

Lithonia Lighting Synergy Control Systems

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SYE



Intended Use

Provides housing and electrical support for the relay power modules, dimmer power modules and system controller in a Synergy® lighting control application.

Features

Synergy® system enclosures are shipped from factory stock in three sizes, accommodating either 2, 4 or 6 power modules (pages 666-668). The enclosures are fabricated from cold rolled steel, are designed for surface wall mounting and carry a NEMA 1 electrical rating.

An optional recessed mounting kit permits the enclosure to be flush-mounted in a six-inch thick wall.

All enclosures are shipped with a factory installed power supply with input terminals provided for either 120, 240 or 277 volts supply voltage. Enclosures intended for use with dimmer modules

are supplied with an internal thermostatically controlled cooling fan and a cover with hinged locking door to cover the power module mounted circuit breakers.

A variety of main lug, neutral bar and main breaker options (page 668) are available to configure Synergy® as a bussed three phase or single phase dimming/switching panel.

Listings

UL Listed to US and Canadian safety standards.

Ordering Information

Example: **SYEM 120/277**

Series	Capacity	Voltage
SYE	<p>S Small enclosure. 2 power module spaces. No circuit breaker door.</p> <p>M Medium enclosure. 4 power module spaces. No circuit breaker door.</p> <p>L Large enclosure. 6 power module spaces. No circuit breaker door.</p> <p>SB Small enclosure. 2 power module spaces. Provision for circuit breakers¹.</p> <p>MB Medium enclosure. 4 power module spaces. Provision for circuit breakers.</p> <p>LB Large enclosure. 6 power module spaces. Provision for circuit breakers.</p>	<p>120/277 120/240/277V, 50 or 60Hz operation</p>

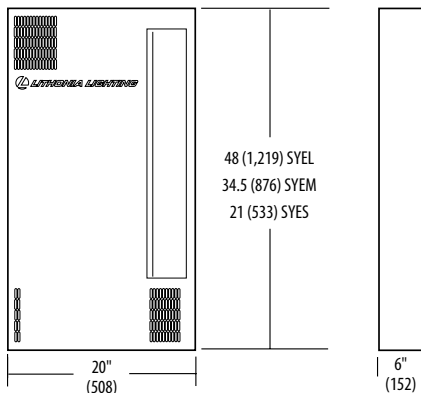
NOTES:
1 Maximum one dimmer module.

Accessories	(Order separately)
SYA SRE	Recess kit for small enclosures
SYA MRE	Recess kit for medium enclosures
SYA LRE	Recess kit for large enclosures
SYPMB NBAR	Neutral bar assembly. Requires one module space (page 668).
SYPMB MB_NBAR	Main breaker assembly with neutral bar, 3-pole. Specify capacity in amps (30, 40, 50, 60, 70, 80, 90, 100). Requires one module space (page 668).

Shipping Weight:

Small enclosure	30 lbs. (14 kg)
Medium enclosure	40 lbs. (18 kg)
Large enclosure	50 lbs. (23 kg)

Dimensions are shown in **inches (millimeters)** unless otherwise noted. Add 1.5 (40) to height and width for recessed version.



SYSC

Intended Use

Provides user interface, display, clock and logic circuits for a Synergy® lighting control system enclosure and a means to set up lighting control functions, including manual switching, manual and preset dimming, schedules, astronomic time control, photocell switching and daylighting.

Features

Constructed as a plug-in chassis to enhance initial installation and serviceability. Used to set up and save operational features of the system. Provides support for external control devices (Synergy® digital remote stations (page 658), Sequel® preset dimming control stations (page 657), Digital Equinox® devices (page 659-660) and legacy dimmer cabinets (page 676) (optional).

User interface is designed for simple operation using the soft key format popular on automated teller machines. Large back-lit display provides text-based prompting and feedback for menu

navigation as well as status, diagnostic information and alarms.

Astronomic feature built into Synergy's internal clock will calculate sunrise and sunset times for use in the lighting schedules. The controller also can read values from accessory photocells and provide automatic switching or dimming of lighting based on the ambient light level.

See the matrix below for additional features and capacities specific to the controller type selected.



Example: SYSC MLX

Ordering Information

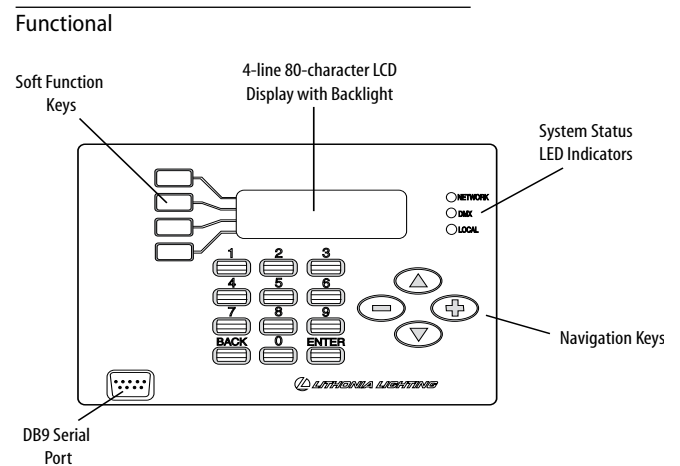
Series	Controller type	Options
SYSC	MLC Basic system controller MLX Network system controller	ISA Three 16-bit ISA expansion slots PHONE Telephone interface for voice-prompted override and remote modem access (requires ISA option) ¹ DMX Theatrical dimming interface, required for connection to DMX512 control signal LEGACY Allows control of one complete network (255 dimmers) of legacy MiniPac®, Sequel® and MaxStar® dimmer cabinets. Replaces master controller on existing systems.

NOTES:
 1 No voice-prompted override with SYSC MLC.
 2 Not available with SYSC MLC.

Features Selection Matrix

System Function	MLC Controller	MLX Controller
Relay Capacity (No breakers)	48	48 (96 total with secondary cabinet)
Relay Capacity (With breakers)	40	40 (80 total with secondary cabinet)
Dimmer Capacity	30	30 (60 total with secondary cabinet)
DMX512 Input	DMX channel-to-output configured via hardware settings	DMX channel-to-output configured via controller software
Scheduling	11 schedules, 99 events	100 schedules, unlimited events
Analog Inputs	YES	YES
PC Support	YES	YES
Script Logic	NO	YES
Logging	NO	YES
Priority Logic	NO	YES
Ethernet Network	NO	YES
ARCNET Network	NO	YES
Telephone Override	NO	YES, optional
BACnet®	NO	YES
RS232	YES	YES
Modem	YES, optional	YES, optional
Sequel® Stations	YES	YES
Legacy Dimmers	NO	YES, optional
Digital Remotes	YES	YES

Accessories	(Order separately)
SYA SKIT	Permits two SYE enclosures to operate with a single MLS controller. ²
SYSW CONFIG	Windows™ configuration software and cable (page 656). ²
SYA CABLEA4	Class 2, four-conductor, plenum-rated network cable (page 670).
SYA CABLES2	Lithonia plenum-rated RS485 network cable ² (page 670).

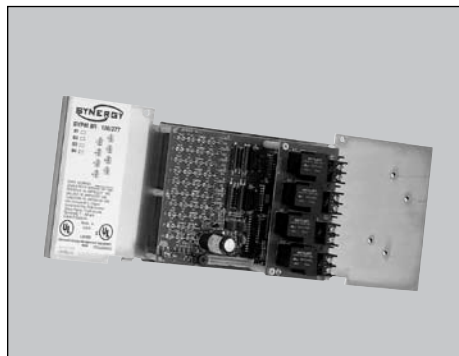


Shipping Weight is 5.5 lbs. (2.5 kg).

Relay Power Modules

SYPM 8R

SYPM 8H



Intended Use

Used in conjunction with system enclosure and controller (pages 664-665) to provide manual and automatic on/off control of all types of lighting loads. Combine with line voltage dimmer (below), 0-10V and DALI (page 667) modules to create a complete lighting control solution for any application.

Features

Modules include eight 20A relays and are available for 120V to 277V and 120V to 347V applications. Unique zero-cross switching technology minimizes the destructive effects of switching large high-inrush loads, such as electronic fluorescent and HID. All relay module types may be ordered with optional 15A or 20A branch circuit breakers.

Modules are equipped with a pilot light output for each relay, eight low voltage contact switch inputs (see page 662 for available switches) and two analog inputs (see page 670 for photocells). Switch inputs on units ordered with the "OS" option are compatible for direct connection to occupancy sensors (pages 672-673). All inputs are fully configurable through the use of a system controller (page 665) to work with a wide variety of input devices and control any combination of system relays and dimmers. Once configured, all module settings are stored locally and the module will continue to operate in fail-safe mode even if the system controller is removed from the system.

Listings

UL Listed to US and Canadian safety standards.

Ordering Information

Series	Type	Circuit breakers/voltage	Options ²
SYPM Module for use with external circuit breakers	8R Relay module with eight single-pole 20A relays for 120 or 277V operation	(blank) No circuit breakers B1 Six 20A, 120V, 10KAIC breakers B2 Four 20A, 277V, 14KAIC breakers B3 Six 15A, 120V, 10KAIC breakers B4 Four 15A, 277V, 14KAIC breakers B6 Four 20A, 347V, 14KAIC breakers ¹ B7 Four 15A, 347V, 14KAIC breakers ¹	RO Remote override. Accepts contact closure to force all relays on in essential lighting applications OS Occupancy sensor. Eight low voltage inputs for contact switches or occupancy sensors.
SYPMB Module with circuit breakers	8H Relay module with eight single-pole 20A relays for 120, 277 or 347V operation		

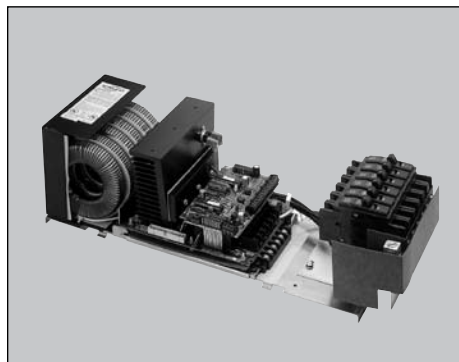
NOTES:
 1 Only available with SYPMB 8H module.
 2 RO option is standard for all modules with OS option; RO and OS options are standard for 8H modules.

Shipping weight is 4lbs. (1.9kg) without breakers and 9lbs. (4.1kg) with breakers.

Example: **SYPM 8R**

Line Voltage Dimmer Power Module

SYPMB 6D



Intended Use

Used in conjunction with system enclosure and controller (pages 664-665) to provide manual and automatic on/off and line voltage dimming control of a wide variety of lighting loads. Combine with relay (above), 0-10V and DALI (page 667) modules to create a complete lighting control solution for any application.

Features

Modules include six 20A line voltage dimmers with integral 15A or 20A circuit breakers and are available for 120V, 230V and 277V applications. Each dimmer is equipped with an air-gap relay and an architectural-grade toroidal filter.

All digital design ensures smooth, dependable performance without field calibration. Unique combination of analog circuitry and digital signal processing techniques minimize the effects of poor power quality and prevent noticeable flicker and drift.

Individual dimmer response curves are field configurable to accommodate most lamp and ballast types via the system controller (page 665). Once configured, all module settings are stored locally and the module will continue to operate in fail-safe mode even if the system controller is removed from the system.

Listings

UL Listed to US and Canadian safety standards.

Ordering Information

Example: **SYPMB 6DB1**

Series	Dimmers	Circuit breakers/voltage
SYPMB	6D Six dimmers per module	B1 Six 20A, 120V, 10 KAIC breakers B2 Four 20A, 277V, 14 KAIC breakers B3 Six 15A, 120V, 10 KAIC breakers B4 Four 15A, 277V, 14 KAIC breakers B5 Four 20A, 120V, 65KAIC breakers

Shipping weight is 22lbs. (10kg).

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Intended Use

Used in conjunction with system enclosure and controller (pages 664-665) to provide manual and automatic on/off and 0-10V dimming control of compatible four-wire fluorescent and non-dim loads. Combine with DALI (below), relay and line voltage dimmer (page 666) modules to create a complete lighting control solution for any application.

Features

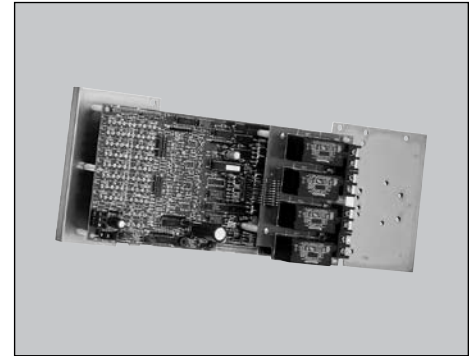
Modules include eight 20A relays and 0-10VDC outputs for dimming ballast control, are available for 120V to 277V or 120V to 347V applications and may be ordered with optional 15A or 20A branch circuit breakers. Unique zero-cross switching technology minimizes the destructive effects of switching high-inrush loads. Each 0-10V out-

put may be used to control up to 50 compatible four-wire ballasts. Modules are equipped with two analog inputs (see page 670) for photocells) and eight low voltage inputs suitable for dry contact switches (page 662) and occupancy sensors (pages 672-673). All inputs are fully configurable through the use of a system controller (page 665) to work with a wide variety of input devices and control any combination of system relays and dimmers. Once configured, all module settings are stored locally and the module will continue to operate in fail-safe mode even if the system controller is removed from the system.

Listings

UL Listed to US and Canadian safety standards.

SYPM 8F



Example: **SYPM 8F**

Ordering Information

Series	Type	Circuit breakers/voltage	
SYPM Module for use with external circuit breakers	8F Ballast module with eight single-pole, 20A relays and eight 0-10VDC analog outputs	(blank) No circuit breakers suitable for 120V or 277V operation	B2 Four 20A, 277V, 14KAIC circuit breakers
SYPMB Module with circuit breakers		H No circuit breakers suitable for 120, 277 or 347V operation	B3 Six 15A, 120V, 10KAIC circuit breakers
		B1 Six 20A, 120V, 10KAIC circuit breakers	B4 Four 15A, 277V, 14KAIC circuit breakers
			B6 Four 20A, 347V, 14KAIC circuit breakers
			B7 Four 15A, 347V, 14KAIC circuit breakers

Shipping weight is 4lbs. (1.9kg) without breakers and 9lbs. (4.1kg) with breakers.

DALI Fluorescent Control Power Module

Intended Use

Used in conjunction with system enclosure and SYSC MLX controller (pages 664-665) to provide manual and automatic control of compatible devices on a DALI network. Combine with 0-10V (above), relay and line voltage dimmer (page 666) modules to create a complete lighting control solution for any application.

Features

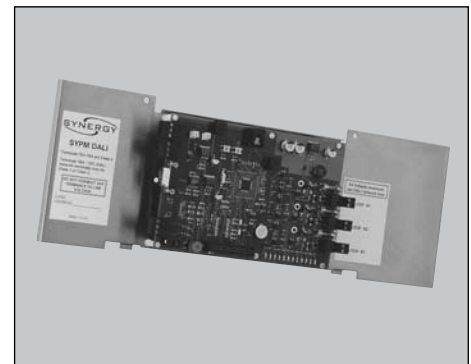
Module includes network controllers and power supplies for three DALI networks (loops) of up to 64 devices each. Connected DALI devices may be configured via the system controller (page 665) for status monitoring and prioritized control by any

Synergy® user interface, timeclock schedule or graphical workstation.

Listings

UL Listed to US and Canadian safety standards.

SYPM DALI



Example: **SYPM DALI**

Ordering Information

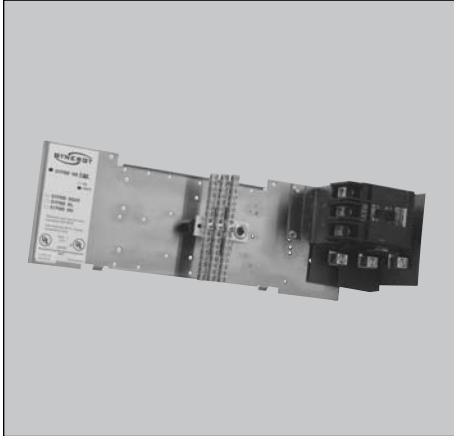
Series
SYPM DALI Network controller and power supply for three DALI loops

Shipping weight is 4lbs. (1.8kg).

Neutral Bar and Main Breaker Modules

SYPMB NBAR

SYPMB MB_NBAR



Intended Use

Used in conjunction with system enclosure (page 664) and power modules equipped with branch circuit breakers (pages 666 and 667) to facilitate connection of an individual Synergy® cabinet to a three-phase, four-wire or single-phase, three-wire main feed.

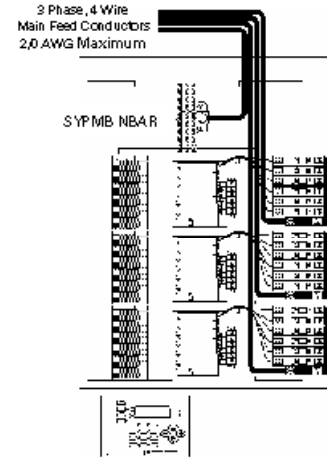
Features

Modules include a 42 circuit neutral bar rated for a #6 to 2/0 AWG main feed and #14 to #4 AWG branch neutral conductors. The neutral bar can be used in 120V, 277V or 347V applications.

The optional main breaker is available in capacities up to 100A and is rated for 120V/240V, 120/208V and 277/480V feeds and conductor sizes up to 2/0 AWG.

Listings

UL Listed to US and Canadian safety standards.



18 Dimmer, 3 Phase, 4 Wire Example

Ordering Information

Example: **SYPMB NBAR**

Series	Main breaker	Neutral bar
SYPMB	(blank) No main breaker MB_ Main breaker, 3 pole, indicate capacity: 30, 40, 50, 60, 70, 80, 90 or 100 amps	NBAR Neutral bar, 42 circuit

Tap Feed Modules

SYPMB ML

SYPMB MB_ML

SYPMB MN



Intended Use

Used in conjunction with system enclosures (page 664) and power modules equipped with branch circuit breakers (pages 666 and 667) to facilitate connection of up to four Synergy® cabinets to a single three-phase, four-wire or single-phase, three-wire main feed.

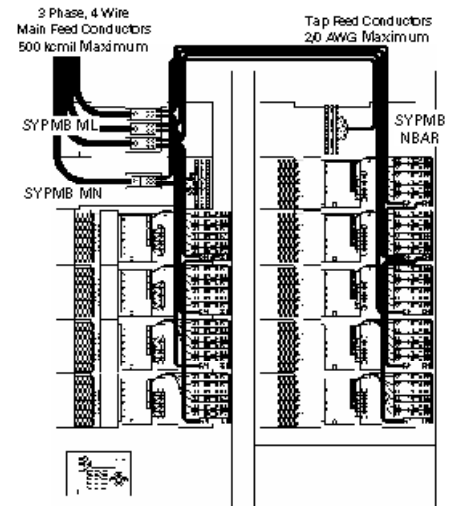
Features

ML modules include a three position power distribution block and optional main breaker. MN modules include a single position power distribution block and a 42 circuit neutral bar. All distribution positions include one main lug rated for a single #4 AWG to 500 kcmil conductor and four tap lugs rated for a single #14 to 2/0 AWG conductor each.

One ML module and one MN module is required for each application. All units are rated for 120V/240V, 120/208V and 277/480V applications.

Listings

UL Listed to US and Canadian safety standards.



54 Dimmer, 3 Phase, 4 Wire Tap Feed Example

Shipping weights are 5 lbs. (2.3 kg) without main breaker and 8 lbs. (3.6 kg) with main breaker.

Ordering Information

Example: **SYPMB ML**

Series	Main breaker	Distribution lugs
SYPMB	(blank) No main breaker MB_ Main breaker, 3 pole, indicate capacity: 30, 40, 50, 60, 70, 80, 90 or 100 amps	ML Phase conductor tap feed lugs, 3 position MN Neutral conductor tap feed lug with 42 circuit neutral bar

SPAK



Intended Use

A compact and economical lighting control panel that offers simplified solutions for a broad range of lighting control applications. This time-based controller switches lighting on/off at preset times while managing a variety of low voltage inputs. Relays are rated to directly switch 20A lighting loads, eliminating the need for external contactors or relays.

Features

Simple Set-Up and Operation – Programming is quick and easy using the large LCD display with associated soft keys and automatic ReadyHelp™ on-screen help guide. Unique quick-assign keys provide one-touch program selections and instant override.

Scheduling – Individual daily schedules automatically repeat for seven-day lighting load operations. Holiday schedule accommodates 32 dates. Astronomic and automatic Daylight Savings Time operation.

Warn-before-off feature flashes lights prior to turning off.

Overrides – Eight low voltage switch inputs can be programmed to provide manual control of any combination of relays or override one to eight zones of scheduled lighting. Analog photocell input does not require remote calibrations.

System Remote Option – A single SwitchPak™ provides a complete lighting control solution and can be used to control operation of additional units. This powerful option expands the capability of SwitchPak™ to a system level without adding the complexity often associated with networked systems.

Housing – NEMA 1 enclosure wall-mount with hinged locking cover. Separate line and low voltage compartments

Capacity – Eight single-pole, 20A rated relays for 120/277 dual voltage. Optional configurations of 600V two-pole relays.

Listings

UL Listed to US and Canadian safety standards.

Ordering Information

Example: **SPAK 8S 120/277**

Series	Relays/poles	Voltage	Options
SPAK	8S Eight single-pole 20A relays 4S Four single-pole 20A relays 4S2D Four single-pole 20A relays and two double-pole 30A relays 4D Four double-pole 30A relays	120/277 120/277 dual voltage	SR System remote ¹

NOTES:

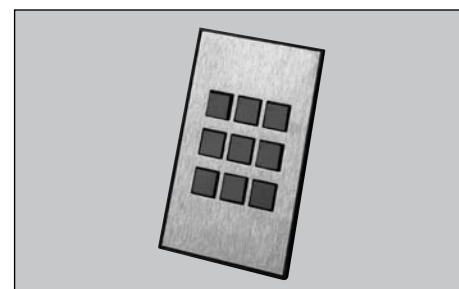
¹ Specify SR option for all SwitchPaks™ to be linked together.

Accessories (Order separately)

- LSA APS** Analog photosensor (page 670)
- SYA CABLES2** System remote network cable for plenum applications (page 670)
- LVMS/WPM** Low voltage override switches (page 662)
- LVDS/DSA** Decora® style low voltage override switches (page 662)

Low Voltage Remote Station

LVRS



Example: **LVRS 1G 2SW BJ4 PL**

Intended Use

The LVRS low voltage remote station is ideal when one to nine buttons are required for a compact location. Buttons may be programmed at SwitchPak™ panel for override control of individual or multiple relays.

Features

The LVRS low voltage remote station is ideal when one to nine buttons are required for a compact location. Buttons may be programmed at SwitchPak™ panel for override control of individual or

multiple relays.

Stations are single gang, screwless appearance and are available with 1 to 9 buttons in a variety of painted and metallic finishes. Optional LED pilot lights provide positive feedback of button operation. Button caps can be engraved with labels having up to two lines of text.

Installation: wallstation mounts in a grounded Lithonia #SYRS 1GR or Steel City #52C13 plaster ring. Stations connect to SwitchPak™ panel switch inputs with #18 - #14 AWG low voltage Class 2 conductors.

Ordering Information

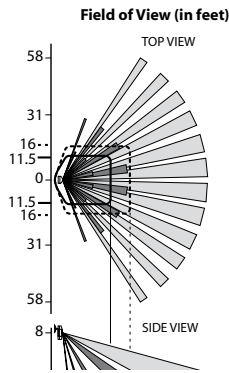
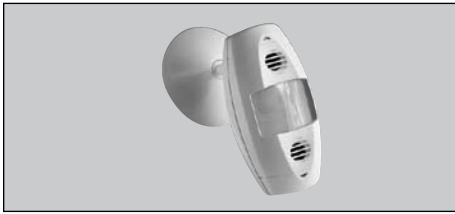
Series	Number of gangs	Number of switches	Finish ¹	Options
LVRS	1G 1 gang	_SW 1 to 9	BJ4 Brushed stainless steel, black buttons WC2 Painted white, white buttons IE3 Painted ivory, ivory buttons	PL 24V pilot indicators

NOTES:

¹ Other finishes available; contract your local Lithonia representative or the Lithonia factory for more information.

Directional Wall or Ceiling Mount Occupancy Sensors

LMT H



Intended Use

Provides automatic on/off lighting control for indoor applications where a directional occupancy sensor is required. Use with LPCS power pack (page 674), Synergy® (pages 654-669) or Switch-Pak™ (page 671). Versions are available for a wide variety of coverage patterns for hallways, warehouses and rooms with pendant fixtures.

Features

Directional sensor heads are low voltage and mount quickly to a wall or ceiling using the supplied "twist and lock" bracket. High motion sensi-

tivity and automatically adapting digital circuitry provide "install and forget" simplicity. Integrated photocell may be used to hold lights off when sufficient daylight is available.

LMT – Multi-Technology Sensor Head. Ultrasonic and infrared sensing provide maximum sensitivity to small movements and high immunity to false triggering. 500ft² coverage for minor motion, 1200ft² coverage for major motion when mounted at an 8ft height.

Listings

UL Listed to US and Canadian safety standards.

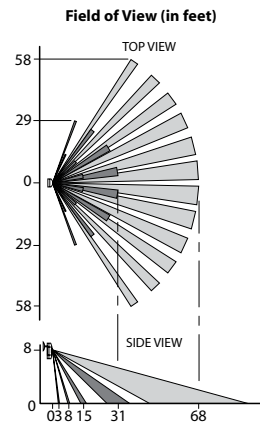
Ordering Information

Example: **LMT H**

Series

LMT H Multi-technology directional sensor head

LIRC



Intended Use

Provides automatic on/off lighting control for indoor applications where a directional occupancy sensor is required. Use with LPCS power pack (page 674), Synergy® (pages 654-669) or Switch-Pak™ (page 671). Versions are available for a wide variety of coverage patterns for hallways, warehouses and rooms with pendant fixtures.

mounted with an unobstructed view of the occupants. 850ft² coverage for minor motion, 2500ft² coverage for major motion when mounted at an 8ft height.

LIRC LR H – Infrared Hallway Sensor. Passive infrared sensor head ideal for long, relatively narrow areas, such as aisles, hallways and corridors. 100ft long x 14ft wide coverage pattern when mounted at a 10ft height.

Features

Directional sensor heads are low voltage and mount quickly to a wall or ceiling using the supplied "twist and lock" bracket. High motion sensitivity and automatically adapting digital circuitry provide "install and forget" simplicity. Integrated photocell may be used to hold lights off when sufficient daylight is available.

LIRC HB H – Infrared High-Bay Sensor. Designed for long, narrow spaces where a high mounting height is required, such as warehouse aisles and factory storage racks, this passive infrared sensor head provides long range and high sensitivity. 55ft long x 7ft wide coverage pattern when mounted at a 30ft height.

LIRC H – Infrared Sensor Head. Passive infrared sensor head ideal for areas where it can be

Listings

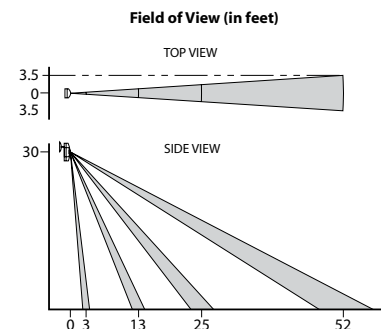
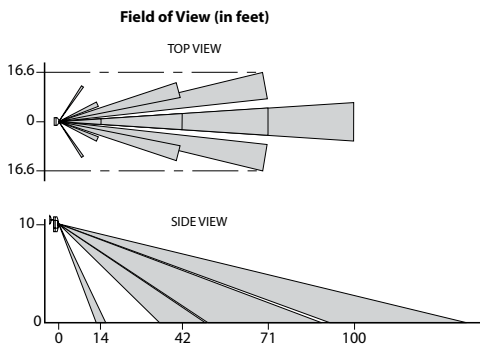
UL Listed to US and Canadian safety standards.

Ordering Information

Example: **LIRC H**

Series

- LIRC H** Infrared wide-view directional sensor head
- LIRC LR H** Infrared hallway directional sensor head
- LIRC HB H** Infrared high bay directional sensor head



Intended Use

Ceiling mount sensor heads provide automatic on/off lighting control for indoor applications where an occupancy sensor with a 360° coverage pattern is required. Use with an LPCS power pack (page 674), Synergy® system (pages 654-669) or SwitchPak™ relay panel (page 671). Multi-technology, ultrasonic and passive infrared sensors are available for a wide variety of applications.

Features

Omni-directional sensor heads are low voltage and mount quickly to a variety of ceiling surfaces using the supplied hardware. High motion sensitivity and advanced, automatically adapting digi-

tal circuitry provide “install and forget” simplicity. Integrated photocell may be used to hold lights off when sufficient daylight is available.

LMTO H – Ultrasonic and infrared sensing provide maximum sensitivity to small movements and high immunity to false triggering. Perfect for classrooms, large offices, conference rooms and cafeterias. 1000ft² coverage for minor motion, 2000ft² coverage for major motion when mounted at an 8ft height.

LUSO H – Ultrasonic sensors provide excellent sensitivity to small movements without the requirement of an unobstructed view of the occupants. Use for storage areas, warehouses, cafeterias and public areas in commercial facilities. 1000ft² coverage for

minor motion, 2000ft² coverage for major motion when mounted at an 8ft height.

LIRO H – Passive infrared sensor with a high immunity to false triggering that works well in lobbies, closets, wide hallways and other areas with an unobstructed view of the sensor. 1500ft² coverage for major motion when mounted at an 8ft height.

Listings

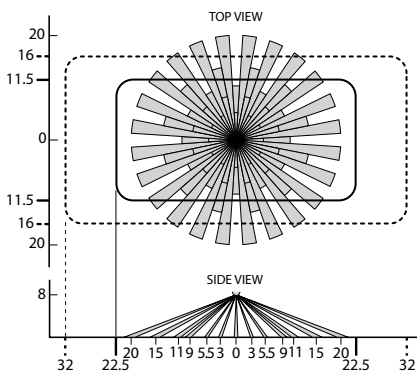
UL Listed to US and Canadian safety standards.

Multi-Technology Sensor Head

Ordering Information Example: **LMTO H**

Series

LMTO H Multi-technology ceiling-mounted sensor head



LMTO H



Ultrasonic Sensor Head

Ordering Information: Example: **LUSO H**

Series

LUSO H Ultrasonic ceiling-mounted sensor head

LUSO H

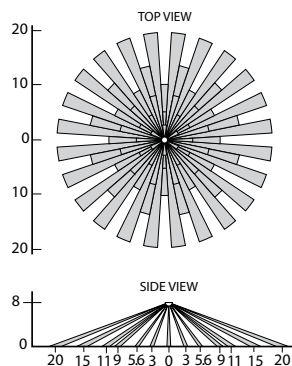


Infrared Sensor Head

Ordering Information: Example: **LIRO H**

Series

LIRO H Infrared ceiling-mounted sensor head



LIRO H



Minor Motion, IR



Major Motion, IR



Minor Motion, Ultrasonic



Major Motion, Ultrasonic