

Choose the right lighting control panel system for your application



LIGHTING INTEGRATOR
lighting control panels with a common technology
platform and multiple control configurations

 **WattStopper**



Lighting Integrator

Every building requires a lighting control solution that meets its unique needs. While building owners and operators face common mandates such as automated shutoff, they also encounter a host of other reasons for implementing time-based lighting control:

- Convenience in building operations
- Ease in integrating multiple control devices such as occupancy sensors, daylighting controls, and building automation systems
- Remote access of control systems
- Need for monitoring, reporting and override
- Energy savings

Deciding to implement time-based lighting control also depends on building space characteristics. Significant factors that suggest panel-based control include the following:

- Predictable occupancy patterns with regular hours of operation, such as retail operations or public areas in office buildings
- Building spaces that are common to numerous occupants and/or public spaces, such as corridors, lobbies, open offices, auditoriums, gymnasiums, and many more
- Strong motivation by building owners/operators to capture maximum energy savings via layered control strategies that utilize multiple types of control devices

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A Flexible Technology Platform with Numerous Control Configurations

With Watt Stopper/Legrand's Lighting Integrator (LI) lighting control panels, users can implement the control capabilities they need for their specific applications. Lighting Integrator simplifies integration with external controls, whether these are other building systems or other lighting control devices. Lighting Integrator is a solution that works today and well into the future.

LI offers a technology platform that accommodates several different control configurations to suit virtually any application.

From basic low voltage switching to sophisticated PC-based control, LI has a configuration to meet every user's needs.



Lighting Integrator Technology Highlights

- **Industry-exclusive heavy duty relay**

Mechanically latching HDR heavy duty relay, rigorously engineered with 14,000 Amp Short Circuit Current Rating. The relay meets new NEMA inrush current requirements for controlling electronic ballast lighting loads, and is rated a minimum 300,000 cycles.

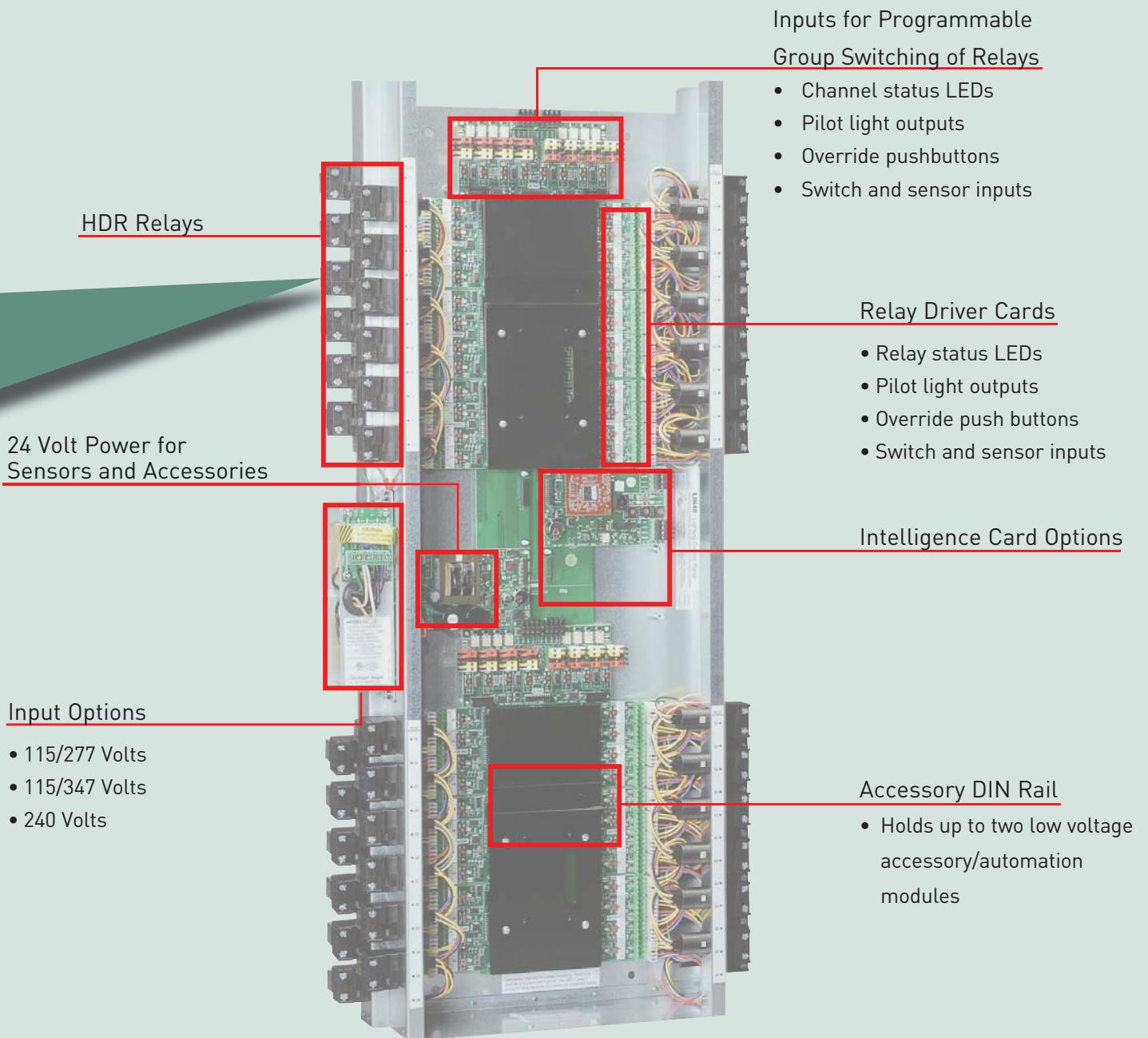
- **Optional integrated control of emergency lighting**

Provides coordinated control of emergency lighting along with normal lighting. Available in most LI control configurations, this

option affords fail-safe emergency lighting operation for most common applications, and allows integrated control via schedule, switch, photocell, or other control device.

- **Unique Smartwired switching**

Simple pushbutton functionality allows users to quickly group relays for common on/off or pattern (scene) control.



HDR Relays

24 Volt Power for Sensors and Accessories

Input Options

- 115/277 Volts
- 115/347 Volts
- 240 Volts

Inputs for Programmable Group Switching of Relays

- Channel status LEDs
- Pilot light outputs
- Override pushbuttons
- Switch and sensor inputs

Relay Driver Cards

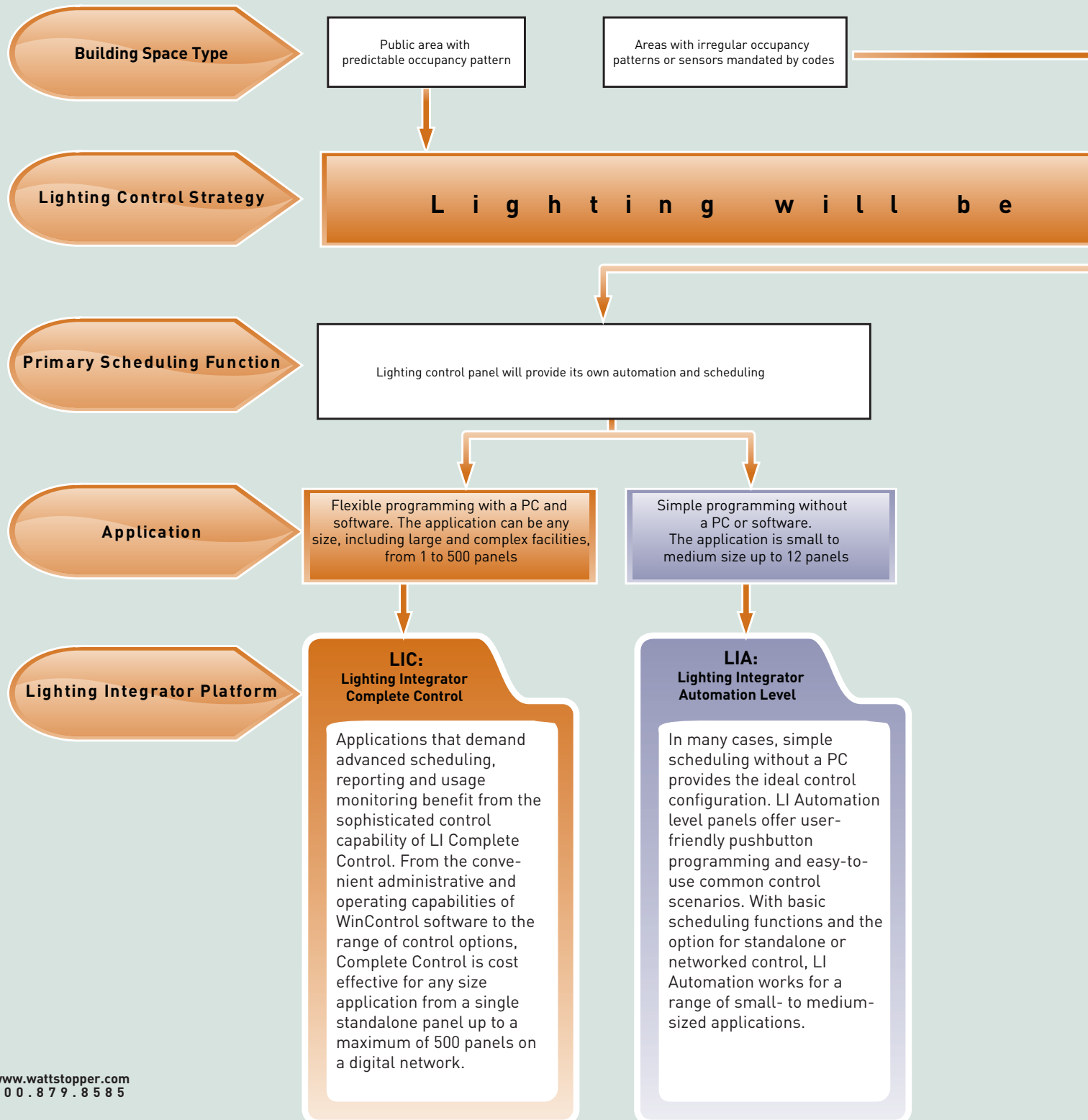
- Relay status LEDs
- Pilot light outputs
- Override push buttons
- Switch and sensor inputs

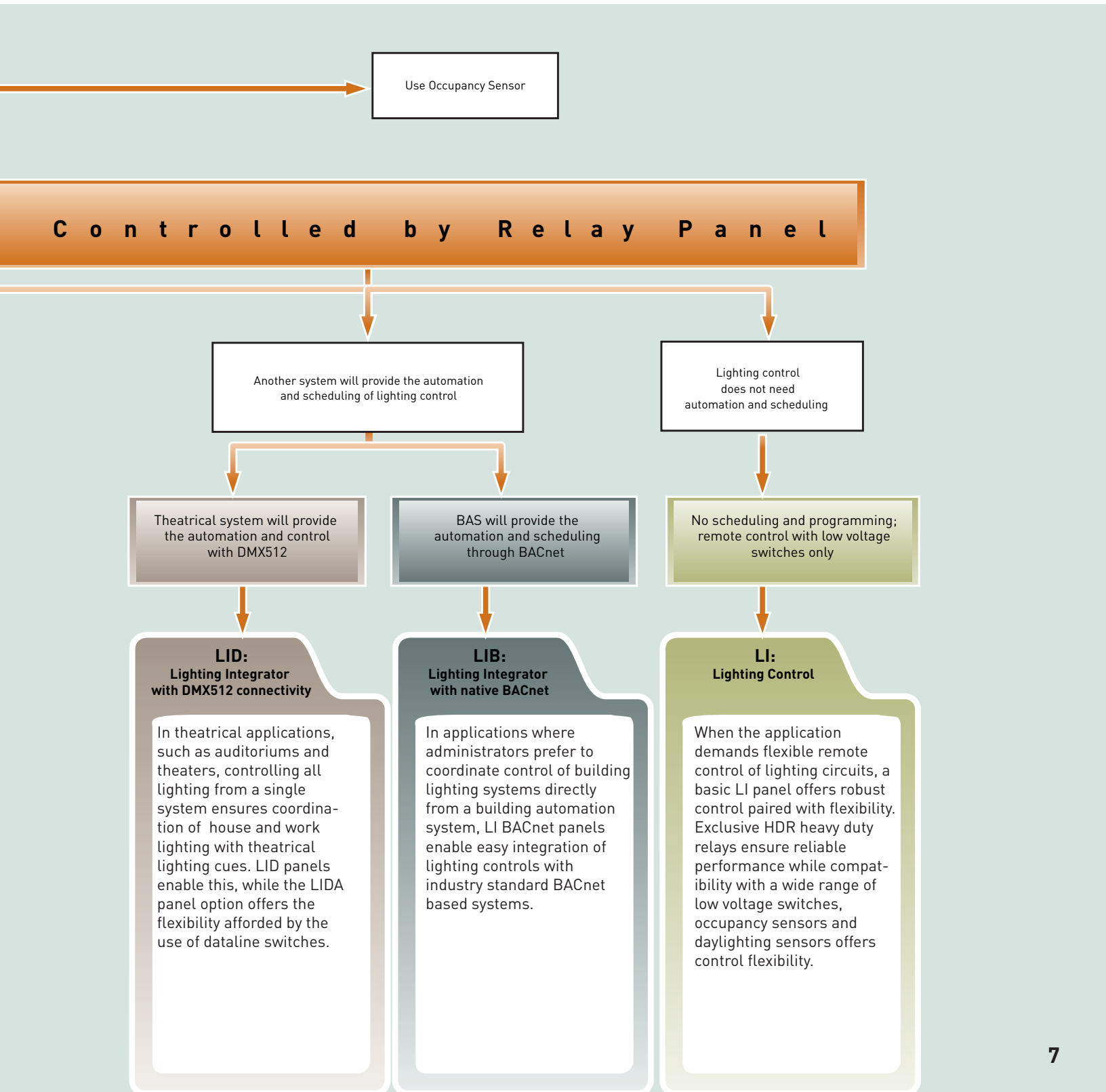
Intelligence Card Options

Accessory DIN Rail

- Holds up to two low voltage accessory/automation modules

Selecting the right LI system for an application





Use Occupancy Sensor

C o n t r o l l e d b y R e l a y P a n e l

Another system will provide the automation and scheduling of lighting control

Lighting control does not need automation and scheduling

Theatrical system will provide the automation and control with DMX512

BAS will provide the automation and scheduling through BACnet

No scheduling and programming; remote control with low voltage switches only

LID:
Lighting Integrator with DMX512 connectivity

In theatrical applications, such as auditoriums and theaters, controlling all lighting from a single system ensures coordination of house and work lighting with theatrical lighting cues. LID panels enable this, while the LIDA panel option offers the flexibility afforded by the use of dataline switches.

LIB:
Lighting Integrator with native BACnet

In applications where administrators prefer to coordinate control of building lighting systems directly from a building automation system, LI BACnet panels enable easy integration of lighting controls with industry standard BACnet based systems.

LI:
Lighting Control

When the application demands flexible remote control of lighting circuits, a basic LI panel offers robust control paired with flexibility. Exclusive HDR heavy duty relays ensure reliable performance while compatibility with a wide range of low voltage switches, occupancy sensors and daylighting sensors offers control flexibility.

Lighting Integrator Complete Control Level

Applications that demand advanced scheduling, reporting and usage monitoring benefit from the sophisticated control capability of LI Complete Control. From the convenient yet comprehensive administrative and operating capabilities of WinControl software to the range of control options, Complete Control is cost effective for any size application from a single standalone panel up to a maximum of 500 panels on a digital network.

When local dataline control capabilities are desired, such as the convenience of programmable switch buttons or distributed control options, LI Complete Control offers options for the use of digital dataline switches and Automatic Relay Packs.

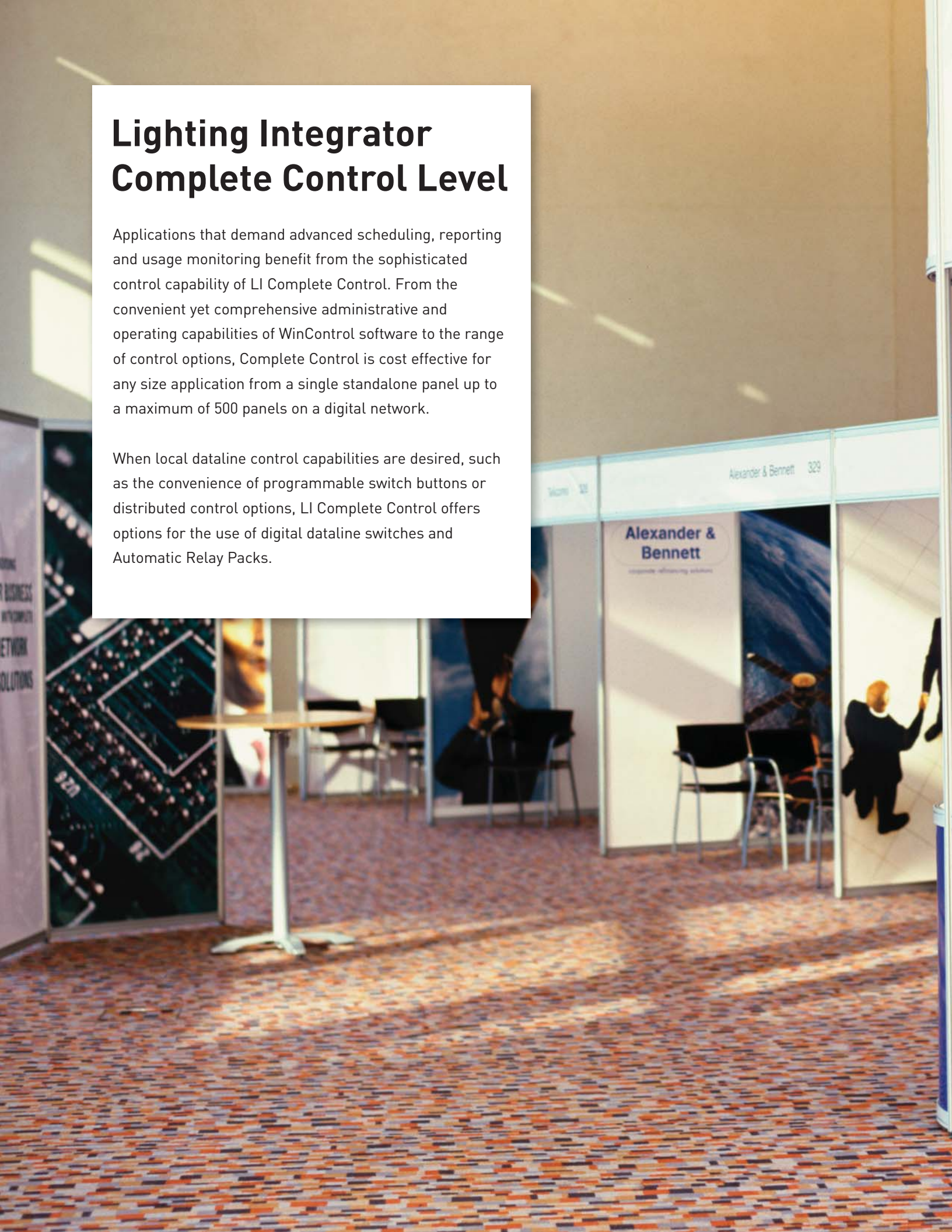




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 **WattStopper**

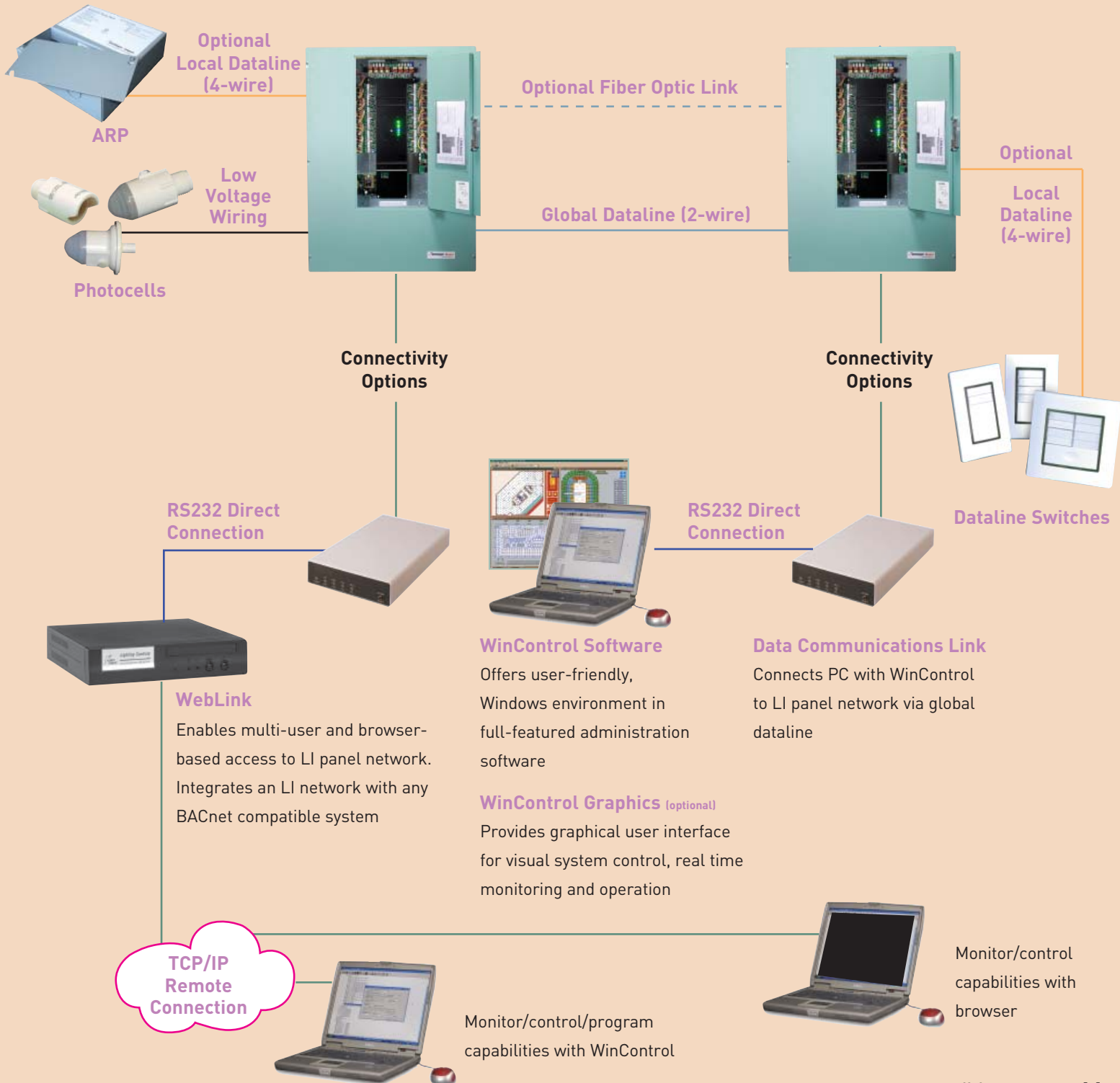
 **legrand**

Choose LI Complete Control level for the most demanding applications

In settings where the flexibility and convenience of PC-based control is desired, the Lighting Integrator Complete Control (LIC/LICA) configurations offer advanced scheduling, reporting, and monitoring. Cost-effective for any size application, LIC systems can range from a single standalone panel to a maximum of 500 panels on a digital network.

Designers can choose from a wide range of control options, such as ambient light level based control of exterior or interior lighting via HPSA series analog photocells (**page 32**). LIC panels work with standard low voltage wall switches and occupancy sensors. Use WebLink (**page 30**) for remote TCP/IP connectivity for WinControl, a web browser user interface for override and monitoring and BACnet integration with building automation systems. WebLink also offers an optional Event Scheduler.

System Layout



Sophisticated control capabilities for complex applications



Office Buildings and Campuses

- Combine LI with occupancy sensors to interlock occupancy- and time-based controls
- Connect daylighting photocells to reduce electric light
- Maintain centralized control from remote PC with comprehensive trending and reporting capabilities
- Deploy control strategy with ARPs



Arena

- Individually control large number of fixtures
- Provide preset lighting control for multi-sport facilities
- Easily administer system via graphical user interface with touch screen
- Integrate control of emergency lighting circuits



Convention Centers

- Provide flexible control of exhibition hall lighting by circuit, zone, or individual fixture
- Enable facility-wide event based scheduling in addition to seven day weekly schedules
- Integrate daylighting control for atrium areas along with time-based control for other areas
- Provide system information visually via factory-customized color graphic screens on user interface option

LIC Highlights

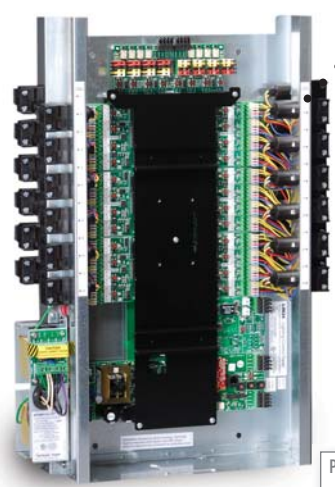
- Advanced lighting control scenarios: time delay override, common area with egress timer, intelligent switch scenarios, load shed, daylight switching, cleaning function
- Distributed control and communication for up to 500 networked LI panels
- Connectivity via direct RS232, or via WebLink TCP/IP or BACnet/IP
- Programmable dataline switches for flexible user override
- Comprehensive usage, trending and alarming capabilities



LI Complete Control Level Interior (LIC8, LIC24, LIC48, LICA8, LICA24, LICA48)

Distributed processing architecture with robust 2-wire digital network communications

Complete scheduling, monitoring, and reporting capabilities via exclusive WinControl software



Priority array based logic engine for simple execution of complex control scenarios

Compatible with legacy Complete Control systems

PROJECT
LOCATION/TYPE

Product Overview

Description

The Watt Stopper/Legrand Lighting Integrator Complete Control (LIC) system is a full featured networked control system that provides the maximum flexibility for lighting control by providing both panel based and distributed load control options. A digital communication bus allows user programming generated at the WinControl workstation to be transferred to the panels where it runs autonomously. Once loaded into the panels, the lighting automation features operate without the need for an online PC. This distributed processing capability ensures a high degree of reliability. LIC incorporates all the base features of the Lighting Integrator hardware platform including the HDR mechanically latching, heavy duty relay.

LICA panels, with local dataline support, provide local Dataline Switch functionality.

Operation

Each LIC panel stores the user generated programming in non volatile memory housed within the Complete Control intelligence card. This controller monitors all inputs and uses a unique priority array based logic engine to generate the appropriate load response (relay control) based on simple or complex combinations of input triggers that can include schedules, override switches, occupancy sensors, photocells and signals from other building systems.

LIC features a library of scenario based control schemes that provide powerful control options without the complexity of low level user programming. These control scenarios include provisions for common area logic with egress, cleaning crew overrides, load shed, force on, force off, blink warn, and after hour time delay.

Features

- Network up to 500 panels via open topology digital data bus
- Create user programming offline using WinControl software and transfer to panels
- Import site documentation from WinControl Designer project design and documentation software
- Programmable group codes with scenario based logic provide system-wide control
- Powerful data logging feature with manual and automatic log transfer to PC
- Option for seamless building system integration using BACnet protocol
- Generate detailed documentation reports of all aspects of system hardware and software via WinControl software
- Supports Watt Stopper occupancy sensors directly without power packs
- Programmable analog inputs provide multiple set points for photocells or other analog devices
- Programmable dataline switches connect to panel with 4 wire open topology digital data bus
- Provides full support for Watt Stopper AS series Automatic Wall Switch
- Remote network supervision and programming via TCP/IP connection using optional WebLink device

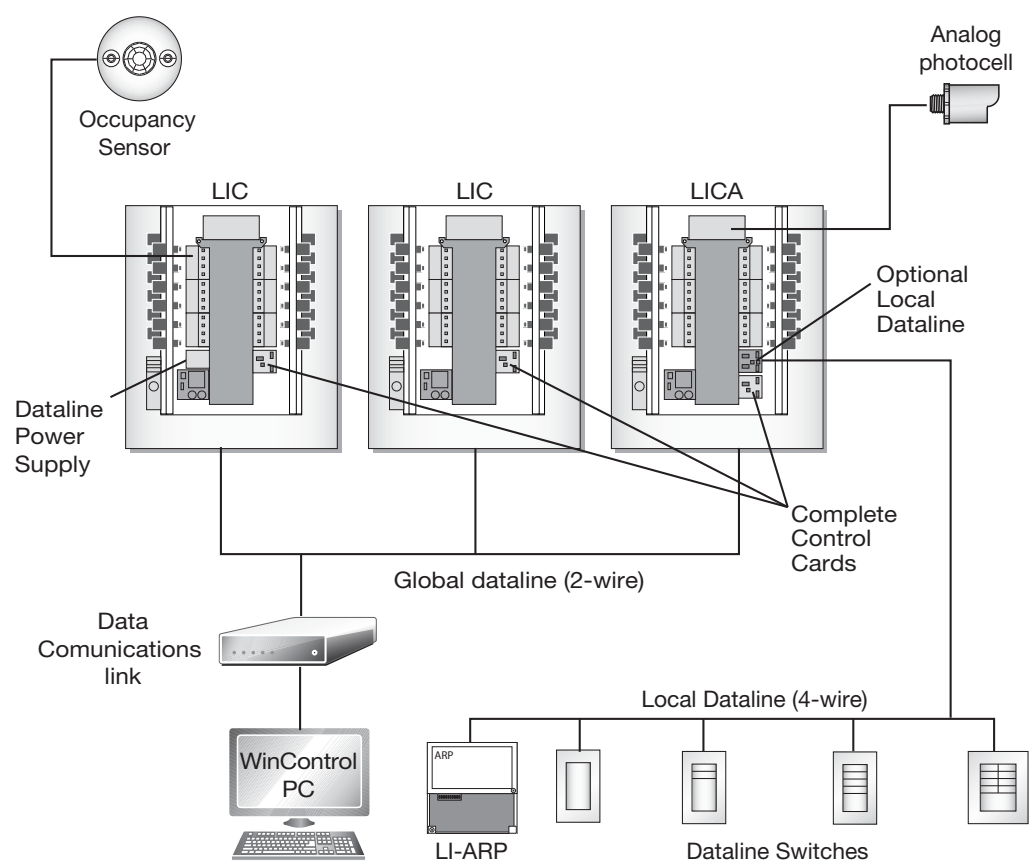


LIC Specifications

- Panel configurations provide 8, 24, or 48 relay size interiors
- Standard relay, individually replaceable Watt Stopper HDR series, latching SPST, meets new NEMA electronic ballast requirements, 14,000 Amps SCCR, with integral manual override
- Digital network dataline, one pair twisted and shielded, open topology allows linear, star, and T network configurations for panels/ connectivity 4000' max length
- Network link device provides RS-232 connection to digital dataline for PC or WebLink and visual indication of system operation
- Analog input, 12 VDC source provided, 0 – 4 VDC input, 8 inputs provided per group switching card
- Optional local dataline, two pair twisted, open topology allows linear, star, and T configurations, 63 HDLS series switch addresses available per dataline, 1500' max length (LICA option)
- Analog set points, 32 maximum per panel, high set/low set with individual high/low time delays
- Direct wire switch inputs, one each per relay and group switch channel, automatically configure for occupancy sensor operation
- Pilot light output per relay and group switch channel, configurable for any Class 2 voltage
- DIN rail mounting for automation modules
- UL listed, one year warranty

LIC System Layout

Panel System Layout and Configuration



Note: Dataline power supply required in one panel only.



General LI Information

Description

Watt Stopper/Legrand's Lighting Integrator (LI) is a low voltage, relay based lighting control panel. Panel interiors are configured as 8, 24 or 48 relay capacity with the quantity of relays installed as called for on the order. The interior mounts into the appropriate enclosure. The LI panel enclosure and cover are shipped separately from the panel interior to facilitate project rough-in requirements.

Operation

LI relays are driven to a latched on or off position via a 24 volt DC pulse generated by the relay driver cards. A momentary pushbutton is provided for each relay to manually toggle the relay's state with each button press. An isolated contact in the relays provides positive status feedback to the relay driver circuits, which are annunciated by an LED associated with each relay. Removable terminal blocks allow connection of direct wired low voltage devices for remote control of relays.

- Interior provides complete isolation between line and low voltage when used with an LI enclosure (LENC)
- Individual plug-in, latching style single pole HDR relays with isolated pilot/status contacts
- Integral push button override, status LED, and pilot light output per relay
- Two slots available for optional automation, networking and integration control cards

Operation (cont'd.)

Inputs can be wired to accommodate maintained or momentary three wire or two wire inputs. The switch input circuits are auto sensing and will automatically configure appropriately when Watt Stopper occupancy sensors are connected.

Group Switching

Group switching, also referred to as Smartwired switching, is a simple button press interface that allows any quantity of relays in a panel to be assigned quickly to each group switching channel for common on/off control or for pattern (scene) control. Each of the eight channels is provided with an override pushbutton, LED status indicator and terminals for connection of wall switches and occupancy sensors. An eight or 24 size panel can be ordered with one group switch card (8 channels), 48 size panels can have two group switch cards for a total of 16 channels (8 controllable by scheduling, eight by switching only).

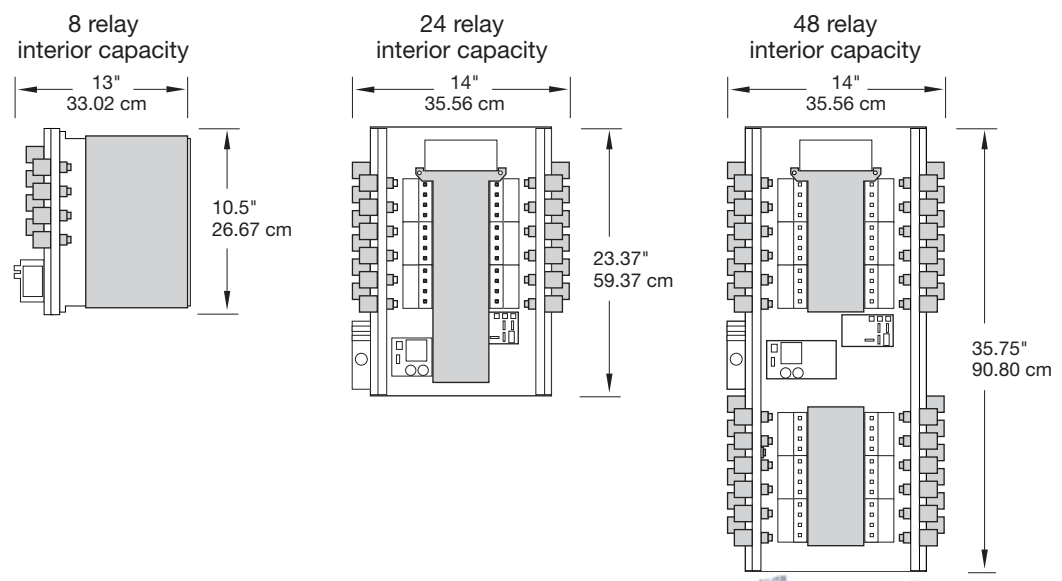
- Supports Watt Stopper low voltage occupancy sensors without need for separate sensor power packs
- Smartwiring feature allows grouping of relays for common control
- DIN rail mounting provided within the Class 2 section for mounting of optional accessories
- Control multi-pole circuits with optional contactors and compatible LENC enclosure
- Optional configuration available for use on emergency lighting circuits



General LI Specifications

- Interior capacity:
 - 8 SPST relays
 - 24 SPST relays
 - 48 SPST relays
- Input voltage options, 120/277V 60 Hz, 120/347V 60 Hz, 240V 50 Hz
- Group switching, eight channels per installed group switching card. One card max per LI8 and LI24. Two cards max LI48.
- Low voltage switch inputs, removable terminal blocks with tool-less connection, configurable for three wire momentary, two wire momentary (toggle), and two wire maintained dry contact switches or Watt Stopper occupancy sensors.
- Accessory power available
 - LI8: 1000 MA @24VAC or 800 MA @ 24VDC
 - LI24 and LI48: 1400 MA @ 24VAC or 800 MA @ 24VDC
- SCCR (short circuit current rating) 14,000 amps with HDR Heavy Duty Relay
- HDR SPST 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
 - Endurance: 300,000 mechanical cycles
- Pilot light output, 24 V rectified or 24VAC, other voltages configurable with external power supply
- One year warranty

Panel Interior Dimensions



Ordering Information

Interior Capacity	Installed Options				
	Voltage Options	Relay Count	Group Switch Card	Emergency Relays	Coil Voltage
<input type="checkbox"/> LIC8	<input type="checkbox"/> 115/277	___ HDR relays	___ GS cards (max	___ EM relay count	<input type="checkbox"/> 115
<input type="checkbox"/> LIC24	<input type="checkbox"/> 115/347	installed (max	1 in 8, 24, 2 in 48)	(max of interior or 24)	<input type="checkbox"/> 240
<input type="checkbox"/> LIC48	<input type="checkbox"/> 240	of interior			<input type="checkbox"/> 277
<input type="checkbox"/> LICA8		capacity)			<input type="checkbox"/> 347
<input type="checkbox"/> LICA24					
<input type="checkbox"/> LICA48					

Lighting Integrator 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

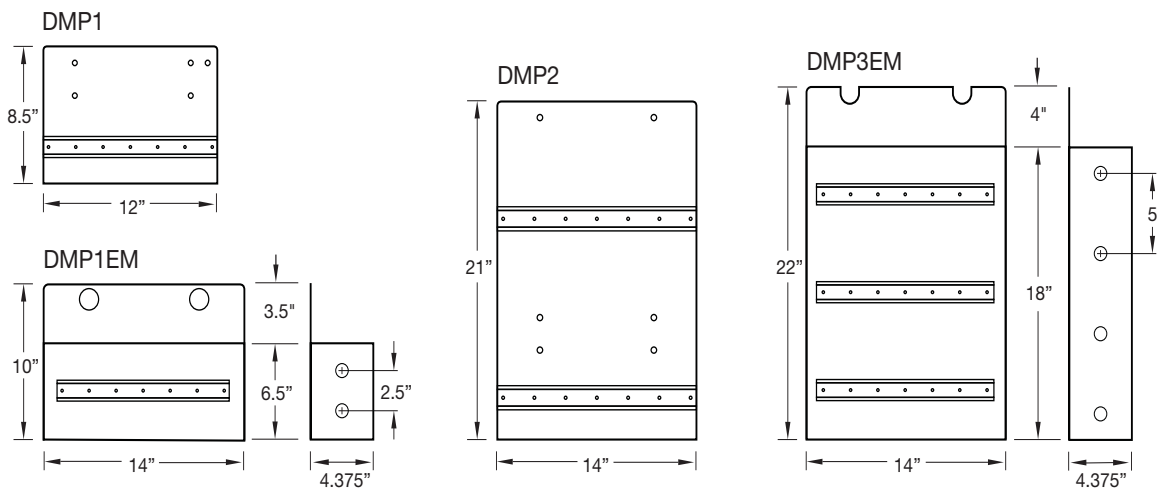
Description

Lighting Integrator panel enclosures are designed specifically to work with all configurations of LI 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.

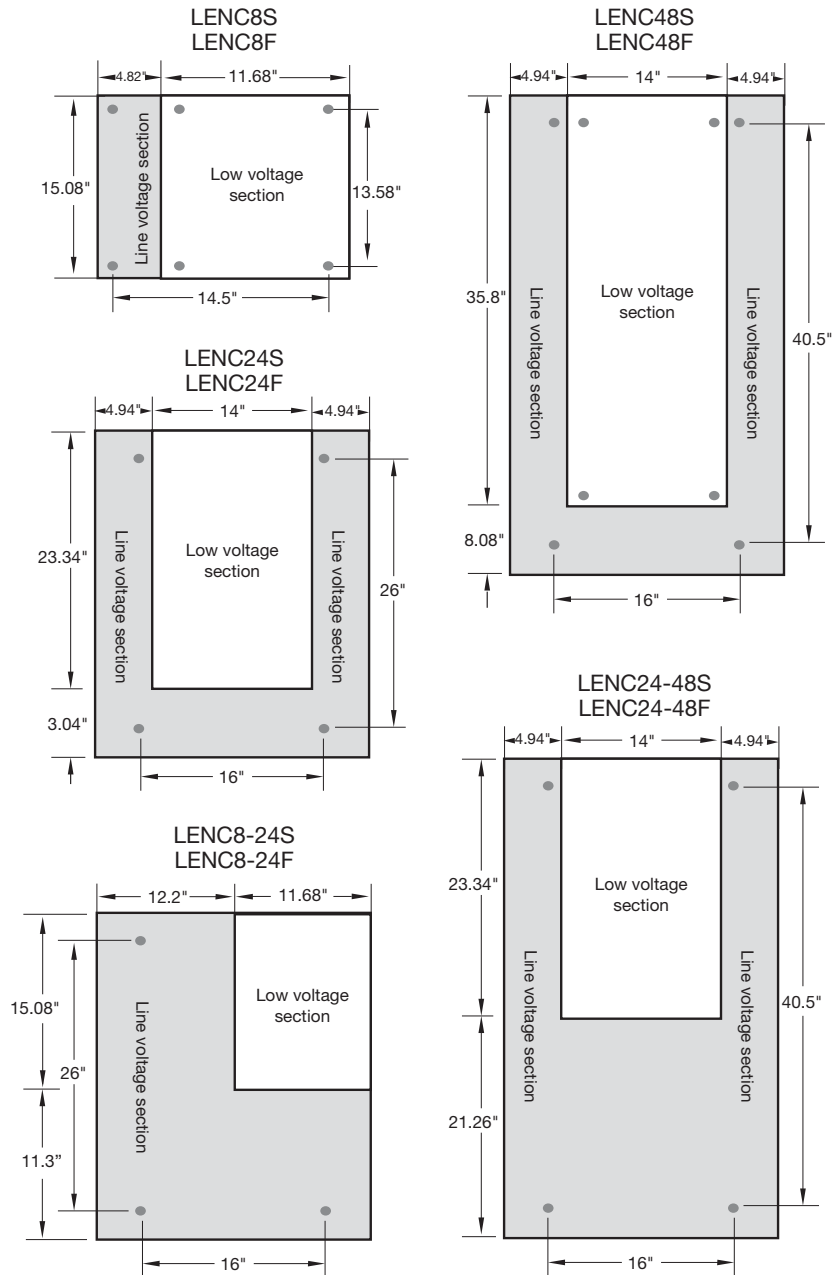
Configurations

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



Enclosure Dimensions



Ordering Information

Catalog No.	Description	Overall Dimensions (HxWxD)	Overall Weight
<input type="checkbox"/> LENC8S	8 relay capacity, surface mount	15.08" x 16.5" x 4.625"	18 lbs
<input type="checkbox"/> LENC8F	8 relay capacity, flush mount	15.08" x 16.5" x 4.625"	20 lbs
<input type="checkbox"/> LENC8-24S	8 relay capacity with 24 size tub, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC8-24F	8 relay capacity with 24 size tub, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24S	24 relay capacity, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC24F	24 relay capacity, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24-48S	24 relay capacity with 48 size tub, surface mount	44.6" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC24-48F	24 relay capacity with 48 size tub, flush mount	44.6" x 23.88" x 4.625"	66 lbs
<input type="checkbox"/> LENC48S	48 relay capacity, surface mount	43.88" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC48F	48 relay capacity, flush mount	43.88" x 23.88" x 4.625"	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.



Lighting Integrator Emergency Relay Panel Option

UL924 listed for use on emergency circuits

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

Meets NEC (NFPA70) and 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

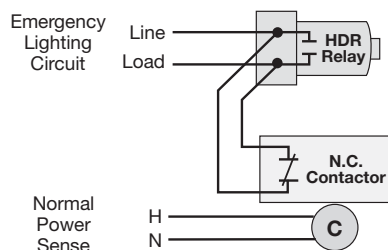
Description

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



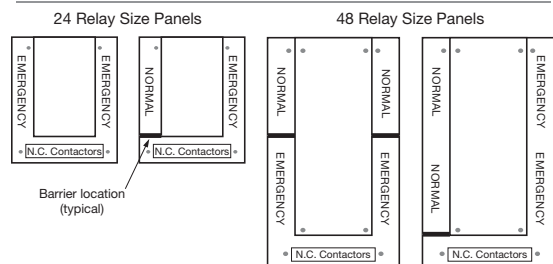
Applications

The Lighting Integrator 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



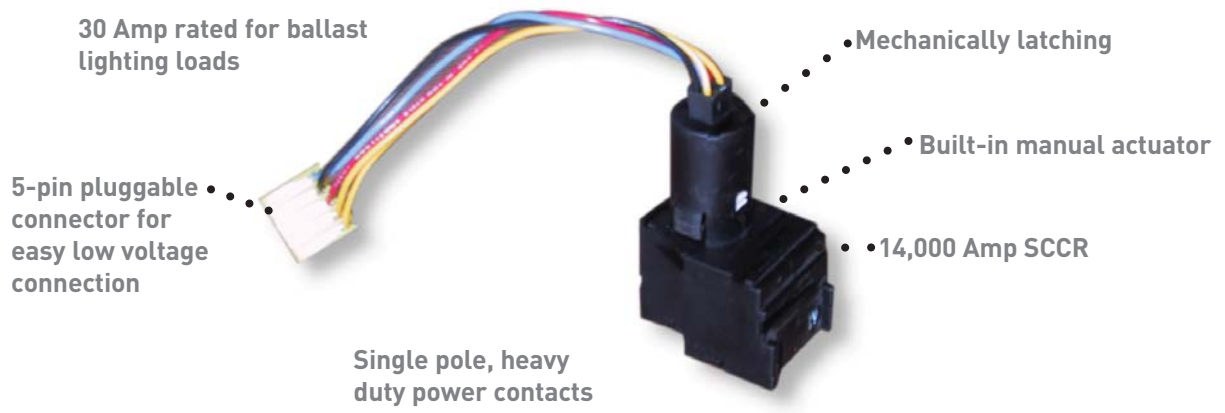
Description

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

Pub. No. 29702



HDR Low Voltage Relay



PROJECT
LOCATION/TYPE

Product Overview

Description

This low voltage relay is used for control of lighting circuits and other electrical loads in Watt Stopper's Lighting Integrator control panels. Momentary, low voltage pulses from the panel's control system switch the relays on or off. Mechanical latching operation results in lower power consumption. The relay will remain in the last switched state in the event of a power loss. A built-in manual actuator allows lights to be turned on in the event of a panel or relay failure. The relay mounts into a standard knockout and comes with a pluggable cable for easy panel connection. Typically, users specify the number of relays and the panel is assembled and shipped with this quantity.

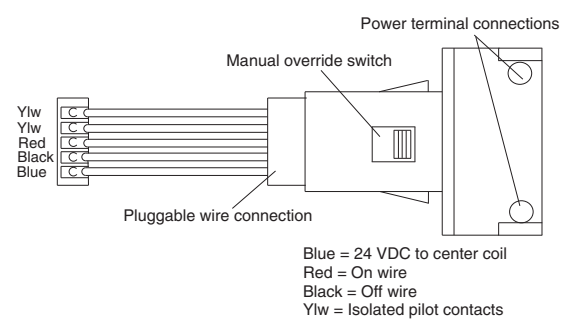
Specifications

- 1/2" knockout mounting
- Accepts wire gauge #10 - #14 AWG, copper wire, solid or stranded
- Operating voltage 24 VDC
- Isolated pilot relay contacts, .5 Amp @ 30 VAC/DC for status feedback
- Integral manual override
- Rated 14,000 amps Short Circuit Current Rating (SCCR)
- Suitable for use with all HID ballasted loads
- Expected service life is over 25 years at nominal load and cycle rate
- Dimensions: 3.2"x 1.3"x .85" (81.3 mm x 33.0 mm x 21.6 mm)
- UL listed, CSA certified; five year warranty

Ratings

- | | |
|--------------------------------|--------------------|
| • Ballast load (including HID) | 30 Amp @ 277 VAC |
| • Tungsten load | 20 Amp @ 347 VAC |
| • Resistive load | 20 Amp @ 120 VAC |
| • Motor load | 30 Amp @ 347 VAC |
| | 1 1/2 HP @ 120 VAC |

HDR Wiring



Ordering Information

Catalog No.	Description
<input type="checkbox"/> HDR5P	Mechanically Latching Relay with 5-pin Plug-in Connector, Pilot Contacts, Override Switch

Automatic Relay Pack (ARP) for LI Complete Control

Adds distributed intelligent room control to Lighting Integrator systems



Two relay outputs work in tandem or as a bi-level pair

Low voltage switch, occupancy sensor and daylight sensor inputs

Automatic shutoff with blink warn and afterhour time delays

Product Overview

Description

The Lighting Integrator (LI) ARP Automatic Relay Pack is a self-contained room controller that provides distributed intelligent control of lighting loads. Because the ARP is installed where the control is needed, it reduces the cost and complexity of design and installation. The ARP shares data with the LI Complete Control system and allows an integrated time, occupancy and daylight based lighting control solution.

Operation

Although the two relays in the ARP must share the same schedule, they can be controlled independently using the two low voltage switch inputs, or together using a single switch. The default settings for the ARP are manual-on/automatic-off to maximize energy savings. When the ARP receives an occupancy signal from the LIC system, the relays will not turn on until activated by the wall switch. When the space becomes vacant, the lights will blink to warn of impending shutoff after a five-minute grace period. During

PROJECT
LOCATION/TYPE

Operation cont'd.

the grace period, the occupant can cancel the off by activating the wall switch. If an occupancy sensor is connected to an ARP input, it will operate normally during unoccupied periods. During occupied periods, the occupancy sensor will default to manual-on/automatic-off control. This operating scenario minimizes energy waste while eliminating nuisance activation of lighting from walk-by traffic.

Applications

The ARP is ideal for applications where a combination of time, occupancy, and daylight-based strategy is needed for multiple areas in the building. This room controller concept places the multi-strategy distributed intelligence directly in the area being controlled, eliminating runs to the electrical closet. Since the ARP contains two relays, it provides an excellent solution for bi-level switching or load shedding within a single space. The ARP is perfect for classrooms, offices, conference rooms and other small spaces.

Features

- Default configuration maximizes energy savings and simplifies application
- Distributed intelligence enhances operation of integrated control strategies and ensures reliability
- Two relays can be used independently for bi-level or load shed applications
- Isolated form C contacts for each relay allow custom integration with other devices
- Two low voltage switch inputs support three-wire momentary or two-wire alternate configuration
- Standard inputs accommodate two switches, one occupancy sensor and one daylight sensor
- NEMA 1 housing is suitable for use in return air plenums
- Robust digital network is polarity-insensitive and can be installed using linear, "T" tap, or star topologies
- Fully integrates with LI Complete Control systems using WinControl software
- Stand-alone mode allows use without network

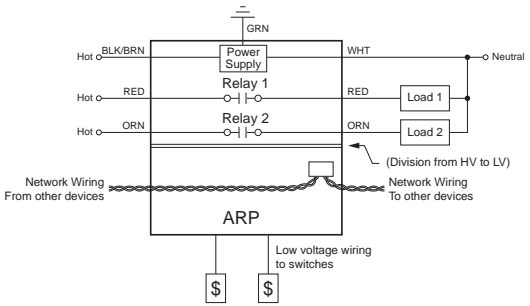


Specifications

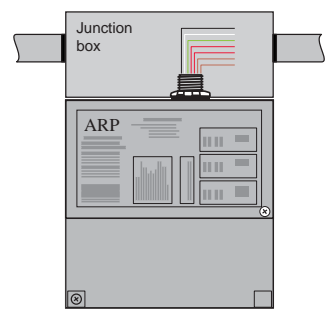
- 120/277 VAC, 60 Hz
- Load relays rated 20 amps ballast at 120/277 VAC 60Hz, 20 amps incandescent at 120 VAC 60Hz, 1 hp at 250 VAC 60Hz
- Auxiliary relay contacts, 1 amp at 24 VDC, form C
- Pilot light output, 24 VDC each relay
- Auxiliary power, 200 mA at 24 VDC
- Network dataline, one pair twisted, 1500' max, free topology
- Enclosure, 1/2" pipe thread mount, NEMA 1, approved for use in return air plenum
- 6.63"x 6.13" x 2.13" (168mm x 156mm x 54mm) H x W x D
- FCC Compliant Part 15, sub-part J for commercial and residential
- UL and CUL listed; three-year warranty

Wiring Configurations

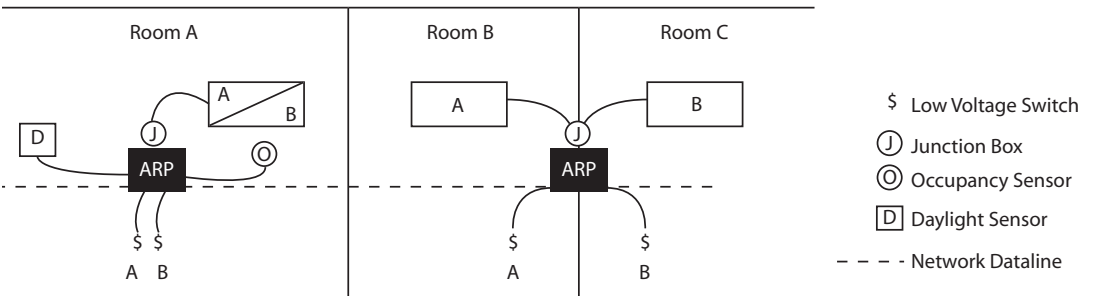
ARP Low Voltage Wiring



ARP Junction Box Wiring



ARP Application Examples



- \$ Low Voltage Switch
- Ⓝ Junction Box
- Ⓞ Occupancy Sensor
- Ⓛ Daylight Sensor
- - - Network Dataline

Ordering Information

Catalog No.	Description
<input type="checkbox"/> LIARP 120/277	Lighting Integrator ARP Automatic Relay Pack
Accessories	
<input type="checkbox"/> LVS-1	Three-wire momentary toggle switch
<input type="checkbox"/> L1S (color)	Single button alternate action switch with pilot

WinControl Software for LI Complete Control

Windows-based control and automation for Lighting Integrator Complete Control panels

Panel programming off- or online

Detailed activity logs, runtime reports, and graphs



System management and administration

Design, layout and document lighting control projects

Simulator function for training purposes

PROJECT

LOCATION/TYPE

Product Overview

Description

WinControl Software provides PC-based automation and control for Watt Stopper Lighting Integrator Complete Control (LIC and LICA) panel systems. The integral design program, WinControl Designer, can layout and document lighting control projects, and produce CAD-ready diagrams in DXF format.

Operation

WinControl provides a user interface for programming, monitoring and controlling functions for LIC panel networks. Administrators can use the software to program control schedules off-line, and then execute updates with a simple command. Once programmed using WinControl, the panels execute control scenarios, including scheduled off with blink warning, time delay overrides with blink warning, or automatic daylight switching with occupant interlock/override. Administrators can configure password-protected security settings to specify users with authority to change programming or documentation, and execute control functions. Online operation enables users to control individual relays or make immediate changes to scheduled operations.

System Reports and Analysis

WinControl provides comprehensive monitoring and reporting capabilities, including reports for documenting control system devices and schedules. It generates activity logs, exception reports and run-time graphs that can be used for trend analysis or to track actual lighting usage (down to the individual relay level, if desired) and evaluate energy costs. The software can also verify that the system is operating as intended, or identify and diagnose potential concerns.

Applications

Facilities with multiple LIC panels, such as office building campuses, convention centers, airports, arenas and large commercial facilities are ideal settings for lighting control management via WinControl. Capable of automating and controlling all types of interior and exterior lighting applications, WinControl is also adept at administration down to the relay level. Operators can tailor lighting control to building and occupant activities on a daily or weekly basis with programmable holiday and exception schedules.

Features

- Explorer-like view of all system components
- Remote operation capabilities via modem network or TCP/IP connection via WebLink
- Design export to DXF format with output, including single line riser diagram, panel schedules and specification summary
- Weekly scheduling with holiday and astronomical control
- Designer wizard creates lighting control project layouts
- User-programmable override and time delays
- Full support for AS-100 Automatic Control Switches and LI-ARP automatic relay packs
- Program panels for HPSA Analog Photocell operation with up to 32 setpoints
- Configure panels for varied occupancy sensor behavior to check occupied and unoccupied periods



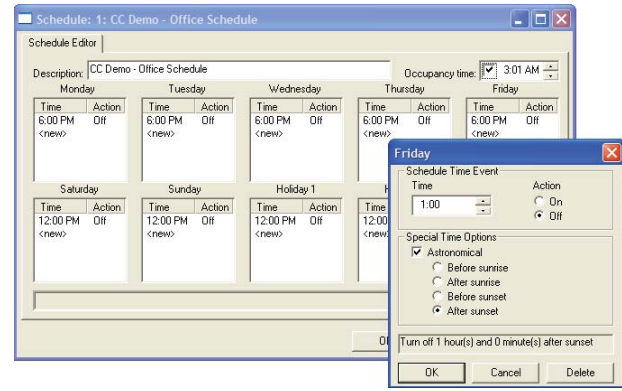
Specifications

- Compatible with Windows Vista Business and XP Professional
- PC Requirements: 256 MB RAM, CD-ROM, 100 MB free hard disk space
- Monitor Requirements: 16-bit color, minimum 800x600 resolution
- Data Communications Link (HLINKCC) required to connect PC to LIC panel network

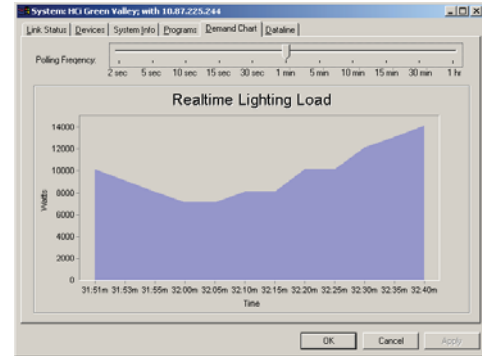
Sample WinControl Screens and Reports



Users can select reports from a browser-like screen.



Users set up weekly schedules, modify daily events, and specify actions for weekends and holidays on this scheduling screen.



Real time load report graph provides administrator with a snapshot of lighting system usage.

Date	Group Runtime	Runtime/Device	Std. Dev.
Tue 6/15/2000	101:34	8:28	2.39
Device	Relay 911-6, 132-Joe Williams (RP-JL-2)	11:16	
Fri 6/16/2000	111:30	9:18	0.56
Device	Relay 911-8, 105-Pete Horton (RP-JL-3)	11:56	
Device	Relay 911-27, 107-Bob Horton (RP-JL-1)	10:23	

Monitoring and trend analysis are enabled by reports such as these runtime and runtime exception reports.

Type	Circuit	Description	LV Switch	Comment	Circuit Load	Normal Schedule	Override Duration	Variable Override	Blink Warn	Pulse	HID Load	Log Tracks	Common	Relay Number
1	Pilot	HB-2-1 Office 201	201		90	0001 - CC Di	00:10	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	1
2	Pilot	HB-2-1 Office 202	202		90	0001 - CC Di	00:10	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	2
3	Pilot	HB-2-2 Open Office East 2			225	0001 - CC Di	00:00	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	3
4	Pilot	HB-2-2 Open Office East 1			450	0001 - CC Di	00:00	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	4
5	Pilot	HB-2-3 Open Office West 2			315	0001 - CC Di	00:00	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	5
6	Pilot	HB-2-3 Open Office West 1			630	0001 - CC Di	00:00	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	6
7	Pilot	HB-2-4 Condoor / Lobby	203		495	<None>	00:03	<None>	<input type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Yes	7
8	Pilot	HB-2-5 Conference Room	204		210	<None>	00:00	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	8
9	Pilot	HB-2-5 Conference Linear	205		135	<None>	00:00	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	9
10	Pilot	HB-2-6 Mens Restroom, Fa			140	<None>	00:00	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	10
11	Pilot	HB-2-6 Womens Restrooms			140	<None>	00:00	<None>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	11

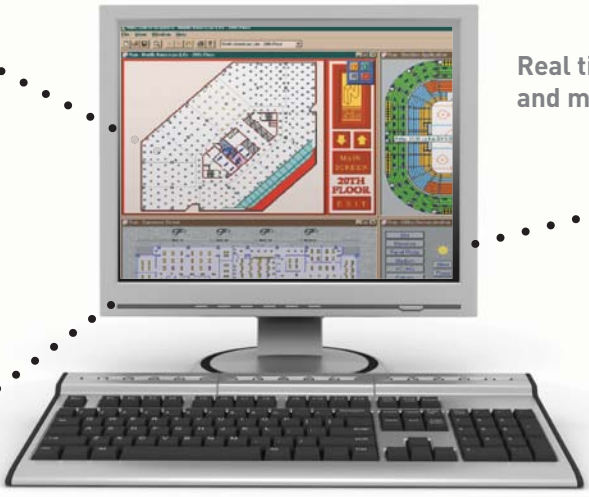
Documenting, programming and controlling panel relays is simplified with point and click screens and drop down menus.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> WCHSTD250	WinControl Software for Lighting Integrator Complete Control 250-relay system
<input type="checkbox"/> WCHSTD500	WinControl Software for Lighting Integrator Complete Control 500-relay system
<input type="checkbox"/> WCHSTD750	WinControl Software for Lighting Integrator Complete Control 750-relay system
<input type="checkbox"/> WCHSTDUL	WinControl Software for Lighting Integrator Complete Control unlimited-relay system
Additional networking component:	
<input type="checkbox"/> HLINKCC	Lighting Integrator Data Communications Link (required for PC connection to LI dataline)



WinControl Graphics for LI Complete Control



Graphical enhancement to standard WinControl software

Real time programming and monitoring

Facility-specific on-screen system graphics

Status, documentation, and programming data for each system device

Supports multiple graphics peripherals and file formats

Multiple site graphics on single screen view

PROJECT
LOCATION/TYPE

Product Overview

Description

An optional package for WinControl Software, WinControl Graphics provides capabilities for on-screen system programming changes, real time monitoring and operation in a graphical environment. It functions with Watt Stopper Lighting Integrator Complete Control (LIC) panel systems.

Operation

WinControl Graphics works seamlessly with WinControl. All panel, load, and scheduling data entered in WinControl is automatically shared and available for access from within the WinControl Graphics environment, eliminating duplication of data input. The customized graphic screen displays enable system administrators to instantly identify the status of specific devices, or control the system with ease (e.g., turn individual lamps or relays on or off using a simple mouse click). WinControl Graphics also supports multiple graphic file formats so users can easily import graphics from other applications to customize displays.

Customized Graphical Displays

WinControl Graphics allows users to create and modify graphic displays for customizing the application and to view system lighting status on screen in real time. Typically, a floor or building plan, map, photograph or similar graphic is imported to create a custom control screen so that users may easily identify lighting zones. Customized lighting control buttons are associated with the graphic so that a lighting operation can be turned on or off via a simple mouse click. Users can accommodate multiple graphic displays on a single screen, enabling them to conduct system administration on different sites from a single location.

Applications

For large, complex facilities, such as convention centers, airports, stadiums, or high-rise office buildings, WinControl Graphics offers a versatile, user-friendly system administration tool.

Features

- Multiple site graphics on single screen view
- On-screen simulation of system operation
- Point and click control of individual relays or groups of relays
- Displays system activities in context of specific building plans
- Supports BMP, WMF, JPEG, AVI, PCX, DCX graphics file formats
- Zoom, resize, and scroll capabilities for easy maneuverability
- Screens and control buttons may be tailored to individual requirements



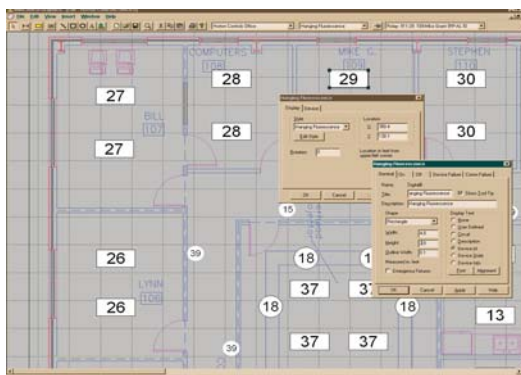
System Requirements

- Compatible with Windows Vista Business and XP Professional
- PC Requirements: 512 MB RAM plus 1.0 MB per graphic screen, CD-ROM, 100 MB free hard disk space plus 1.0MB per graphic screen

- Monitor Requirements: 16-bit color, minimum 800x600 resolution
- Data Communications Link (HLINKCC) required to connect PC to LIC panel network

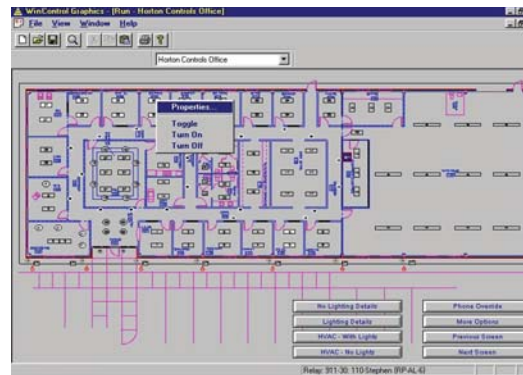
Sample WinControl Graphics Screens

WinControl Graphics System Screen



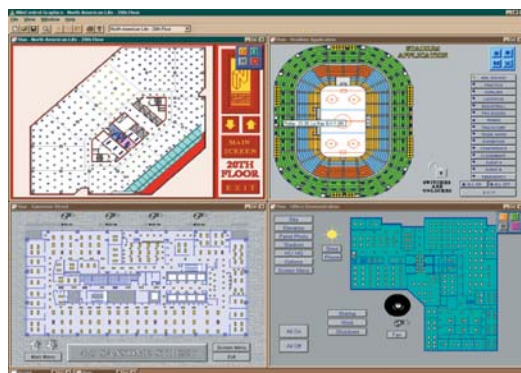
Graphic screens accurately display fixtures, switches, and other system devices and their on/off status.

WinControl Graphics Run Mode



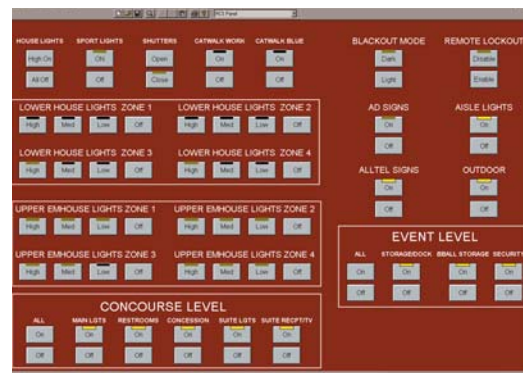
The run mode enables users to see programming changes on-screen and in real time.

Multiple Site Viewing on Single Screen



Multiple site graphics are accessible on a single screen.

Customized Graphical Displays



Users can customize graphic displays to streamline system administration.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> WCHGR250	WinControl Graphic Software for Lighting Integrator Complete Control 250-relay system
<input type="checkbox"/> WCHGR500	WinControl Graphic Software for Lighting Integrator Complete Control 500-relay system
<input type="checkbox"/> WCHGR750	WinControl Graphic Software for Lighting Integrator Complete Control 750-relay system
<input type="checkbox"/> WCHGRUL	WinControl Graphic Software for Lighting Integrator Complete Control unlimited-relay system
Required software package:	
<input type="checkbox"/> WCHSTD	WinControl Software for Lighting Integrator Complete Control
Additional networking component:	
<input type="checkbox"/> HLINKCC	Lighting Integrator Data Communications Link (required for PC connection to LI data line)

Data Communications Link for LI Complete Control

PC connection to a Lighting Integrator panel network

Industry standard RS232 connection

Alarm contacts

LED status indicators

Ensures all individual panel clocks are synchronized



PROJECT
LOCATION/TYPE

Product Overview

Description

The Data Communications Link (HLINKCC) provides the connection between a PC and an LIC/LICA network. It enables PCs running WinControl software to communicate to multiple panels linked together.

Operation

The Data Communications Link interfaces PCs with the panel network. It connects at any point on the shielded, twisted pair communications wire. The device enables all the lighting control panels in an LIC/LICA system to be programmed and monitored from a computer using WinControl software. It also provides notification of failed field devices or relays, including a failure in the Data Communications Link itself via an LED and a set of relay contacts. The Data Communications Link is connected to a PC using the cable (HCABLE-C).

Networking

The Data Communication Link enables PC control and automation of networked LIC or LICA panels. Multiple units can be used on an LI panel network to provide multiple operator stations or as portals to other building control systems.

Administrators may select from additional networking options. For remote access via telephone lines, the LI modem option (HMODEM) may be selected, which connects to the Data Communications Link. If multi-user access to the panel network is desired via TCP/IP or the internet, the WebLink appliance (WL-BASE) can be added.

Features

- System synchronization clock with automatic daylight savings and leap year adjustment
- Alarm contacts and LEDs to annunciate failed devices
- LED status indicators for power, online, and data activity
- Terminals for connection to global dataline

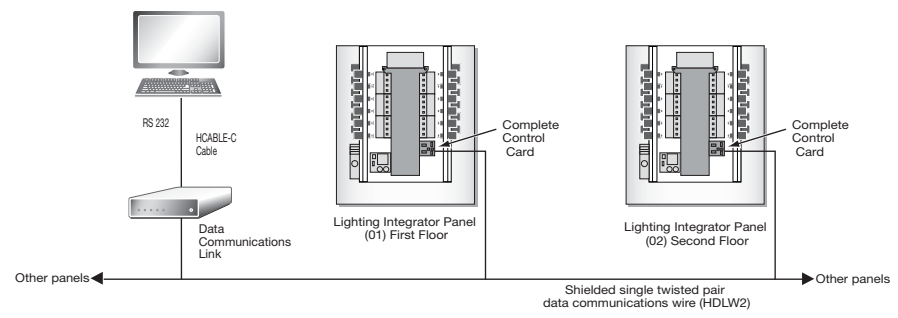


Specifications

- RS232 serial communications port
- 300/1200/2400/4800/9600/19200 auto baud
- Alarm contacts rated at 28 VDC and 2 mA maximum
- 115 VAC plug-in transformer power supply
- Shipping weight: 3 lbs. (1.36 kg.)
- UL and CUL listed
- One year warranty

System Layout

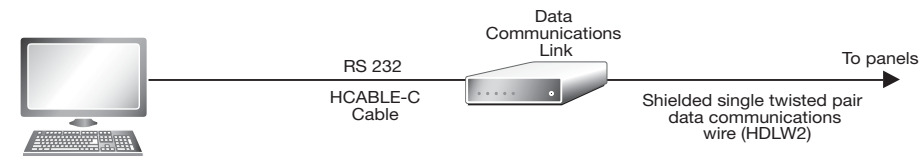
Networked System Layout



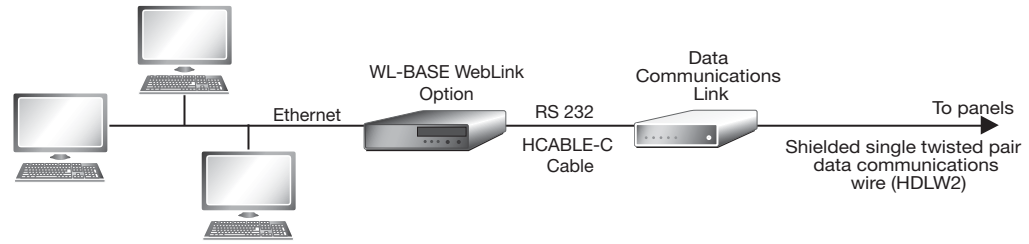
LIC panel network with PC connection via Data Communications Link

Networking Options

Data Communication Link Applications



Communications components for single-user connections.



Communications components for multi-user LAN, WAN or internet connections

Ordering Information

Catalog No.	Description
<input type="checkbox"/> HLINKCC	Data Communications Link with 115V power supply for LI Complete Control
Additional networking components and options:	
<input type="checkbox"/> HMODEM	LI Modem
<input type="checkbox"/> HCABLE-M	RS 232 Modem Connection Cable
<input type="checkbox"/> WL-BASE	WebLink Appliance
<input type="checkbox"/> HDWL2	Shielded single twisted pair data communications wire
<input type="checkbox"/> WCHSTD-xxx	WinControl software
<input type="checkbox"/> HCABLE-C	RS232 connection cable

WebLink Network Appliance for LI Complete Control



PROJECT
LOCATION/TYPE

Product Overview

Description

The WebLink Network Appliance is one option for connectivity between a standard IP network and a Lighting Integrator (LI) panel network. It enables multiple users to access and control a network of LI Complete Control (LIC) panels from any location on an Ethernet network (e.g., LAN, WAN or internet). Optional WebLink Scheduler Software provides scheduling capabilities via a standard web browser. Optional My Lights Software offers personal lighting control via individual desktop PCs. Optional BACnet Integration exposes relays and group codes as BACnet objects.

Operation

WebLink connects to and automatically maintains communications directly with a LIC network through a Data Communications Link (HLINKCC) serial connection. The WebLink provides web browser-based access to panels on the network for viewing panel status and overriding relays. It allows panel network connectivity to be shared among multiple user connections for simultaneous access, providing an IP connection to other installations of WinControl software on remote PCs over a dedicated or enterprise LAN or WAN.

Features

- Enables IP network connectivity to LIC panel network for multiple users via WinControl
- Compatible with legacy CC panels
- Configurable for DHCP services or static IP address
- Optional shelf for rack mounting
- Modem option for phone dial-up remote access (where remote IP access is not convenient)
- Labels and descriptors of LIC network devices (i.e., relays, switches) automatically synchronize with WinControl for easy device selection
- Provides connectivity with BAS systems using industry standard BACnet protocol

WebLink Scheduler Software

With optional WebLink Scheduler Software, users can employ their browser instead of WinControl to schedule a full calendar. Annual, monthly, weekly and daily calendars are displayed to multiple PCs as web pages. Users can set up new events for any time period by selecting a specific date, time and action, or easily perform modifications of one-time or recurring events. Schedule templates enable creation and storage of alternative schedules for special events that need unique lighting scenarios, an ideal feature for convention and multiuse centers, stores and arenas.

My Lights Software

Optional My Lights software offers personal space lighting control via desktop PC. In its manual mode, My Lights provides users with on/off control via a display on their PC. In automatic mode, My Lights maintains space lighting by monitoring PC mouse and keyboard activity; when activity ceases, My Lights turns lighting off after a preset interval initiated by a blink warning. Users may override this automatic off with any mouse or keyboard movement.

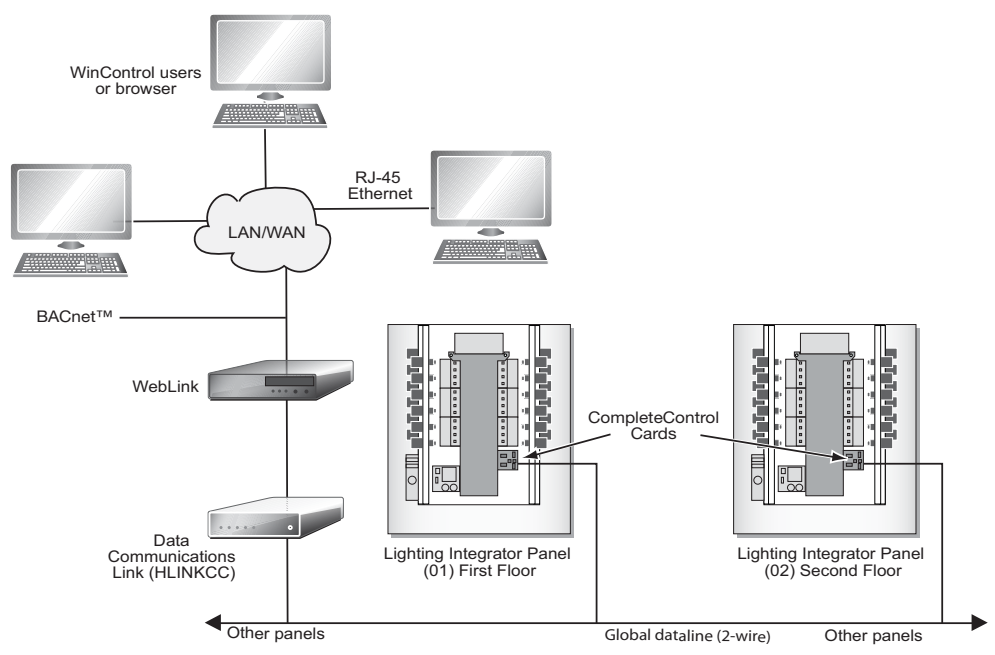


Specifications

- Includes AC Adapter: Input (AC 100~240 V)
- Serial DB9 connector - for connection to HLINK
- 10/100 RJ45 Ethernet LAN connector
- Dimensions: 11.5" x 2.5" x 10.75" (292.1 mm x 63.5 mm x 273.1 mm) W x H x D
- Shipping weight: 10 lbs (4.5 kg)
- One-year warranty

System Layout

LIC Panel System with WebLink



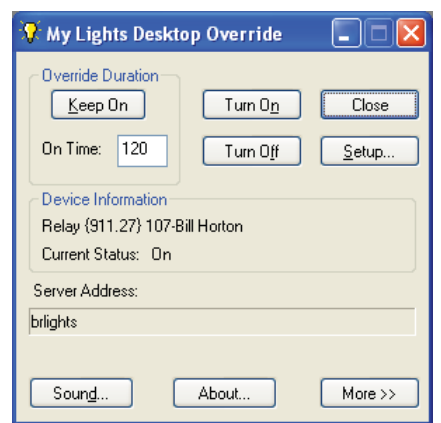
WebLink Options

Main Scheduler Screen



WebLink's main scheduler screen shows recent actions on the LI network, actions scheduled for the day, and quick links to alternate views.

My Lights



Individual users can access this control display from desktop PCs launched from a simple applet in the Windows system tray.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> WL-BASE	WebLink Network Appliance with AC adapter
<input type="checkbox"/> WL-OPTSCHED	WebLink Scheduler Software (browser-based)
<input type="checkbox"/> WL-MYLIGHTS	My Lights Software for personal desktop PC control and override
<input type="checkbox"/> WL-OPTMODEM	Modem for remote access via dial-up phone network
<input type="checkbox"/> WL-RACKSHELF	Black Shelf for rack mounting up to 50 lbs., 5.25"x17.25"x12.13" (133.4mm x 438.2mm x 308.1mm) HxWxD
<input type="checkbox"/> WL-UPS	UPS backup for WebLink



Analog Photocell for Lighting Integrator Complete Control

Color-coded Class 2 connection to panel

All adjustments made via WinControl software



Calibration remote from sensor (compliant with CA Title 24 requirements)

Three application-specific models for easy selection

PROJECT

LOCATION/TYPE

Product Overview

Description

Analog series photocells provide ambient light level measurements to Lighting Integrator Complete Control (LIC) panels, enabling flexible, multi-setpoint control of lighting. The outdoor model, HPSA, is completely weatherproof and equipped with a hooded lens to help protect against snow and glare. Indoor models include the HPSA-S for mounting in skylights, clearstories and atriums, and the HPSA-I, which is ideal for daylight shed applications and is mounted on the ceiling or wall.

Applications

The outdoor model HPSA is typically mounted on the building roof facing north. The HPSA provides exterior ambient light level information to the LIC panel where one or more setpoints have been established to control exterior lighting. The skylight model HPSA-S is designed to be compatible with the high light levels encountered near the glass in skylights, atriums and clearstories. Typically, the HPSA-S will provide light level information to the panel and be used to hold off/shed unnecessary interior lighting during bright daylight hours. The HPSA-I is also used to shed interior lighting in response to daylight, but is designed to operate in the relatively low ambient light levels present at the ceiling in interior rooms.

Operation

Analog series photocells are powered by Class 2 DC voltage supplied from any input terminal on a Group Switching card installed in an LIC panel. The photocells return a DC signal to the panel in proportion to the amount of light striking the photocell lens. No adjustments are needed at the photocell head. Powerful WinControl software normalizes the photocell signal and provides an easy user interface, permitting setup of lighting control scenarios based on footcandle level setpoints. Two modes allow for basic applications where default settings produce the desired control. An advanced mode allows the setpoints, time delays and deadband to be fine-tuned for more sophisticated application requirements

Features

- Exterior and skylight models provide flexible mounting options via 1/2" threaded conduit fitting
- No calibration or adjustments required at the photocell location; all setup done in software
- Interior model mounts simply, without tools, using the provided peel and stick adhesive
- Color-coded flying leads and matching color-coded terminals in panel simplify installation

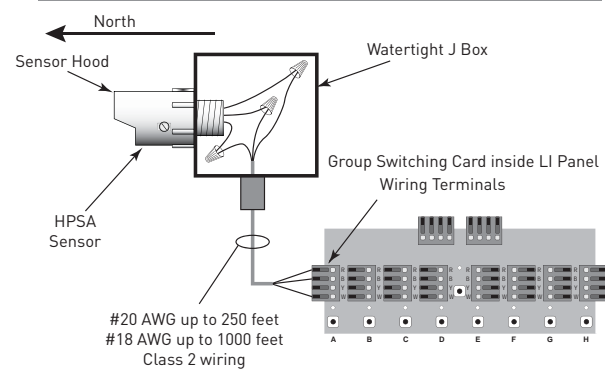


Specifications

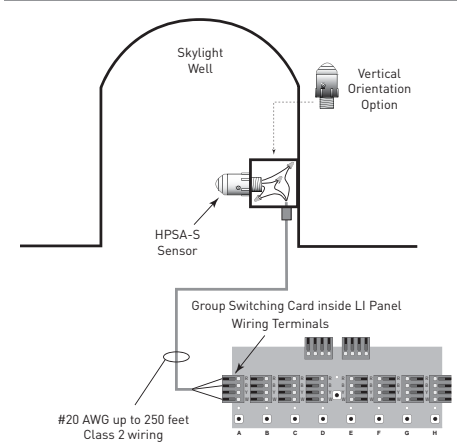
- Calibration: none (controlled by system software)
- Input Voltage: 12VDC
- Sensor Output: 0-4.4 VDC
- Peak Current: 4.5 mA maximum
- Slew Rate:
One minute full scale response time
- Wire Color Code: Red: +12VDC; Black: 0-4.4VDC signal to panel; White: DC common
- Operating Temperature: -40°F-140°F (-40°C- 60°C)
- Mounting:
HPSA and HPSA-S: 1/2" NPT x .69" stem;
HPSA-I : 0.5" x .64" stem with 3M® adhesive pad
- Housing: UV stabilized plastic
- Dimensions:
HPSA: 2.25" x 1.28" diameter
HPSA-I: 1.23" x 2.00" diameter
HPSA-S: 2.25" x 1.28" diameter

Application Diagrams

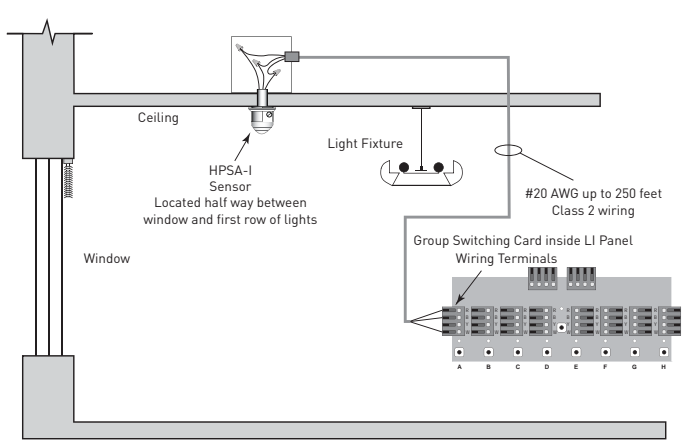
HPSA Outdoor Wiring



HPSA-S Skylight Wiring



HPSA-I Indoor Wiring



Ordering Information

Catalog No.	Description	Application Range
<input type="checkbox"/> HPSA	Outdoor analog photocell sensor, white housing	0 - 200 FC
<input type="checkbox"/> HPSA-I	Indoor analog photocell sensor, white housing	0 - 500 FC
<input type="checkbox"/> HPSA-S	Skylight analog photocell sensor, white housing	0 - 6000 FC

NOTE: May be ordered with custom calibration by adding suffix "X" and stating desired range.

Dataline Switch for LI Automation and Complete Control



Pushbutton control for single relays, groups of relays, and/or channels in Lighting Integrator panel systems

Screwless wallplate and removable lens caps for labeling

Pilot light LEDs for visual status feedback



1-, 2-, 4-, and 8-button configurations

Locator light bar for visibility when dark

Local dataline compatibility provides easy installation and operation

PROJECT

LOCATION/TYPE

Product Overview

Description

The Lighting Integrator (LI) Dataline Switch (HDLsXSS) is designed for use with LI Automation (LIA), LI Complete Control (LICA), and LI DMX (LIDA) panels and offers flexible and user-friendly lighting control of a single relay or a group of relays in one panel or a network of panels.

Operation

Dataline Switches install into standard wallboxes and connect to an LIA/LICA/LIDA panel via dual twisted pair digital bus wiring. Each switch unit contains one master button and up to eight individual switch buttons which can be individually programmed (smartwired) to control relays or groups of relays. Individual switch buttons are programmed directly from WinControl software on LICA systems or by lifting the switch covers to uncover the smartwiring buttons on LIA and LIDA systems. Pressing these buttons (see Switch Programming and Wiring) sends a unique digital code that identifies the buttons and switch to the panel. The buttons can then be assigned to a relay or a group of relays. The master button is programmed via DIP switches on the back of the switch with a choice of functions.

Control Capabilities

Dataline switches can be used with LIA, LICA, and LIDA systems. In LIA systems, buttons can be programmed to control either a group of relays in a single panel or a channel in one or more panels. In LICA systems, the buttons may also control system-wide group codes.

Applications

Multiple Dataline Switches connect together and to a panel via 4-conductor data communications wiring (also referred to as the local dataline). This reduces the wiring required by conventional switches, since up to 63 devices per panel can share the dataline. Dataline Switches are ideal for commercial office or other buildings where individual occupant lighting control needs are paramount. These switches are flexible enough to accommodate individual needs while facilitating efficient, area-wide automated lighting control. The "cleaning" scenario enables maintenance crews to control needed lighting without interfering with the needs of individuals working after hours.

Features

- Works with with LIA, LICA, and LIDA systems
- Bi-color pilot light status LEDs indicates relay states for each button (red = All On, green = mixed state, no color = All Off)
- Locator light bar for finding switch in the dark
- Optional key lock version for public locations
- Optional cleaning control scenario
- Optional On Only setting to prevent inadvertently turning lights off
- Master button with programmable configurations (Restore/All Off; All Off, All On/ All Off, or Disabled)
- Available in white, ivory, almond, and gray



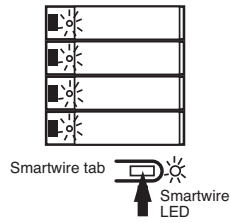
Specifications

- Standard wallbox mounting, non-gangable
- Removable switch button lens caps accommodate 3/8" (9mm) laminated tape
- Custom engraving available
- Environmental: Operating temperature range 32 to 139°F (0 to 60°C), 5-95% RH noncondensing
- Dimensions: 4.5" x 2.75" x 1.8" (69.8mm x 114.3mm x 46mm) HxWxD for 1-, 2-, and 4-button switch; 4.5" x 4.5" x 1.8" (114.3mm x 114.8mm x 46mm) HxWxD for 8-button switch
- One year warranty

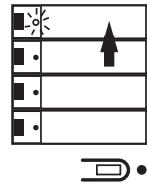
Switch Programming and Wiring

Smartwiring a Dataline Switch

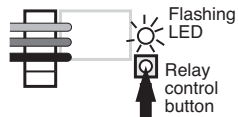
- 1 Remove wallplate and Press Smartwire tab once. Smartwire LED flashes once. All switch button LEDs begin flashing.



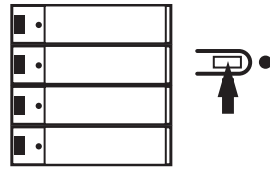
- 2 Press switch button to be programmed. Selected button LED continues to flash. Other LEDs stop flashing.



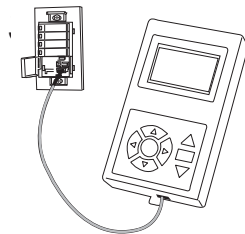
- 3 Press relay control button to add or delete from group.



- 4 Press Smartwire tab again. All LEDs stop flashing. Smartwiring is completed. Repeat for other buttons as needed.

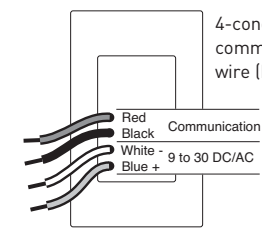


Switch Programming



Users can program Dataline Switches in the field with the Network Clock (if using WinControl, Network Clock is not required).

Dataline Switch Wiring



4-conductor data communications wire (HDLW4)

Ordering Information

Catalog No.	Color	Description	Catalog No.	Color	Description	Size	Power Consumption
<input type="checkbox"/> HDLS1SS-7	White	Single Dataline Switch	<input type="checkbox"/> HDLS1SSK-7	White	Keyed Single Dataline Switch	Single-gang	45 mA
<input type="checkbox"/> HDLS1SS-2	Ivory		<input type="checkbox"/> HDLS1SSK-2	Ivory			
<input type="checkbox"/> HDLS1SS-4	Light Almond		<input type="checkbox"/> HDLS1SSK-4	Light Almond			
<input type="checkbox"/> HDLS1SS-9	Gray		<input type="checkbox"/> HDLS1SSK-9	Gray			
<input type="checkbox"/> HDLS2SS-7	White	Dual Dataline Switch (2 individual buttons + Master button)	<input type="checkbox"/> HDLS2SSK-7	White	Keyed Dual Dataline Switch (2 individual buttons + Master button)	Single-gang	50 mA
<input type="checkbox"/> HDLS2SS-2	Ivory		<input type="checkbox"/> HDLS2SSK-2	Ivory			
<input type="checkbox"/> HDLS2SS-4	Light Almond		<input type="checkbox"/> HDLS2SSK-4	Light Almond			
<input type="checkbox"/> HDLS2SS-9	Gray		<input type="checkbox"/> HDLS2SSK-9	Gray			
<input type="checkbox"/> HDLS4SS-7	White	Quad Dataline Switch (4 individual buttons + Master button)	<input type="checkbox"/> HDLS4SSK-7	White	Keyed Quad Dataline Switch (4 individual buttons + Master button)	Single-gang	55 mA
<input type="checkbox"/> HDLS4SS-2	Ivory		<input type="checkbox"/> HDLS4SSK-2	Ivory			
<input type="checkbox"/> HDLS4SS-4	Light Almond		<input type="checkbox"/> HDLS4SSK-4	Light Almond			
<input type="checkbox"/> HDLS4SS-9	Gray		<input type="checkbox"/> HDLS4SSK-9	Gray			
<input type="checkbox"/> HDLS8SS-7	White	Octal Dataline Switch (8 individual buttons + Master button)	<input type="checkbox"/> HDLS4SSK-7	White	Keyed Octal Dataline Switch (8 individual buttons + Master button)	Double-gang	75 mA
<input type="checkbox"/> HDLS8SS-2	Ivory		<input type="checkbox"/> HDLS4SSK-2	Ivory			
<input type="checkbox"/> HDLS8SS-4	Light Almond		<input type="checkbox"/> HDLS4SSK-4	Light Almond			
<input type="checkbox"/> HDLS8SS-9	Gray		<input type="checkbox"/> HDLS4SSK-9	Gray			

Lighting Integrator Automation Level

In many cases, a simple networked clock/programmer provides the ideal control configuration. LI Automation level offers user-friendly, digital pushbutton programming and easy-to-use common control scenarios. With basic scheduling functions and the option for standalone or networked control, LI Automation level works for a range of small- to medium-sized applications.

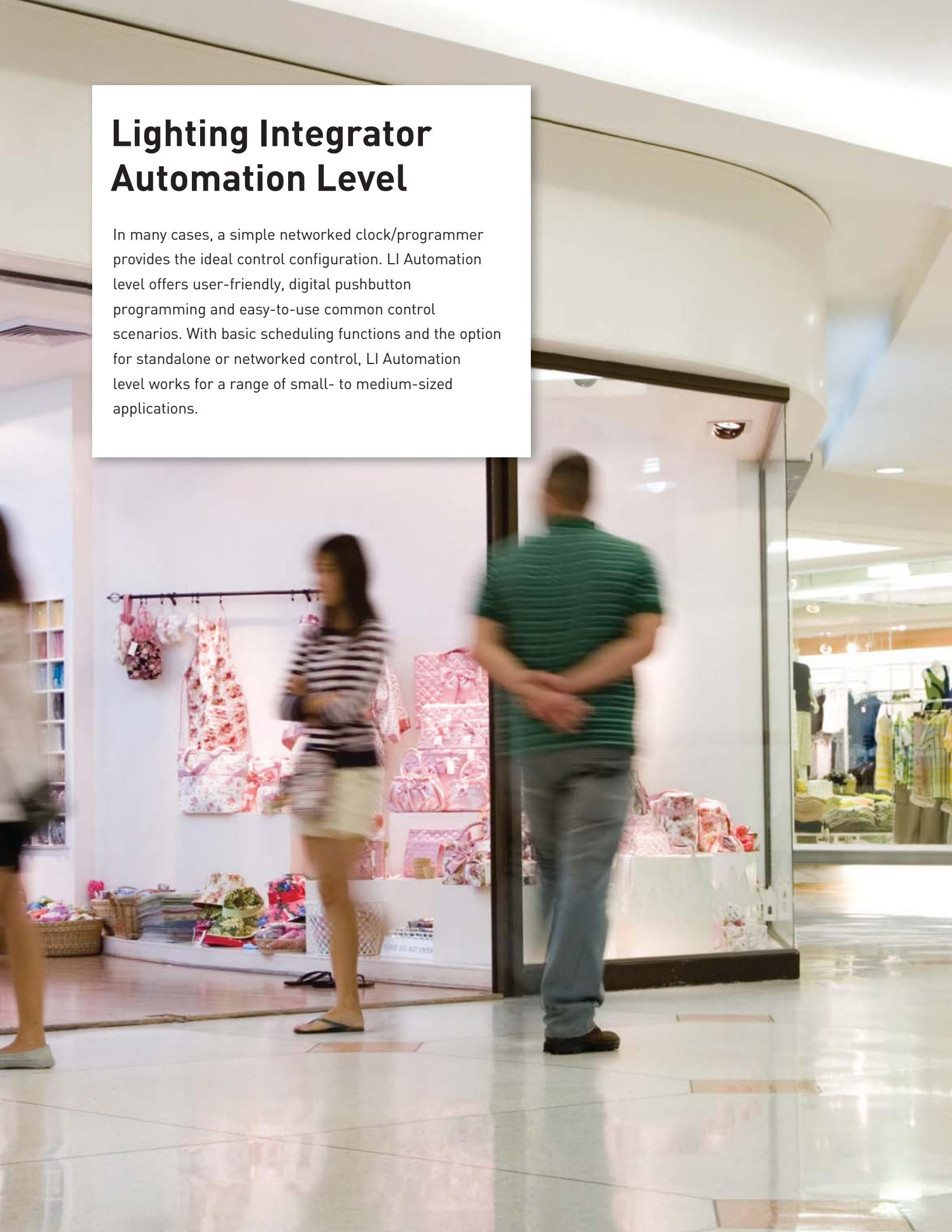




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 **WattStopper**

 **legrand®**

Choose LI Automation level for simple, cost-effective lighting control

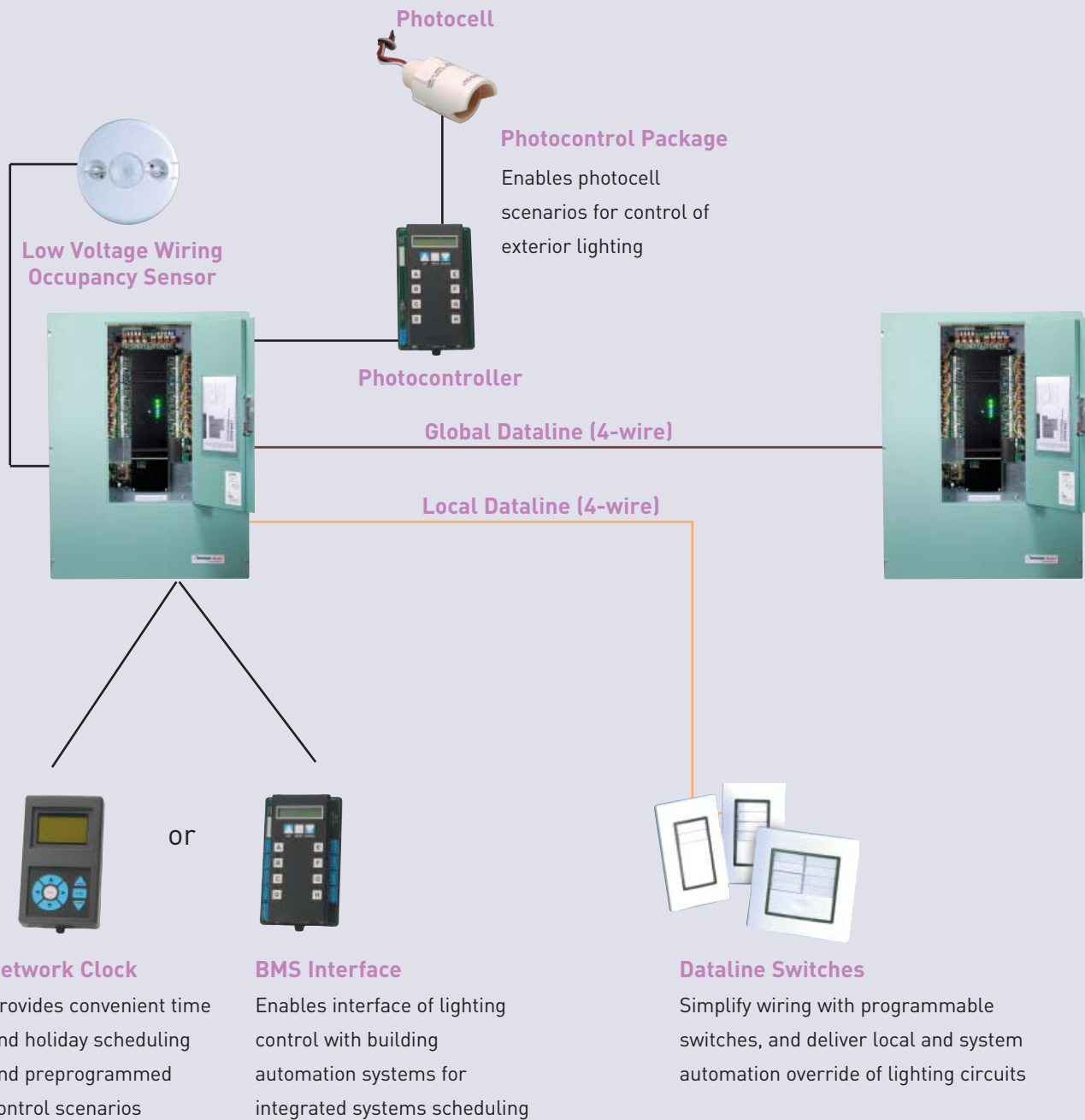
In many cases, the ideal control configuration involves simple pushbutton programming and “fill in the blank” common control scenarios. This may be the case in smaller applications where relatively few panels are required, or in situations where minimal operator training is desired.

LI Automation level provides basic scheduling functions via either a single standalone panel or as a system where up to 12 panels are connected by a digital dataline. Designers can choose the hand-held Network Clock/Programmer (**page 50**) for smaller systems.

LIA panel systems work with low voltage wall switches, occupancy sensors, and daylighting control devices, as well as digital dataline switches (**page 58**).

Other compatible options include simple contact closure interfaces with BMS systems via the Building Management System interface module (**page 52**), using low voltage switches as if they were digital dataline switches via the Universal Switch Module (**page 56**), and controlling multiple exterior lighting control zones via the Photocontrol Package (**page 54**).

System Layout



Simplify control in small to medium sized applications



Educational Facilities

- Seamless interaction of scheduled control and daylighting control during the day with occupancy-based control afterhours
- Convenient pushbutton control scenarios for cleaning crews, special events

Small-moderate retail operations

- Preprogrammed control scenarios for simplified operation by store managers
- Ability to coordinate interior and exterior lighting control
- Easy afterhours control for stocking and cleaning



LIA Highlights

- Accepts control from network clock scheduling, astronomic events, photocell light level, or building automation systems
- Standalone automation via easy pushbutton programming and control modules
- Preprogrammed lighting control scenarios and scheduling of each channel with blink warning, afterhours time delays, Manual on, Auto-on via network clock

Moderate size office buildings

- Code-compliant automated shutoff
- Supports advanced control strategies such as manual on and bi-level switching
- Dataline switches allow for pilot light annunciation of lighting zones and simplified wiring
- Easily integrated daylighting control for areas with adequate ambient light contributions, such as lobbies and corridors



Lighting Integrator Automation Level Interior (LIA8, LIA24, LIA48)

Add on modules provide automation features

HDR relays provide manual overrides even when panel is powered off

Eight independent control channels



Scheduling via network clock or BMS interface

Standalone or networked operation

PROJECT
LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand's Lighting Integrator Automation (LIA) level panel provides a simple network enabling automation of lighting functions throughout an entire facility. A selection of function-specific automation modules can be specified to add control features such as scheduling, photocell control, remote override, telephone override, or BAS integration on an as-needed basis.

Operation

LIA panels provide eight channels for manual control of lighting or implementation of unique pre-programmed automation scenarios. These scenarios, implemented through functional automation modules, include: Scheduled ON/OFF, Manual ON/Scheduled OFF, Manual ON/AS-100 Sweep OFF, Astro ON/Astro OFF, Astro ON/Scheduled OFF, Photocell ON/OFF, and Photocell ON/Scheduled OFF. Dataline switches connect to the panels using a local four-wire dataline and provide manual and afterhours override control.

Features

- Standard single pole heavy duty relays
- Available in interiors sized for 8, 24, or 48 relays maximum
- DIN rail in Class 2 compartment for mounting function-specific automation modules
- Compatible with AS-100 automatic switches for sweep-based automatic shutoff
- Direct wired switch inputs configure automatically for use with Watt Stopper occupancy sensors
- Direct wired switch inputs are compatible with three-wire or two-wire momentary or maintained contacts
- Programmable dataline switches for control of relays or channels
- Provision for integral Lightsaver daylighting controls

Smartwiring

Lighting Integrator provides a unique and flexible means for grouping relays into channels for common control and scheduling. Using a simple button-press user interface called Smartwiring, the user can quickly include or exclude relays from the channels within a panel (requires group switching card). Similarly, smartwiring can be used to group relays or channels for common control by buttons on dataline switches. Relay groups can also be created or adjusted via the plug-in clock/programmer.

Applications

Automation level Lighting Integrator, along with the desired function-specific automation modules, are ideal for small to medium size projects that require networking of up to 12 panels. Applications include office buildings, schools, retail, warehouses and any other application that requires a basic level of lighting automation without the need for a PC and software.

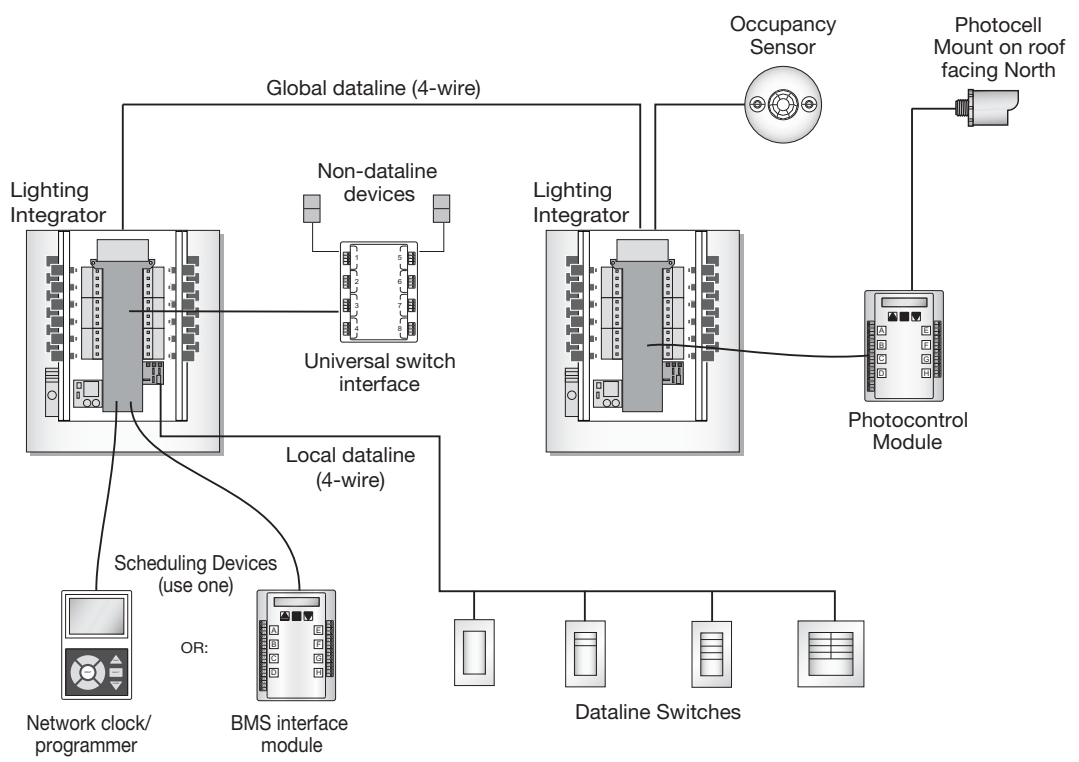


LIA Specifications

- Interior configurations provide up to 8, 24, or 48 relays each
- Standard relay, individually replaceable Watt Stopper HDR series, latching SPST, meets new NEMA electronic ballast requirements, 14,000 Amps SCCR, with integral manual override (other relay types available)
- Digital global dataline, one pair twisted, open topology allows linear, star and T network configurations for panels, 1500' max length free topology (8000' linear topology)
- Local dataline, two pair twisted, open topology allows linear, star and T configurations, 63 HDLS series switch addresses available per dataline, 1500' max length
- Automation channels: 8 per panel, provide global schedule and control functions
- Direct wire switch inputs, one each per relay and group switch channel, automatically configure for occupancy sensor operation
- Pilot light output per relay and group switch channel, configurable for any Class 2 voltage
- UL, CUL listed, one year warranty

LIA System Layout

LI Automation Panel System Layout





General LI Information

Description

Watt Stopper/Legrand's Lighting Integrator (LI) is a low voltage, relay based lighting control panel. Panel interiors are configured as 8, 24 or 48 relay capacity with the quantity of relays installed as called for on the order. The interior mounts into the appropriate enclosure. The LI panel enclosure and cover are shipped separately from the panel interior to facilitate project rough-in requirements.

Operation

LI relays are driven to a latched on or off position via a 24 volt DC pulse generated by the relay driver cards. A momentary pushbutton is provided for each relay to manually toggle the relay's state with each button press. An isolated contact in the relays provides positive status feedback to the relay driver circuits, which are annunciated by an LED associated with each relay. Removable color-coded terminal blocks allow connection of direct wired low voltage devices for remote control of relays.

- Interior provides complete isolation between line and low voltage when used with a compatible LENC series enclosure
- Individual plug-in, latching style single pole relays with isolated pilot/status contacts
- Integral push button override, status LED, and pilot light output per relay
- Two slots available for optional automation, networking and integration control cards

Operation (cont'd.)

Inputs can be wired to accommodate maintained or momentary three wire or two wire inputs. The switch input circuits are auto sensing and will automatically configure appropriately when Watt Stopper occupancy sensors are connected.

Smartwiring

A unique Watt Stopper switching function, this simple button press interface allows any quantity of relays to be assigned quickly to each group switching channel for common on/off control or for pattern (scene) control. Each of the eight channels is provided with an override pushbutton, LED status indicator and terminals for connection of wall switches and occupancy sensors. An eight or 24 size panel can be ordered with one group switch card (8 channels), 48 size panels can have two group switch cards for a total of 16 channels (8 controllable by scheduling, eight by switching only).

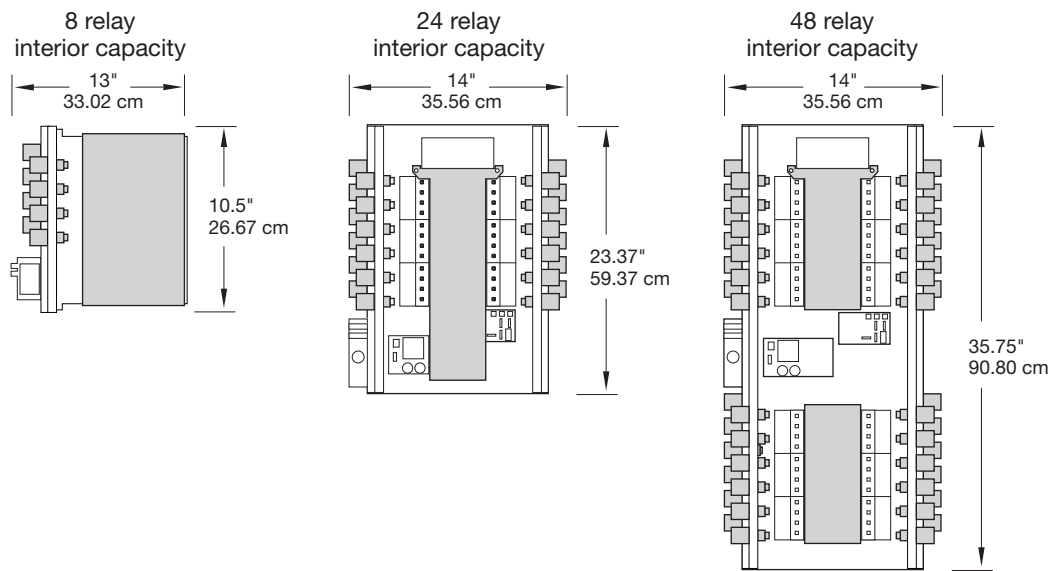
- Supports Watt Stopper low voltage occupancy sensors without need for separate sensor power packs
- Smartwiring feature allows grouping of relays for common control
- DIN rail mounting provided within the Class 2 section for mounting of optional accessories
- Control multi-pole circuits with optional contactors and compatible LENC enclosure
- Optional configuration available for use on emergency lighting circuits



General LI Specifications

- Interior capacity:
 - 8 SPST relays
 - 24 SPST relays
 - 48 SPST relays
- Input voltage options, 120/277V 60 Hz, 120/347V 60 Hz, 240V 50 Hz
- Low voltage switch inputs, removable terminal blocks with screw-less connection, configurable for three wire momentary, two wire momentary (toggle), and two wire maintained dry contact switches or Watt Stopper occupancy sensors.
- Accessory power available
 - LI8: 1000 MA @24VAC or 800 MA @ 24VDC
 - LI24 and LI48: 1400 MA @ 24VAC or 800 MA @ 24VDC
- Group switching, eight channels per installed group switching card. One card max per LI8 and LI24. Two cards max LI48.
- SCCR (short circuit current rating) 14,000 amps with HDR Heavy Duty Relay
- HDR relays:
 - Coil voltage, 24 VDC, pulse ON and pulse OFF
 - Mechanically latched contacts
 - 1/2" 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
 - Endurance: 300,000 mechanical cycles
- Pilot light output, 24 V rectified or 24VAC, other voltages configurable with external power supply
- One year warranty

Panel Interior Dimensions



Ordering Information

Interior Capacity	Installed Options				
	Voltage Options	Relay Count	Group Switch Card	Emergency Relays	Coil Voltage
<input type="checkbox"/> LIA8	<input type="checkbox"/> 115/277	___ HDR relays	___ GS cards (max	___ EM relay count	<input type="checkbox"/> 115
<input type="checkbox"/> LIA24	<input type="checkbox"/> 115/347	installed (max	1 in 8, 24, 2 in 48)	(max of interior or 24)	<input type="checkbox"/> 240
<input type="checkbox"/> LIA48	<input type="checkbox"/> 240	of interior capacity)			<input type="checkbox"/> 277
					<input type="checkbox"/> 347

Lighting Integrator 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

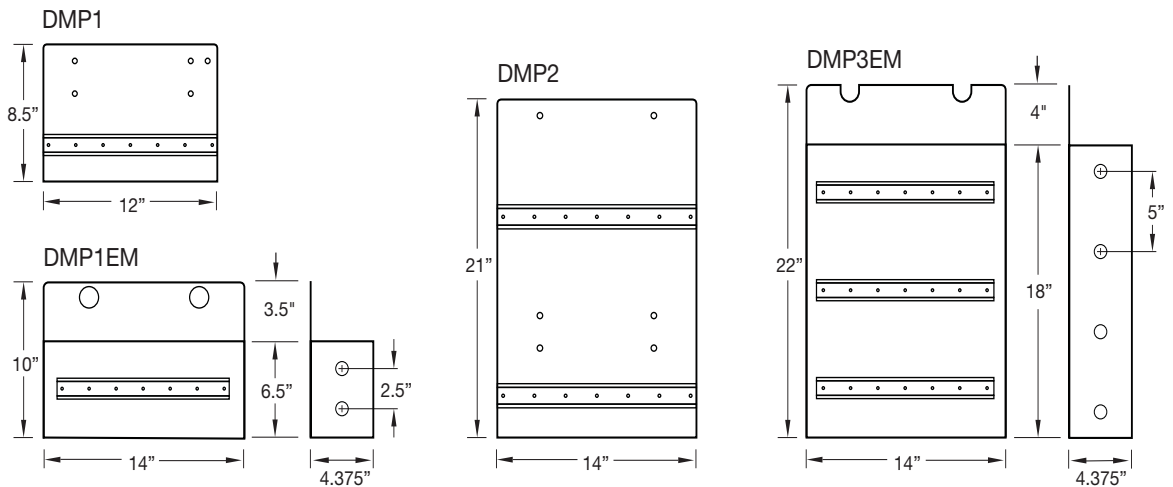
Description

Lighting Integrator panel enclosures are designed specifically to work with all configurations of LI 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.

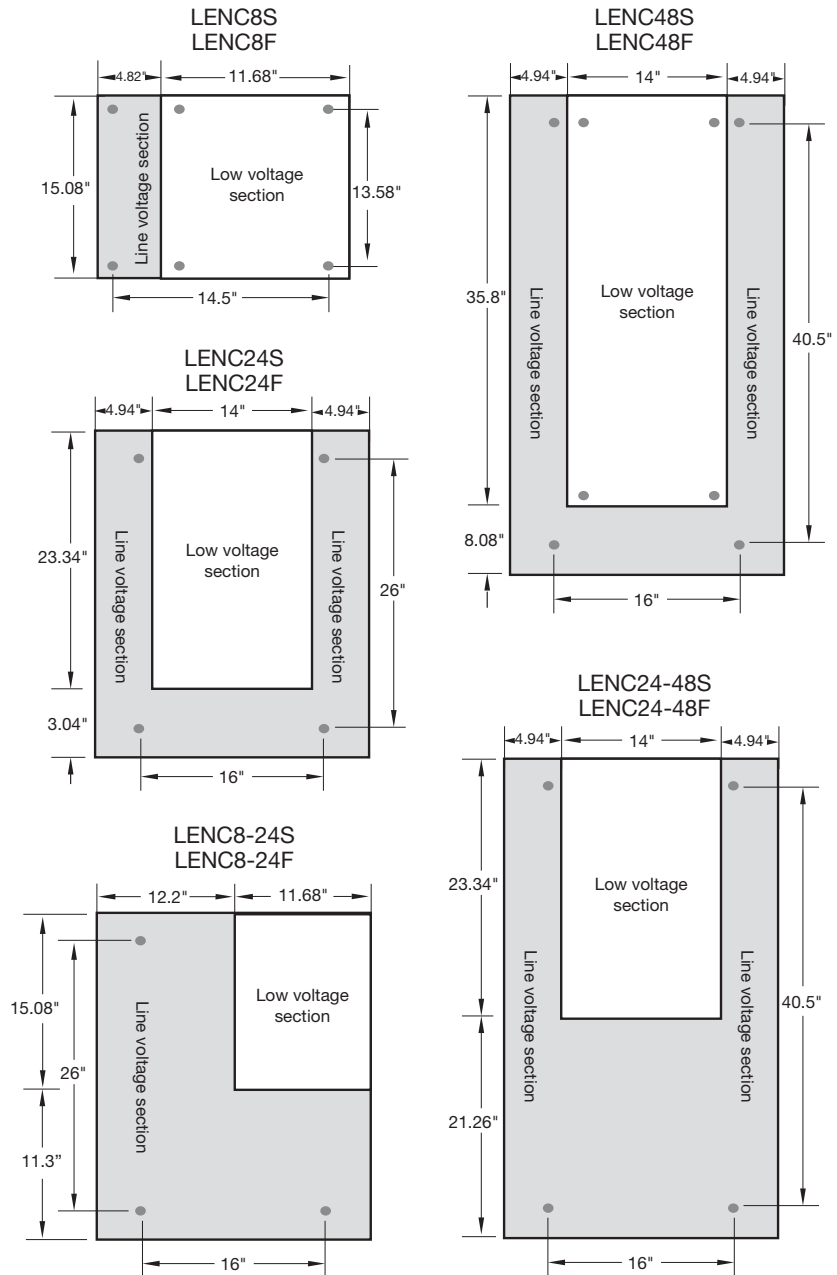
Configurations

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



Enclosure Dimensions



Ordering Information

Catalog No.	Description	Overall Dimensions (HxWxD)	Overall Weight
<input type="checkbox"/> LENC8S	8 relay capacity, surface mount	15.08" x 16.5" x 4.625"	18 lbs
<input type="checkbox"/> LENC8F	8 relay capacity, flush mount	15.08" x 16.5" x 4.625"	20 lbs
<input type="checkbox"/> LENC8-24S	8 relay capacity with 24 size tub, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC8-24F	8 relay capacity with 24 size tub, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24S	24 relay capacity, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC24F	24 relay capacity, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24-48S	24 relay capacity with 48 size tub, surface mount	44.6" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC24-48F	24 relay capacity with 48 size tub, flush mount	44.6" x 23.88" x 4.625"	66 lbs
<input type="checkbox"/> LENC48S	48 relay capacity, surface mount	43.88" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC48F	48 relay capacity, flush mount	43.88" x 23.88" x 4.625"	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.

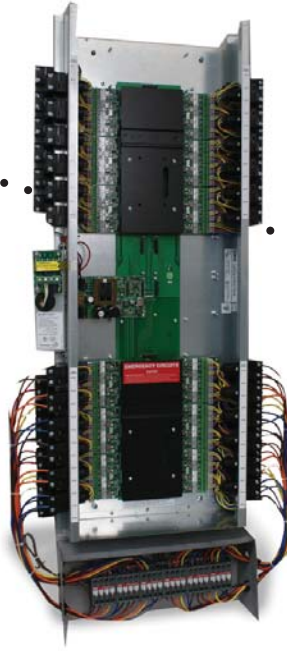


Lighting Integrator Emergency Relay Panel Option

UL924 listed for use on emergency circuits

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

Meets NEC (NFPA70) and UL924 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

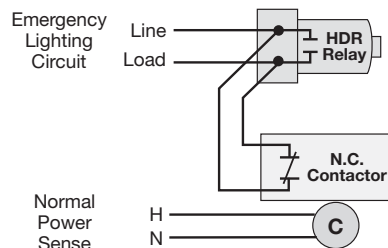
Description

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



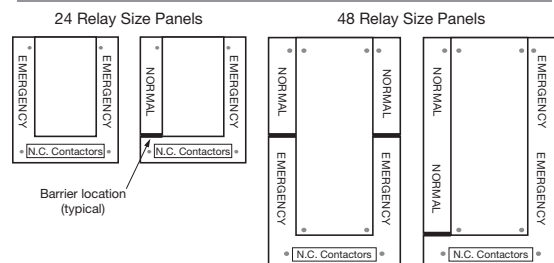
Applications

The Lighting Integrator 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

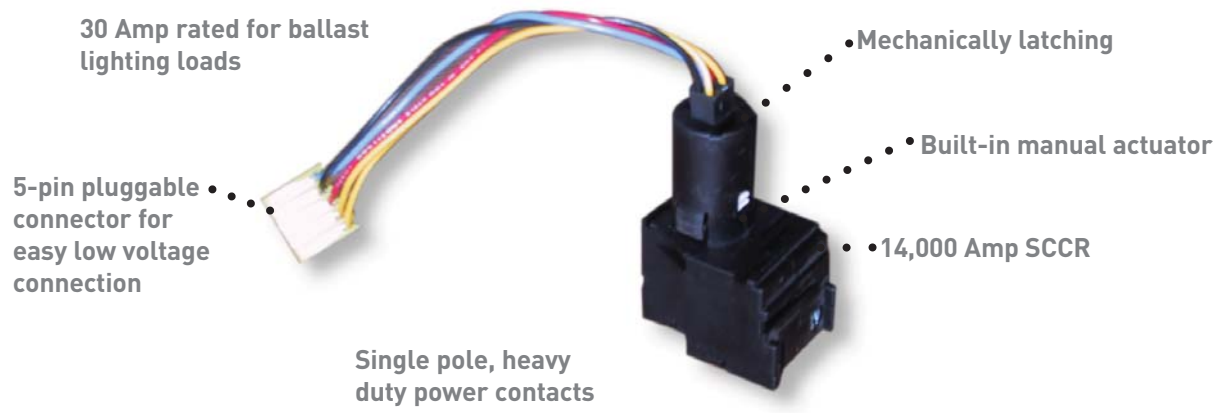


Description

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



HDR Low Voltage Relay



PROJECT
LOCATION/TYPE

Product Overview

Description

This low voltage relay is used for control of lighting circuits and other electrical loads in Watt Stopper's Lighting Integrator control panels. Momentary, low voltage pulses from the panel's control system switch the relays on or off. Mechanical latching operation results in lower power consumption. The relay will remain in the last switched state in the event of a power loss. A built-in manual actuator allows lights to be turned on in the event of a panel or relay failure. The relay mounts into a standard knockout and comes with a pluggable cable for easy panel connection. Typically, users specify the number of relays and the panel is assembled and shipped with this quantity.

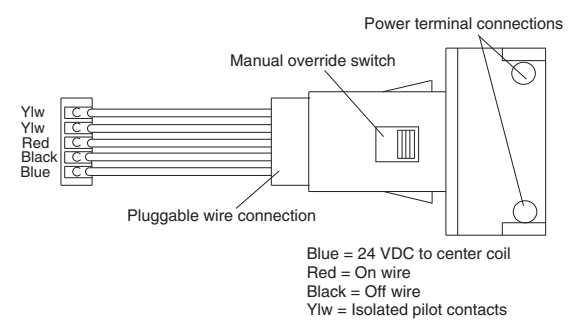
Specifications

- 1/2" knockout mounting
- Accepts wire gauge #10 - #14 AWG, copper wire, solid or stranded
- Operating voltage 24 VDC
- Isolated pilot relay contacts, .5 Amp @ 30 VAC/DC for status feedback
- Integral manual override
- Rated 14,000 amps Short Circuit Current Rating (SCCR)
- Suitable for use with all HID ballasted loads
- Expected service life is over 25 years at nominal load and cycle rate
- Dimensions: 3.2" x 1.3" x .85" (81.3 mm x 33.0 mm x 21.6 mm)
- UL listed, CSA certified; five year warranty

Ratings

- | | |
|--------------------------------|--------------------|
| • Ballast load (including HID) | 30 Amp @ 277 VAC |
| • Tungsten load | 20 Amp @ 120 VAC |
| • Resistive load | 30 Amp @ 347 VAC |
| • Motor load | 1 1/2 HP @ 120 VAC |

HDR Wiring



Ordering Information

Catalog No.	Description
<input type="checkbox"/> HDR5P	Mechanically Latching Relay with 5-pin Plug-in Connector, Pilot Contacts, Override Switch

Network Clock/Programmer for LI Automation Level

Time scheduling module for Lighting Integrator Automation panels

Five preprogrammed control scenarios

Astronomical control for exterior lighting operation



Controls up to eight channels across a lighting control network

Programming mode for panels and system switches

Simple menu-driven data entry

PROJECT

LOCATION/TYPE

Product Overview

Description

The Network Clock/Programmer (HCLK8SS) adds time scheduled capability to Watt Stopper Automation Level Lighting Integrator (LIA) panels. The HCLK8SS provides global scheduling of up to eight different lighting groups using preprogrammed automated control scenarios.

Operation

The LIA Network Clock/Programmer mounts on the accessory DIN rail and plugs into the Automation card of any LIA panel on the network. In a multi-panel application, a single HCLK8SS will support multiple panels, provided each panel contains an Automation card. The installer follows simple menu screens to set up and schedule each of eight global channels in the system based on the control needs of each specific lighting group. The clock also operates as a handheld programmer for dataline switches at their remote locations or for smartwiring relays to channels in a panel.

Scheduling and Control Scenarios

The HCLK8SS offers multiple scheduling scenarios for interior applications with the use of AS-100 Automatic Control Switches: Manual On/Scheduled Off, Scheduled On/Off, Dark On/Light Off, Dark On/Scheduled Off and Manual On/Sweep. These scenarios offer blink warnings and user-selectable time delays. Exterior lighting scenarios include Astro or Photocell On/Scheduled Off, and Astro or Photocell On/Off. Photocell controlled scenarios require the use of an LI Photocontrol Package.

Applications

The control scenarios are suitable for many common commercial applications. Retail lighting loads (e.g., general sales, stocking lights, exterior signage, and accent/showcase) can be controlled via different scenarios. In office buildings, lighting loads with similar control needs (e.g., common areas, hallways, and open office areas) can be grouped into channels and scheduled together. Using Dataline and AS-100 Switches provides occupants with manual override capabilities.

Features

- After-hour occupancy-based and scheduling scenario control for up to eight channels
- Diagnostics function identifies dataline devices and confirms communications
- Automatic interface to optional LI Photocontrol Package for exterior lighting control scenarios
- Easy astronomical setup with input choice of city/state or latitude/longitude coordinates
- LED annunciation per channel of occupied/unoccupied status
- Scheduling capabilities include seven-day with up to 36 holidays and six holiday date ranges
- Automatic daylight savings adjustment
- Functions as hand-held programmer for dataline switches and relay smartwiring
- Supports use of AS-100 Automatic Control Switches in Manual On/AS-100 sweep off scenarios

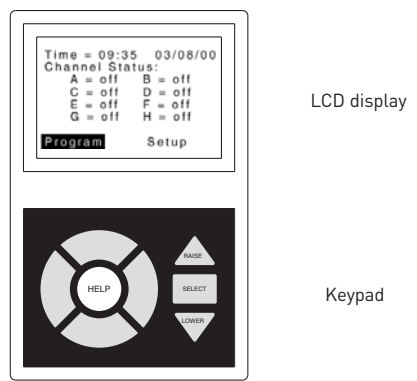


Specifications

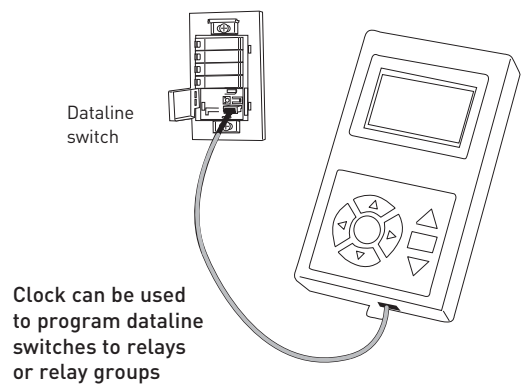
- Power consumption from the lighting control panel 150mA at 24VAC
- Eight channels with five preprogrammed scenarios
- User-selectable locations or latitude/longitude coordinates for astronomical clock setup
- Supports optional use of Automatic Control Switch (AS-100) for local manual override
- DIN rail mounting in LI and accessory panels; factory connection cable included
- Programming carry-over during power outage for up to ten years
- Clock time carry-over during power outage up to two weeks
- Weight 1.0 lbs./0.45 kg.
- Operating temperature: 32-139°F (0-60°C); 5-95% RH noncondensing, noncorrosive atmosphere
- Dimensions: 7.5" x 4.5" x 1.5" (191mm x 114mm x 43mm) H x W x D
- One-year warranty

Controls and Modes

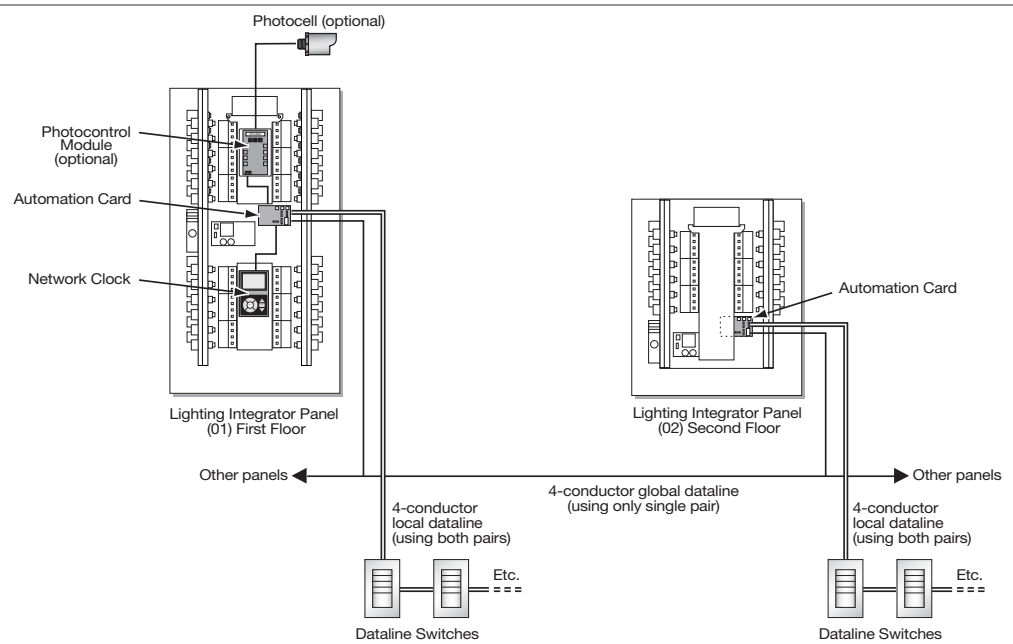
Network Clock Module Controls



Clock in Programming Mode



Lighting Integrator Application with Network Clock/Programmer



Group lighting loads in 1-8 channels and extend automation from a single Network Clock/Programmer to a network of panels, when each panel is a Lighting Integrator Automation panel.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> HCLK8SS	Network Clock/Programmer for LI Automation
Optional control module:	
<input type="checkbox"/> HPCP8SS	Photocontrol Package with Photosensor for LI Automation

BMS Interface Module for LI Automation Level

Automation module that interfaces with other building systems

Blink warnings and user-selectable time delays

Two-line graphical display with simple menu-driven data entry



Up to four common scenarios for interior and exterior lighting control

Controls up to eight different lighting groups

Easy plug-in connection in Lighting Integrator system panel

PROJECT

LOCATION/TYPE

Product Overview

Description

The Building Management System Interface Module (HBMS8SS), is an optional automation module for Lighting Integrator Automation (LIA) panels. It provides an alternative to the Network Clock when scheduling is to be provided by another building system, such as a building management system or a security system via dry contact closures.

Operation

The BMS Interface module mounts on the panel's DIN rail and connects to the panel interior via a factory-supplied communication cable. (Alternatively, the module may be installed in or near the BMS and connected to the LIA panel via a single run of 4-conductor dataline wire.) Each of the module's eight channels have a pair of connection terminals to accept a dry contact closure from an external device (e.g., BMS, HVAC, security system), as well as another pair of terminals that provide pilot status output for channel feedback. The user follows a simple, menu-driven sequence to select control scenarios for each channel. When a channel receives a signal via a contact closure, it then executes the appropriate pre-programmed scenario.

Control Scenarios

User-selectable control scenarios include Manual On/Scheduled Off and Scheduled On/Off, as well as the exterior lighting control scenarios available with the optional Photocontrol Package. Each scenario offers necessary functions such as blink warnings and user-selectable time delays. Structured around a business hours/after hours (occupied/unoccupied) approach, these scenarios can be initiated with a signal provided by a dry contact relay closure from another building system to each channel input.

Applications

Many small to mid-sized facilities employ centralized control of building systems. With the BMS Interface Module, an LIA system can take signals from building systems to initiate automated control scenarios. This can simplify building operation while accommodating individual occupant needs. The BMS Interface Module maintains the flexibility of the LIA control panel while providing the convenience of integration with other building systems.

Features

- Menu-driven scenario selection using business hours/after hours (occupied/unoccupied) approach simplifies operation
- Manual On/Scheduled Off and Scheduled On/Scheduled Off control scenarios for interior lighting provide occupant convenience and energy efficient control
- LED annunciation per channel of occupied/unoccupied status
- User-selectable blink warnings
- Dark On/Dark Off and Dark On/Scheduled Off control scenarios for exterior lighting (with optional Photocontrol Package)
- Isolated contacts for status feedback on each channel
- Selectable override time delay for all scenarios

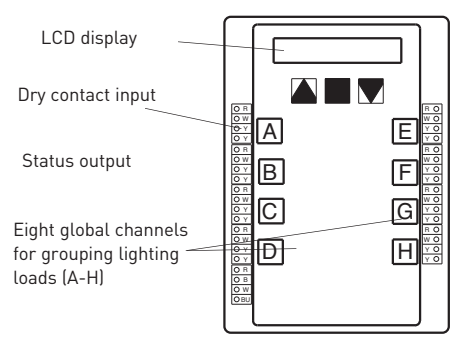


Specifications

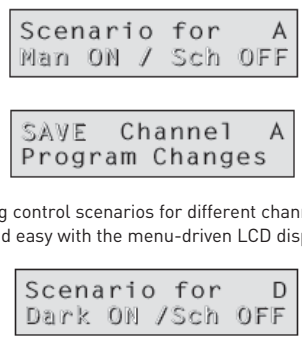
- Power consumption 225 mA at 24 VAC
- DIN rail mounting in any LIA panel in the network; factory connection cable included
- Plugs into Lighting Integrator Automation panel
- Two-line, 16-character LCD display
- Accepts scheduling signal from external devices via dry contact relay closure for each channel input
- SRAM memory with 10-year internal battery backup
- Weight 1.0 lbs./0.45 kg.
- Environmental: Operating temperature range 32-139°F [0-60°C]; 5-95% RH non-condensing, non-corrosive atmosphere
- 7.5" H x 4.5" W x 1.5" D (190 mm x 114 mm x 38 mm)
- One year warranty

Controls and Scheduling Information

BMS Interface Module Controls



Scenario Scheduling

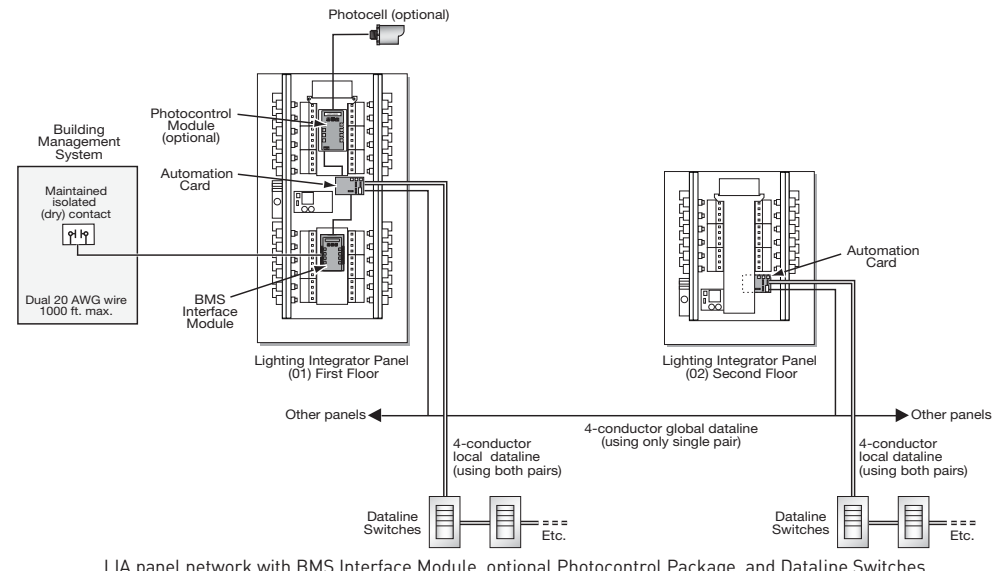


Selecting control scenarios for different channels is quick and easy with the menu-driven LCD display.

Photocontrol scenarios are added when the optional Photocontrol Package is used.

System Layout

System Layout with BMS module



LIA panel network with BMS Interface Module, optional Photocontrol Package, and Dataline Switches.

Ordering Information

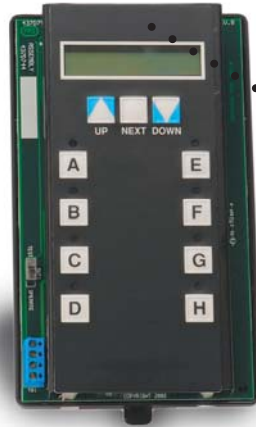
Catalog No.	Description
<input type="checkbox"/> HBMS8SS	BMS Interface Module for LI Automation
Optional control module:	
<input type="checkbox"/> HPCP8SS	Photocontrol Package with Photosensor for LI Automation
Wire:	
<input type="checkbox"/> HDLW4	4-conductor data communications wire

Photocontrol Package for LI Automation Level

Control module for exterior lighting control

Includes photocontrol module and external photocell

User-defined light level setpoints for eight channels



Automatic interface with either Network Clock or BMS Interface Module

Real time LCD display of exterior light level



Two pre-programmed exterior lighting control scenarios

PROJECT

LOCATION/TYPE

Product Overview

Description

An optional control module for Lighting Integrator Automation (LIA) panels, the Photocontrol Package provides a DIN mounted control module together with an external photocell for exterior lighting control. Compatible with either the Network Clock or BMS Interface Module, it provides automation scenarios for up to eight different lighting groups.

Operation

The photocontrol module compares outdoor light level data from the external photocell with user-defined setpoints programmed into the module. If it determines exterior lighting should be turned on or off, it transmits a control signal to either the Network Clock or BMS module, which implements the appropriate control scenario. One Photocontrol Package, together with either a Network Clock or a BMS Interface, can control a network of LIA panels.

Control Scenarios

The Photocontrol Package enables use of exterior lighting control scenarios preprogrammed in either a Network Clock or BMS Interface Module. These scenarios are Dark On/Off or Dark On/Scheduled Off. Users may select a control setpoint for each of the eight automation channels to trigger the control scenario for different lighting levels. For instance, On/Off setpoints for security and parking lighting typically range from 2-20 footcandles, while setpoints for signage lighting range from 20-200 footcandles.

Applications

The lighting control scenarios available for use with the Photocontrol Package are ideal for the most common exterior lighting control needs: security, parking, and signage. Typically, users will select Dark On/Dark Off for security lighting at settings between 2-20 footcandles. For non-security lighting such as parking lot lighting or signage, the Dark On/Scheduled Off scenario is more commonly used to turn lighting off during hours of vacancy.

Features

- Packaged photocontrol module and photocell
- Preprogrammed control scenarios for photosensitive control of exterior lighting
- Bi-color LED indicates dark/not dark status for each channel (red = light level is less than setpoint, green = light level is greater than setpoint, no color = no setpoint for that channel)
- Automatic deadband and five minute time delay prevents lamp cycling
- User-selectable Operate or Test mode
- Real time LCD display of exterior light level and user-selected setpoint
- Factory plug-in connector cable for easy installation

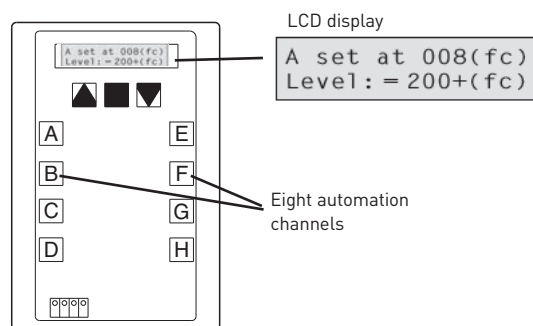


Specifications

- Power consumption: 24 VAC from panel, 125 mA
- Interacts with eight automation channels, providing up to eight independent light level setpoints
- Two line, 16 character display
- Memory backup, non-volatile
- Photocell footcandle range from 0 - 200 fc (0 - 2200 lux)
- DIN rail mounting in LIA panels or accessory panels; factory connection cable included
- Requires LIA panel and either Network Clock or BMS Interface module for operation
- Environmental: 32-131°F (0-55°C); 0-95% RH, non-condensing, non-corrosive atmosphere
- Weight: 1.0 lbs. (0.45 kg)
- 7.5" H x 4.5" W x 1.5" D (190 mm x 114 mm x 38 mm)
- One year warranty

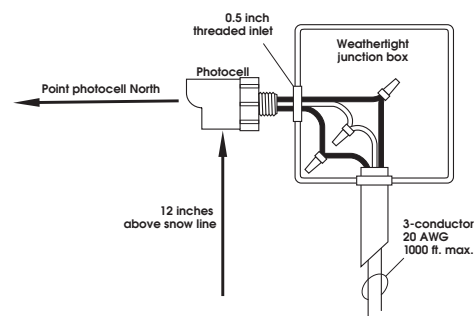
Controls and Installation

Photocontrol Module Keypad



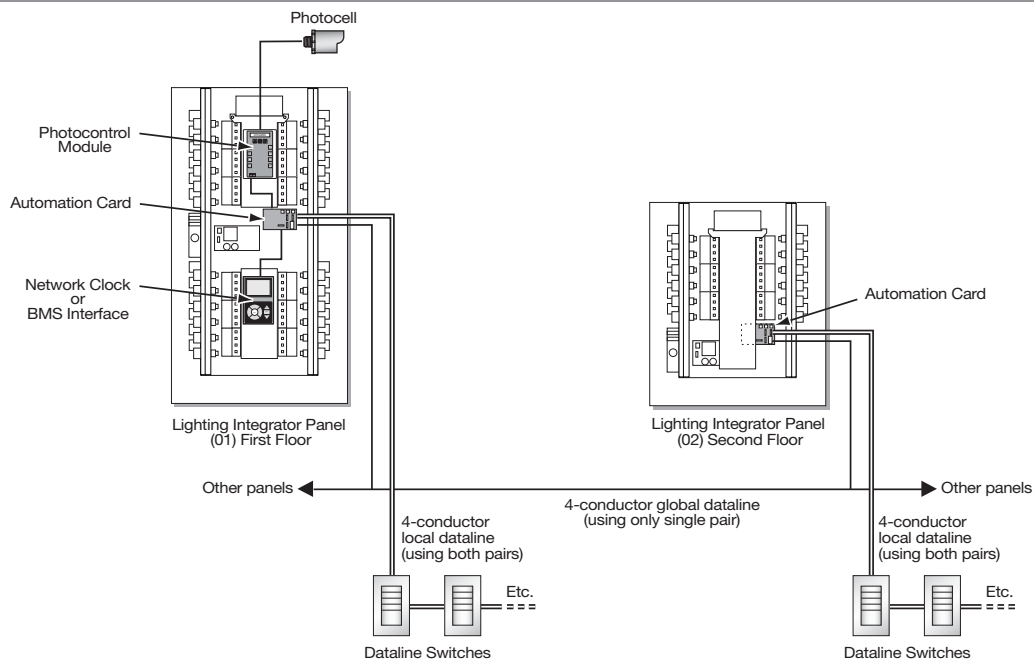
Users can control up to eight separate channels (A-H). The LCD displays user-selected light levels set for specific channels as well as real time photocell footcandle readings.

Mounting the Photocell



System Layout

LIA System with Photocontrol Package



Ordering Information

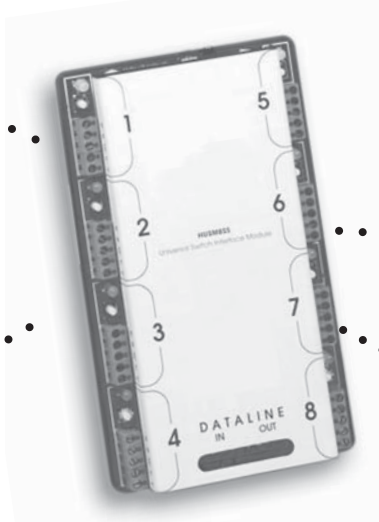
Catalog No.	Description
<input type="checkbox"/> HPCP8SS	Photocontrol Package with Photosensor for LI Automation
Network Clock or BMS Interface required for operation with Photocontrol Package:	
<input type="checkbox"/> HCLK8SS	Network Clock/Programmer for LI Automation
<input type="checkbox"/> HBMS8SS	BMS Interface Module for LI Automation

Universal Switch Interface Module (USM) for LI Automation

Dataline module enables any switch or contact closure to operate like Dataline Switch

Supports up to eight switching groups with bi-color status LEDs

On/Off or pattern group control



Simplifies wiring of standard switches

On/Off push button override for each group

Installs in any LIA panel or accessory enclosure with local dataline

PROJECT
LOCATION/TYPE

Product Overview

Description

The Universal Switch Interface Module (USM) is an optional device for use with standard switches and Lighting Integrator Automation (LIA) panels. The USM emulates an 8-button Dataline Switch, allowing any standard switch or other dry contact closure device to control relays in an LIA network.

Operation

With eight universal inputs to accept connections from external switches or devices, the USM emulates the function of an 8-button Dataline Switch. Users may wire any standard 2- or 3-wire momentary or maintained switch to these inputs so that each input terminal of the USM operates just like a Dataline Switch button. Similarly, users install, document, and smartwire the USM like a Dataline Switch in an LIA network.

Simplified Installation

The USM mounts on the LIA panel's DIN rail and can be installed in any LIA panel or accessory enclosure on the network. The USM can be easily programmed via smartwiring or by using the LIA Network Clock as a field programmer. When used in LICA panels, the USM can be programmed with WinControl software.

Applications

The USM enables virtually any type of switching device to control lighting groups. For instance, the USM can provide floor- or facility-wide control as well as visual status capabilities when used with pilot light push-button switches at a facility override station. Via the USM, an override station operator can control any relay, group of relays, or channel in any panel in an LIA system. Furthermore, standard switches can be "clustered" near a USM unit and wired to it, reducing the number of wiring conductor runs back to the panel.

Features

- Emulates the function of an 8-button Dataline Switch
- Choice of dataline connections including plug connector for factory cable or screw terminals for field connection
- Bi-color status LED for each group (red = All ON, green = mixed status, no color = All OFF)
- Enables integration of simple inputs from other building systems (i.e., HVAC or security) into LIA system
- Eliminates multiple home run wiring when standard switches are included in a network
- Isolated dry contact relays provide status feed back for other systems
- Easy reconfiguration of lighting groups using smartwiring, an innovation that connects occupant switches to individual relays via push-button programming rather than hardwiring

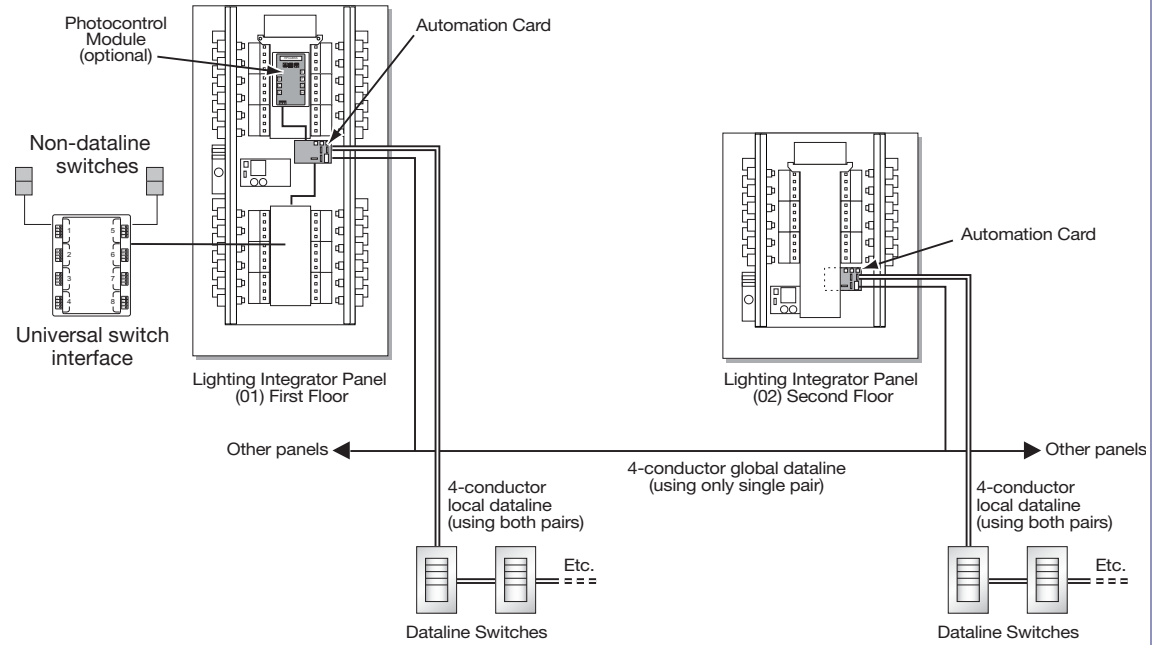


Specifications

- Power consumption from the lighting control panel 200 mA at 24 VAC
- Two-wire isolated dry contact status feedback (1 amp, 24 VAC/VDC) for each of eight switching groups
- Maximum of two modules per panel or accessory enclosure
- DIN rail mounting in LIA panels or accessory panels; factory connection cable included
- Eight inputs accepting any 2- or 3-wire switch input or contact closure (momentary or maintained)
- Dimensions: 7.5" H x 4.5" W x 1.5" D (190 mm x 114 mm x 38 mm)
- Weight: 1 lb./0.45 kg
- Environmental: Operating temperature range 32-139°F (0-60°C), 5-95% RH non-condensing
- One year warranty

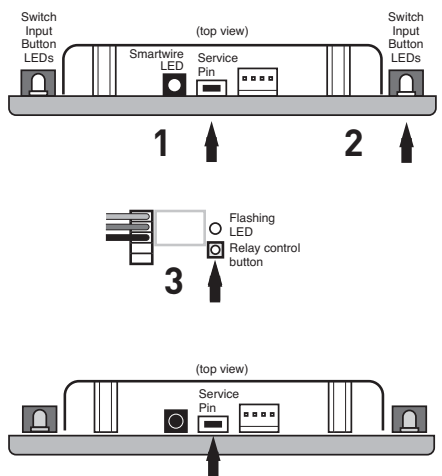
System Layout

Lighting Integrator System with USM



Programming

Smartwiring with a Universal Switch Module



- 1 Press Service Pin (smartwire LED flashes once, all switch input button LEDs begin flashing).
- 2 Press switch input button to be programmed. (Selected button LED continues to flash, other LEDs stop flashing.)
- 3 Press relay control button(s) to add or delete from group.
- 4 Press service pin again (all LEDs stop flashing).

Ordering Information

Catalog No.	Description
<input type="checkbox"/> HUSM8SS	Universal Switch Interface Module for LI Automation
Wire	
<input type="checkbox"/> HDLW4	4-conductor data communications wire
<input type="checkbox"/> HSSW3	Standard switch wire, 3-conductor, 20 AWG

Dataline Switch for LI Automation and Complete Control



Pushbutton control for single relays, groups of relays, and/or channels in Lighting Integrator panel systems

Screwless wallplate and removable lens caps for labeling

Pilot light LEDs for visual status feedback



1-, 2-, 4-, and 8-button configurations

Locator light bar for visibility when dark

Local dataline compatibility provides easy installation and operation

PROJECT
LOCATION/TYPE

Product Overview

Description

The Lighting Integrator (LI) Dataline Switch (HDLsXSS) is designed for use with LI Automation (LIA), LI Complete Control (LICA), and LI DMX (LIDA) panels. It offers flexible and user-friendly lighting control of a single relay or a group of relays in one panel or a network of panels.

Operation

Dataline Switches install into standard wallboxes and connect to an LIA/LICA/LIDA panel via dual twisted pair digital bus wiring. Each switch unit contains one master button and up to eight individual switch buttons which can be individually programmed (smartwired) to control relays or groups of relays. Individual switch buttons are programmed directly from WinControl software on LICA systems or by lifting the switch covers to uncover the smartwiring buttons on LIA and LIDA systems. Pressing these buttons (see Switch Programming and Wiring) sends a unique digital code that identifies the buttons and switch to the panel. The buttons can then be assigned to a relay or a group of relays. The master button is programmed via DIP switches on the back of the switch with a choice of functions.

Control Capabilities

Dataline switches can be used with LIA, LICA, and LIDA systems. In LIA systems, buttons can be programmed to control either a group of relays in a single panel or a channel in one or more panels. In LICA systems, the buttons may also control system-wide group codes.

Applications

Multiple Dataline Switches connect together and to a panel via 4-conductor data communications wiring (also referred to as the local dataline). This reduces the wiring required by conventional switches, since up to 63 devices per panel can share the dataline. Dataline Switches are ideal for commercial office or other buildings where individual occupant lighting control needs are paramount. These switches are flexible enough to accommodate individual needs while facilitating efficient, area-wide automated lighting control. The "cleaning" scenario enables maintenance crews to control needed lighting without interfering with the needs of individuals working after hours.

Features

- Works with with LIA, LICA, and LIDA systems
- Bi-color pilot light status LEDs indicates relay states for each button (red = All On, green = mixed state, no color = All Off)
- Locator light bar for finding switch in the dark
- Optional key lock version for public locations
- Optional cleaning control scenario
- Optional On Only setting to prevent inadvertently turning lights off when used in common areas
- Master button with programmable configurations (Restore/All Off; All Off, All On/ All Off, or Disabled)
- Available in white, ivory, almond, and gray



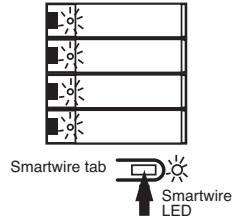
Specifications

- Standard wallbox mounting, non-gangable
- Removable switch button lens caps accommodate 3/8" (9mm) laminated tape
- Custom engraving available
- Environmental: Operating temperature range 32 to 139°F (0 to 60°C), 5-95% RH noncondensing
- Dimensions: 4.5" x 2.75" x 1.8" (69.8mm x 114.3mm x 46mm) HxWxD for 1-, 2-, and 4-button switch; 4.5" x 4.5" x 1.8" (114.3mm x 114.8mm x 46mm) HxWxD for 8-button switch
- One-year warranty

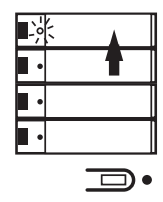
Switch Programming and Wiring

Smartwiring a Dataline Switch

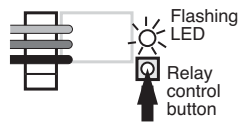
1 Remove wallplate and Press Smartwire tab once. Smartwire LED flashes once. All switch button LEDs begin flashing.



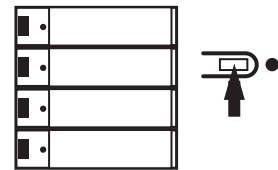
2 Press switch button to be programmed. Selected button LED continues to flash. Other LEDs stop flashing.



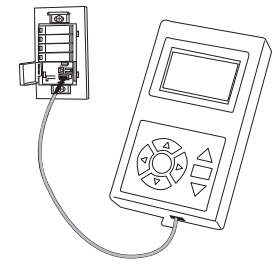
3 Press relay control button to add or delete from group.



4 Press Smartwire tab again. All LEDs stop flashing. Smartwiring is completed. Repeat for other buttons as needed.

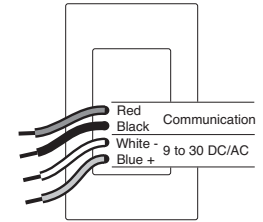


Switch Programming



Users can program Dataline Switches in the field with the Network Clock (if using WinControl, Network Clock is not used).

Dataline Switch Wiring



4-conductor data communications wire (HDLW4)

Ordering Information

Catalog No.	Color	Description	Catalog No.	Color	Description	Size	Power Consumption
<input type="checkbox"/> HDLS1SS-7	White	Single Dataline Switch	<input type="checkbox"/> HDLS1SSK-7	White	Keyed Single Dataline Switch	Single-gang	45 mA
<input type="checkbox"/> HDLS1SS-2	Ivory		<input type="checkbox"/> HDLS1SSK-2	Ivory			
<input type="checkbox"/> HDLS1SS-4	Light Almond		<input type="checkbox"/> HDLS1SSK-4	Light Almond			
<input type="checkbox"/> HDLS1SS-9	Gray		<input type="checkbox"/> HDLS1SSK-9	Gray			
<input type="checkbox"/> HDLS2SS-7	White	Dual Dataline Switch	<input type="checkbox"/> HDLS2SSK-7	White	Keyed Dual Dataline Switch	Single-gang	50 mA
<input type="checkbox"/> HDLS2SS-2	Ivory		<input type="checkbox"/> HDLS2SSK-2	Ivory			
<input type="checkbox"/> HDLS2SS-4	Light Almond	[2 individual buttons + Master button]	<input type="checkbox"/> HDLS2SSK-4	Light Almond	[2 individual buttons + Master button]		
<input type="checkbox"/> HDLS2SS-9	Gray		<input type="checkbox"/> HDLS2SSK-9	Gray			
<input type="checkbox"/> HDLS4SS-7	White	Quad Dataline Switch	<input type="checkbox"/> HDLS4SSK-7	White	Keyed Quad Dataline Switch	Single-gang	55 mA
<input type="checkbox"/> HDLS4SS-2	Ivory		<input type="checkbox"/> HDLS4SSK-2	Ivory			
<input type="checkbox"/> HDLS4SS-4	Light Almond	[4 individual buttons + Master button]	<input type="checkbox"/> HDLS4SSK-4	Light Almond	[4 individual buttons + Master button]		
<input type="checkbox"/> HDLS4SS-9	Gray		<input type="checkbox"/> HDLS4SSK-9	Gray			
<input type="checkbox"/> HDLS8SS-7	White	Octal Dataline Switch	<input type="checkbox"/> HDLS4SSK-7	White	Keyed Octal Dataline Switch	Double-gang	75 mA
<input type="checkbox"/> HDLS8SS-2	Ivory	[8 individual buttons + Master button]	<input type="checkbox"/> HDLS4SSK-2	Ivory	[8 individual buttons + Master button]		
<input type="checkbox"/> HDLS8SS-4	Light Almond		<input type="checkbox"/> HDLS4SSK-4	Light Almond			
<input type="checkbox"/> HDLS8SS-9	Gray		<input type="checkbox"/> HDLS4SSK-9	Gray			

Accessory Enclosure for LI Automation Level

Enclosure for Lighting Integrator accessory devices

Installs anywhere on Lighting Integrator network



Connectors and terminals for easy installation of network devices

Hinged cover with locking latch

Connections for global and local datalines and power supply

PROJECT
LOCATION/TYPE

Product Overview

Description

The HACCBX is a surface-mounted accessory enclosure for low voltage components. It is designed to simplify remote mounting of accessories used in Watt Stopper Lighting Integrator Automation (LIA) panels.

Features

- Enclosure and hinged "shoebox" cover with locking latch mechanism
- Compatible with LI power supply (HUPSM) for providing additional power
- Accessory plate with DIN rail
- Circuit board that provides dataline and power connections

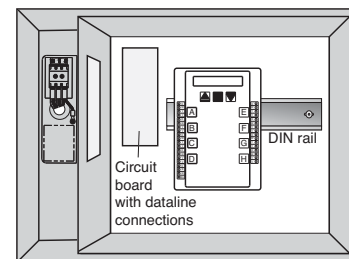
Specifications

- DIN rail, mounting plate, and frame for mounting dataline modules, non-DIN rail devices, and optional power supply
- Dimensions: 12.13" H x 17.5" W x 4.88" D (308mm x 444mm x 124mm)
- Shipping weight: 23 lbs. (10.43 kg.)
- One year warranty
- UL and CUL listed

Capacity & Controls

Users may install an accessory enclosure at any point on an LIA network, as long as twisted pair communications wiring (also referred to as a dataline) limitations are taken into consideration. The enclosure holds up to two system devices, such as a Network Clock, BMS Interface Module, Photocontrol Module, or Universal Switch Module. For convenience, the enclosure contains a circuit board with terminals for quickly connecting dataline devices to the system. Users can access two 4-pin connectors and two 4-wire terminals for connecting dataline devices requiring power, such as dataline switches. In addition, the enclosure contains separate 2-wire terminals for panel-to-panel data communications wiring.

Accessory Enclosure Interior



The Accessory Enclosure includes DIN rail mounting in the low voltage section, non-DIN rail mounting plate, and line voltage section.

Catalog No.	Description
<input type="checkbox"/> HACCBX	Accessory Enclosure
Optional accessory:	
<input type="checkbox"/> HUPSM	Power Supply Module

Ordering Information



Lighting Integrator with DMX512 Interface Level

In theatrical applications, such as auditoriums and theaters, the convenience of controlling all lighting from a single system ensures that non-stage lighting is controlled along with theatrical lighting cues. LID panels enable this level of integration. The LIDA option provides DMX512 theatrical control as well as the additional functionality of LI Automation Level dataline switches.

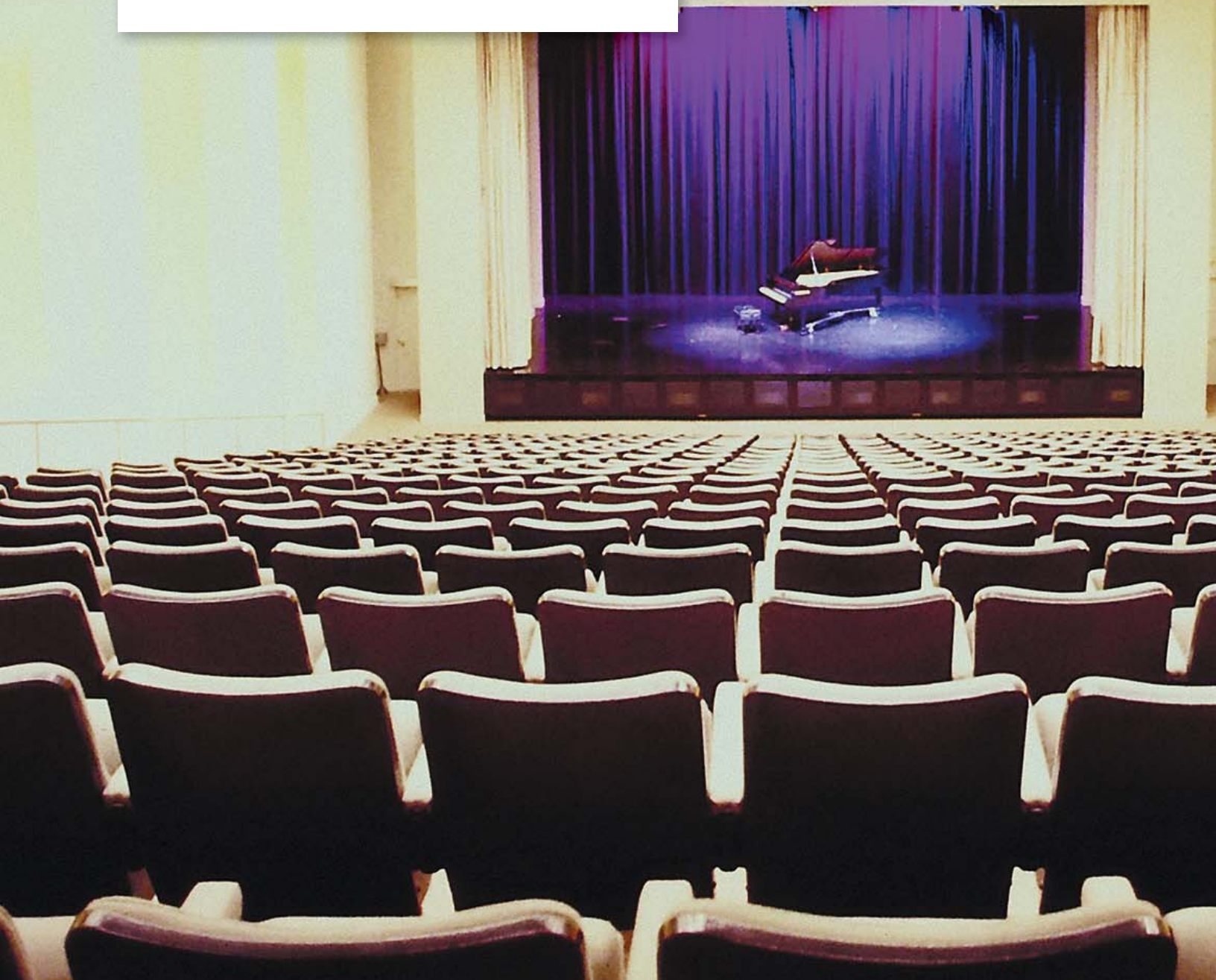




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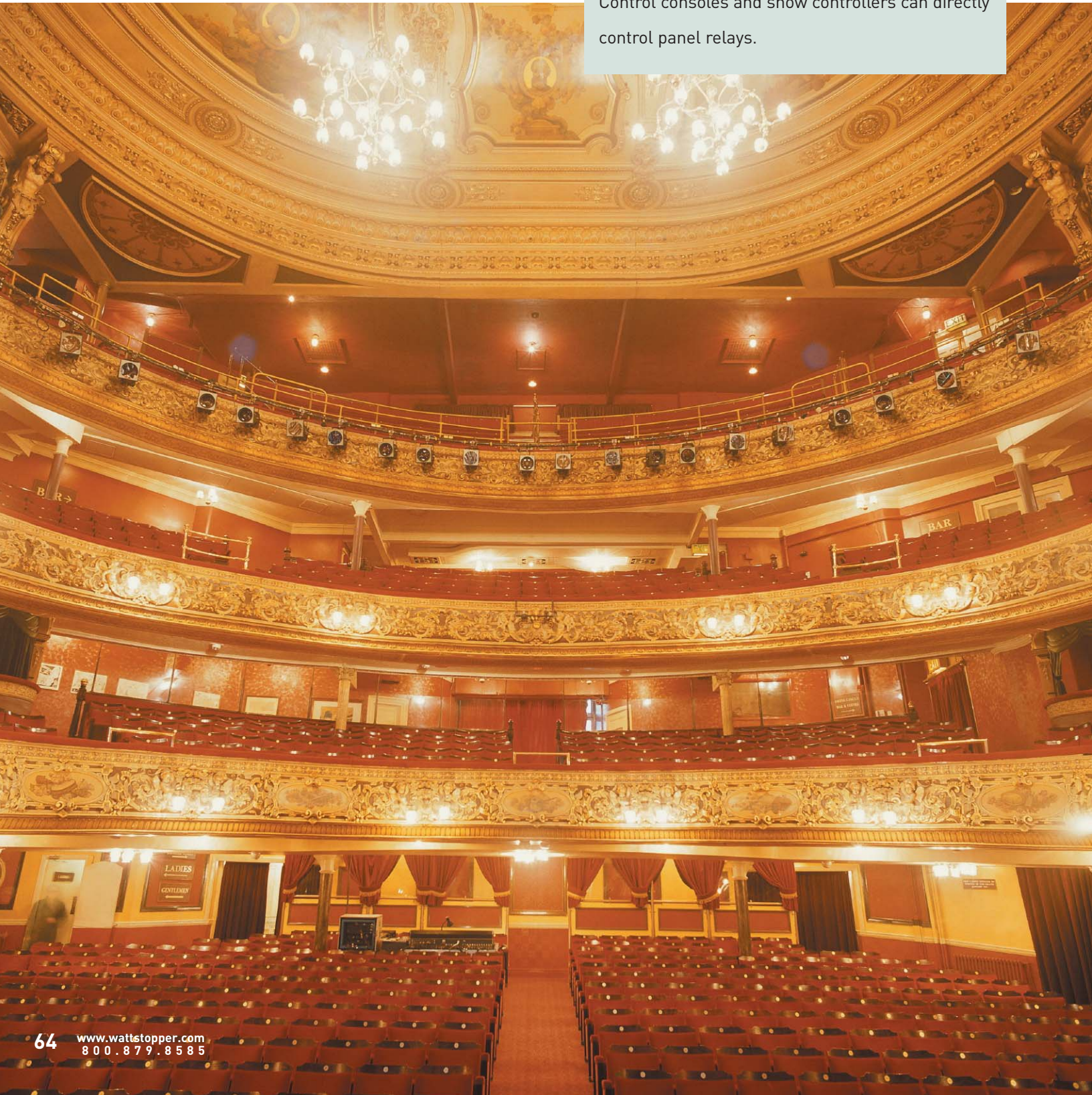


 **WattStopper**

 **legrand®**

Coordinate control of regular and theatrical lighting

In some venues, the ability to integrate control of back of house or work lighting together with specialized theatrical lighting simplifies operation and administration. Using LI panels with DMX integration provides a seamless interface between lighting control and DMX theatrical controls. Control consoles and show controllers can directly control panel relays.



Auditoriums, Ballrooms,
Themed entertainment venues,
Arenas, Houses of worship,
TV/film studios



- Coordinated control of back of house or work lighting with theatrical lighting
- DMX theatrical lighting consoles and controllers have direct control over LI relays
- System allows relays to be located on, locked on, locked off, or controlled locally



LID Highlights

- Optional group switch override setup with smartwired pushbutton programming
- Fail safe operation; relays do not change state if DMX signal lost
- Flexible switch override priority scheme allows switches to be enabled or disabled
- Compatibility with dataline switches affords additional override capability

LI DMX Level Interior (LID8, LID24, LID48, LIDA8, LIDA24, LIDA48)

Control relays from any DMX control device

Allows local switch overrides with priority



Supports one DMX512 universe

PROJECT

LOCATION/TYPE

Product Overview

Description

The Lighting Integrator DMX panel (LID) allows control of relays in Lighting Integrator (LID) panels from theatrical control devices (i.e., control consoles and show controllers).

Operation

Selected relays in an LID panel are each controlled by one DMX control channel. A channel level greater than 50% turns the relay on and a level below 50% turns the relay off. Local override is accommodated via wiring the low voltage switch terminals on the relay driver cards or group switch card. An optional group switch card(s) adds smartwiring capability for eight or 16 group switches (the latter requires two group cards in a 48 size panel). These switches can easily be configured to control groups of relays to match DMX channels containing more than one relay.

Optional local dataline capability (LIDA) offers additional override capability via dataline switches.

Features

- Control all or portion of panel relays via theatrical control system
- Optional group switch override setup with smartwired pushbutton programming
- Fail safe operation; relays do not change state if DMX signal lost

Override Priority

Relays are controlled by a variety of inputs to the panel, including direct wired override switches (LIDA only), direct wired group switches, dataline switches, and the DMX control signal. Relays that are controlled by both DMX and a switch respond based on the following override priority scheme:

DMX level >75%:	relay ON, accept switch override
DMX level <75% but >50%:	relay ON, ignore switch override
DMX level >25% but <50%:	relay OFF, ignore switch override
DMX level <25%:	relay OFF, accept switch override
DMX level 50:	DMX null, no operation performed, accept

Applications

Applications include auditoriums, ballrooms, themed entertainment venues, arenas, churches, and TV/film studios.

- Flexible switch override priority scheme
- Compatibility with optional dataline switches affords additional override capability

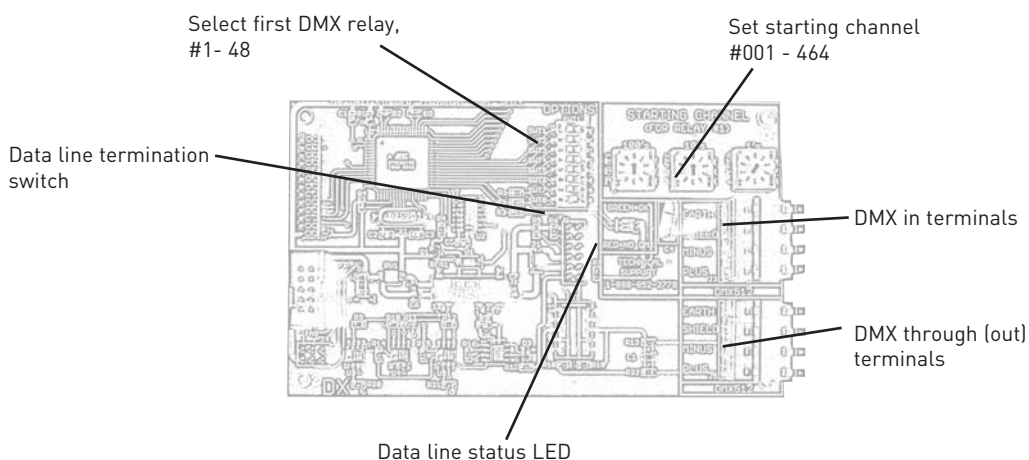


Specifications

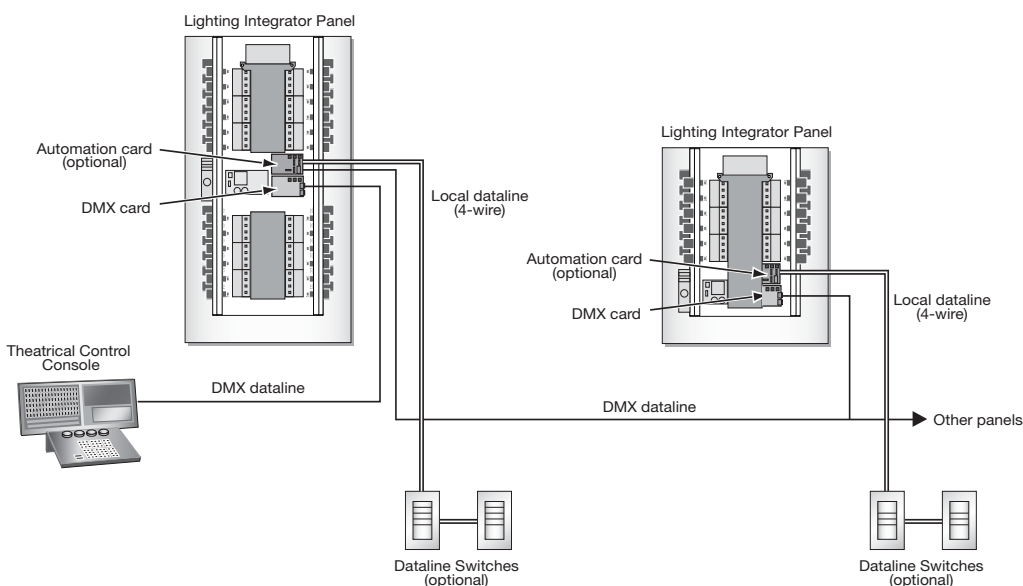
- Terminal connection for DMX in and DMX through (out)
- Starting channel number set via three rotary selector switches, max address is 464 (512 - 48)
- Select starting relay for DMX range of relays for control (#1- 48) using DIP switches #1 - 6
- LED status indicators (Red LED = power on, no DMX data, Green LED = DMX data true)
- RS485 com optically isolated with 500 volt minimum breakdown
- Integral end of line termination selected via DIP switch position 8
- One year warranty

System Layout & Wiring

LI DMX512 Card



LID Panel Network with DMX Interface





General LI Information

Description

Watt Stopper/Legrand's Lighting Integrator (LI) is a low voltage, relay based lighting control panel. The LI interior is shipped as a separate assembly from the panel enclosure and cover to facilitate project rough-in requirements. Interiors are configured as 8, 24 or 48 relay capacity with the quantity of relays installed as called for on the order. The interior field mounts into an appropriate enclosure supplied separately.

Operation

LI relays are driven into a latched on or off state via a 24 volt DC pulse generated by the relay driver cards. A momentary pushbutton is provided for each relay driver circuit to manually force the relay to toggle its state with each button press. An isolated set of contacts in the relays provides a positive status feedback to the relay driver circuits that are annunciated by an LED associated with each relay. Removable terminal blocks allow connection of direct wired low voltage devices for remote control of relays.

- Interior provides complete isolation between line and low voltage when used with a compatible LENC series enclosure
- Individual plug-in, latching style single pole relays with isolated pilot/status contacts
- Integral push button override, status LED, and pilot light output per relay
- Two slots available for optional automation, networking and integration control cards

Operation (cont'd.)

Inputs can be wired to accommodate momentary three wire, momentary two wire (toggle) or maintained contact switches as well as occupancy sensors. The switch input circuits are auto sensing and will automatically configure appropriately when Watt Stopper occupancy sensors are connected.

Group Switching

Group switching provides the unique Watt Stopper Smartwired switching function. This simple button press interface allows any quantity of relays to be assigned quickly to each group switching channel for common on/off control or for pattern (scene) style control. Each of the eight channels is provided with an override pushbutton, LED status indicator and terminals for connection of wall switches and occupancy sensors. Eight and 24 size panels can be ordered with one group switch card (8 channels), 48 size panels can have two group switch cards for a total of 16 channels (8 controllable by scheduling, eight by switching only).

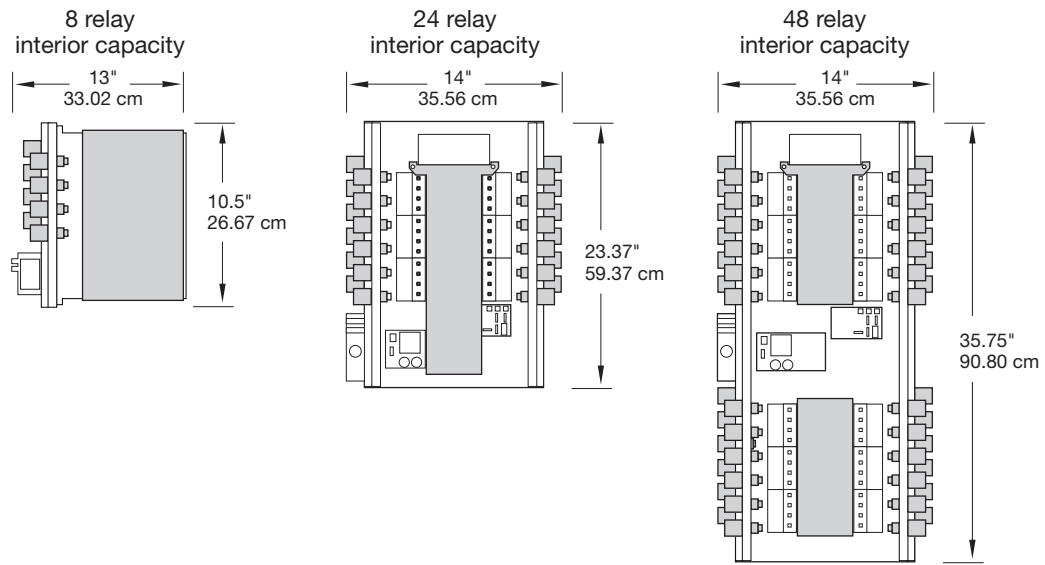
- Supports Watt Stopper occupancy sensor heads without need for separate sensor power packs
- Smartwire feature allows grouping of relays for common control
- DIN rail mounting provided within the Class 2 section for mounting of optional accessories
- Control multi-pole circuits with optional contactors and compatible LENC enclosure
- Optional configuration available for use on emergency lighting circuits



General LI Specifications

- Interior capacity:
 - 8 circuits, up to 8 SPST relays
 - 24 circuits, up to 24 SPST relays
 - 48 circuits, up to 48 SPST relays
- Input voltage options, 120/277V 60 Hz, 120/347V 60 Hz, 240V 50 Hz
- Group switching, eight channels per installed group switching card. One card max per LI8 and LI24. Two cards max LI48.
- Low voltage switch inputs, removable terminal blocks with screw-less connection, configurable for three wire momentary, two wire momentary (toggle), and two wire maintained dry contact switches or Watt Stopper occupancy sensors.
- Accessory power available
 - LI8: 1000 MA @24VAC or 800 MA @ 24VDC
 - LI24 and LI48: 1400 MA @ 24VAC or 800 MA @ 24VDC
- SCCR (short circuit current rating) 14,000 amps with HDR Heavy Duty Relay
- HDR SPST relays:
 - Coil voltage, 24 VDC, pulse ON and pulse OFF
 - Mechanically latched contacts
 - 1/2" 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
 - Endurance: 300,000 mechanical cycles
- Pilot light output, 24 V rectified or 24VAC, other voltages configurable with external power supply
- One year warranty

Panel Interior Dimensions



Ordering Information

Interior Capacity	Installed Options				
	Voltage Options	Relay Count	Group Switch Card	Emergency Relays	Coil Voltage
<input type="checkbox"/> LID8	<input type="checkbox"/> 115/277	<input type="checkbox"/> HDR relays	<input type="checkbox"/> GS cards (max	<input type="checkbox"/> EM relay count	<input type="checkbox"/> 115
<input type="checkbox"/> LID24	<input type="checkbox"/> 115/347	installed (max	1 in 8, 24, 2 in 48)	(max of interior or 24)	<input type="checkbox"/> 240
<input type="checkbox"/> LID48	<input type="checkbox"/> 240	of interior			<input type="checkbox"/> 277
<input type="checkbox"/> LIDA8		capacity)			<input type="checkbox"/> 347
<input type="checkbox"/> LIDA24					
<input type="checkbox"/> LIDA48					

Lighting Integrator Panel Enclosures

16-gauge all steel tubs with galvaneal 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

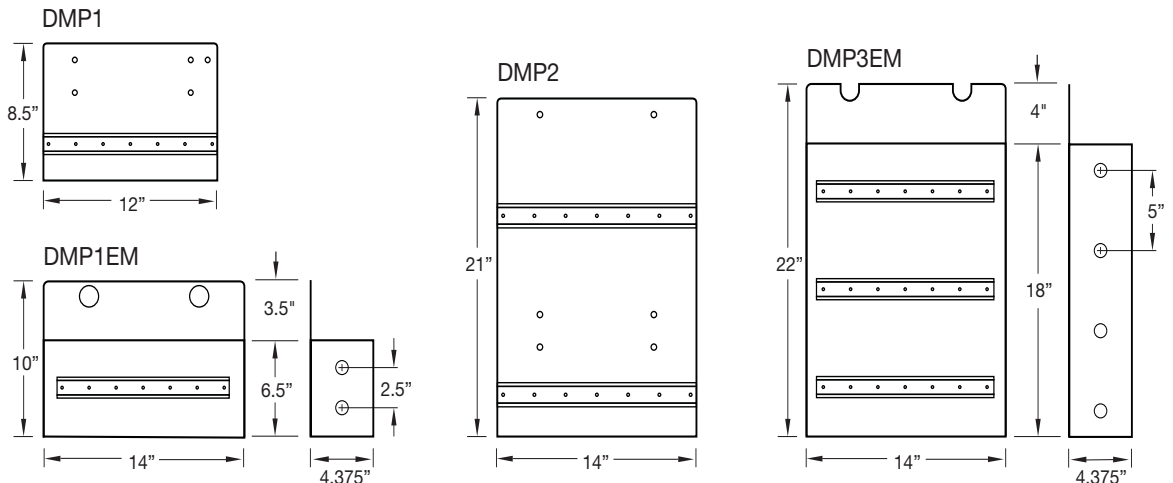
Description

Lighting Integrator panel enclosures are designed specifically to work with all configurations of LI 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.

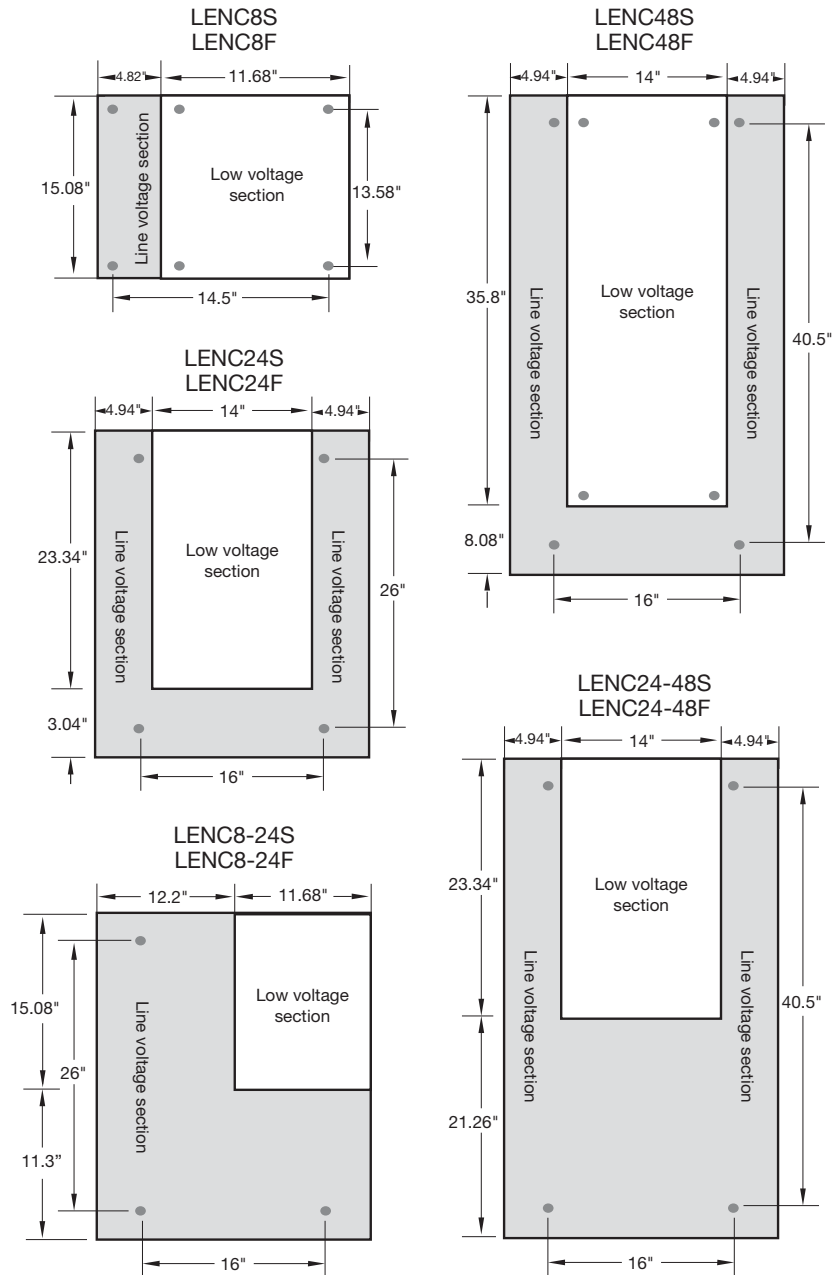
Configurations

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



Enclosure Dimensions



Ordering Information

Catalog No.	Description	Overall Dimensions (HxWxD)	Overall Weight
<input type="checkbox"/> LENC8S	8 relay capacity, surface mount	15.08" x 16.5" x 4.625"	18 lbs
<input type="checkbox"/> LENC8F	8 relay capacity, flush mount	15.08" x 16.5" x 4.625"	20 lbs
<input type="checkbox"/> LENC8-24S	8 relay capacity with 24 size tub, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC8-24F	8 relay capacity with 24 size tub, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24S	24 relay capacity, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC24F	24 relay capacity, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24-48S	24 relay capacity with 48 size tub, surface mount	44.6" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC24-48F	24 relay capacity with 48 size tub, flush mount	44.6" x 23.88" x 4.625"	66 lbs
<input type="checkbox"/> LENC48S	48 relay capacity, surface mount	43.88" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC48F	48 relay capacity, flush mount	43.88" x 23.88" x 4.625"	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.

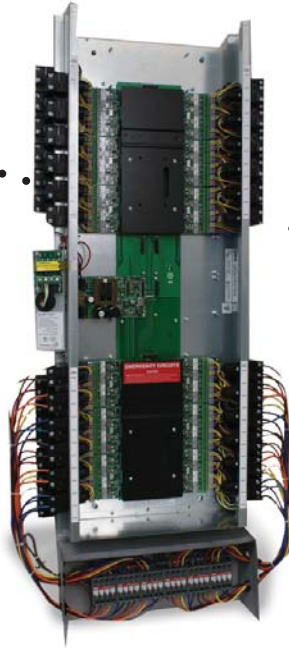


Lighting Integrator Emergency Relay Panel Option

UL924 listed for use on emergency circuits

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

Meets NEC (NFPA70) and 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

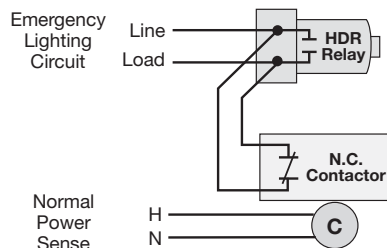
Description

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



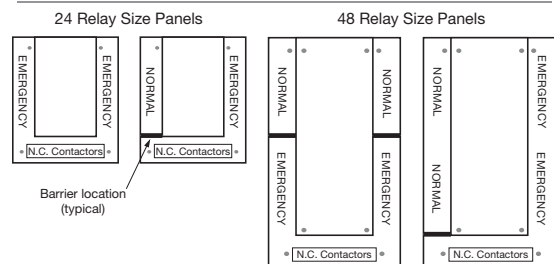
Applications

The Lighting Integrator 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

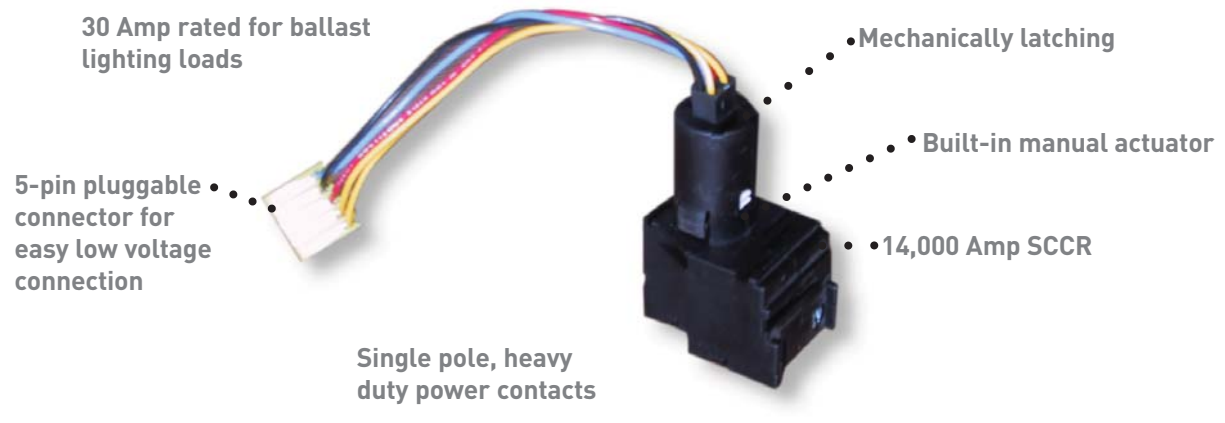


Description

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



HDR Low Voltage Relay



PROJECT
LOCATION/TYPE

Product Overview

Description

This low voltage relay is used for control of lighting circuits and other electrical loads in Watt Stopper's Lighting Integrator control panels. Momentary, low voltage pulses from the panel's control system switch the relays on or off. Mechanical latching operation results in lower power consumption. The relay will remain in the last switched state in the event of a power loss. A built-in manual actuator allows lights to be turned on in the event of a panel or relay failure. The relay mounts into a standard knockout and comes with a pluggable cable for easy panel connection. Typically, users specify the number of relays and the panel is assembled and shipped with this quantity.

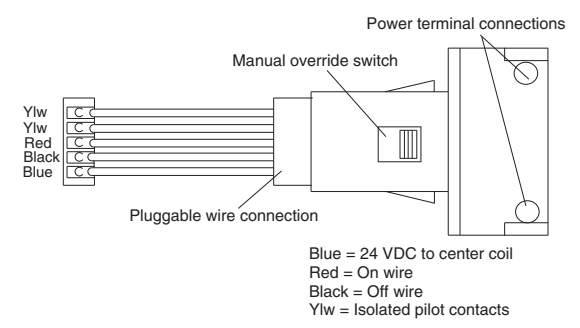
Specifications

- 1/2" knockout mounting
- Accepts wire gauge #10 - #14 AWG, copper wire, solid or stranded
- Operating voltage 24 VDC
- Isolated pilot relay contacts, .5 Amp @ 30 VAC/DC for status feedback
- Integral manual override
- Rated 14,000 amps Short Circuit Current Rating (SCCR)
- Suitable for use with all HID ballasted loads
- Expected service life is over 25 years at nominal load and cycle rate
- Dimensions: 3.2"x 1.3"x .85" (81.3 mm x 33.0 mm x 21.6 mm)
- UL listed, CSA certified; five year warranty

Ratings

- Ballast load 30 Amp @ 277 VAC (including HID) 20 Amp @ 347 VAC
- Tungsten load 20 Amp @ 120 VAC
- Resistive load 30 Amp @ 347 VAC
- Motor load 1 1/2 HP @ 120 VAC

HDR Wiring



Ordering Information

Catalog No.	Description
<input type="checkbox"/> HDR5P	Mechanically Latching Relay with 5-pin Plug-in Connector, Pilot Contacts, Override Switch

Dataline Switch for LI Automation and Complete Control

Pushbutton control for single relays, groups of relays, and/or channels in Lighting Integrator panel systems

Screwless wallplate and removable lens caps for labeling

Pilot light LEDs for visual status feedback



1-, 2-, 4-, and 8-button configurations

Locator light bar for visibility when dark

Local dataline compatibility provides easy installation and operation

PROJECT

LOCATION/TYPE

Product Overview

Description

The Lighting Integrator (LI) Dataline Switch (HDLsXSS) is designed for use with LI Automation (LIA), LI Complete Control (LICA), and LI DMX (LIDA) panels. It offers flexible and user-friendly lighting control of a single relay or a group of relays in one panel or a network of panels.

Operation

Dataline Switches install into standard wallboxes and connect to an LIA/LICA/LIDA panel via dual twisted pair digital bus wiring. Each switch unit contains one master button and up to eight individual switch buttons which can be individually programmed (smartwired) to control relays or groups of relays. Individual switch buttons are programmed directly from WinControl software on LICA systems or by lifting the switch covers to uncover the smartwiring buttons on LIA and LIDA systems. Pressing these buttons (see Switch Programming and Wiring) sends a unique digital code that identifies the buttons and switch to the panel. The buttons can then be assigned to a relay or a group of relays. The master button is programmed via DIP switches on the back of the switch with a choice of functions.

Control Capabilities

Dataline switches can be used with LIA, LICA, and LIDA systems. In LIA systems, buttons can be programmed to control either a group of relays in a single panel or a channel in one or more panels. In LICA systems, the buttons may also control system-wide group codes.

Applications

Multiple Dataline Switches connect together and to a panel via 4-conductor data communications wiring (also referred to as the local dataline). This reduces the wiring required by conventional switches, since up to 63 devices per panel can share the dataline. Dataline Switches are ideal for commercial office or other buildings where individual occupant lighting control needs are paramount. These switches are flexible enough to accommodate individual needs while facilitating efficient, area-wide automated lighting control. The "cleaning" scenario enables maintenance crews to control needed lighting without interfering with the needs of individuals working after hours.

Features

- Works with with LIA, LICA, and LIDA systems
- Bi-color pilot light status LEDs indicates relay states for each button (red = All On, green = mixed state, no color = All Off)
- Locator light bar for finding switch in the dark
- Optional key lock version for public locations
- Optional cleaning control scenario
- Optional On Only setting to prevent inadvertently turning lights off when used in common areas
- Master button with programmable configurations (Restore/All Off; All Off, All On/ All Off, or Disabled)
- Available in white, ivory, almond, and gray



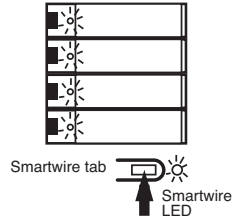
Specifications

- Standard wallbox mounting, non-gangable
- Removable switch button lens caps accommodate 3/8" (9mm) laminated tape
- Custom engraving available
- Environmental: Operating temperature range 32 to 139°F (0 to 60°C), 5-95% RH noncondensing
- Dimensions: 4.5" x 2.75" x 1.8" (69.8mm x 114.3mm x 46mm) HxWxD for 1-, 2-, and 4-button switch; 4.5" x 4.5" x 1.8" (114.3mm x 114.8mm x 46mm) HxWxD for 8-button switch
- One-year warranty

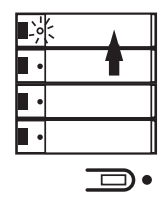
Switch Programming and Wiring

Smartwiring a Dataline Switch

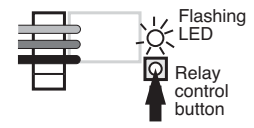
1 Remove wallplate and Press Smartwire tab once. Smartwire LED flashes once. All switch button LEDs begin flashing.



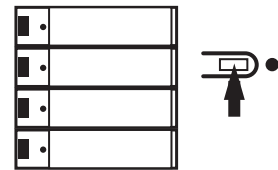
2 Press switch button to be programmed. Selected button LED continues to flash. Other LEDs stop flashing.



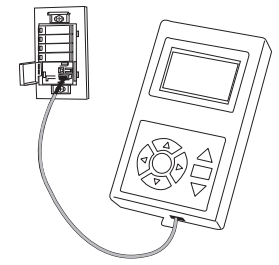
3 Press relay control button to add or delete from group.



4 Press Smartwire tab again. All LEDs stop flashing. Smartwiring is completed. Repeat for other buttons as needed.

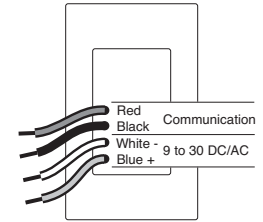


Switch Programming



Users can program Dataline Switches in the field with the Network Clock (if using WinControl, Network Clock is not used).

Dataline Switch Wiring



4-conductor data communications wire (HDLW4)

Ordering Information

Catalog No.	Color	Description	Catalog No.	Color	Description	Size	Power Consumption
<input type="checkbox"/> HDLS1SS-7	White	Single Dataline Switch	<input type="checkbox"/> HDLS1SSK-7	White	Keyed Single Dataline Switch	Single-gang	45 mA
<input type="checkbox"/> HDLS1SS-2	Ivory		<input type="checkbox"/> HDLS1SSK-2	Ivory			
<input type="checkbox"/> HDLS1SS-4	Light Almond		<input type="checkbox"/> HDLS1SSK-4	Light Almond			
<input type="checkbox"/> HDLS1SS-9	Gray		<input type="checkbox"/> HDLS1SSK-9	Gray			
<input type="checkbox"/> HDLS2SS-7	White	Dual Dataline Switch (2 individual buttons + Master button)	<input type="checkbox"/> HDLS2SSK-7	White	Keyed Dual Dataline Switch (2 individual buttons + Master button)	Single-gang	50 mA
<input type="checkbox"/> HDLS2SS-2	Ivory		<input type="checkbox"/> HDLS2SSK-2	Ivory			
<input type="checkbox"/> HDLS2SS-4	Light Almond		<input type="checkbox"/> HDLS2SSK-4	Light Almond			
<input type="checkbox"/> HDLS2SS-9	Gray		<input type="checkbox"/> HDLS2SSK-9	Gray			
<input type="checkbox"/> HDLS4SS-7	White	Quad Dataline Switch (4 individual buttons + Master button)	<input type="checkbox"/> HDLS4SSK-7	White	Keyed Quad Dataline Switch (4 individual buttons + Master button)	Single-gang	55 mA
<input type="checkbox"/> HDLS4SS-2	Ivory		<input type="checkbox"/> HDLS4SSK-2	Ivory			
<input type="checkbox"/> HDLS4SS-4	Light Almond		<input type="checkbox"/> HDLS4SSK-4	Light Almond			
<input type="checkbox"/> HDLS4SS-9	Gray		<input type="checkbox"/> HDLS4SSK-9	Gray			
<input type="checkbox"/> HDLS8SS-7	White	Octal Dataline Switch (8 individual buttons + Master button)	<input type="checkbox"/> HDLS8SSK-7	White	Keyed Octal Dataline Switch (8 individual buttons + Master button)	Double-gang	75 mA
<input type="checkbox"/> HDLS8SS-2	Ivory		<input type="checkbox"/> HDLS8SSK-2	Ivory			
<input type="checkbox"/> HDLS8SS-4	Light Almond		<input type="checkbox"/> HDLS8SSK-4	Light Almond			
<input type="checkbox"/> HDLS8SS-9	Gray		<input type="checkbox"/> HDLS8SSK-9	Gray			

Lighting Integrator with Native BACnet Level

In applications where owners prefer to coordinate control of building lighting systems directly from a building automation system, LI BACnet panels (LIB) enable easy integration of lighting controls with industry standard MS/TP BACnet based systems.





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BACnet is a registered trademark of ASHRAE



Integrate lighting control with building automation

LI integrates seamlessly with building automation systems using the BACnet protocol. So users can coordinate lighting control with other systems for optimal energy savings. Or coordinate lighting automation with facility security and access control for simplified operations. LI BACnet panels provide integral lighting control logic that enables control compliant with state energy codes based on ASHRAE 90.1 and IECC. The BAS schedules, monitors status, and overrides lighting freely while the LI panel coordinates lighting-specific functions such as blink warning, local override switches, and afterhour delay timers.

Commercial
office buildings,
public buildings,
universities



Typical operational sequences involve:

- BAS schedule sends Occupied signal to appropriate lighting zones at onset of work day and associated lighting turns on. Wall switch time delays associated with respective zones are disabled by the LIB panel to prevent unwanted timing out during regular hours.
- At end of scheduled work day, BAS scheduler sends Unoccupied signal to appropriate zones. Appropriate lighting blinks off and on to warn occupants of impending shutoff. Occupants may activate an override by pressing wall switches. After five minutes, all zone lighting that has not been overridden by local occupants turns off.
- When afterhour time delays expire, the remaining lighting again blinks to warn occupants. If no occupants remain in the building and no additional overrides are activated, after five minutes all lighting turns off.
- All additional occupant overrides initiated during afterhour periods will be subject to afterhour time delays set for each respective channel. This ensures that lighting turns off without requiring intervention by the BAS.

LIB Highlights

- Easy installation and verification of lighting circuits by electrical contractor without requiring services of BAS installation professional
- Industry standard MS/TP twisted pair networking allows LI panels to “piggyback” on BAS network or be configured on a separate network segment
- Easy grouping of relays via either smartwiring (pushbutton programming) or from BACnet workstation using standard BACnet objects and properties
- BAS required only for scheduled parameters (Occupied/Unoccupied); all other lighting control functions (e.g., blink warn, wall switch override, afterhour time delay) managed by LIB panel

LI Native BACnet Level Interior (LIB8, LIB24, LIB48)



Native level integration between lighting control panel and BAS via BACnet

Configure and control LI panel with any BACnet workstation

No proprietary configuration tools or software needed for commissioning



Industry standard MS/TP communication

Integral blink warnings and override time delays handled by LI panel automatically

PROJECT
LOCATION/TYPE

Product Overview

Description

The Lighting Integrator Native BACnet panel (LIB) enables native level integration of lighting control between the LIB panel and any building automation system that supports the ANSI/ASHRAE BACnet communication protocol. The LIB allows the BAS to schedule, monitor status, and override lighting freely without the need to support lighting-specific functions (e.g., blink warning, local override switches, and delay timers).

Operation

With the LIB panel system, panel relays and channels are automatically exposed to the BAS as standard BACnet objects. Relays can be individually commanded and monitored for their actual/on/off status, or be combined into channels and commanded and monitored as a group. This permits a building to be conveniently divided into lighting control zones, greatly reducing the number of individual objects a BAS must administer. LIB panels perform all typical lighting control sequence of operations without continuous supervision by the BAS.

Lighting Control Specific Functions

The LIB panel provides integral automation capabilities that enable lighting control compliant with state energy codes based on ASHRAE 90.1 and IECC. Its distributed processing also ensures operation of primary lighting control functions, such as wall switch overrides, blink warnings, and afterhours time out of overrides.

Applications

In most applications, a BAS will set lighting zones to occupied/unoccupied status through a schedule or a workstation command. The LIB panel then coordinates local switch overrides, time delays and blink warnings based on this status.

Features

- Integral automation enables BAS to easily provide code compliant lighting control
- Distributed processing ensures operation of primary lighting control functions
- Compatible with Watt Stopper occupancy sensors 2nd standard low voltage switch
- Supports Auto On, or energy saving Manual On function for lighting in areas scheduled as occupied
- Supports AS-100 Automatic Control Switch sweep off function



Specifications

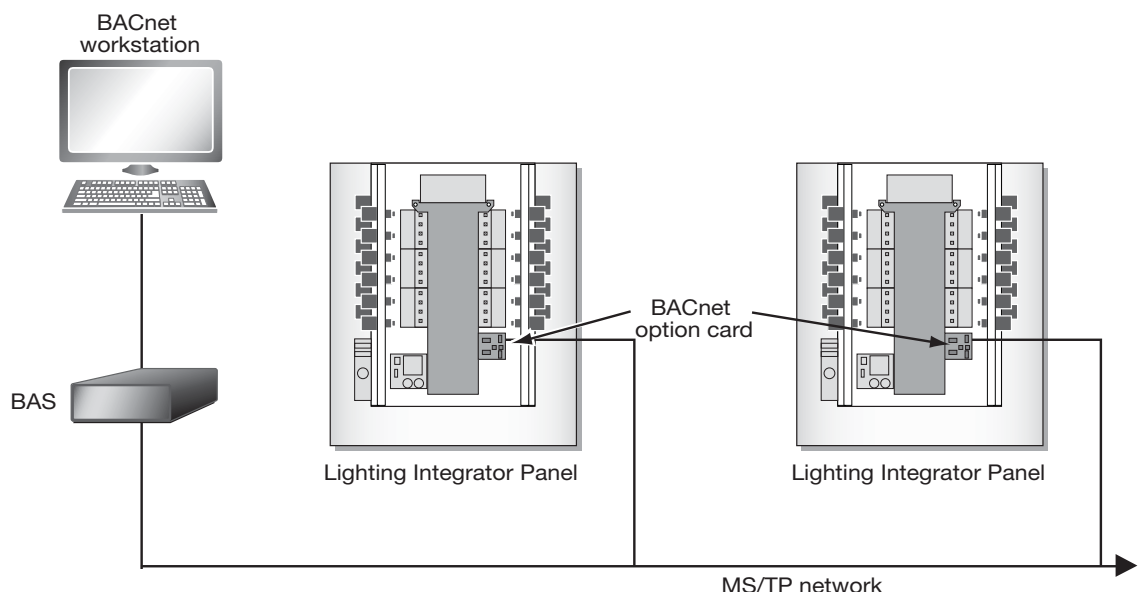
- MS/TP communications port with removable 120 ohm "end of line" termination jumper
- 9600/19200/38400/76800 baud rates, selectable
- MS/TP MAC address selectable, 0 - 127
- Device ID selectable, 0 - 999 or 86000 - 86999
- Compatible with direct wired low voltage switches for relay override; not compatible with HDLS series dataline switches
- Description property writable for all objects
- One year warranty

BACnet Objects Supported

- Binary Output, Instance range 01-48 (1per relay), monitor and control relays ON (1), OFF (NULL)
- Binary Value, Instance range 01-08 (1 per channel), command channels to occupied (1) or unoccupied (0) status
- Multi State Value, Instance range 01-08 (1 per channel), read channel relays' status as ALL ON, ALL OFF, BLINK, or MIXED state
- Binary Value, Instance range 101-108 (1 per channel), sets channel relays to manual-ON (1) or auto-ON (0)
- Analog Value, Instance range 101-108 (1 per channel), sets blink warning time for channel relays as five minutes (5) or no blink (0), or AS-100 switch (250)
- Analog Value, Instance range 201-208 (1 per channel), sets time delay for each channel relay (1-240 minutes) or no time delay (0)
- Analog Value, Instance range 01-48 (one per relay), sets relay to follow channel A-H (1-8)

Native BACnet Card and System Layout

LIB Panel Network





General LI Information

Description

Watt Stopper/Legrand's Lighting Integrator (LI) is a low voltage, relay based lighting control panel. The LI interior is shipped as a separate assembly from the panel enclosure and cover to facilitate project rough-in requirements. Interiors are configured as 8, 24 or 48 relay capacity with the quantity of relays installed as called for on the order. The interior field mounts into an appropriate enclosure supplied separately.

Operation

LI relays are driven into a latched on or off state via a 24 volt DC pulse generated by the relay driver cards. A momentary pushbutton is provided for each relay driver circuit to manually force the relay to toggle its state with each button press. An isolated set of contacts in the relays provides a positive status feedback to the relay driver circuits that are annunciated by an LED associated with each relay. Removable terminal blocks allow connection of direct wired low voltage devices for remote control of relays.

- Interior provides complete isolation between line and low voltage when used with a compatible LENC series enclosure
- Individual plug-in, latching style single pole relays with isolated pilot/status contacts
- Integral push button override, status LED, and pilot light output per relay
- Two slots available for optional automation, networking and integration control cards

Operation (cont'd.)

Inputs can be wired to accommodate momentary three wire, momentary two wire (toggle) or maintained contact switches as well as occupancy sensors. The switch input circuits are auto sensing and will automatically configure appropriately when Watt Stopper occupancy sensors are connected.

Group Switching

Group switching provides the unique Watt Stopper Smartwired switching function. This simple button press interface allows any quantity of relays to be assigned quickly to each group switching channel for common on/off control or for pattern (scene) style control. Each of the eight channels is provided with an override pushbutton, LED status indicator and terminals for connection of wall switches and occupancy sensors. Eight and 24 size panels can be ordered with one group switch card (8 channels), 48 size panels can have two group switch cards for a total of 16 channels (8 controllable by scheduling, eight by switching only).

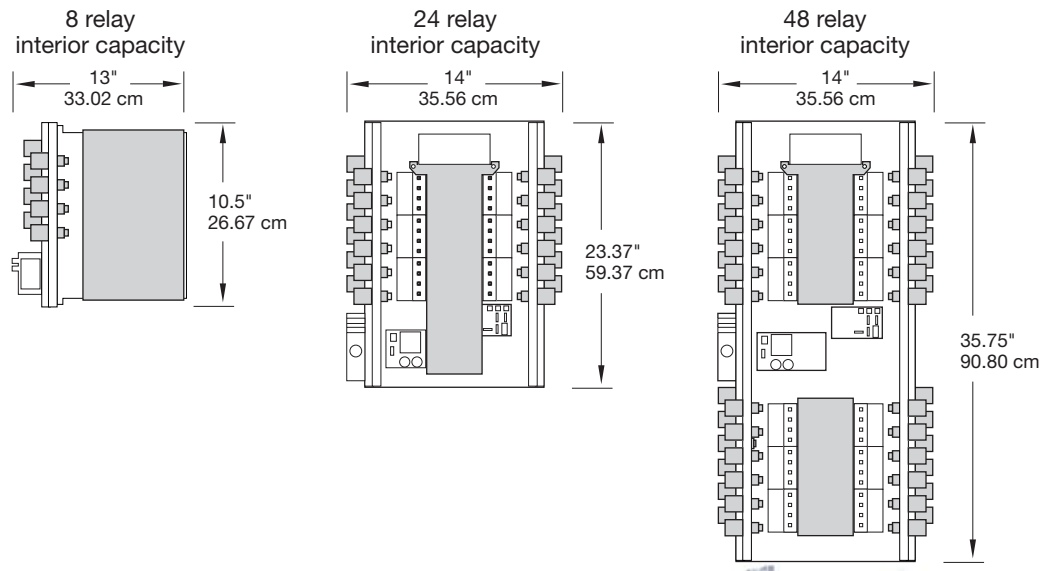
- Supports Watt Stopper occupancy sensor heads without need for separate sensor power packs
- Smartwire feature allows grouping of relays for common control
- DIN rail mounting provided within the Class 2 section for mounting of optional accessories
- Control multi-pole circuits with optional contactors and compatible LENC enclosure
- Optional configuration available for use on emergency lighting circuits



General LI Specifications

- Interior capacity:
 - 8 circuits, up to 8 SPST relays
 - 24 circuits, up to 24 SPST relays
 - 48 circuits, up to 48 SPST relays
- Input voltage options, 120/277V 60 Hz, 120/347V 60 Hz, 240V 50 Hz
- Group switching, eight channels per installed group switching card. One card max per LI8 and LI24. Two cards max LI48.
- Low voltage switch inputs, removable terminal blocks with screw-less connection, configurable for three wire momentary, two wire momentary (toggle), and two wire maintained dry contact switches or Watt Stopper occupancy sensors.
- Accessory power available
 - LI8: 1000 MA @24VAC or 800 MA @ 24VDC
 - LI24 and LI48: 1400 MA @ 24VAC or 800 MA @ 24VDC
- SCCR (short circuit current rating) 14,000 amps with HDR Heavy Duty Relay
- 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
 - Endurance: 300,000 mechanical cycles
- Pilot light output, 24 V rectified or 24VAC, other voltages configurable with external power supply
- One year warranty

Panel Interior Dimensions



Ordering Information

Interior Capacity	Installed Options				
	Voltage Options	Relay Count	Group Switch Card	Emergency Relays	Coil Voltage
<input type="checkbox"/> LIA8 <input type="checkbox"/> LIA24 <input type="checkbox"/> LIA48	<input type="checkbox"/> 115/277 <input type="checkbox"/> 115/347 <input type="checkbox"/> 240	___ HDR relays installed (max of interior capacity)	___ GS cards (max 1 in 8, 24, 2 in 48)	___ EM relay count (max of interior or 24)	<input type="checkbox"/> 115 <input type="checkbox"/> 240 <input type="checkbox"/> 277 <input type="checkbox"/> 347

Lighting Integrator Panel Enclosures

16-gauge all steel tubs with galvaneal 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

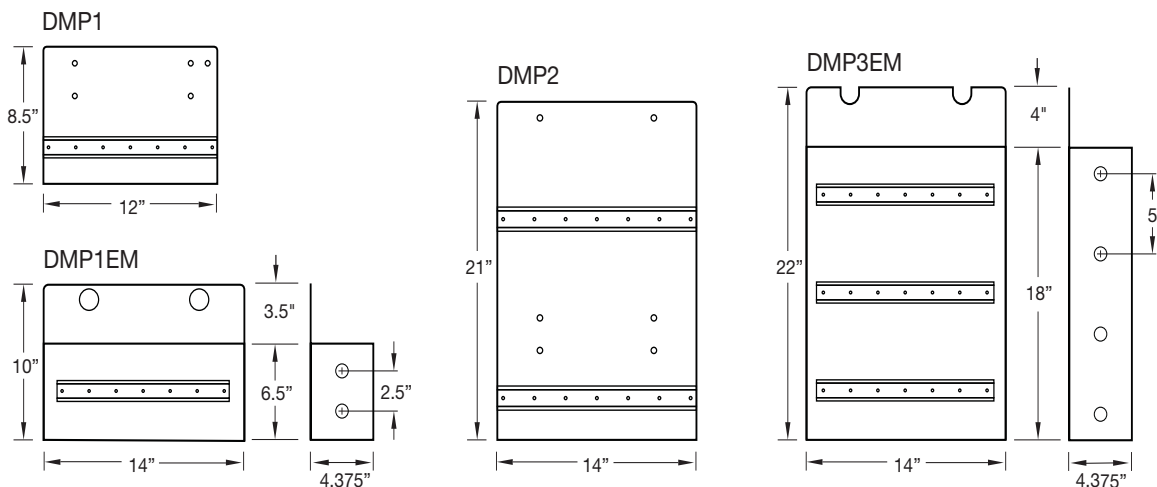
Description

Lighting Integrator panel enclosures are designed specifically to work with all configurations of LI 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.

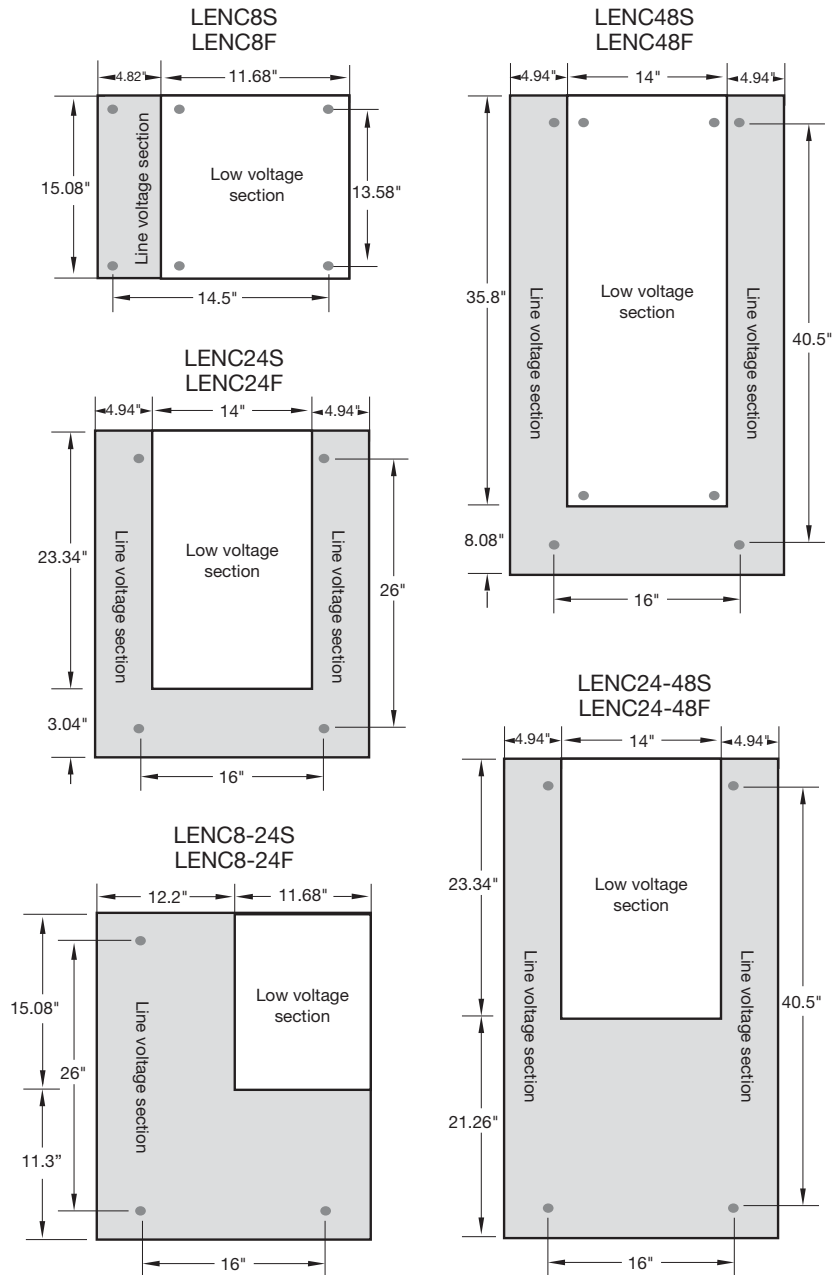
Configurations

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



Enclosure Dimensions



Ordering Information

Catalog No.	Description	Overall Dimensions (HxWxD)	Overall Weight
<input type="checkbox"/> LENC8S	8 relay capacity, surface mount	15.08" x 16.5" x 4.625"	18 lbs
<input type="checkbox"/> LENC8F	8 relay capacity, flush mount	15.08" x 16.5" x 4.625"	20 lbs
<input type="checkbox"/> LENC8-24S	8 relay capacity with 24 size tub, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC8-24F	8 relay capacity with 24 size tub, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24S	24 relay capacity, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC24F	24 relay capacity, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24-48S	24 relay capacity with 48 size tub, surface mount	44.6" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC24-48F	24 relay capacity with 48 size tub, flush mount	44.6" x 23.88" x 4.625"	66 lbs
<input type="checkbox"/> LENC48S	48 relay capacity, surface mount	43.88" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC48F	48 relay capacity, flush mount	43.88" x 23.88" x 4.625"	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.



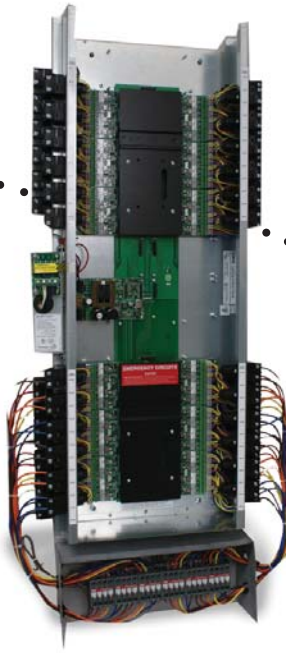


Lighting Integrator Emergency Relay Panel Option

UL924 listed for use on emergency circuits

Factory-assembled interior mounts in standard LI 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

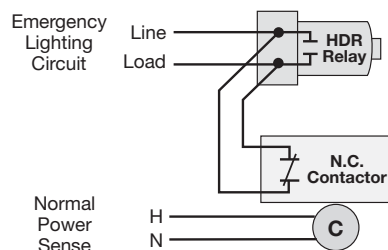
Description

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



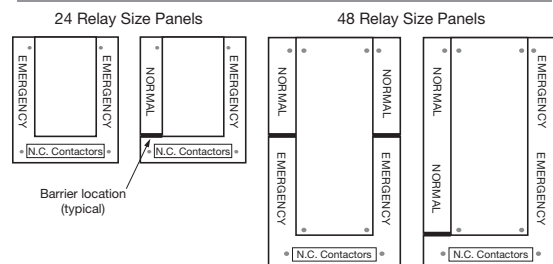
Applications

The Lighting Integrator 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

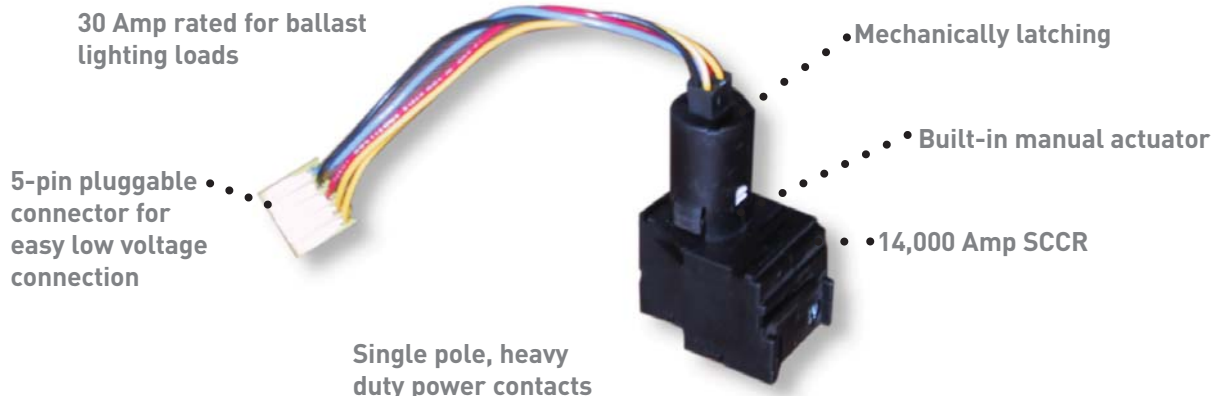


Description

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



HDR Low Voltage Relay



PROJECT
LOCATION/TYPE

Product Overview

Description

This low voltage relay is used for control of lighting circuits and other electrical loads in Watt Stopper's Lighting Integrator control panels. Momentary, low voltage pulses from the panel's control system switch the relays on or off. Mechanical latching operation results in lower power consumption. The relay will remain in the last switched state in the event of a power loss. A built-in manual actuator allows lights to be turned on in the event of a panel or relay failure. The relay mounts into a standard knockout and comes with a pluggable cable for easy panel connection. Typically, users specify the number of relays and the panel is assembled and shipped with this quantity.

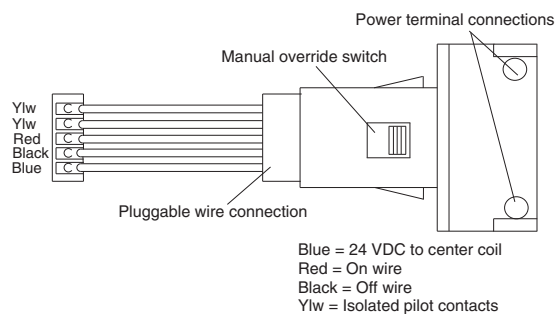
Specifications

- 1/2" knockout mounting
- Accepts wire gauge #10 - #14 AWG, copper wire, solid or stranded
- Operating voltage 24 VDC
- Isolated pilot relay contacts, .5 Amp @ 30 VAC/DC for status feedback
- Integral manual override
- Rated 14,000 amps Short Circuit Current Rating (SCCR)
- Suitable for use with all HID ballasted loads
- Expected service life is over 25 years at nominal load and cycle rate
- Dimensions: 3.2"x 1.3"x .85" (81.3 mm x 33.0 mm x 21.6 mm)
- UL listed, CSA certified; five year warranty

Ratings

- | | |
|------------------|--------------------|
| • Ballast load | 30 Amp @ 277 VAC |
| (including HID) | 20 Amp @ 347 VAC |
| • Tungsten load | 20 Amp @ 120 VAC |
| • Resistive load | 30 Amp @ 347 VAC |
| • Motor load | 1 1/2 HP @ 120 VAC |

HDR Wiring



Ordering Information

Catalog No.	Description
<input type="checkbox"/> HDR5P	Mechanically Latching Relay with 5-pin Plug-in Connector, Pilot Contacts, Override Switch

Lighting Integrator Low Voltage Switching Panel

When the application demands simple remote control of lighting circuits, a basic LI panel offers robust control paired with flexibility. Exclusive HDR heavy duty relays ensure reliable performance while compatibility with a wide range of low voltage switches, occupancy sensors and daylighting sensors offers control flexibility.





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 **WattStopper**

 **legrand®**

LI provides robust, low-voltage switching control

The basic LI low voltage switching panel system provides flexible remote control of lighting circuits, utilizing the exclusive HDR heavy duty relay (**see page 93**). The system is compatible with a wide range of low voltage switches, as well as other control devices such as occupancy sensors and daylighting controls.

Smartwiring, a capability unique to LI, enables users to quickly group relays into control channels for common control of multiple circuits.



Basic LI Highlights

- Industry-exclusive heavy duty relay (HDR) for robust switching control
- Smartwired switching for pushbutton programming of relays into groups for common control
- Compatible with all standard low voltage switch types
- Compatible with Watt Stopper low voltage occupancy sensors
- Option for contactors for multi-phase load control



Industrial Plant

- remote switching of large number of circuits where automatic control is not practical or safe and code requirements for automated shutoff are not relevant



Correctional Facility

- remote lighting control via low voltage switches for secure areas
- facilitate lighting control from touch bolt devices or other security switches

Lighting Integrator Lighting Control Interior(LI8, LI24,LI48)

Models for 8, 24 or 48 circuits of control

Industry-exclusive heavy duty relay



Compatible with wide range of low voltage control devices (e.g., switches, occupancy sensors and daylight sensors)

Smartwiring enables easy grouping of relays into channels for common control

PROJECT

LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand's Lighting Integrator (LI) is a low voltage, relay based lighting control panel. Panel interiors are configured as 8, 24 or 48 relay capacity with the quantity of relays installed as called for on the order. The interior mounts into the appropriate enclosure. The LI panel enclosure and cover are shipped separately from the panel interior to facilitate project rough-in requirements.

Operation

LI relays are driven to a latched on or off position via a 24 volt DC pulse generated by the relay driver cards. A momentary pushbutton is provided for each relay to manually toggle the relay's state with each button press. An isolated contact in the relays provides positive status feedback to the relay driver circuits, which are annunciated by an LED associated with each relay. Removable color-coded terminal blocks allow connection of direct wired low voltage devices for remote control of relays.

Operation (cont'd.)

Inputs can be wired to accommodate maintained or momentary three wire or two wire inputs. The switch input circuits are auto sensing and will automatically configure appropriately when Watt Stopper occupancy sensors are connected.

Smartwiring

A unique Watt Stopper switching function, this simple button press interface allows any quantity of relays to be assigned quickly to each group switching channel for common on/off control or for pattern (scene) control. Each of the eight channels is provided with an override pushbutton, LED status indicator and terminals for connection of wall switches and occupancy sensors. An eight or 24 size panel can be ordered with one group switch card (8 channels), 48 size panels can have two group switch cards for a total of 16 channels.

Features

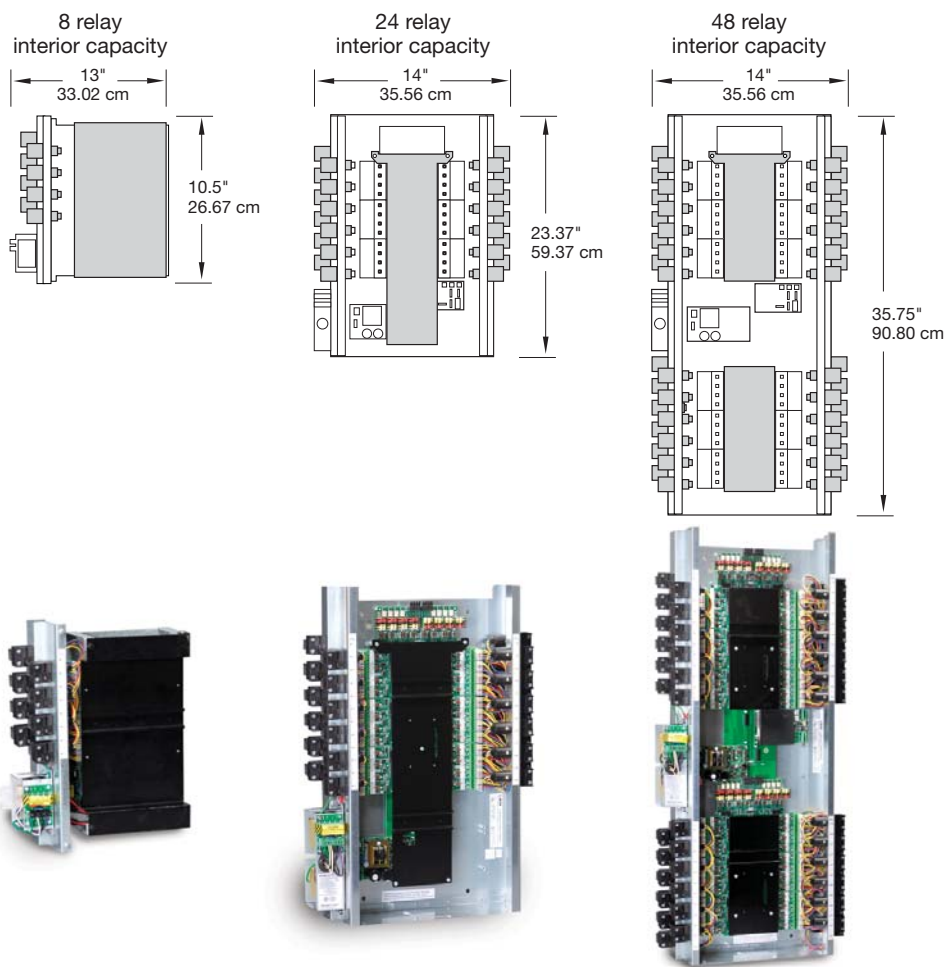
- Interior provides complete isolation between line and low voltage when used with a compatible LENC series enclosure
- Individual plug-in, latching style single pole relays with isolated pilot/status contacts
- Integral push button override, status LED, and pilot light output per relay
- Two slots available for optional automation, networking and integration control cards
- Supports Watt Stopper low voltage occupancy sensors without need for separate sensor power packs
- Smartwiring feature allows grouping of relays for common control
- DIN rail mounting provided within the Class 2 section for mounting of optional accessories
- Control multi-pole circuits with optional contactors and compatible LENC enclosure
- Optional configuration available for use on emergency lighting circuits



Specifications

- Interior capacity:
 - 8 circuits, up to 8 SPST relays
 - 24 circuits, up to 24 SPST relays
 - 48 circuits, up to 48 SPST relays
- Input voltage options, 120/277V 60 Hz, 120/347V 60 Hz, 240V 50 Hz
- SCCR (short circuit current rating) 14,000 amps with HDR Heavy Duty Relay
- Low voltage switch inputs, removable terminal blocks with tool-less connection, configurable for three wire momentary, two wire momentary (toggle), and two wire maintained dry contact switches or Watt Stopper occupancy sensors.
- Accessory power available
 - LI8: 1000 MA @24VAC or 800 MA @ 24VDC
 - LI24 and LI48: 1400 MA @ 24VAC or 800 MA @ 24VDC
- Pilot light output, 24 V rectified or 24VAC, other voltages configurable with external power supply
- Group switching, eight channels per installed group switching card. One card max per LI8 and LI24. Two cards max LI48.
- HDR SPST relays:
 - Coil voltage, 24 VDC, pulse ON and pulse OFF
 - Mechanically latched contacts
 - 1/2" 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
 - Endurance: 300,000 mechanical cycles
- One year warranty

Panel Interior Dimensions



Ordering Information

Interior Capacity	Installed Options				
	Voltage Options	Relay Count	Group Switch Card	Emergency Relays	Coil Voltage
<input type="checkbox"/> LI8 <input type="checkbox"/> LI24 <input type="checkbox"/> LI48	<input type="checkbox"/> 115/277 <input type="checkbox"/> 115/347 <input type="checkbox"/> 240	___ HDR relays installed (max of interior capacity)	___ GS cards (max 1 in 8, 24, 2 in 48)	___ EM relay count (max of interior or 24)	<input type="checkbox"/> 115 <input type="checkbox"/> 240 <input type="checkbox"/> 277 <input type="checkbox"/> 347

Lighting Integrator Panel Enclosures

16-gauge all steel tubs with galvaneal 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

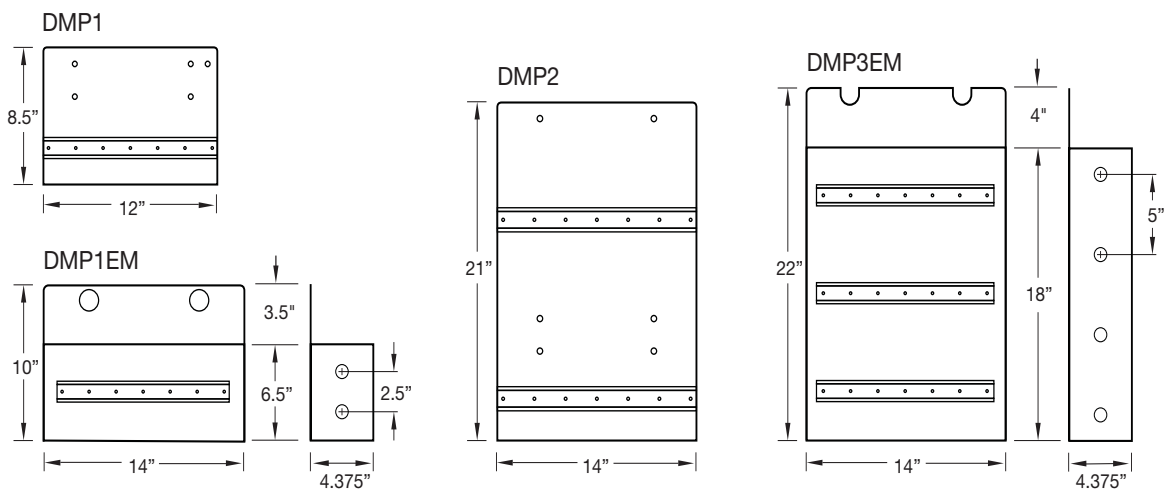
Description

Lighting Integrator panel enclosures are designed specifically to work with all configurations of LI 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.

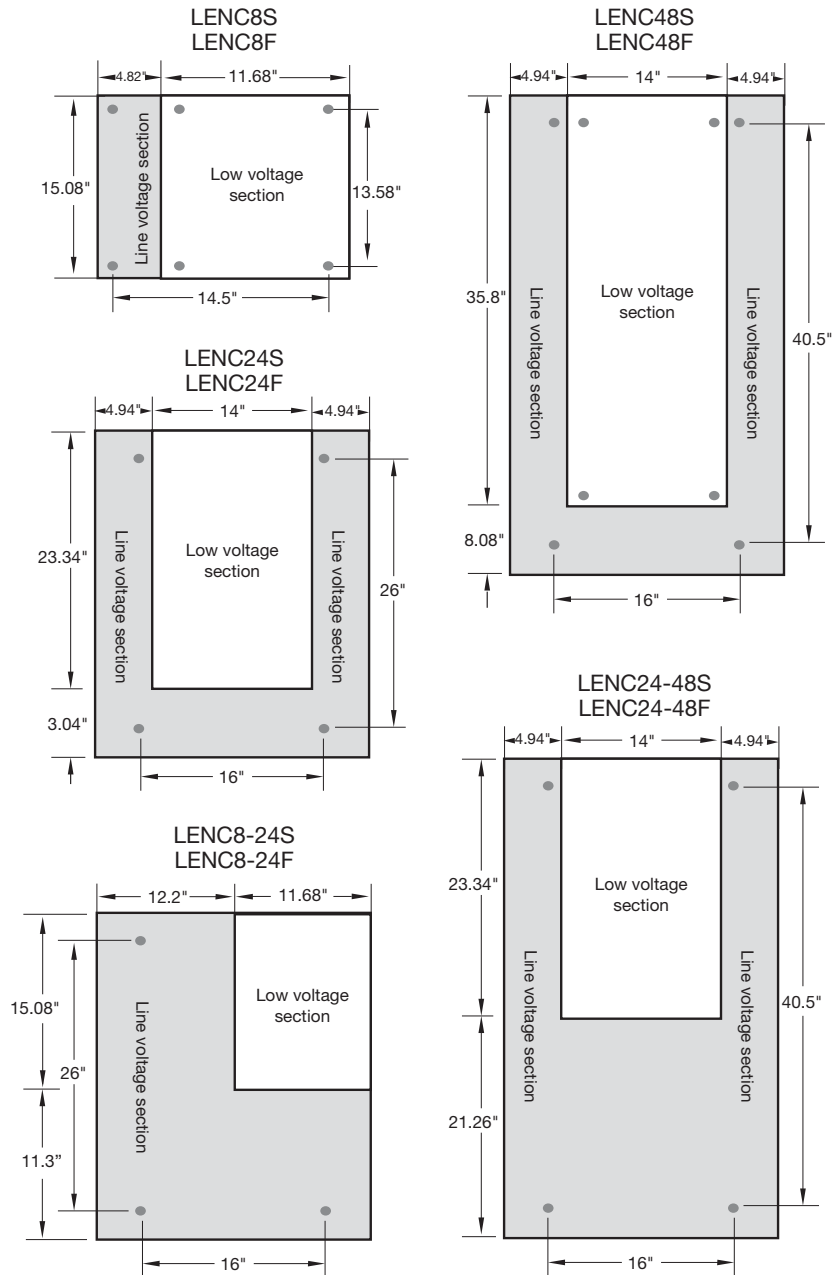
Configurations

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



Enclosure Dimensions



Ordering Information

Catalog No.	Description	Overall Dimensions (HxWxD)	Overall Weight
<input type="checkbox"/> LENC8S	8 relay capacity, surface mount	15.08" x 16.5" x 4.625"	18 lbs
<input type="checkbox"/> LENC8F	8 relay capacity, flush mount	15.08" x 16.5" x 4.625"	20 lbs
<input type="checkbox"/> LENC8-24S	8 relay capacity with 24 size tub, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC8-24F	8 relay capacity with 24 size tub, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24S	24 relay capacity, surface mount	26.38" x 23.88" x 4.625"	45 lbs
<input type="checkbox"/> LENC24F	24 relay capacity, flush mount	26.38" x 23.88" x 4.625"	50 lbs
<input type="checkbox"/> LENC24-48S	24 relay capacity with 48 size tub, surface mount	44.6" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC24-48F	24 relay capacity with 48 size tub, flush mount	44.6" x 23.88" x 4.625"	66 lbs
<input type="checkbox"/> LENC48S	48 relay capacity, surface mount	43.88" x 23.88" x 4.625"	62 lbs
<input type="checkbox"/> LENC48F	48 relay capacity, flush mount	43.88" x 23.88" x 4.625"	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.

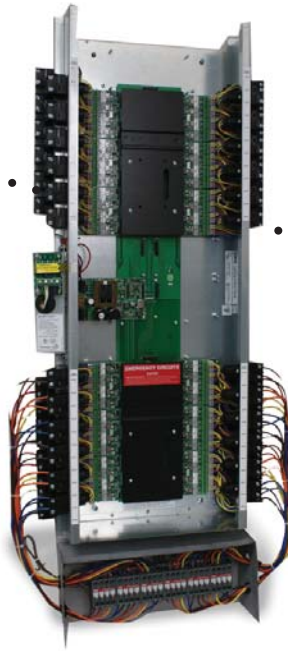


Lighting Integrator Emergency Relay Panel Option

UL924 listed for use on emergency circuits

Factory-assembled interior mounts in standard LI 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

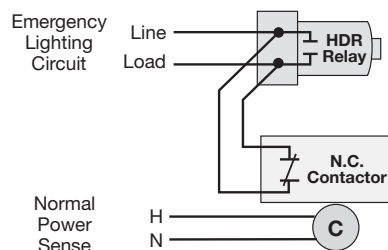
Description

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



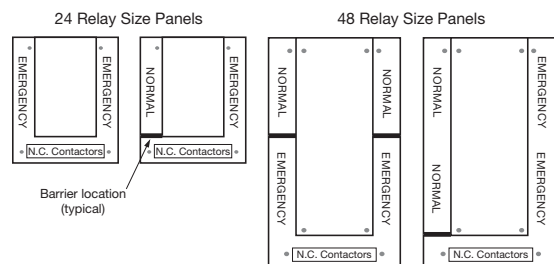
Applications

The Lighting Integrator 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

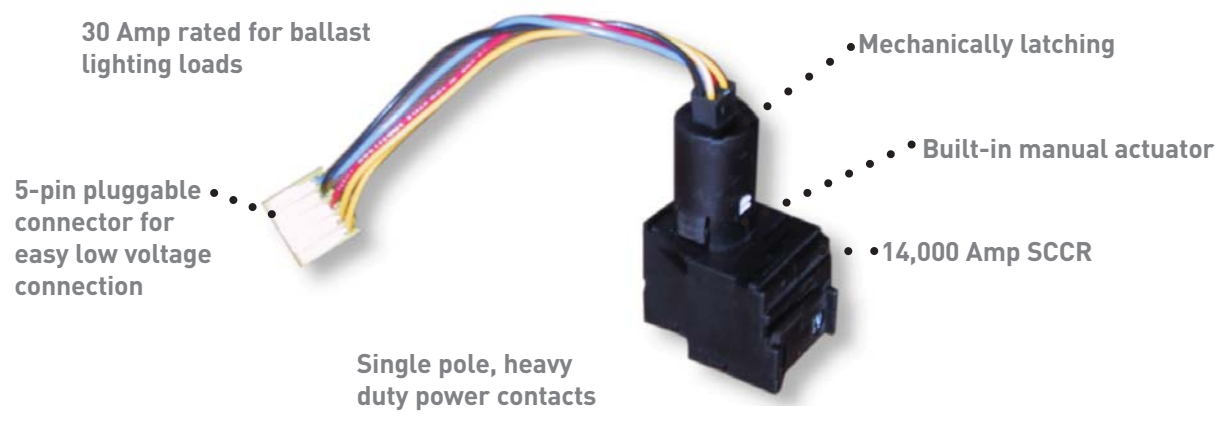


Description

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



HDR Low Voltage Relay



PROJECT
LOCATION/TYPE

Product Overview

Description

This low voltage relay is used for control of lighting circuits and other electrical loads in Watt Stopper's Lighting Integrator control panels. Momentary, low voltage pulses from the panel's control system switch the relays on or off. Mechanical latching operation results in lower power consumption. The relay will remain in the last switched state in the event of a power loss. A built-in manual actuator allows lights to be turned on in the event of a panel or relay failure. The relay mounts into a standard knockout and comes with a pluggable cable for easy panel connection. Typically, users specify the number of relays and the panel is assembled and shipped with this quantity.

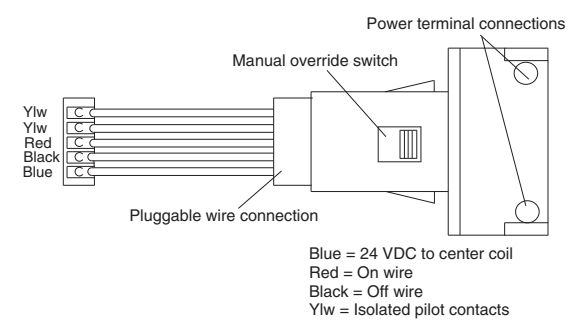
Specifications

- 1/2" knockout mounting
- Accepts wire gauge #10 - #14 AWG, copper wire, solid or stranded
- Operating voltage 24 VDC
- Isolated pilot relay contacts, .5 Amp @ 30 VAC/DC for status feedback
- Integral manual override
- Rated 14,000 amps Short Circuit Current Rating (SCCR)
- Suitable for use with all HID ballasted loads
- Expected service life is over 25 years at nominal load and cycle rate
- Dimensions: 3.2"x 1.3"x .85" (81.3 mm x 33.0 mm x 21.6 mm)
- UL listed, CSA certified; five year warranty

Ratings

- | | |
|------------------|--------------------|
| • Ballast load | 30 Amp @ 277 VAC |
| (including HID) | 20 Amp @ 347 VAC |
| • Tungsten load | 20 Amp @ 120 VAC |
| • Resistive load | 30 Amp @ 347 VAC |
| • Motor load | 1 1/2 HP @ 120 VAC |

HDR Wiring



Ordering Information

Catalog No.	Description
<input type="checkbox"/> HDR5P	Mechanically Latching Relay with 5-pin Plug-in Connector, Pilot Contacts, Override Switch

Lighting Integrator Accessories

Every LI control configuration is compatible with a full range of low voltage switches and control devices to extend automation functionality. Additional accessories, such as contactors and photocells, provide additional control options. Comprehensive services ensure optimal system performance.

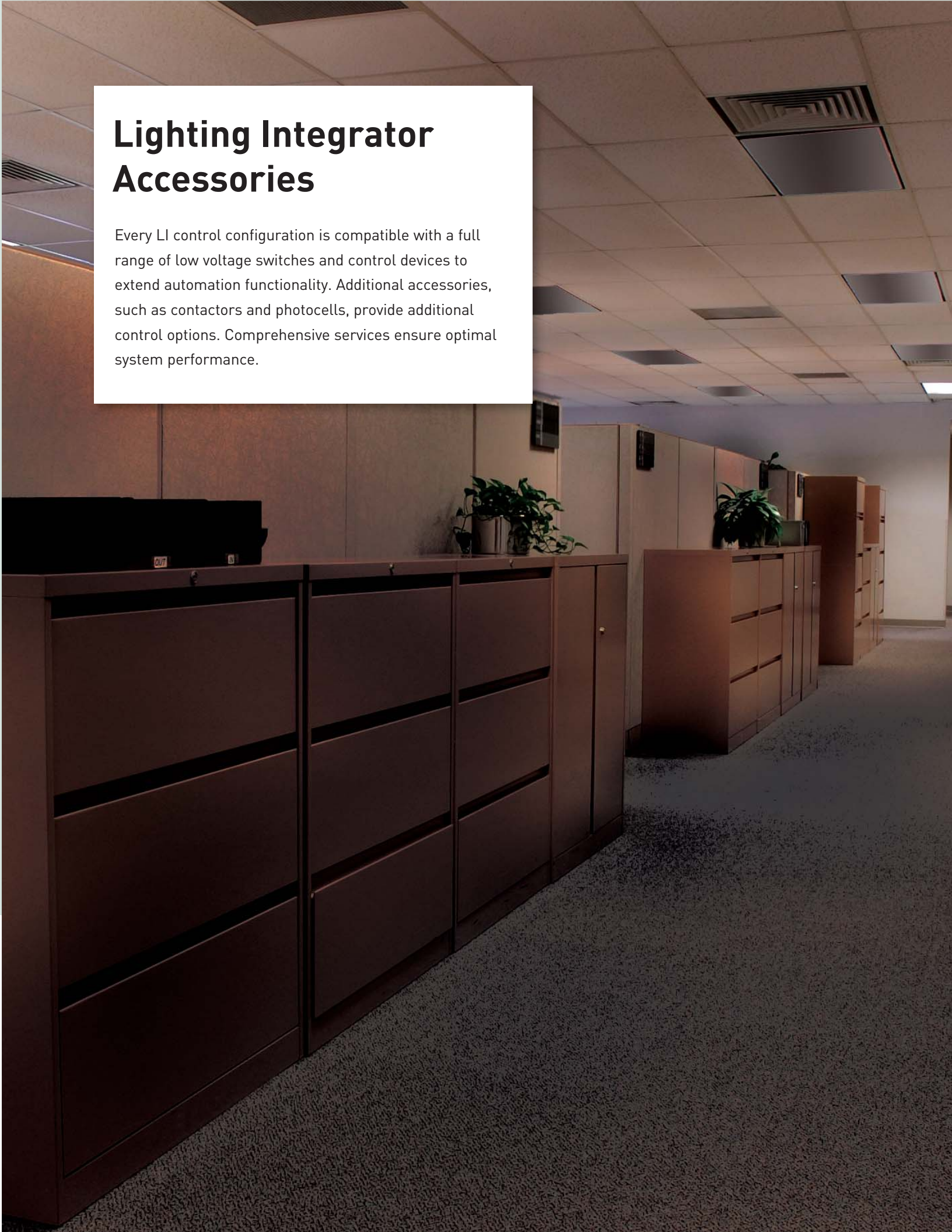
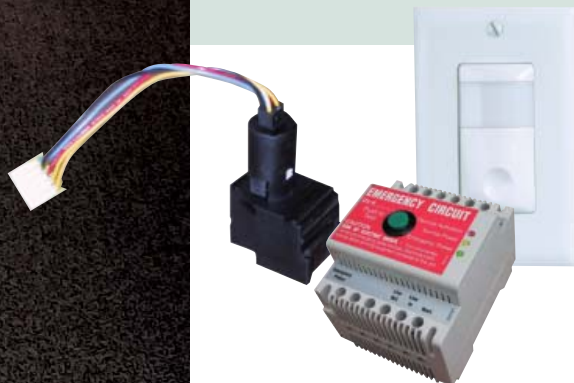




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 **WattStopper**

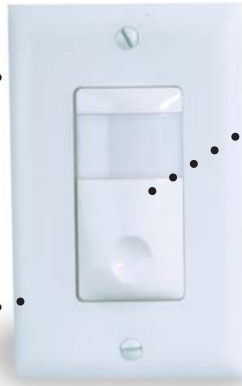
 **legrand**

AS-100 Automatic Control Switch

Automatic or manual switching options

Simple retrofit installation and operation; no neutral needed

Shutoff warning with optional audible beep during grace period



Pushbutton overrides the shutoff event

Multiway operation for 3- and 4-way switching

Terminal style back-wiring

PROJECT

LOCATION/TYPE

Product Overview

Description

The IntelliSwitch® AS-100 Automatic Control Switch operates as both a manual and automatic control device. Manually, it allows users to control loads on/off. Automatically, it receives signals to turn lighting on or off from lighting control panels or other lighting control systems.

Operation

The AS-100 replaces a standard wall switch. Occupants turn the lights on and off manually by its pushbutton. However, when a timed power interrupt signal is received from a lighting control panel, the AS-100 is automatically commanded to turn on, turn off or delay off. The duration of the power interrupt signal determines how the AS-100 will operate (see Power Interruption Signals section).

Used with a lighting control panel, the AS-100 allows users to manually turn lighting on in private offices, while lighting in common areas turns on

Operation (continued)

automatically. After hours, if lights were not shut off by users, a signal from the control panel would command the switch to delay off. Lighting “blink” warns users that lights will turn off in five minutes. The locator LED on the AS-100 blinks and an audible beep sounds (if enabled). If the button is pushed during this five minutes, the shutoff will be cancelled and the switch will remain on until the next commanded shutoff signal.

Applications

Since signaling is accomplished through power interruption, the AS-100 does not require additional signal wiring from a lighting control system or panel. It is designed for easy retrofit of lighting shutoff control in buildings. This greatly reduces installation labor and costs, making it an economical and effective lighting control strategy.

Features

- Settings are selected with the front pushbutton using configuration LEDs; face plate does not need to be removed for setup
- Users can select automatic-on operation, and an audible beep warning
- Selectable beep warning sounds every minute during last five minutes, and every five seconds during last minute
- Five minute delay-off time with user ability to cancel impending shutoff
- Self-adjusting zero crossing switching for consistent, reliable operation of high inrush loads
- Can be used in 3-way, 4-way and multiway switching applications
- Compatible with all electronic ballasts and motor loads
- Microcontroller enhances reliability
- Command off without delay off time



Specifications

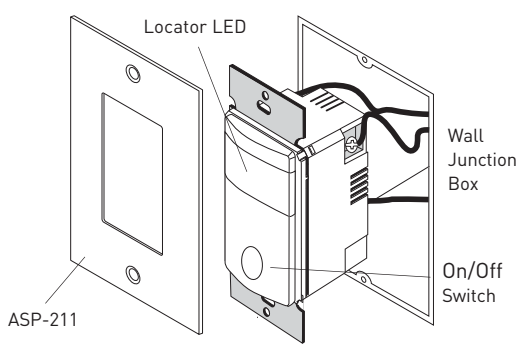
- Dual voltage 120/277 VAC, 60 Hz
- No minimum load requirements
- Power interruption signal resolution ± 0.1 seconds
- Dimensions: 2.69" x 1.75" x 1.81" (68.0mm x 45.0mm x 46.0mm) LxWxD
- UL and CUL listed; five-year warranty

Power Interruption Signals

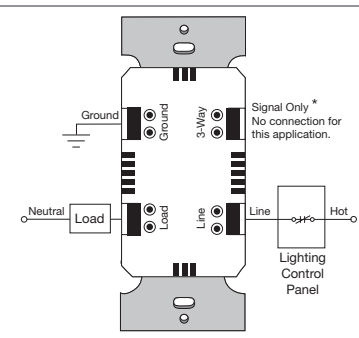
Duration	Operation	Operation description
Normal Operating Mode		
1-2 sec	Delay off	Power interruption "blinks" lights and initiates 5-minute delay before shutting load off. Locator light flashes and audible beep sounds (if enabled). Pushing the button cancels shut off from occurring.
3 sec	Turn on	Turns load on if automatic on feature is enabled
5 sec	Turn off	Turns load off

Installation & Wiring

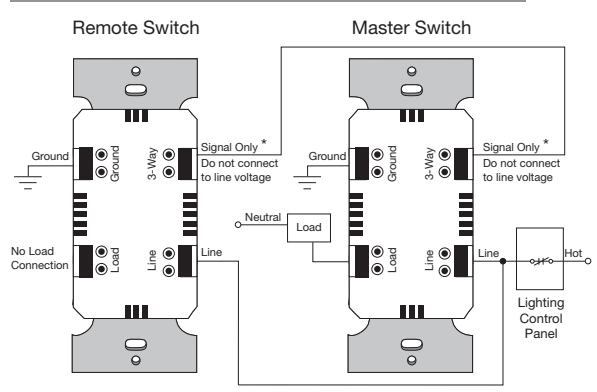
Installation



Single Switch Wiring with Panel

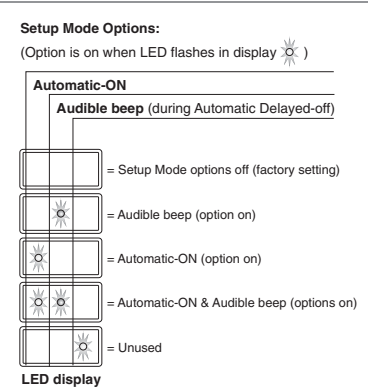


Multway Switch Wiring with Panel



Each switch wired for multway operation has the ability to turn on, turn off or override a shutoff signal.

Setup Mode Options



Ordering Information

Catalog No.	Color	Description	Load Requirement
<input type="checkbox"/> AS-100-W	White	120 VAC, 60 Hz or 277 VAC, 60 Hz	0-1300W @ 120 V Watt Ballast & Tungsten or 0-3000W @ 277 V Watt Ballast
<input type="checkbox"/> AS-100-A	Lt. Almond		
<input type="checkbox"/> AS-100-I	Ivory		

One ASP-211 Single-gang Decorator Cover Plate included. Order ASP-422 for Two-gang Decorator Cover Plate with Blank Option, or ASP-432 for Two-gang Decorator Cover Plate with Toggle Switch Option (specify color).

Multi-Button Low Voltage Switch

Architectural Lexan plate, screwless cover

Pilot light indication • • • • •



Simple to label with protective plastic cover

1, 3, 5 or 9 button models available

PROJECT
LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand's multi-button low voltage switches offer flexible and user-friendly lighting control via 1, 3, 5, or 9 button models.

Operation

The multi-button switches toggle lighting on and off by signaling Watt Stopper lighting control panels or occupancy sensors (with manual control capability). If lights are off, pressing the button turns lights on. If lights are on, pressing the button turns them off.

Adjacent to each standard button is a red pilot light indicating the status of controlled lighting when connected to a pilot light output from a lighting control panel. This is particularly useful when switches are placed in a location where the controlled lighting cannot be seen. Terminals on the back of the switch provide easy wiring without additional connectors.

Multiple Push Buttons

The multi-button switches provide control of multiple lighting groups or zones from a single location. Depending on the configuration of the lighting control panel, the single larger button on the 3, 5 and 9 button switches can be used for specialized control functions such as all on, all off, or cleaning operation. The switch's multiple push buttons and compact design replace multiple gang switch locations with a single or double gang wall switch.

Applications

From single room, single switch, to central, multiple switch station locations, the multi-button switches keep a consistent and pleasing look. Consistency in appearance is maintained with Watt Stopper dataline switches or other architecturally designed switches. The multi-button switches are particularly well suited for demanding switch locations such as reception desk areas, nursing stations, guard stations and administration areas.

Features

- 1, 3, 5, or 9 button models available
- Pilot light next to each standard button for remote indication of the lighting status
- Locator light bar helps users find the switch easily in the dark
- Mounts in a single or double gang box; no special plates or large gang boxes are required
- Lens caps are removable for easy labeling of standard buttons
- Terminal back screws simplify wiring
- Screwless cover plate enhances switch aesthetics
- Low voltage switch wiring simplifies installation making it easy to add switches anywhere needed and to accommodate multiple switching locations
- Architectural design matches Watt Stopper dataline and other switches

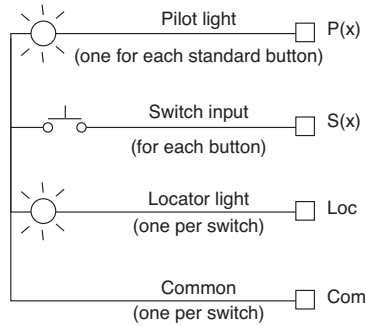


Specifications

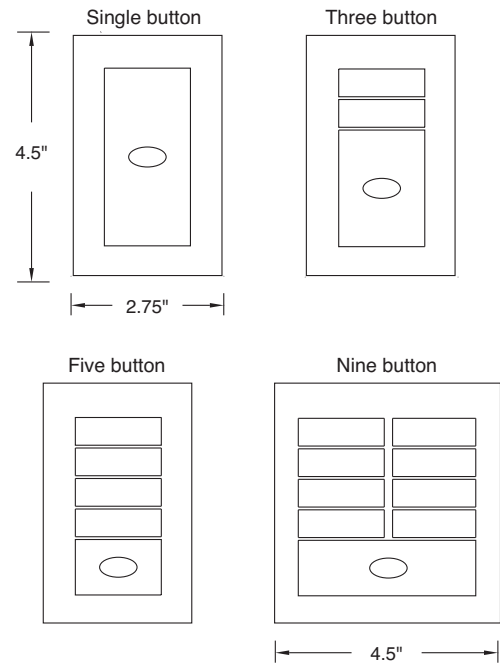
- Compatible with: Watt Stopper Lighting Integrator and legacy panel programmable inputs; occupancy sensors with manual control capability; LC-100 intelligent power pack
- Removable lens caps for labeling each standard button with 3/8" (9mm) laminated tape; larger button does not have labeling capability
- Pilot and location light LED, 18-30 VAC rectified or DC; each LED draws 5 mA @ 24 V
- Custom engraving available
- Available in white, ivory, almond, or gray
- Dimensions: 2.75" W x 4.5" H x .94" D (69.8mm x 114.3mm x 23.9mm) for 1, 3, and 5 button switch; 4.5" W x 4.5" H x .94" D (114.3mm x 114.3mm x 23.9mm) for 9 button switch
- One year warranty

Wiring & Dimensions

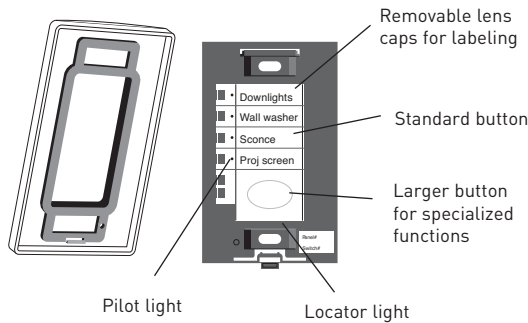
Wire Connections



Switch Configurations



Product Features



Ordering Information

Catalog No.	Color	Description	Standard Button	Larger Button	Size	Max Pilot Load
<input type="checkbox"/> L1S-7	White	Single button switch	0	1*	Single-gang	10 mA
<input type="checkbox"/> L1S-2	Ivory					
<input type="checkbox"/> L1S-4	Light Almond					
<input type="checkbox"/> L1S-9	Gray					
<input type="checkbox"/> L3S-7	White	Three button switch	2*	1	Single-gang	15 mA
<input type="checkbox"/> L3S-2	Ivory					
<input type="checkbox"/> L3S-4	Light Almond					
<input type="checkbox"/> L3S-9	Gray					
<input type="checkbox"/> L5S-7	White	Five button switch	4*	1	Single-gang	25 mA
<input type="checkbox"/> L5S-2	Ivory					
<input type="checkbox"/> L5S-4	Light Almond					
<input type="checkbox"/> L5S-9	Gray					
<input type="checkbox"/> L9S-7	White	Nine button switch	8*	1	Double-gang	45 mA
<input type="checkbox"/> L9S-2	Ivory					
<input type="checkbox"/> L9S-4	Light Almond					
<input type="checkbox"/> L9S-9	Gray					

* with pilot light

Miro Decorator Low Voltage Momentary Switch

Miro Decorator styling compatible with screwless or standard wall plates

Quiet operation

Multiway switching



• Long-life LED locator or pilot light

Available in four colors

• Three-wire momentary on/off contact operation

PROJECT

LOCATION/TYPE

Product Overview

Description

The Miro Decorator Low Voltage Momentary Switch (DCC2) has a clean appearance and provides significant benefits over other three-wire momentary devices. It is intended for use with Watt Stopper/Legrand lighting control panels and other applications requiring a momentary contact switch that provides on/off signals. Available in four colors, it complements other decorator devices and matches the full line of Miro Decorator products.

Operation

When the top of the switch is pressed down, the DCC2 makes an internal contact between an on and common terminal. When the bottom of the switch is pressed, it makes an internal contact between an off and common terminal. This allows the switch to provide an on/off signal to a relay panel or other device.

Three- and four-way switching is easily accomplished by parallel wiring a DCC2 to any number of other DCC2 switches. And by field wiring a jumper between the on and off terminals, the DCC2 can provide a two-wire momentary output to allow its use with Watt Stopper/Legrand occupancy sensors or the manual-on BZ-150 Universal Voltage Power Pack.

Locator or Pilot Light

The DCC2 includes an internal green LED which can function as either a locator or pilot light, depending upon the application and how the switch is wired. By incorporating an LED inside the switch instead of another light source, the end-user is assured of both a long lamp life and very low power consumption.

Applications

The DCC2 can operate a wide array of Watt Stopper/Legrand products, including lighting control panels, occupancy sensors and power packs. Additionally, its simple contact closure interface can provide a momentary on and off signal to many other devices, allowing it to initiate actions for other manufacturer's devices (e.g., those that output DMX512 or RS485 signals that can control LEDs or other lighting systems).

Features

- Long-life LED locator/pilot light
- Three-way, four-way and multiway switching
- Unlimited number of switches may be connected
- Miro Decorator styling
- Available in light almond, black, ivory and white

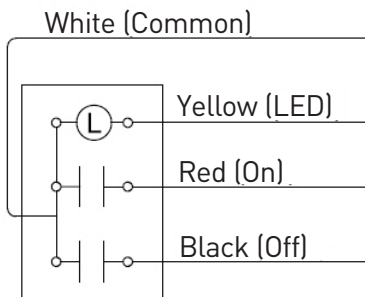


Specifications

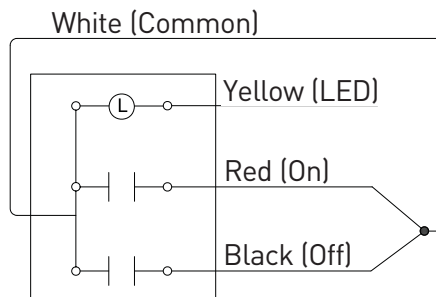
- 12VAC/VDC, 24V Rectified, 24VAC/VDC
- 50mA Max. Internal Contact rating
- 500mΩ resistance when closed
- Single pole, double throw with center position rest
- Fits conventional decorator switch openings
- Dimensions: 2.64" x 1.75" x 1.98" (67.1mm x 44.5mm x 50.3 mm) L x W x D; depth in wall 1.65" (41.9mm)
- Five-year warranty

Wiring

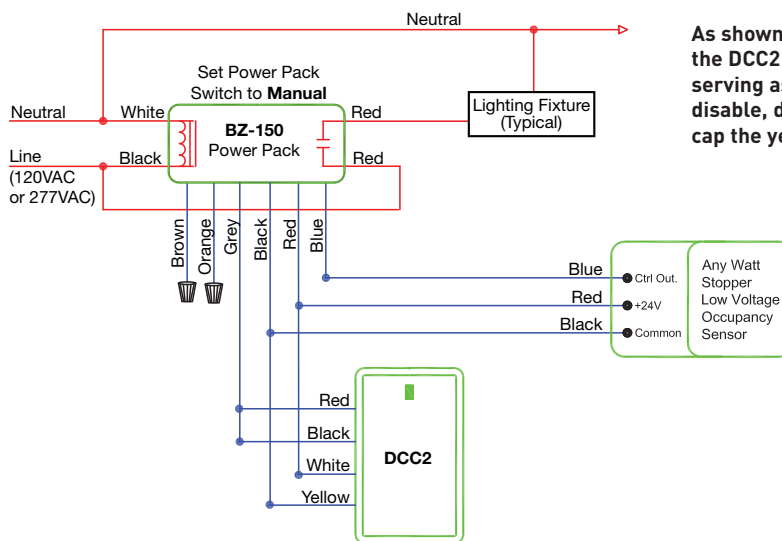
As a Three-wire Momentary



As a Two-wire Momentary

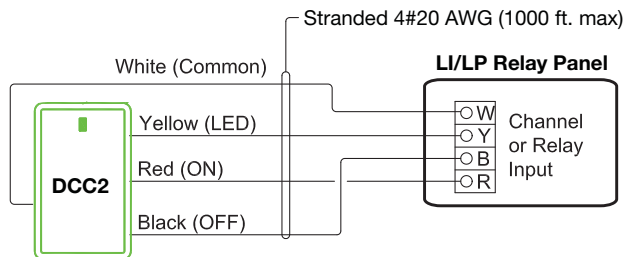


As an Input to a BZ-150 Power Pack for Manual-on Operation



As shown, the LED on the DCC2 is always on, serving as a locator. To disable, disconnect and cap the yellow wire.

As an Input to a Relay Panel



As shown at the left, the DCC2 LED is a Pilot Light. To use the LED as a locator, connect the yellow wire to the panel's 24V supply.

Ordering Information

Catalog No.	Color	Product Description	Voltage/Power
<input type="checkbox"/> DCC2-A	Light Almond	Miro Decorator Low	12VAC/VDC, 24V Rectified, 24VAC/VDC
<input type="checkbox"/> DCC2-B	Black	Voltage Momentary	
<input type="checkbox"/> DCC2-I	Ivory	Switch	
<input type="checkbox"/> DCC2-W	White		

Momentary Toggle Switches



PROJECT

LOCATION/TYPE

Product Overview

Description

The LVS-1 is a low voltage momentary contact switch used with Watt Stopper lighting control panels. Its appearance matches conventional toggle switches and it fits standard switch plate openings.

Operation

The LVS-1 features a quiet, single-pole, double-throw momentary operation. When toggled up or down, the switch momentarily makes a contact closure, sending an on or off signal to the control panel. At rest, the switch sits in the center position, making no contact closure. This switch is recommended for most low voltage switching applications because 3-way, 4-way and multi-way switching can be accomplished easily by parallel wiring the LVS-1 to any other LVS-1. Any number of switches can be connected together to fit a specific application need.

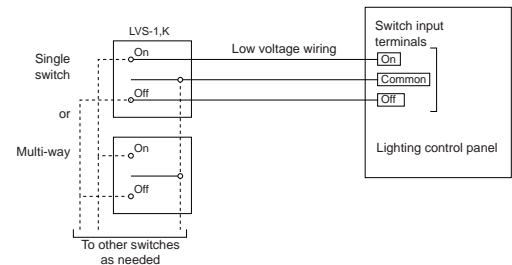
Features

Made specifically for low voltage control use, the LVS-1 uses side wire screw terminals for easy, reliable connection to switch wiring. The switch is available in either ivory, white or gray. A key operated model is also available for use in areas where security or vandalism is a concern.

Specifications

- 3 Amp, 24 VAC/VDC
- Single-pole, double-throw with center position rest
- Fits conventional toggle switch openings
- Size: 2.19" x 1.06" x 1.31" (55.6mm x 26.9mm x 33.3mm)
- 3 year warranty

Wiring



Ordering Information

Catalog No.	Color	Description
<input type="checkbox"/> LVS-1-W	White	Standard momentary toggle switch
<input type="checkbox"/> LVS-1-I	Ivory	
<input type="checkbox"/> LVS-1-G	Gray	
<input type="checkbox"/> LVS-1K-G	Gray	Key operated toggle in gray (key supplied with switch)

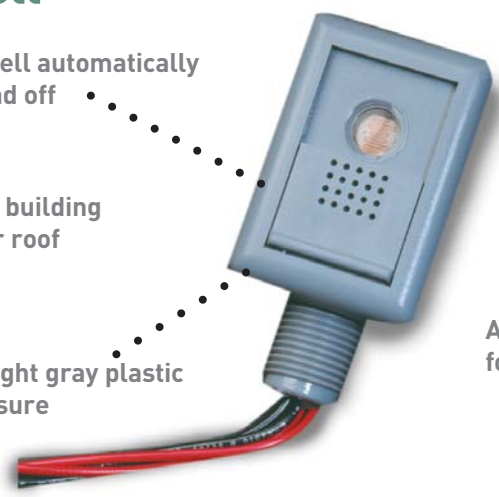


EM Photocell

Low voltage photocell automatically turns lighting on and off

Mounts on building exterior or roof

Raintight gray plastic enclosure



Compatible with all Watt Stopper lighting control panels and power packs

Simple to wire and install

Adjustable aperture window for varying ON setpoint

PROJECT
LOCATION/TYPE

Product Overview

Description

The EM is a low voltage photocell used for controlling exterior lighting. It works with Watt Stopper power packs and lighting control panels (Lighting Integrator and LP series panels) by signalling a change in light levels to the panel.

Operation

Typically mounted so the light level window faces the northern sky, the EM photocell provides an ON signal when the ambient light level drops below a preset "dark" setpoint. It then provides a signal OFF as the ambient light level rises above the preset "light" setpoint. The setpoint can be changed for specific applications by opening and closing the photocell's aperture window. Normally, a lighting control panel or a power pack supplies power to the photocell. The photocell's relay contact red wires are connected to the panel or to a low voltage controlled load.

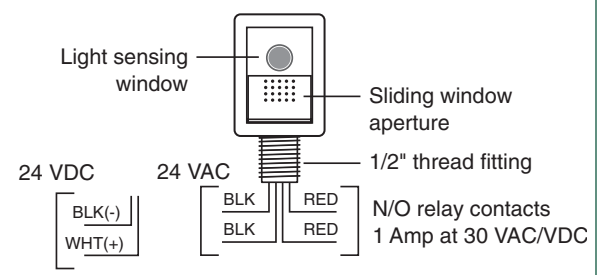
Specifications

- 1 - 15 footcandle range (10.8 - 161.5 lux)
- Isolated relay contacts 1 amp @ 30 VAC/VDC
- Power input: 24 VAC, 1 VA or 24 VDC, 1 VA
- Dimensions: 2.64" x 1.57" x 1.89" (67.1mm x 39.9mm x 48.0mm)
- One year warranty

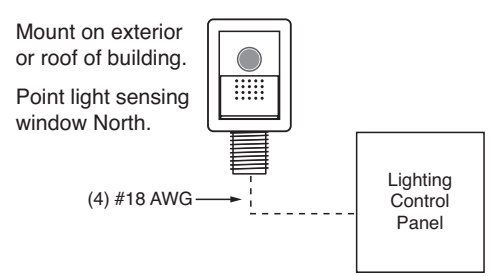
Features

- One set of normally open, isolated relay contacts; contacts are closed when sensed light level is below dark setpoint, open when light level is above light setpoint
- 8-second time delay and built-in setpoint deadband prevent cycling
- 1/2" threaded male conduit base for easy mounting on conduit fittings or junction boxes.

Accessory Enclosure Interior



Accessory Enclosure Interior



Ordering Information

Catalog No.	Description	Voltage
<input type="checkbox"/> EM-24A2	Exterior photocell	24 VAC
<input type="checkbox"/> EM-24D2	Exterior photocell	24 VDC



Multi-pole Contactor

Multi-pole design enables control of multiple single-phase or multi-phase loads

Compatible with all HID and electronic ballast loads

Four pole, SPST power contacts

Normally closed or normally open contacts

Silver cadmium oxide contacts for long life

Accepts wire gauge #10 - #14 AWG



PROJECT
LOCATION/TYPE

Product Overview

Description

The Multi-pole Contactor is a compact, electrically held lighting contactor used for controlling lighting and other electrical loads in Watt Stopper Lighting Integrator (LI) lighting control panels.

Operation & Features

The contactor is compatible with all HID and electronic ballast loads. All line and load wiring is feed-through style, and screw terminals accept both standard blade and phillips head screw drivers. Contactors may be added to any 24- or 48-relay size Lighting Integrator panel. Contactors may be ordered with LI panels (by specifying them in the LI panel catalog number) or they may be ordered separately. They may also be easily added to existing lighting control panels with DIN rail mounting capability, providing a simple way to expand the number of circuits controlled.

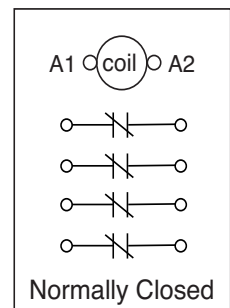
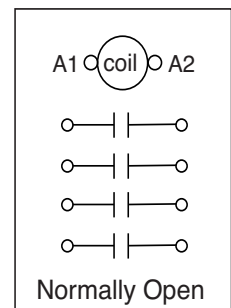
Specifications

- Electrically held
- Screw compression terminals
- Coil holding power consumption 10VA
- Compact DIN rail mounting
- Dimensions: 2.9" x 1.75" x 2.95" (73.7mm x 44.5mm x 74.9mm); weight 11.3 oz.
- UL 508 listed, CSA certified; one year warranty

Ratings

- Ballast load 30 Amp @ 600 V (magnetic, electronic, HID ballasts)
- Tungsten load 20 Amp @ 277 V
- Resistive load 30 Amp @ 480 V
- Motor load 5 HP @ 460 V, 3 phase

Contactor Diagram



Ordering Information

Catalog No.	Description	Voltage
<input type="checkbox"/> C115NC	4-pole normally closed	115V coil
<input type="checkbox"/> C277NC	4-pole normally closed	277V coil
<input type="checkbox"/> C115NO	4-pole normally open	115V coil
<input type="checkbox"/> C277NO	4-pole normally open	277V coil
<input type="checkbox"/> C347NC	4-pole normally closed	347V coil
<input type="checkbox"/> C347NO	4-pole normally open	347V coil

Lighting Control System Services



Technical services related to design and installation of Watt Stopper/Legrand control products

Free telephone technical support for purchased product(s) lifetime

Extended warranties available



PROJECT
LOCATION/TYPE

Product Overview

Description

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

Documentation

Documentation services (SDRAWxxx) include factory assembled submittals that include: system one-line diagram (or reflected ceiling plan when applicable) showing system components and quantities, such as Lighting Integrator panels, relays, low voltage switches and sensors, dataline and network components, and computer; drawings for each panel showing hardware configuration and numbering; panel wiring schedules showing circuit/relay/load relationships and any direct overrides; typical wiring diagrams for each component; and installation instructions and testing procedures for each component.

Programming

Services (SPROGSYS) include electronic wiring documentation, defining switch codes and group switches, setting up telephone overrides, entering operating schedules, and other custom configurations.

Startup

Startup services (SCOM) include a Watt Stopper factory-trained technician who verifies that all Watt Stopper system hardware on the bill of material (including standalone occupancy sensors) is installed in accordance with product documentation; tests and verifies systems are operating as intended; inputs data into programmable system to reflect the owners' intended sequences of operation; and provides training and review of all system hardware, software, and adjustments.

Startup services (SCOMEXSEN) provide a Watt Stopper factory-trained technician to verify all Watt Stopper system hardware **except** standalone occupancy sensors.

Training

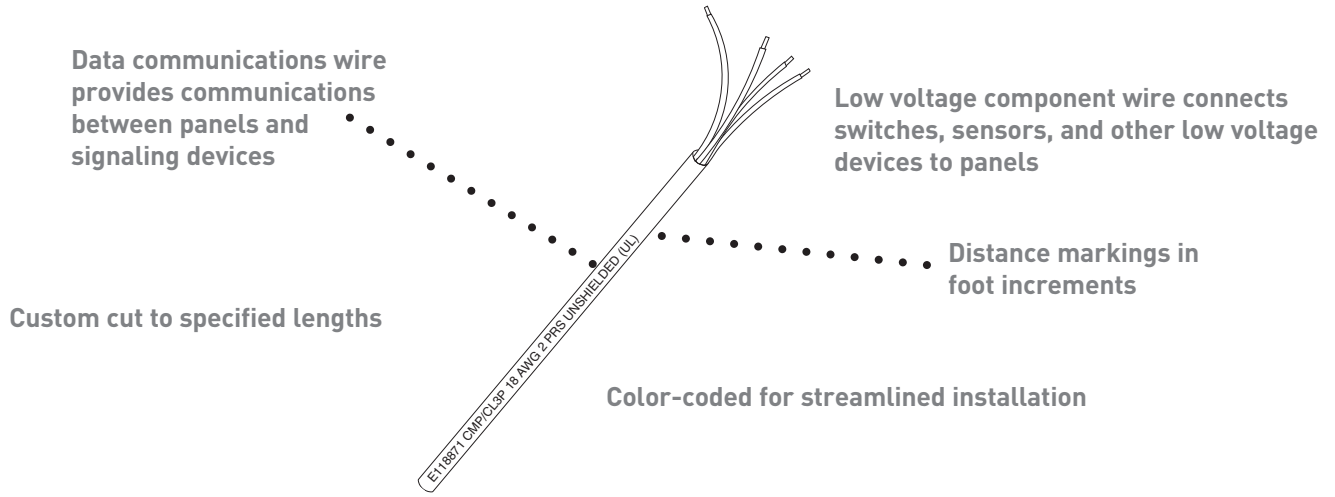
Additional training services (STRAIN) include a Watt Stopper factory-trained technician to provide additional and separate site visits to conduct system training to review all system hardware, software, and adjustments.

Ordering Information

Catalog No.	Description
<input type="checkbox"/> SDRAWDAY	Daylighting sensor locations on reflected ceiling plans
<input type="checkbox"/> SDRAWSEN	Occupancy sensor locations on reflected ceiling plans
<input type="checkbox"/> SDRAWSYS	Documentation Package of Control System
<input type="checkbox"/> SPROGSYS	Factory programming and lifetime technical support
<input type="checkbox"/> SCOM	Onsite startup/training for all Watt Stopper products
<input type="checkbox"/> SCOMEXSEN	Onsite startup/training excluding occupancy sensors
<input type="checkbox"/> STRAIN	Day(s) Onsite training for Watt Stopper control products
<input type="checkbox"/> SWARRANTY	Year(s) extended warranty for hardware



Lighting Integrator Wire



PROJECT
LOCATION/TYPE

Product Overview

Description

The proper wire must be installed for connecting devices to Lighting Integrator (LI) panels, and for networking panels. Types include low voltage component wire, and data communications wire.

Low Voltage Wire

This type of wire connects low voltage devices (i.e., switches, occupancy sensors, photocells) to panels. It is #20 AWG wire that meets UL and NEC standards for Class 2 applications. Plenum rated wire meets plenum and riser requirements. Several types of multi-conductor low voltage wires are available for standard, pilot, locator, and multilevel switching or for connecting photocells to the LI control panels. This wire can also be used to wire relays remotely.

Data Communications Wire

Data communications wire (also referred to as dataline wire) is used between LI panels and digital devices. To ensure error-free communications in networked LI panel systems, users **must use** the right communications wire. Communications quality is critical for reliable operation of a lighting control system. Using the proper wire and following recommended installation practices ensures trouble-free start-up and operation of an LI system.

4-Conductor Data Communications Wire

HDLW4 4-conductor data communications wire is unshielded dual twisted pair wire. It connects LIA panels to LIA panels. This panel-to-panel connection (i.e., "global" dataline) requires only one of the twisted pairs (red and black). Up to 12 panels may be connected in a single network whose maximum length does not exceed 1500 feet. If longer distances are needed or more devices are required, users should contact the factory. This wire is also used for the panel-to-Dataline Switch connection; up to 63 devices (i.e., Dataline Switch, Universal Switch module) may be connected to an LIA panel. In LICA and LIDA systems, this wire provides the local dataline for connecting panels to dataline switches. This panel-to-device connection (i.e., "local" dataline) requires the use of both twisted pairs, one pair for supplying power to the Dataline Switches, and the other pair for data communications.

2-Conductor Data Communications Wire

HDLW2 2-conductor data communications wire is shielded single twisted pair wire. It connects LIC panels. This panel-to-panel connection (i.e., "global" dataline) supports up to 500 panels in a single network whose maximum length does not exceed 4000 feet. If longer distances are needed or more devices are required, users can add dataline repeaters.



Specifications

Low Voltage Component Wire

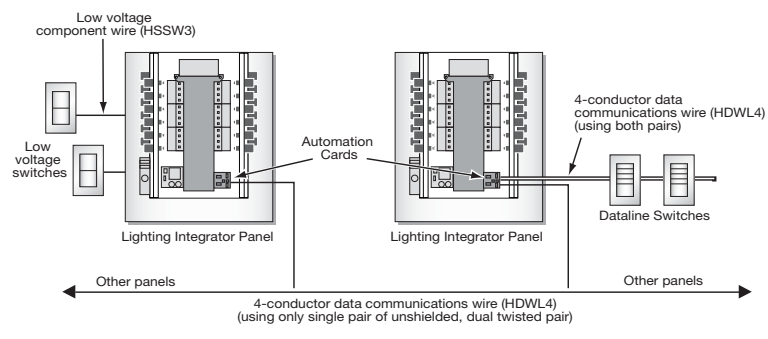
- Color-coded wires to match relay and switch terminations
- Component wire includes switch wire (for standard, pilot, locator, or multi-button switches), sensor wire, and remote relay wire
- Conductors are #20 AWG, stranded and jacketed
- Operating temperature range: -4 - 302°F (-20°- 150°C)
- UL and CUL listed

Data Communications Wire

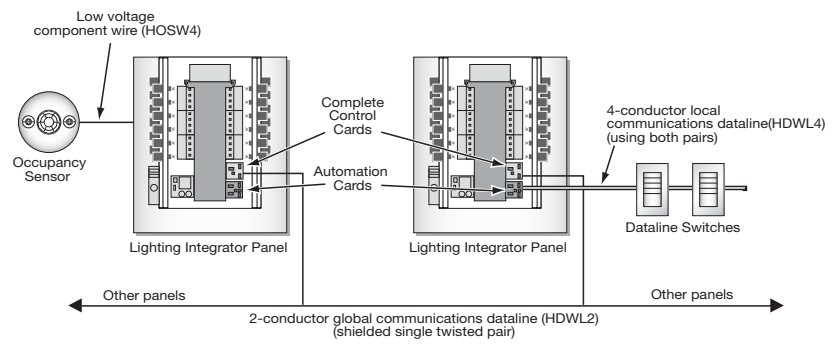
- HDLW4 is 18 AWG (7 strands x 26 AWG), 2 independent twisted pairs, unshielded copper conductors. Capacitance is 30 pF/foot max.
- HDLW4 supports up to 12 panels and 1500 feet per network without repeater
- HDLW2 is 18/2 AWG twisted pair with shield
- HDLW2 supports up to 500 panels and 4000 feet per network without repeater
- Color-coded wires to match power and data terminations
- Operating temperature range: -4 - 302°F (-20°- 150°C)
- UL and CUL listed

Application Examples

Wiring Requirements for Networks of LIA Panels



Wiring Requirements for Networks of LIC Panels with optional automation cards



Ordering Information

Catalog No.	Description	# of Conductors	Color Code	Max Diameter
<input type="checkbox"/> HSSW3	Standard switch wire	3	Red/Black/White	0.210"
<input type="checkbox"/> HSSW3P	Standard switch plenum rated wire	3	Red/Black/White	0.150"
<input type="checkbox"/> HPSW4	Pilot switch wire	4	Red/Black/White/Yellow	0.230"
<input type="checkbox"/> HPSW4P	Pilot switch plenum rated wire	4	Red/Black/White/Yellow	0.275"
<input type="checkbox"/> HDLW2	Global Complete Control Dataline. Shielded single twisted pair data communications wire	2+ shield	Red/Black/Shield	0.185"
<input type="checkbox"/> HDLW2P	Global Complete Control Dataline. Shielded single twisted pair data communications plenum rated wire.	2+ shield	Red/Black/Shield	0.185"
<input type="checkbox"/> HDLW4	Global Automation Dataline and/or Local Dataline Switch Dataline. Unshielded dual twisted pair data communications wire.	4	Black/Red (data) Blue/White (power)	0.230"
<input type="checkbox"/> HDLW4P	Global Automation Dataline and/or Local Dataline Switch Dataline. Unshielded dual twisted pair data communications plenum rated wire.	4	Black/Red (data) Blue/White (power)	0.230"

ELCU-100 Emergency Lighting Control Unit

Guarantees emergency lighting remains ON or is turned on when power to the control device is lost

“Watchdog” feature allows emergency loads to be controlled in tandem with normal power loads

Interfaces with fire alarm panel or security system



Integrated push-to-test button

UL listed for use in emergency circuits

PROJECT
LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand’s Emergency Lighting Control Unit (ELCU) is a self-contained, emergency lighting control device. The ELCU provides all required functionality to allow any standard lighting control device to control emergency lighting in conjunction with normal lighting in any area within a building.

Operation

The ELCU monitors a single circuit that provides normal lighting to an area. As long as normal power is present, the ELCU permits lighting control devices (i.e., occupancy sensors, panels, dimmers, or wall switches) to control the emergency lighting fixtures as well as the general lighting. If power is lost for any reason, including the tripping of a single branch circuit breaker, the ELCU will force the emergency fixtures for that area on. The ELCU can be wired either as a control device, so that emergency lighting follows the control of normal lighting, or as a bypass device to shunt emergency power around a control device when normal power fails.

Features

- Eliminates energy waste caused by “always ON” emergency lighting
- Integral push-to-test button activates emergency mode for a true test condition
- Connects to remote test switch or other input to activate emergency ON from a remote location
- Operates as a control device or as a shunt
- Senses local single circuit power failure
- Zero cross switching technology for reliability and increased product life
- Compatible with Watt Stopper occupancy sensors, daylighting controls, lighting control panels, and dimmers
- LED indication for emergency and normal power
- Half-second delayed ON positively identifies emergency fixtures for required maintenance
- Provides absolute fail-to-on emergency lighting
- UL924 listed, meets NEC, OSHA and NFPA safety codes

Mounting

The ELCU is equipped with an integral DIN rail mounting groove and retaining clip mechanism. It can be installed on the DIN rail track provided within a Watt Stopper enclosure (i.e., LS-E8, LS-E12), or in a Watt Stopper lighting control panel.

Applications

The ELCU is designed to control lighting in areas where emergency lighting fixtures are connected on dedicated emergency lighting circuits that are typically on 24 hours per day. The ELCU allows normal control of emergency lighting for energy savings and/or task related reasons while strictly adhering to National Electric Code requirements. It is suitable for any application where enhanced energy saving is desired.

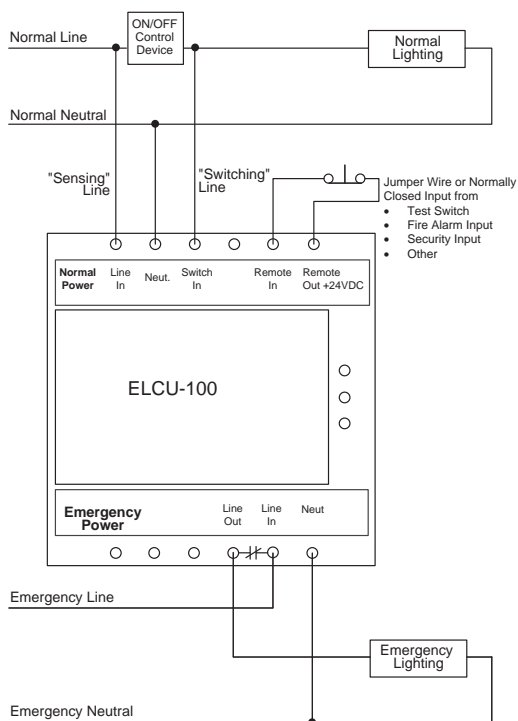


Specifications

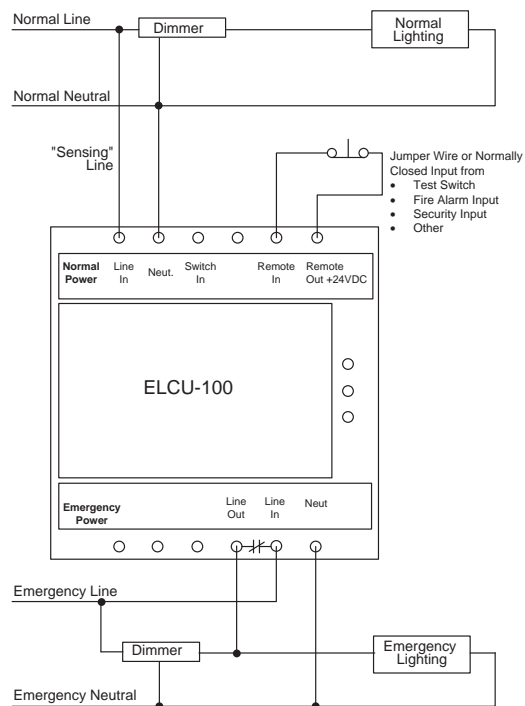
- 120/277 VAC; 60Hz
- Maximum load:
 - Ballast 10 A @ 120 VAC; 10 A @ 277 VAC
 - Incandescent 2 A @ 120 VAC
 - Motor 1HP @ 120 VAC
- Remote activation: supplies 24 VDC source for dry contact closure
- Integral control: push-to-test button on unit
- Housing: fire rated V-0, 176°F (80°C)
- Terminal torque: 4/428 inch pound-force (0.5Nm)
- Dimensions: 2.78" x 3.44" x 2.63" (71mm x 87mm x 67mm) LxWxD
- UL listed Emergency Lighting and Power Equipment; five year warranty

System Wiring

ELCU Wiring Diagrams



When wired as a control device, the ELCU receives a switching signal from the output of the control device (relay, switch, power pack, etc.)



When wired as a shunt, the switching line is not used.

Note: Use with Watt Stopper universal dimmers or contact dimmer manufacturer to determine the suitability of the specified dimmer for shunt operation.

Ordering Information

Catalog No.	Description	Voltage
<input type="checkbox"/> ELCU-100	Emergency Lighting Control Unit	120/277 VAC; 60Hz
<input type="checkbox"/> EMTS-100	Remote test switch on single gang plate	24VDC, normally closed contact
<input type="checkbox"/> LS-E8	Surface Mount Enclosure for 1 or 2 ELCU units*	N/A
<input type="checkbox"/> LS-E12	Surface Mount Enclosure for up to 6 ELCU units*	N/A

*LS-E8 and LS-E12 enclosures include screw cover and DIN rail

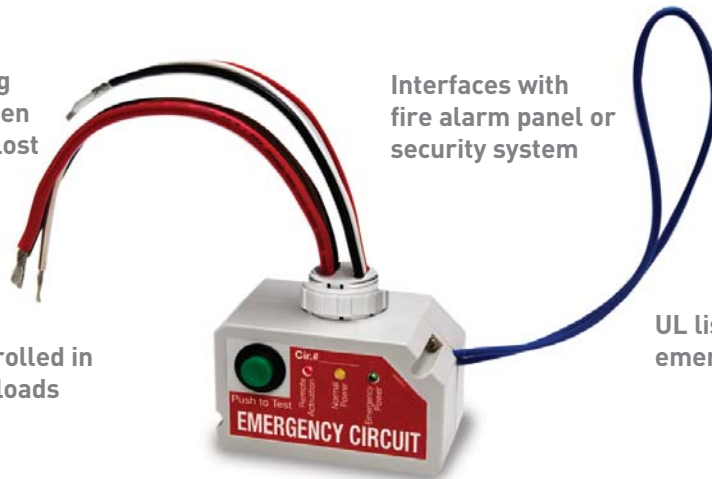
ELCU-200 Emergency Lighting Control Unit

Guarantees emergency lighting remains ON or is turned on when power to the control device is lost

Interfaces with fire alarm panel or security system

“Watchdog” feature allows emergency loads to be controlled in tandem with normal power loads

UL listed for use in emergency circuits



Integrated push-to-test button

PROJECT
LOCATION/TYPE

Product Overview

Description

Watt Stopper/Legrand’s ELCU-200 Emergency Lighting Control Unit is a self-contained device that allows any standard lighting control device to control emergency lighting in conjunction with normal lighting in any area within a building.

Operation

The ELCU-200 monitors a single circuit that provides normal lighting to an area. As long as normal power is present, the ELCU-200 permits lighting control devices (e.g., occupancy sensors, panels, dimmers, or wall switches) to control the emergency lighting fixtures as well as the general lighting. If power is lost for any reason, including the tripping of a single branch circuit breaker, the ELCU-200 will force on the emergency fixtures for that area. The ELCU-200 can be wired either as a control device, so that emergency lighting follows the control of normal lighting, or as a bypass device to shunt emergency power around a control device (e.g., a dimmer) when normal power fails.

Mounting

The ELCU-200 mounts directly to a junction box or electrical enclosure that has a standard 1/2” knockout. It is compatible with all Watt Stopper occupancy sensors, daylighting controllers and power packs.

Applications

The ELCU-200 is designed to control lighting in areas where emergency lighting fixtures are connected on dedicated emergency lighting circuits that are typically on 24 hours per day. The ELCU-200 allows normal control of emergency lighting for energy savings and/or task related reasons while strictly adhering to National Electric Code (NEC) requirements. It is suitable for any application where enhanced energy saving of emergency lighting is desired.

Features

- Eliminates energy waste caused by emergency lighting that is always on
- Integral push-to-test button activates emergency mode for a true test condition
- Connects to EMTS-100 Remote Test Switch or other input to activate emergency on from a remote location
- Operates as a control device or as a shunt
- Senses local single circuit power failure
- Zero cross switching technology for reliability and increased product life
- Compatible with Watt Stopper occupancy sensors, daylighting controls, lighting control panels, and dimmers
- LED indication for emergency and normal power
- Half-second delayed on positively identifies emergency fixtures for required maintenance
- Provides absolute fail-to-on emergency lighting
- UL924 listed, meets NEC, OSHA and NFPA safety codes

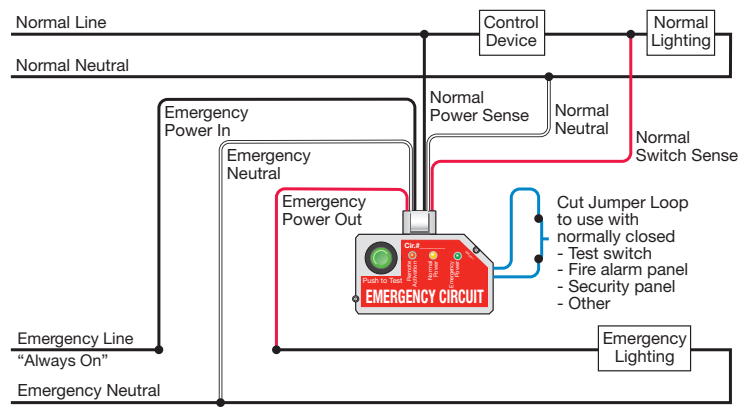


Specifications

- 120/277 VAC; 60Hz
- Maximum load:
 - Ballast 20 A @ 120/277 VAC
 - Incandescent 10 A @ 120 VAC
 - Motor 1HP @ 120 VAC
- Remote activation: supplies 24 VDC source for dry contact closure
- Integral control: push-to-test button on unit
- Housing: fire rated V-0, 176° F (80°C)
- Operating temperature range: 32 to 131°F (0 to 55°C)
- Relative humidity range: 5 to 95%, noncondensing
- Dimensions: 1.7" x 2.97" x 1.64" (43.2mm x 75.4mm x 41.7mm) H x W x D with a 1/2" (12.7mm) threaded nipple
- UL listed Emergency Lighting and Power Equipment; five year warranty

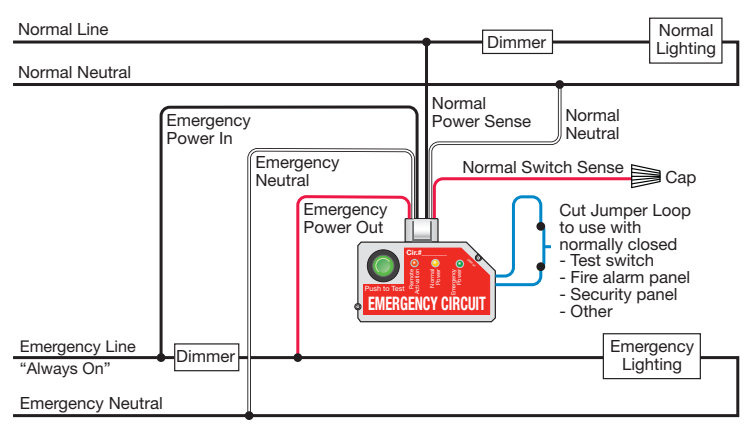
Installation and System Wiring

ELCU Wired As a Control Device



When wired as a control device, the ELCU-100 receives a switching signal from the output of the control device (relay, switch, power pack, etc.)

ELCU Wired As a Shunt, or Bypass, Device



When wired as a shunt, the switching line is not used.

Note: Use with Watt Stopper universal dimmers or contact dimmer manufacturer to determine the suitability of the specified dimmer for shunt operation.

Ordering Information

Catalog No.	Description	Voltage
<input type="checkbox"/> ELCU-200	Emergency Lighting Control Unit	120/277 VAC; 60Hz
<input type="checkbox"/> EMTS-100	Remote Test Switch on single gang plate	24VDC, normally closed contact

Note: product meets UL 924 requirements, check with local authorities having jurisdiction to ensure proper usage.

Watt Stopper/Legrand Resources & Tools



CAD Resource Center

- Over 300 CAD drawings from which to choose
- Wiring diagrams you can place in your own CAD drawings
- Available at www.wattstopper.com



Support & Services

- Layout and design services
- Start-up services and training
- District managers, trained representatives and experts available to answer all technical questions



Continuing Education

- Courses throughout North America qualify for AIA/CES Health, Safety and Welfare (HSW) credit and NCQLP Lighting Education Units (LEUs)
- In-person and on-line events
- Course selection available at www.wattstopper.com



Product Selection Guide

- Compilation of product ordering information, cut sheets, design and application assistance

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