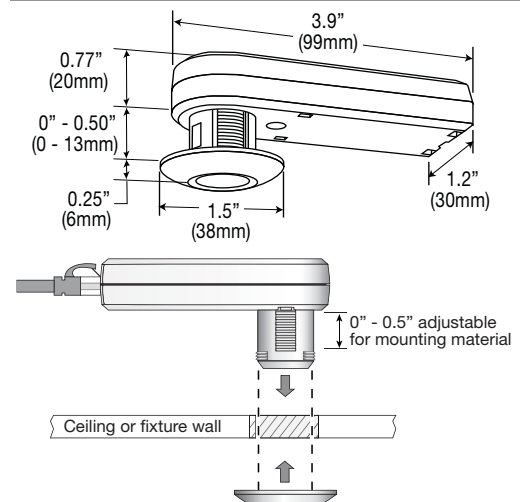
Connecting



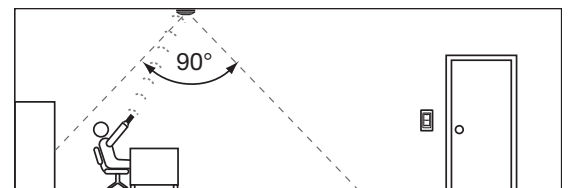
Specifications

- Input voltage: 24VDC from DLM network
- Current consumption: 5mA
- DLM local network connection: 1 RJ45 port
- IR transceiver: 90° window; 32 ft. (10m) range
- Operating conditions: for indoor use only; 32-131°F (0-55°C); 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Dimensions and Mounting



IR Receiving/Transmitting Coverage



Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMIR-100	Digital IR Ceiling Mount Receiver



LMSM-ENC1 Enclosure for LMSM Segment Manager

NEMA1-rated enclosure

Isolated Class 1 and Class 2 wiring

Compatible with LMSM-3E or LMSM-6E



DIN rail mounting for easy installation or removal of Segment Manager

Shown with Segment Manager installed

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMSM-ENC1 is a surface-mount NEMA1-rated enclosure with a DIN rail for mounting one LMSM Segment Manager, conduit knockouts for line and low voltage connections and a removable cover. The conduit entrances and enclosure sections for high voltage (Class 1) and low voltage (Class 2) wiring are completely separated.

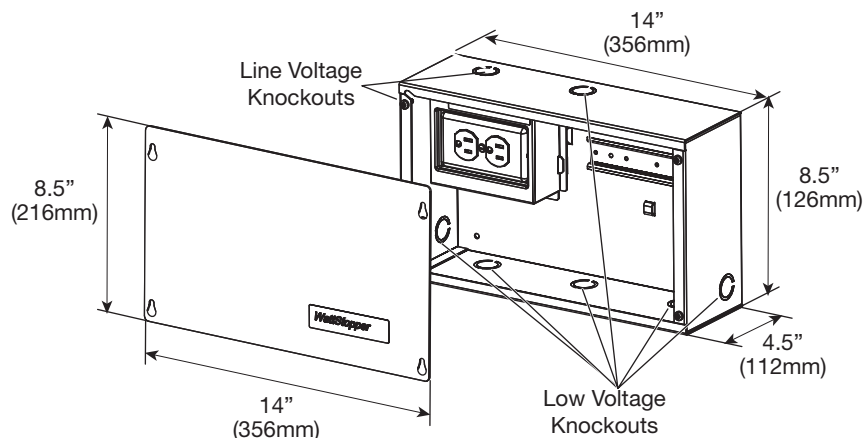
Applications

The LMSM-ENC1 allows a Segment Manager to be installed in an electrical room or other location with similar requirements. The enclosure accommodates one LMSM-3E or LMSM-6E Segment Manager.

Specifications

- Input voltage: 120VAC, 50/60Hz
- Duplex receptacle for connection of LMSM plug-in power supply
- Barrier between high and low voltage
- DIN rail for mounting LMSM, includes locking tab
- Housing: NEMA1 surface-mount enclosure with screw-on cover, suitable for damp locations
- UL and cUL listed
- Five year warranty

Dimensions and Mounting

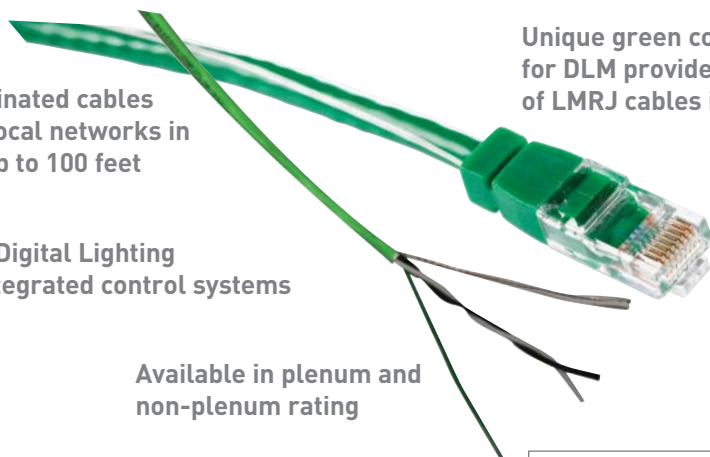


Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMSM-ENC1	NEMA1 surface mount enclosure for Segment Manager (order Segment Manager separately)



LMRJ Series Pre-Terminated Cables and Segment Network Wire



Pre-terminated cables for DLM local networks in lengths up to 100 feet

Unique green color and markings for DLM provide easy identification of LMRJ cables in plenum

UL and cUL listed and labeled

Components of Digital Lighting Management integrated control systems

Available in plenum and non-plenum rating

Support Plug n' Go and Push n' Learn functionality

PROJECT
LOCATION/TYPE

Product Overview

Description

LMRJ Series cables, couplers and splitters connect Digital Lighting Management (DLM) components without the need for tools or point-to-point discrete wiring. Cables are pre-terminated with industry standard RJ45 connectors compatible with any RJ45 port on DLM components. LMRJ cables utilize B to B wiring. A to A cables may be used instead, but all cabling on a project must be the same type for successful operation.

LM-MSTP Segment Network wire is MS/TP (RS485) and plenum rated and is available by the foot.

Operation and Applications

LMRJ cables can be plugged into any available RJ45 port on a DLM device and connected to any other DLM device. These cables facilitate the creation of a local network of DLM components that automatically configure and function together. While LMRJ series cables are rated Cat 5e, they are not recommended for general data use in other than DLM network applications.

LM-MSTP wire is used to create a linear topology (daisy-chain) segment network for control by a segment manager or building automation system.

Ordering Information

Catalog No.	Description	Catalog No.	Description
Non-Plenum Rated Local Network Cables		Plenum Rated Local Network Cables	
<input type="checkbox"/> LMRJ-01	Six-inch Jumper, green with white stripe	<input type="checkbox"/> LMRJ-P03	3' Cable, green with black stripe
<input type="checkbox"/> LMRJ-03	3' Cable, green with white stripe	<input type="checkbox"/> LMRJ-P10	10' Cable, green with black stripe
<input type="checkbox"/> LMRJ-10	10' Cable, green with white stripe	<input type="checkbox"/> LMRJ-P15	15' Cable, green with black stripe
<input type="checkbox"/> LMRJ-15	15' Cable, green with white stripe	<input type="checkbox"/> LMRJ-P25	25' Cable, green with black stripe
<input type="checkbox"/> LMRJ-25	25' Cable, green with white stripe	<input type="checkbox"/> LMRJ-P50	50' Cable, green with black stripe
<input type="checkbox"/> LMRJ-50	50' Cable, green with white stripe	<input type="checkbox"/> LMRJ-P100	100' Cable, green with black stripe
<input type="checkbox"/> LMRJ-100	100' Cable, green with white stripe		
Local Network Cable Accessories			
<input type="checkbox"/> LMRJ-C8	Coupler (two ports to connect two cables end to end). Non-plenum rated.		
<input type="checkbox"/> LMRJ-S8	Splitter (three ports for one input and two output connections). Non-plenum rated.		
<input type="checkbox"/> LMRJ-CS8	Coupler/splitter (three ports for one input and two output connections). Plenum rated.		
<input type="checkbox"/> LMRJ-TK	Cable Test Kit		
Unterminated Plenum Rated Segment Network Wire			
<input type="checkbox"/> LM-MSTP	Segment network wire, 1.5 pair (twisted pair + 1 conductor) + shield, white/black/green, max diameter 0.185", available by the foot		
<input type="checkbox"/> LM-MSTP-DB	Segment network wire, 1.5 pair (twisted pair + 1 conductor) + shield, white/black/green, max diameter 0.185", available by the foot. Rated for direct burial.		

LMKT-100 Series Digital Room Control Bundles

Plenum-rated room controller, dual tech occupancy sensor and digital wall switch control one or two loads

Components plug together with LMRJ cables (included) eliminating wiring errors

Plug n' Go automatic configuration for maximum energy efficiency out of the box



Easy-to-use digital controls; IR transceivers for optional wireless configuration

Occupancy sensor combines PIR and ultrasonic for most comprehensive coverage

Facilitate code-mandated manual-on and bi-level lighting control strategies

Product Overview

Description

The LMKT-101 and LMKT-102 include an LMRC-100 Series Digital Room Controller with one or two relays, an LMDC-100 Digital Dual Technology Ceiling Mount Occupancy Sensor, an LMSW-100 Series Digital Wall Switch with one or two buttons and two LMRJ-25 pre-terminated cables. The bundles provide energy efficient control of one or two lighting loads that meets or exceeds energy code requirements.

Operation

The Room Controller operates on one 120 or 277 volt, 20 amp, feed and provides Class 2 power to the occupancy sensor and switch via the LMRJ cables. Once powered up, Plug n' Go automatically configures the system for the most energy-efficient operation. The LMKT-101 bundle controls one load and self-configures for manual-on/automatic-off operation. The LMKT-102 bundle controls two loads. Plug n' Go configures load one for automatic on and load two for manual-on; both loads turn off automatically. Either system may be reconfigured without the need for tools or a PC.

Digital Settings and IR Communications

The occupancy sensor includes a unique, easy-to-access, LCD screen that displays sensor parameters and simplifies changing those parameters. Time delay and sensitivity can be precisely adjusted. Additionally, walk through mode can be activated and detection and retrigger technologies may be changed. Changes are made at the sensor with easy-to-use pushbuttons or via a wireless configuration tool that communicates using a bi-directional infrared (IR) signal and stores up to nine sensor profiles. System parameters, including the operating mode (manual- or auto-on) may be reconfigured using the wireless tool, or via hidden configuration buttons.

Applications

LMKT-101 and LMKT-102 bundles are ideal for single or multiple zone on/off lighting control applications in private offices, open offices, conference rooms, lunch rooms and break rooms in any commercial building or retrofit project. They help contractors comply with the requirements of ASHRAE 90.1, IECC, EPAct, California Title 24 or LEED projects, including requirements for bi-level control and manual-on.

Features

- Plug n' Go™ automatic configuration for quick installation and maximum energy savings
- Room controller features On/Off local override button for each load
- LEDs on switch and room controller indicate status of loads
- Zero-crossing circuitry for reliability and increased product life; each relay rated for 20A
- Digital occupancy sensor with LCD display and programming pushbuttons behind snap-off cover; 1000' coverage when mounted at 10'
- Switch buttons may be replaced in the field facilitating custom engraving or color change
- Room controller UL2043 plenum rated
- RoHS compliant



Specifications

LMRC-101 and LMRC-102:

- Input/output voltage: 120/277VAC, 50/60Hz
- Maximum 20A combined load per Room Controller; each relay rated for 20A ballast or incandescent or 1HP motor load
- Operating temperature: 32-104°F (0-40°C)

LMDC-100:

- LCD display and pushbuttons for setting sensor and system parameters
- Infrared (IR) transceiver
- Ultrasonic frequency: 40 kHz

Operating temperature: 32-104°F (0-40°C)

LMSW-101 and LMSW-102:

- 1 or 2 buttons, each with LED status indicator
- Hidden configuration button
- Infrared (IR) transceiver

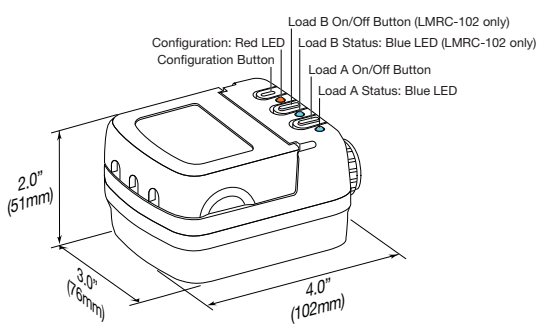
Operating temperature: 32-131°F (0-55°C)

All Products:

- For indoor use only; 5-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five-year warranty

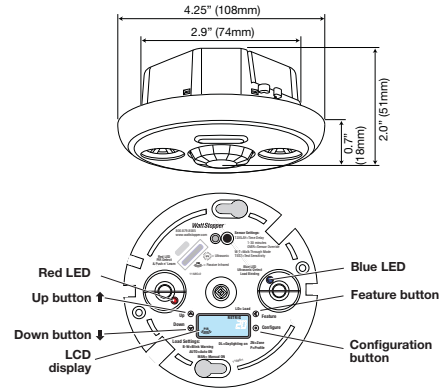
Controls & Dimensions

LMRC-100 Digital Room Controllers

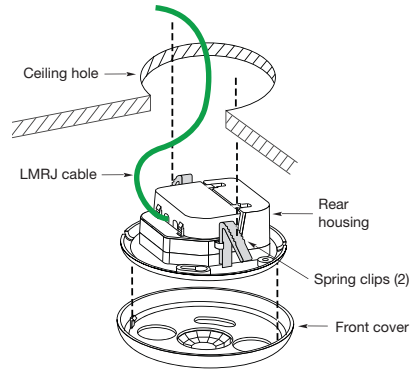
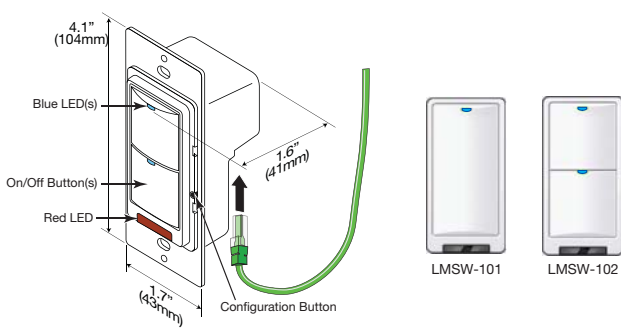


Room controllers include a 1/2" (12.7mm) threaded nipple and locking ring. Mount inside or outside a j-box.

LMDC-100 Digital Occupancy Sensor

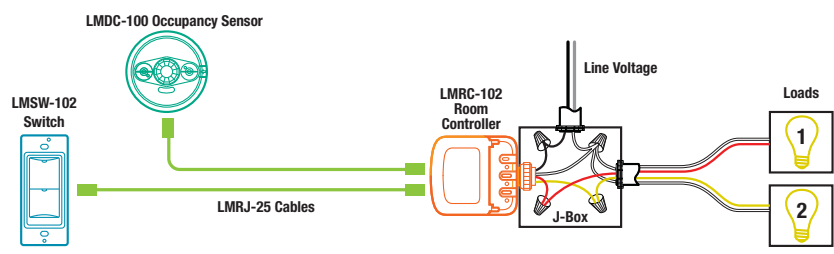


LMSW-100 Series Digital Wall Switches



Connection Diagrams

Sample Connection Diagram for Bi-Level Control Using LMKT-102



Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LMKT-101-W	White	LMRC-101 Single Relay Room Controller, LMDC-100 Dual Technology Ceiling Mount Occupancy Sensor, LMSW-101-W One-button Digital Switch, [2] LMRJ-25 25' non-plenum rated cables
<input type="checkbox"/> LMKT-P101-W	White	LMRC-101 Single Relay Room Controller, LMDC-100 Dual Technology Ceiling Mount Occupancy Sensor, LMSW-101-W One-button Digital Switch, [2] LMRJ-25 25' plenum rated cables
<input type="checkbox"/> LMKT-102-W	White	LMRC-102 Dual Relay Room Controller, LMDC-100 Dual Technology Ceiling Mount Occupancy Sensor, LMSW-102-W Two-button Digital Switch, [2] LMRJ-25 25' non-plenum rated cables
<input type="checkbox"/> LMKT-P102-W	White	LMRC-102 Dual Relay Room Controller, LMDC-100 Dual Technology Ceiling Mount Occupancy Sensor, LMSW-102-W Two-button Digital Switch, [2] LMRJ-25 25' plenum rated cables

Note: Switches do not include face plates. Order decorator style plate separately.

Digital Lighting Management LMKT-DEMO Tool Bag

Complete demonstration kit for Digital Lighting Management

Includes the LMCT-100 wireless configuration tool

Powered junction box for live action demo

Room for additional components as desired

Sturdy logo bag for convenient storage and transportation



PROJECT
LOCATION/TYPE

Product Overview

Description

The LMKT-DEMO is a complete hands-on Digital Lighting Management demonstration kit in a bag. Components included are an LMRC-102, LMDC-100, LMSW-102, LMCT-100, and two LMRJ-03 cables.

The included LMRC-102 room controller is pre-mounted to a 4" square junction box, which is pre-wired with a 6' long power cord and includes two LED lamps to represent two controlled loads.

The LMDC-100 ceiling mount occupancy sensor showcases the digital features of the system, as well as the WattStopper exclusive dual technology detection capability. This uses both passive infrared (PIR) and ultrasonic sensing technologies to provide the most robust coverage for challenging applications such as classrooms.

Description (cont'd.)

The LMSW-102 two-button switch complements the two relay room controller and allows independent control of each load. The LMSW-102 enables demonstration of the DLM "out of the box" sequences of operation, such as automatic on to 50%. It also demonstrates the Push n' Learn™ features of DLM.

The LMCT-100 handheld wireless configuration tool effectively demonstrates ladder-less adjustability of the DLM devices and illustrates the power of DLM's digital architecture.

Additional components include two LMRJ-03 pre-terminated cables for connecting the devices. One cable is plenum rated (black stripe) and one is non plenum rated (white stripe).

Included Components

- Sturdy cordura bag with carry handles and zipper top
- LMRC-102 two relay room controller pre-mounted with 6' power cord and LED demonstration loads
- LMDC-100 ceiling mount dual technology occupancy sensor
- LMSW-102 two-button decorator style switch
- LMCT-100 handheld wireless configuration tool
- LMRJ-03 three foot pre terminated non-plenum rated connection cable
- LMRJ-P03 three foot pre terminated plenum rated connection cable

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMKT-DEMO	Digital Lighting Management Tool Bag Demonstration Kit





CONFIGURATION TOOLS

WattStopper offers the only wireless remote for system configuration and data storage. Installers can use one tool for all their DLM projects.

Designers can also configure DLM right from their personal computers using WattStopper software and a USB key.

LADDER-FREE CONFIGURATION OPTIONS

- Wireless infrared (IR) configuration tool
- PC software and USB interface

SUPPORT FOR ENERGY MANAGERS

- Simplified customization for aggressive energy savings
- Software allows firmware updates of installed DLM components

TIME SAVING CAPABILITIES

- Copy settings from one room or installation to another
- Use setup and calibration data to prepare LEED documentation



LMCT-100 Digital Wireless Configuration Tool

Wireless advanced configuration capabilities for Digital Lighting Management systems

2-way IR communication for data upload, download, confirmation and storage

Component of Digital Lighting Management integrated control systems

Easy-to-use navigation pad

Easy-to-read OLED screen

Configures occupancy sensors, switches, room controllers, photo-sensors and DLM relay panels



PROJECT
LOCATION/TYPE

Product Overview

Description

The LMCT-100 Wireless Digital Configuration Tool is a handheld tool for advanced remote configuration of any WattStopper Digital Lighting Management (DLM) system. The tool enables system and device modifications via pushbutton, without ladders or tools, as well as easy duplication of settings between DLM local networks.

Operation

Powered by three AAA batteries, the LMCT-100 features an easy-to-read organic LED (OLED) screen and bi-directional communication with IR-enabled DLM devices. Its intuitive navigation pad provides a familiar interface for users who can see the current system parameters of a DLM local network and make changes by navigating through simple menus. Adjustable occupancy sensor parameters include sensitivity, time delay and trigger modes. Load parameter settings (also referred to as Push n' Learn) include blink warning, Auto- or Manual-on mode, and re-assigning specific loads to different sensors. Button configuration options include type (load or scene), mode, fade times and scene lock. Dimming parameters include low/high trim, preset level and lamp burn in time. Daylighting adjustments include operating mode, setpoints, fade times and time delays. The LMCT is also used to adjust the light level of dimmed loads.

Configuration and Personalization

The LMCT-100 simplifies the replication of occupancy sensor settings from one DLM local network to another and facilitates scene setting. It can store up to nine sensor profiles and assign them to sensors in any DLM local network. For projects where identical settings may be desired across a large number of spaces, this capability provides a streamlined method of configuration. Settings can be copied throughout a building or in different buildings. The LMCT also allows manual adjustment of individual load levels. This powerful feature allows different lighting scenes to be set and stored without the need for dimming switches in each space. Scenes can be recalled by scene switches or multi-button switches configured for scene control.

Applications

Designers and installers can use the LMCT-100 to ensure conformity with design intent. It simplifies changes to occupancy sensor settings, load configurations and dimming parameters by making the adjustment process ladder-free. An LMCT-100 is required for calibrating the LMLS-500 photosensor. The self-calibrating LMLS-400 does not require the use of an LMCT-100 unless operating parameters need to be adjusted. The LMCT-100 is also required for configuration and maintenance of LMCP series relay control panels.

Features

- Remotely reconfigures and reports DLM occupancy sensor parameters: PIR and ultrasonic sensitivity; time delay; walk through mode; trigger mode (for dual technology sensors)
- Remotely reconfigures and reports DLM dimming parameters: load type (dim/switch); low/high trim; preset on level; lamp burn-in
- Manually adjusts light level of dimmed loads to facilitate scene setting
- Remotely configures, reconfigures and reports DLM photosensor settings: light levels; operating mode (on/off, bi-level, tri-level, dimming); setpoints; time delays; fade times; test mode
- RoHS compliant

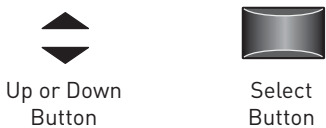
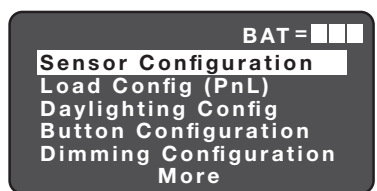
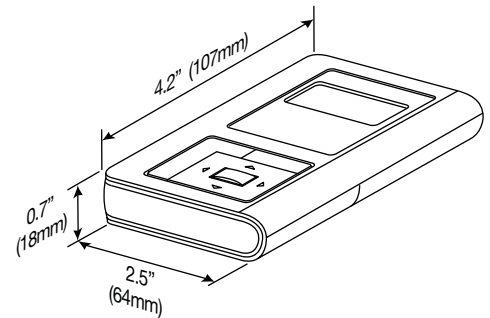
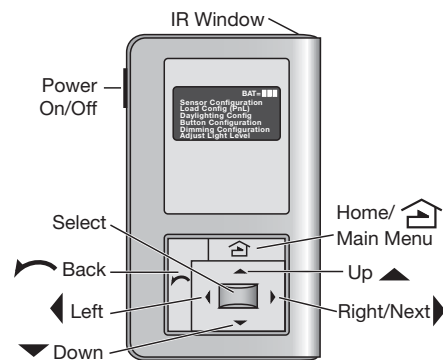


Specifications

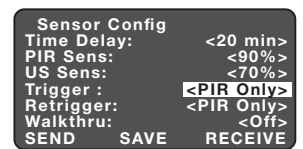
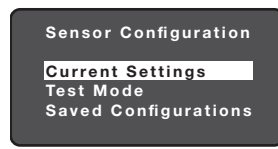
- Three AAA 1.5 volt batteries (included)
- OLED display 1.4"W x .75"H (36mm x 19mm)
- Infrared (IR) transceiver (36kHz frequency)
- IR range: up to 32' (10m)
- Includes carrying case with belt clip
- Operating temperature: 32-104°F (0-40°C)
- FCC part 15 compliant
- Five year warranty

Configuration Menus

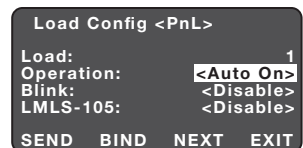
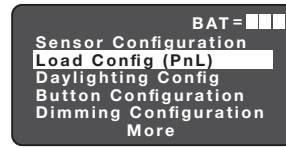
LMCT-100 Handheld Remote with Menu Screens



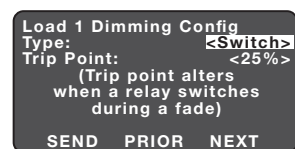
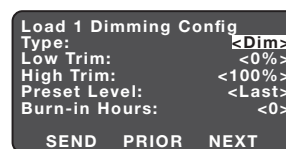
The Home (or Main) menu displays after the power-up process completes. It contains information on the battery status and six menu choices.



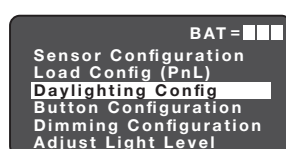
The Sensor Configuration function enables users to change sensor parameters, including time delay and sensitivity, save configurations, enter test mode and apply saved configurations.



The Load Configuration function (also referred to as Push n' Learn) enables users to identify load numbers, view and change load parameters and load bindings to sensors.



The Dimming Configuration function enables users to customize parameters for performance and savings. Setting a high level trim below 100% saves energy and increases lamp life.



The Daylighting Configuration function enables users to initiate automatic calibration of the LMLS-400, calibrate the LMLS-500, and adjust setpoints and other parameters for both photosensors and enter test mode.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMCT-100	Digital Wireless Configuration Tool
<input type="checkbox"/> LMCT-100-U	Digital Wireless Configuration Tool, ARRA compliant*

*Product produced in the U.S.

DLM Computer Interface Tools and Software

PC interface tool and software for configuring DLM systems

Components of Digital Lighting Management integrated control systems

Provides valuable calibration and setup documentation for LEED projects



Active real-time status of DLM system

Allows pre-configuration of rooms before installation



Product Overview

Description

The LMCI-100 Digital Computer to DLM interface connects to a PC's USB port running the LMCS-100 Digital Lighting Management computer software and to a Digital Lighting Management (DLM) system through the RJ45 connector. The computer tools allow users to read, store and modify DLM system configurations.

Operation

The user connects the LMCI-100 to a DLM local network by plugging an LMRJ cable connected to that network into the device's RJ45 port. To connect to the LMCS-100 software, the user plugs the LMCI-100's USB connector into the USB port of a PC, then starts up the LMCS-100 software. **LMRJ cables should never be plugged into an Ethernet port on a computer or wall.**

Additionally, for networked DLM systems, LMCS can connect via the BAS network over BACnet/IP allowing for management from a central location. Firmware upgrade, parameter editing, and site-level configuration documentation are all possible via LMCS using BACnet/IP.

Features

LMCI-100:

- RJ45 and USB connectors to interface between DLM network and PC
- For use with LMCS-100 software
- RoHS compliant

PROJECT
LOCATION/TYPE

PC-Based Configuration

LMCS-100 software features an intuitive user interface (UI) to identify current DLM system settings, allowing users to easily store or modify settings. With the software, users can also reconfigure DLM devices by changing parameters and/or setting operational values. LMCS software may also be used to load new firmware with enhanced features into DLM devices without removing installed products.

Applications

Designers can take advantage of these computer interface tools to simplify project design, startup and documentation. The LMCS software can be used to set up many advanced features of DLM devices that are beyond the scope of Plug n' Go, Push n' Learn and the LMCT-100 wireless configuration tool. Furthermore, the LMCI-100 and LMCS-100 facilitate preparation of commissioning documentation through a variety of reports, which is especially helpful for LEED projects.

LMCS-100:

- Windows based
- Easy-to-use graphical user interface
- For use with LMCI-100 Digital Computer to DLM Interface



Specifications

LMCI-100:

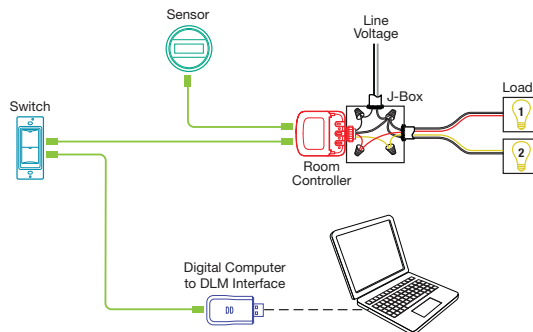
- NOT FOR USE WITH ETHERNET CONNECTIONS
- PC connection: USB connector with removable cover
- DLM local network connection: 1 RJ45 port
- LED for signal sent indication
- Operating temperature: 32 - 95°F (0 - 35°C)
- FCC part 15 compliant
- Five year warranty

LMCS-100:

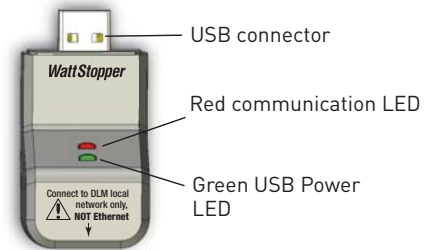
- Can also connect to DLM rooms via BACnet/IP
- Requires PC with USB port running Windows 7, Windows XP, or Vista

Connections to DLM System

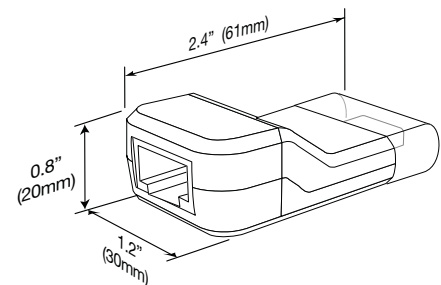
Connecting to a DLM Local Network



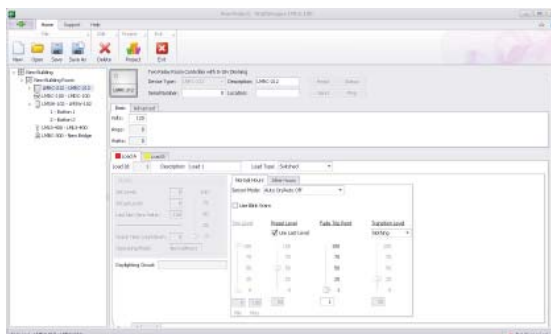
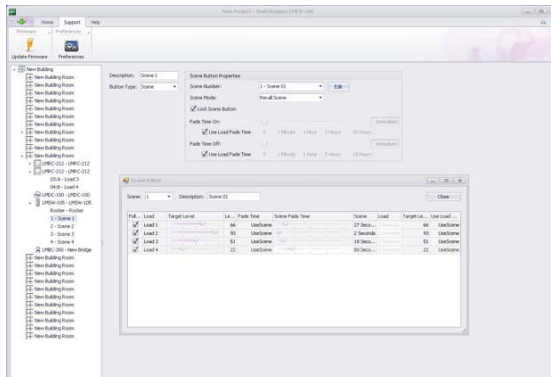
LMCI-100 Indicators



LMCI-100 Dimensions



LMCS Software



Typical LMCS screens.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LMCI-100	Digital Computer to DLM Interface
<input type="checkbox"/> LMCS-100	DLM Computer Software [*free download from WattStopper website]

*Download the LMCS-100 DLM Computer Software from www.wattstopper.com/resources/download-center/software-downloads/dlm-lmcssoftware.aspx



NETWORK COMPONENTS

Whether or not integration with a building automation system is required, DLM offers connectivity without complexity for remote system management and control. Just one device in each DLM local network has to be connected to a BACnet-compatible segment network for centralized control.

The DLM segment network builds on the Plug n' Go and Push n' Learn configuration already established during setup of each local network. An LMBC network bridge or LMCP panel is all that is needed to network DLM.

Facility managers can schedule, monitor and adjust components on multiple connected DLM local networks from any PC using a browser-based user interface served up by a segment manager. System integrators can use the segment network to coordinate control of DLM devices using the familiar BACnet protocol.

AUTOMATIC SEGMENT NETWORK CONFIGURATION

- Builds on Plug n' Go and Push n' Learn configuration
- Exposes DLM parameters as BACnet objects

REMOTE CONTROL AND MANAGEMENT OPTIONS

- Time scheduling, including automatic activation of after-hours parameters
- Adjust parameters on multiple DLM local networks
- Power monitoring of lighting and plug loads
- Intelligent building operations such as demand response

DLM COMPONENTS FOR CONNECTIVITY

- Segment manager
- Network bridge
- Lighting control panels



LMBC-300 Digital Network Bridge

Provides connectivity between a DLM local network and a BACnet-compatible DLM segment network

Component of Digital Lighting Management integrated control systems

Supports third party integration with BAS through BACnet MS/TP



Plug n' Go automatically connects module with all devices on DLM local network

Self-configures on DLM segment network

Class 2 device powered from DLM local network

PROJECT
LOCATION/TYPE

Product Overview

Description

The LMBC-300 Digital Network Bridge provides a segment network connection for a group of Digital Lighting Management (DLM) local network devices. This enables individual DLM local networks to be aggregated into a larger system, which, in turn, can be remotely managed from a DLM Segment Manager or a building automation system (BAS).

Operation

An LMBC-300 operates on Class 2 power supplied to a DLM local network by one or more DLM room controllers. It is connected to the free-topology local network at any convenient location using a standard LMRJ cable, and has terminals for connection to the segment network using LM-MSTP wire. The LMBC-300 monitors the DLM local network and automatically exposes all room devices, settings and calibrations through the segment network. Incorporating a Network Bridge in each DLM local network also allows the individual local networks to respond in concert to schedules created and broadcast from a DLM Segment Manager.

Local Network to Segment Network Link

The LMBC-300 Network Bridge provides a two-way communication link between local network devices and a DLM Segment Manager or third party building automation system. The LMBC-300 makes all local device settings visible and adjustable through the LMCS-100 DLM software. This includes settings previously made locally either by Plug n' Go, Push n' Learn, an LMCT-100 configuration tool or the LMCS-100 DLM software. Additionally, many DLM device settings are made available to any BAS system that uses the BACnet protocol.

Applications

The LMBC-300 is ideal for retrofit applications where DLM local networks with LMRC-100 Series, LMRC-2xx Series, LMPL-101 or LMPL-201 room controllers need to be controlled or monitored by a centralized system. It may also be used with LMRC-100 Series room controllers for projects that do not require current monitoring or dimming capability.

Features

- Communicates all DLM local network data and device settings to the LMCS software or for monitoring and control by the Segment Manager
- Adds segment network functionality to DLM local networks with LMRC-100 Series, LMRC-2xx Series, LMPL-101 or LMPL-201 room controllers
- Easy integration with BAS through use of standard BACnet objects to represent DLM local network device settings and states
- Class 2 operation and plenum rated housing facilitate simple installation
- DIN rail mounting clamp provided with the unit to facilitate box or panel mounting
- UL 2043 plenum rated
- Qualifies for ARRA-funded public works projects

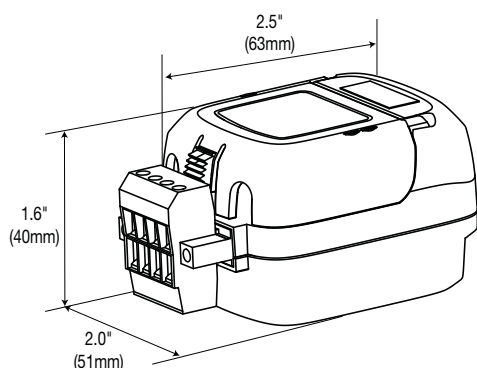


Specifications

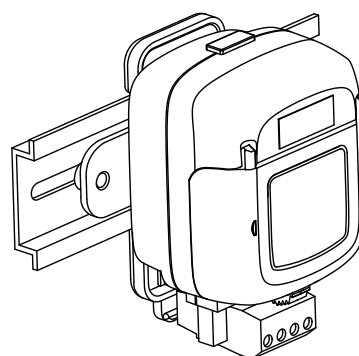
- Operating voltage: 24VDC from DLM local network
- Current consumption: 30mA
- DLM local network connection: 2 RJ45 ports
- Removable terminal block for twisted pair DLM segment network connection
- Segment network parameters:
 - WattStopper LM-MSTP wire rated for BACnet MS/TP (RS485)
 - Linear topology; 4000' maximum per segment
 - Up to 40 local networks or panels per segment
- DIN rail mounting plate provided with the unit for cabinet or panel mounting
- Status LEDs indicate normal operation
- Operating conditions: for indoor use only; 32-158°F (0-70°C); 0-95% RH, non-condensing
- UL and cUL listed
- FCC part 15 compliant
- Five year warranty

Dimensions & Mounting

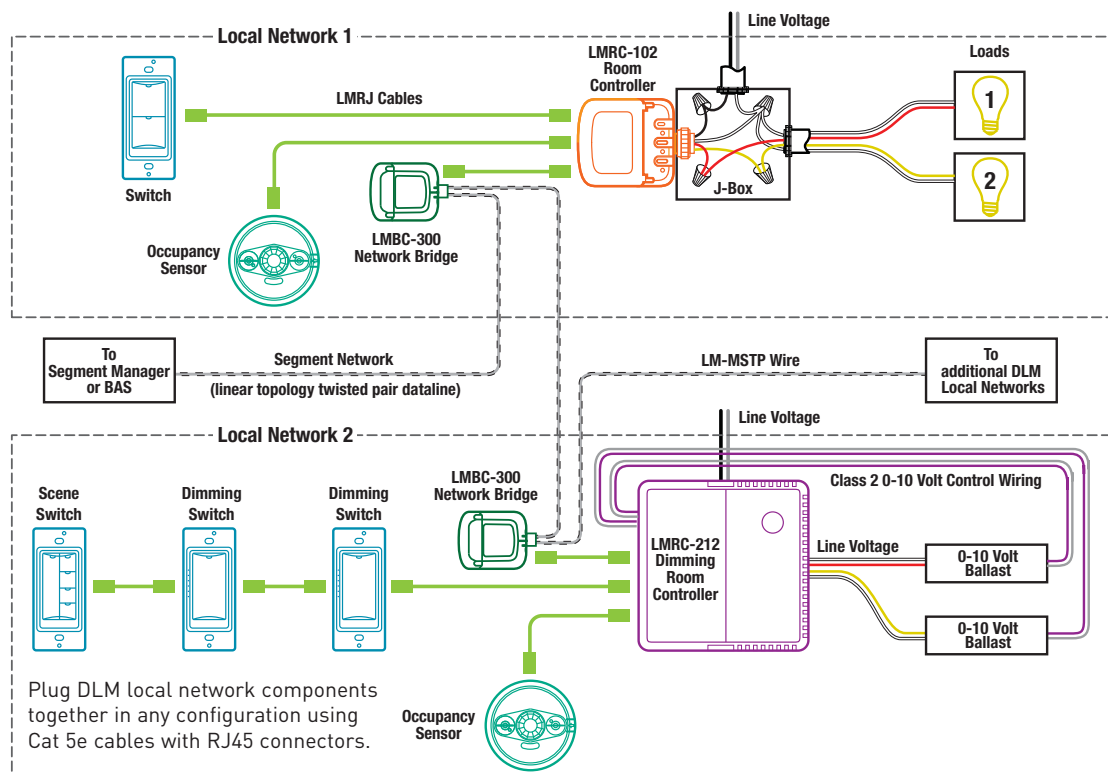
Product Dimensions



DIN Rail Mounting



Connecting Typical Connections to DLM Local Networks and Segment Network Dateline



Ordering Information

Catalog. No.	Description
<input type="checkbox"/> LMBC-300	Network Bridge
<input type="checkbox"/> LMBC-300-U	Network Bridge, ARRA compliant*

*Product produced in the U.S.

LMSM Series Digital Network Segment Manager

Provides global control of DLM segment networks and access to advanced features



Allows scheduling, power monitoring and remote adjustment of devices on DLM local networks

Friendly browser-based user interface

Supports third party integration with BAS through BACnet IP

Connects to DLM segment network and PC, LAN or Internet via Ethernet



PROJECT
LOCATION/TYPE

Product Overview

Description
The Digital Lighting Management (DLM) Network Segment Manager is a network controller designed for use with DLM local networks and/or LILM lighting control panels. The Segment Manager provides global control, monitoring, adjustment, and scheduling functionality for networked DLM systems across multiple rooms and buildings.

Operation

The Segment Manager communicates with the DLM local networks and panels over a BACnet-compatible digital segment network. The LMSM-3E supports three direct-connected MS/TP segment networks for up to 120 DLM rooms, while the LMSM-6E utilizes NB-ROUTERS for segment network connections for up to 300 DLM rooms. The user interface is hosted by the Segment Manager and is served up over a TCP/IP connection. The interface is available on any PC using a compatible web browser. A BACnet BAS may be connected to the LMSM via Ethernet for connection to the BACnet Export Table that exposes a selection of application-specific BACnet objects to the BAS.

Scheduling, Monitoring and Adjustment

Users can easily monitor and adjust DLM device parameters from the convenience of a PC connected to a Segment Manager. This includes occupancy and daylighting sensor settings, load parameters, digital switch button configuration and dimming parameters. Normal and after hours parameters can be set or adjusted and users can create seven-day-repeating or calendar-event-based schedules. Additionally, power consumption may be monitored in real time for areas equipped with LMRC-2xx and/or LMPL-201 Plug Load Room Controllers. The Segment Manager can also be used to create reports for maintenance and building administration.

Applications

The Segment Manager is an ideal solution when remote access to DLM local networks is desired. It is suitable for schools, office buildings, or other applications that will benefit from the ability to adjust settings and calibrations without the need to physically visit each room. It is also recommended for projects that require automatic reconfiguration of device settings based on a schedule.

Features

- Communicates all DLM local network data and device settings via the segment network dataline
- Web browser user interface can be accessed via direct TCP/IP connection, local LAN or via the Internet
- Allows remote changes to occupancy sensor and daylighting sensor settings in real time
- Allows current monitoring of LMRC-2xx Room Controllers and LMPL-201 Plug Load Room Controllers in real time
- Adjusts parameters for normal and after hours based on the schedule
- Secure web interface utilizing encrypted SSL communications
- Schedules may be repeating seven day, calendar event based or astronomical control
- Easy integration with BAS through use of standard BACnet objects to represent DLM local network device settings and states

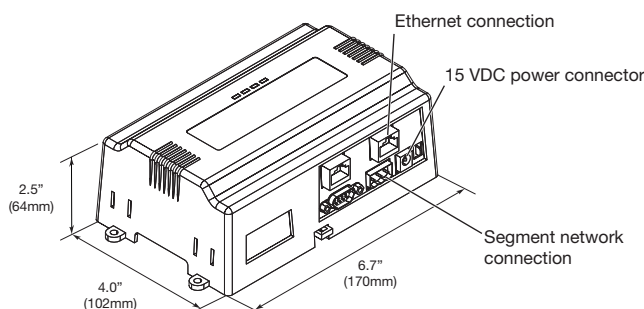


Specifications

- Operating voltage: 15VDC from 120VAC plug-in power supply (included) or auxiliary enclosure
- Plastic housing, mounting via integral DIN rail slot or screw down tabs on housing
- RJ45 Ethernet port for TCP/IP (LAN) connection, green link status LED
- Embedded Power PC platform @ 524Mhz
- QNX real time operating system
- RS485 network, BACnet MS/TP twisted pair, baud rate 9600, 19200, 38400 or 76800 selectable
 - LMSM-3E: three segment networks
 - LMSM-6E: add NB-ROUTERS as needed for up to 300 rooms
- Segment network parameters:
 - WattStopper LM-MSTP wire rated for BACnet MS/TP (RS485)
 - Linear topology; 4000' maximum per segment
 - Up to 40 local networks or panels per segment
- Status LEDs for power and normal operation
- Operating conditions: for indoor use only; 32-122°F (0-50°C); 5-90% RH, non-condensing
- UL and cUL listed (E207782)
- BTL listed
- FCC part 15 compliant
- One year warranty

Dimensions & Controls

Product Dimensions

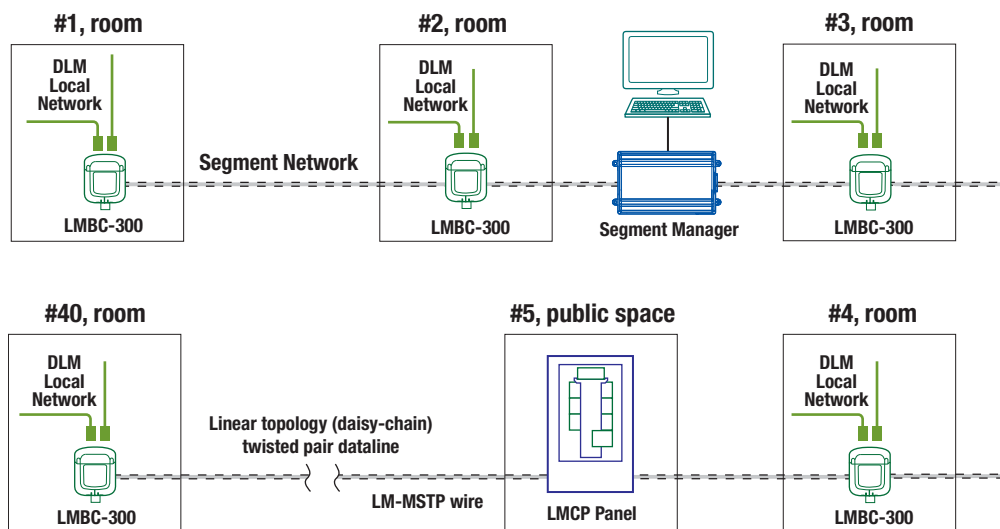


User Interface



Connecting

Sample Connection Diagram



The segment manager may be located at any point along the segment network so long as the linear topology (daisy chain wiring) is maintained. Best practice is to connect in the middle of the network segment with an equal number of local networks on either side.

Ordering Information

Catalog. No.	Description
<input type="checkbox"/> LMSM-3E	Segment Manager, three MS/TP segment network
<input type="checkbox"/> LMSM-6E	Segment Manager, use NB-ROUTERS for up to 300 rooms
<input type="checkbox"/> LMSM-ENC1	Enclosure for Segment Manager, 14"L x 8.5"W x 5"D, includes 120VAC duplex outlet

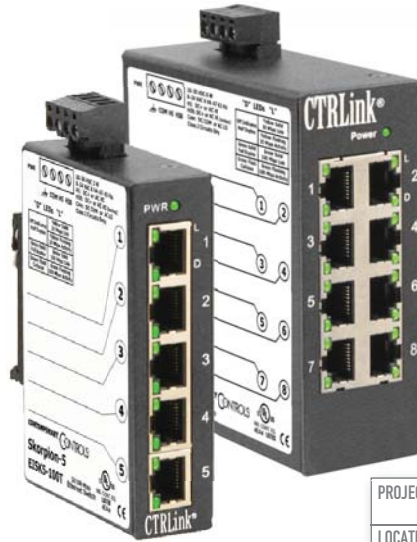
NB-SWITCH DLM Global Network Switches

100 Mbps 5-port, 8-port and 16-port Ethernet switches

Auto negotiation of speed and duplex

10BASE-T/100BASE-TX/
100BASE-T operation

Compatible with DLM Segment Manager or third party BACnet building automation systems



PROJECT
LOCATION/TYPE

Product Overview

Description

The NB-SWITCHES are enterprise-grade Ethernet switches that work with up to four or seven NB-ROUTERS to provide high speed connectivity for Digital Lighting Management (DLM) networked systems. The compact switch has a rugged metal enclosure and integral DIN rail clip.

Operation

NB-SWITCHES require no configuration. All ports automatically configure their data rates and duplex using the Auto-Negotiation protocol. Each port will accommodate a straight-through or crossover cable through the use of the AUTO-MDIX protocol.

Applications

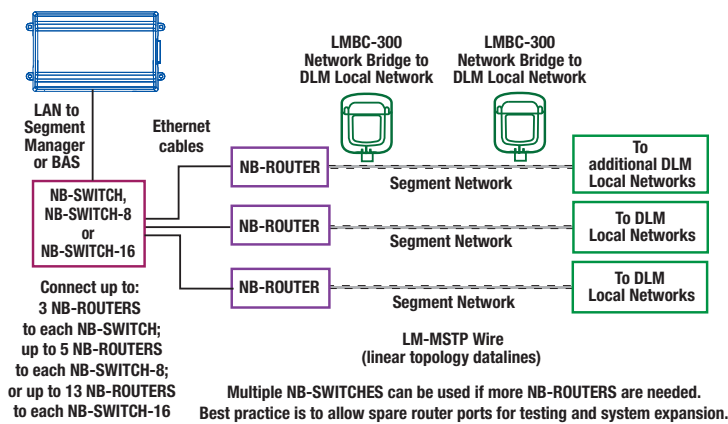
An NB-SWITCH is the ideal choice for DLM network applications with multiple segment networks and either a Segment Manager or connected BAS.

Specifications

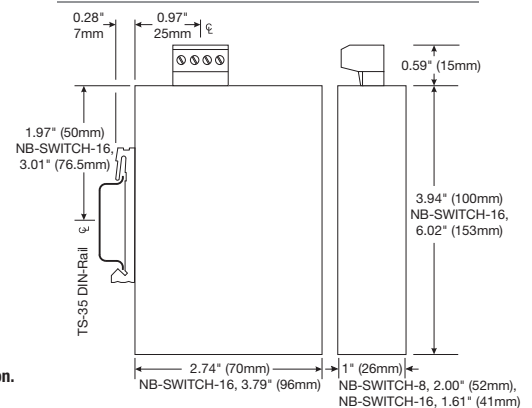
- Operating voltage: 24 VAC/VDC from 120 VAC cord-end power supply (included)
- Quick disconnect 4-pin power connector
- Power LED
- Link/Rate/Duplex LEDs for each port
- Shielded RJ45 ports
- DIN-rail mounting clip
- UL and cUL listed
- Two year warranty

Wiring & Dimensions

Network Wiring



Dimensions



Ordering Information

Catalog No.	Description	Weight
<input type="checkbox"/> NB-SWITCH	DLM Global Network 5-Port Ethernet Switch	1 pound
<input type="checkbox"/> NB-SWITCH-8	DLM Global Network 8-Port Ethernet Switch	1.5 pounds
<input type="checkbox"/> NB-SWITCH-16	DLM Global Network 16-Port Ethernet Switch	1.7 pounds

WattStopper
www.wattstopper.com
8 0 0 . 8 7 9 . 8 5 8 5

NB-ROUTER DLM Segment Network to IP Router

Routes one BACnet MS/TP Segment Network to BACnet IP



Compatible with DLM Segment Manager or third party BACnet building automation systems

BACnet/IP or BACnet Ethernet connectivity

Simple configuration using a standard web browser

PROJECT
LOCATION/TYPE

Product Overview

Description

The NB-ROUTER provides a connection point between a single Digital Lighting Management (DLM) segment network and an Ethernet LAN. The router has a rugged metal enclosure with an integral DIN rail mounting clip.

Operation

The NB-ROUTER provides a browser-based interface for set up and configuration. Using an assigned IP address and additional Ethernet and BACnet MS/TP settings, the device automatically routes network communication between the segment network and an IP network.

Applications

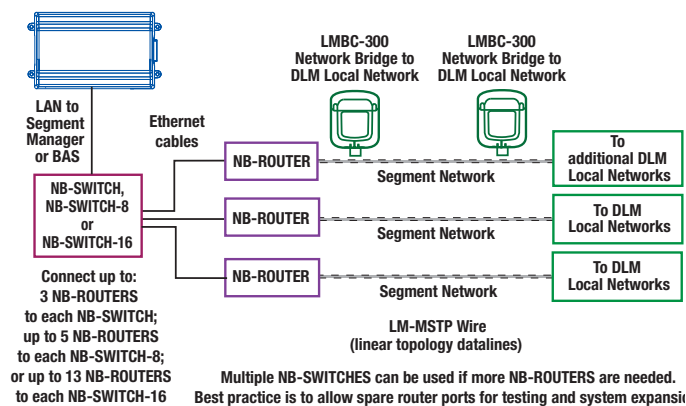
The NB-ROUTER is perfect for applications with DLM segment networks originating from multiple locations, or for routing a segment network to a BAS via BACnet IP or BACnet Ethernet.

Specifications

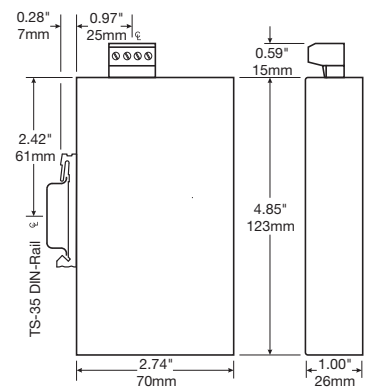
- Operating voltage: 24 VAC/VDC from 120 VAC cord-end power supply (included)
- Quick disconnect 4-pin power connector
- Power LED
- Ethernet and MS/TP activity LEDs
- RJ45 Ethernet port
- Quick disconnect 3-wire MS/TP connector
- DIN-rail mounting clip
- Two year warranty

Wiring & Dimensions

Network Wiring



Dimensions



Ordering Information

Catalog No.	Description	Weight
<input type="checkbox"/> NB-ROUTER	DLM Segment Network to BACnet IP Router	1 pound

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www.wattstopper.com
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Pub. No. 39803 rev. 5/2013

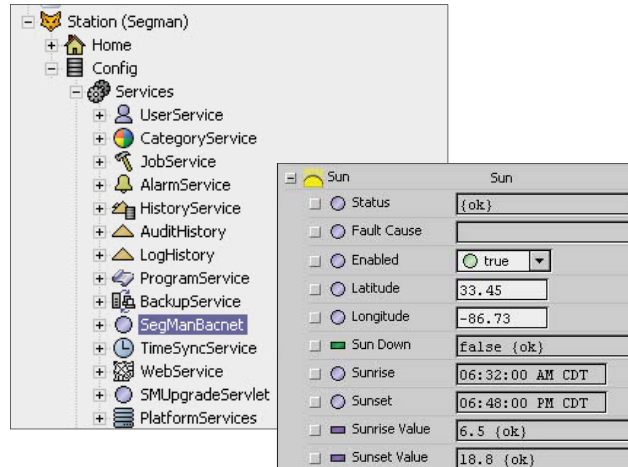
A Group brand | legrand



LMAX-100 Niagara AX Driver Module

Free driver streamlines integration between Digital Lighting Management & Niagara AX framework

Access to additional non-BACnet parameters



Maps DLM points into a Niagara AX station

Automatic discovery of DLM rooms, including BACnet objects

Built-in sunrise/sunset astronomic output schedules – no weather service required

PROJECT
LOCATION/TYPE

Product Overview

Description

The Niagara AX driver module for Digital Lighting Management (DLM) streamlines BACnet device and point discovery for Niagara integrators. The driver is a standard Niagara AX .JAR file, named “segmentmanager.jar”, that is compatible with any Niagara AX station v3.4 or later. It supports both BACnet IP and BACnet MS/TP LANs. The driver includes product-specific icons to represent DLM lighting controls in the object tree.

Operation

The DLM driver module must be installed in the JACE that is connected over BACnet to DLM-controlled rooms, via LMBC-300 network bridge modules. The driver module is installed in the station as a service called “SegManBacnet”. Once installed, actions specific to DLM products are available for the service.

Auto-discovery of DLM Rooms

The “Discover Devices” action initiates automatic discovery of all DLM rooms on any supported BACnet networks accessible to the Niagara controller. After the rooms are added to the BACnet device database, the BACnet objects for each DLM room are also discovered automatically, and added to each device’s points database. This saves considerable time compared to manual discovery of devices and integration points.

Applications

The Niagara AX driver is the ideal solution for any DLM network project with a 3rd party JACE. Adding a network to a DLM room that is already operating with a code-compliant sequence of operations provides additional functionality. Options include power monitoring of both lighting and plug load controllers, following the occupancy sensor detection state for selected rooms, and remote configuration of parameters including sensitivity and time delay. DLM sequences of operation can also be modified via a schedule, so that sensor and load operation change after hours to save more energy.

Features

- Free driver speeds integration of Digital Lighting Management (DLM) lighting controls
- Standard Niagara AX .JAR file
- Supports BACnet IP and BACnet MS/TP networks
- Sun function adds astronomical functionality to the Niagara station

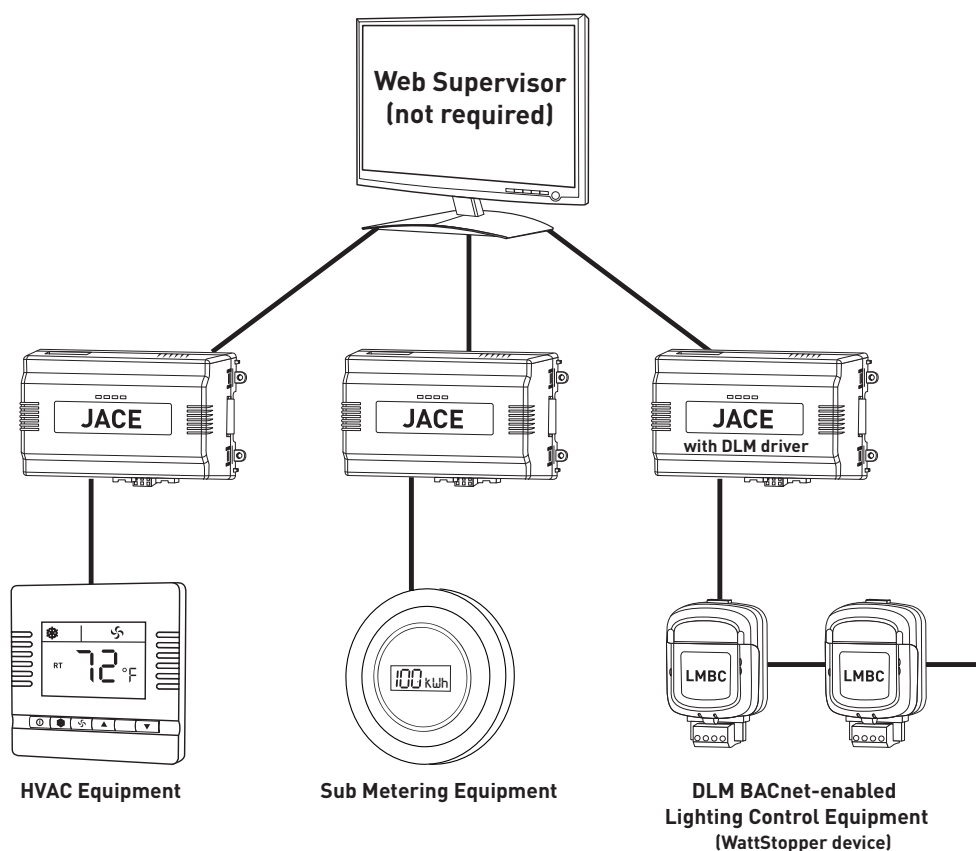


Specifications

- Field tested with Niagara AX v3.4, 3.5 and 3.6. Validation with 3.7 pending.
- Requires bacnet.jar 3.4.64, or later
- Installed as a service in Niagara station
- Distributed as standard Niagara AX .JAR file
- Requires valid BACnet client license for each applicable BACnet LAN (e.g. MS/TP or IP)
- Installed on JACE® controller; not Web Supervisor
- Service name is SegManBacnet

Connections to DLM System

Niagara AX Driver Installed in JACE Connected to DLM controls



Install the Niagara AX driver in the JACE connected over BACnet to the LMBC-300 network bridge modules. Each LMBC-300 module inventories its DLM room, and creates a BACnet device object list for the room.

Download and Installation

Download the LMAX-100 Niagara AX Driver Module from www.wattstopper.com/download-niagara-driver.aspx
 For information on installing the SegManBacnet service, download Technical Bulletin #187 from www.wattstopper.com/resources/download-center/tech-bulletins-whitepapers.aspx.

VIDEO: Integrating DLM into Tridium Niagara based building automation systems.
 Scan code with your smartphone or tablet to view video:



Lighting Control System Services

Technical services related to design and installation of WattStopper control products

Extended warranties available

Free telephone technical support for purchased product(s)

Complete project assistance

Startup and training services



PROJECT

LOCATION/TYPE

Product Overview

Description

Comprehensive services include design, startup, onsite training and troubleshooting as necessary.

Project Engineering

Engineering services provide complete design and implementation using WattStopper products. The (SDRAWSYS) services include submittal packages with system one-line diagram (or reflected ceiling plan when applicable) showing system components and quantities for all products. Drawings can include system riser diagrams, individual panel and room controls to show hardware configuration, panel numbering and wiring schedules showing circuit/relay/load relationships as well as occupant overrides, sensors, wiring diagrams for each component, installation instructions and testing procedures for each component. SDRAWSYS provides ongoing Project Management support throughout the installation phase, through to the final startup and project acceptance.

Programming

Programming Services (SPROGSYS) provide custom programming for special applications requiring advanced logic and customized control solutions including BACnet integration.

Graphical interface screens are customizable to enhance efficiency and provide user friendly control of the system (WCGRSCRN).

Startup

Highly qualified technicians are available for onsite services and maintenance assistance. Comprehensive startup service (SCOM) includes a WattStopper factory-trained technician to verify that all WattStopper system hardware on the bill of material (including standalone occupancy sensors) is installed and configured in accordance with product documentation and project requirements. The service tests and verifies systems are operating as intended, implements sequences of operation (SOO) as directed, or provides a basic starting program configuration. SCOM also includes owner training to review programming, operation and maintenance.

Alternate startup service (SCOMEXSEN) provides a WattStopper factory-trained technician to verify all WattStopper system hardware **except** standalone occupancy sensors as described above.

Other services are available to assist commissioning agents with testing, provide system troubleshooting and repair, implement system upgrades or energy optimization, and perform auditing.

Training

Additional training services (STRAIN) include a WattStopper factory-trained technician to provide additional and separate site visits to conduct system training to review all system hardware, software, and adjustments.

Sample Project Engineering Documents

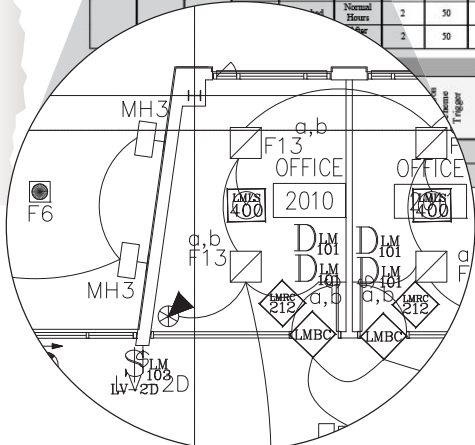
WattStopper®

Room Summary for JHS Office Building - 2010 WDE TURBOENCABULATOR OFFICE in WS-CSF-3.2

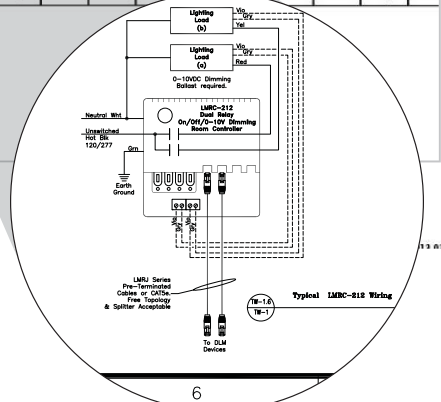
Room: JHS/WS-CSF-3.2: 2010 WDE TURBOENCABULATOR OFFICE
 After Hours Enabled: Network Bridge Present Number of Profiles: 1

Schedule and Control			
Device	TW Sheet	TW Detail	Control Sequence
LMRC-212	1	1.6	LMLS-400 Zone 1; LMPX-100; LMDM-101 Rocker; LMDM-101 Rocker;
01[A]: Load a			LMLS-400 Zone 1; LMPX-100; LMDM-101 Rocker; LMDM-101 Rocker;
02[B]: Load b			LMLS-400 Zone 1; LMPX-100; LMDM-101 Rocker; LMDM-101 Rocker;
LMLS-400	2	2.3	Zone 1: Load 01[A]; Load a, Load 02[B]; Load b;
LMPX-100	2	2.1	Load 01[A]; Load a; Load 02[B]; Load b;
LMDM-101	1	1.8	Load 01[A]; Load a; Load 02[B]; Load b;
Rocker - Rocker			Load 01[A]; Load a; Load 02[B]; Load b;
LMDM-101	1	1.8	Load 01[A]; Load a; Load 02[B]; Load b;
Rocker - Rocker			Load 01[A]; Load a; Load 02[B]; Load b;
LNBC-300 [2010 WDE TURBOENCABULATOR OFF	1	1.3	

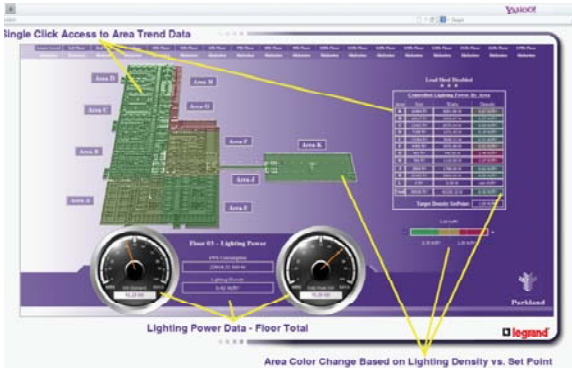
Controller	Circuit	Line Voltage (Volts)	Load	Load Type	Operating Mode	Fade Time (Sec)	Fade Rate	Fade Trip Point Up (%)	Fade Trip Point Down (%)	High Trim Level (%)	Low Trim Level (%)	Sensor Mode	Enter Mode	Blind Warm	Grace Period (Min)	On/Off Delay (Min)	Temporary Auto-On (Sec)	Blind User Override	Power Up Mode	Transition State	Transition Level
LMRC-212			01[A] Loads	Switched	Normal Hours	2	50	1	0	100	0	Follow On and Off	On and Off	False	5	0	10	False	Last State	Nothing	25
					After Hours	2	50	1	0	100	0	Follow Off Only	On and Off	False	5	120	10	False	Last State	Relinquish	25
					Normal Hours	2	50	1	0	100	0	Follow Off Only	On and Off	False	5	0	10	False	Last State	Nothing	25
					After Hours	2	50	1	0	100	0	Follow Off Only	On and Off	False	5	120	10	False	Last State	Relinquish	25



Direction	Walk Through Mode
N/A	False
N/A	True



Sample Graphic Interface Screens



Ordering Information

Catalog No.	Description
<input type="checkbox"/> SDRAWSYS	Factory project engineering services
<input type="checkbox"/> SPROGSYS	Custom factory programming
<input type="checkbox"/> WSGRSCRN	Custom graphic interface screen(s)
<input type="checkbox"/> SCOM	Onsite startup/training for all WattStopper products
<input type="checkbox"/> SCOMXSEN	Onsite startup/training excluding occupancy sensors
<input type="checkbox"/> STRAIN	Day(s) Onsite training for WattStopper control products
<input type="checkbox"/> SERVICE	On-site support for commissioning assistance, system optimization, troubleshooting and repair
<input type="checkbox"/> HWARRANTY-1	Year(s) extended warranty for hardware