

# Lighting Controllers and Accessories Catalog

*Complete energy-saving lighting control solutions*



INTELLIGENT LIGHTING CONTROLS, INC.

[www.ilc-usa.com](http://www.ilc-usa.com)



Made in  
the USA



ILC features a complete line...



LIGHTING CONTROLLERS



LIGHTING CONTROL SOFTWARE



DATA LINE CONTROL DEVICES



GUI USER INTERFACE



SECURITY APPLICATIONS

...of lighting control solutions.



For over 25 years, Intelligent Lighting Controls (ILC) has been a leader in the lighting control industry. We engineer and manufacture all of our products internally, allowing us to maintain superior quality and ensure your highest satisfaction. At ILC, we're constantly improving our products to provide you with the most innovative, reliable lighting control solutions available. From our superior relays to our sophisticated yet easy-to-use controllers, we can proudly say that all of our products are completely designed, built, tested, and shipped directly from our headquarters right here in the USA!

Since lighting control is all we do, we focus all our resources on providing you with:

- User-friendly lighting control systems that offer huge energy savings
- Products to help you achieve LEED certification
- State of the art controllers that allow for easy network expansion
- High quality relays for greater reliability
- Products tailored to meet your individual needs—completely factory wired, tested, and documented
- Lighting controls that work seamlessly with existing as well as new construction

Our products are marketed through a network of over 80 independent lighting manufacturers' representatives throughout the nation who can assist you in deciding exactly which ILC products are right for your needs. Contact us to find a rep in your area. For more information about ILC's products, visit [www.ilc-usa.com](http://www.ilc-usa.com) or call us at 1-800-922-8004. We'll be happy to personally answer any questions you have.

We're confident you'll discover that ILC has the most advanced and complete lighting control solutions for your project—whether it's a simple stand-alone remote panel, an extensive campus-wide system, or anything else in between.

Thank you for choosing ILC!

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# Section 1: ILC LightLEEDer Lighting Control Panels

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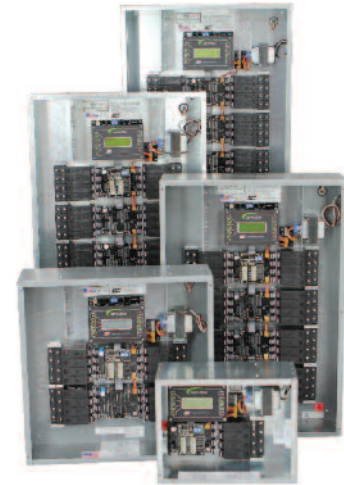
- LightLEEDer Controller
- LightLEEDer Accessories Quick View
- LightLEEDer 2 Load Room Controller
- LightLEEDer 4 Load Room Controller
- LightLEEDer-4X Remote/Expansion Lighting Controller
- LightLEEDer Controllable Circuit Breaker Panel







## Programmable Lighting Control



- 365-day programmable Lighting Control Panel
- Automatic receptacle plug load control
- All products Made in the USA
- LightSync™ switch and accessory ready
- USB, modem and TCP/IP connectivity available
- Integrated surge suppression
- Built-in programming backup and restore
- Connect up to 254 panels and 16,510 devices together
- Allows network connections across the Internet

## Overview

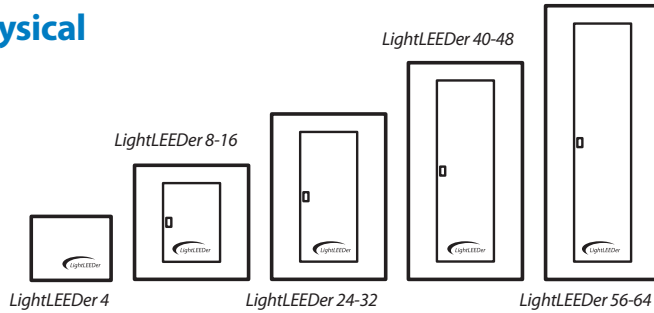
The LightLEEDer programmable lighting control panel is the key to a powerful, dependable, flexible and energy efficient lighting system. LightLEEDer panels come with our new Reliant40 relays which feature a superior four contact design — the first true 40Amp lighting relay. Reliant40 relays come in 1-, 2- and 3-pole configurations in a robust breaker-style body. LightLEEDer panels range in size from 4 to 64 relay capacity and are equipped with CAT-5 RJ45 connectors for LightSync data line devices and interconnecting panels. Panels include a keyboard and LCD screen, along with USB and TCP/IP connections for easy programming with our free LightLEEDer Pro Software. Add-on modules are available for connecting to BAS, theatrical, or security systems.

## Features

- **Made in the USA** relays and hardware
- **Automatic** receptacle plug load and lighting circuit control
- **Programming Options** are done with a Integrated keypad with 4-line LCD display or using LightLEEDer Pro software via USB or TCP/IP.
- **LightSync Data Line Device Ready** utilizing RJ45 connectors and standard CAT-5 cabling for data line.
- **Network Capability** allows you to connect up to **254 panels** and **64 LightSync devices** per panel, plus an additional **254 devices** on the panel network.
- **Internet Capability** to interconnect panels across the internet.
- **Relay Groups** can comprise any relay on the network and be assigned to any of the **256 available groups** — controlled by any timer, switch, or other external commands.
- **Relay Presets** can be programmed from any relay ON/OFF patterns and be assigned to any of the **256 available presets** — controlled by any timer, switch, or other external commands.
- **Timer Scheduling** for **128 available timers** that can turn relays ON or OFF for Time-of-Day, Astronomical times, and Open/Close.
- **Clock Functions** include Automatic Astronomical calculation of Sunrise and Sunset, Adjustable Daylight Saving Time and Enable/Disable.
- **Switching Inputs** accepts virtually any type of switch, momentary or maintained, 2- or 3-wire switch and directly powers motion sensors, data line switches and devices.
- **Switch Input Flexibility** is provided with time-of-day function change and also has “and/or” logic built in.
- **Add-On Modules** available for each controller, and include BACnet IP, BACnet MSTP, Modbus RTU, Modbus ASCII, N2, LonWorks, DMX512, DTMF telephone switching and modem.



## Physical



Enclosure Size Options (NEMA Type 1 w/cover)				
Enclosure Type	Relays	Width	Height	Depth
LightLEEDer 4	1 to 4	14 in.	11 in.	6 in.
LightLEEDer 8-16	1 to 16	20 in.	20 in.	6 in.
LightLEEDer 24-32	1 to 32	20 in.	29 in.	6 in.
LightLEEDer 40-48	1 to 48	20 in.	38 in.	6 in.
LightLEEDer 56-64	1 to 64	20 in.	48 in.	6 in.

## Specifications

### Relays:

- Superior breaker style design
- Switch type override control
- Lockout feature disables control from panel
- 40 Amps @ 120, 277 and 347 VAC
- 1-, 2-, or 3-pole configurations

### Safeguards:

- **Power surge and spike suppression** up to 123 volts on the 24VAC power input
- **Data Line surge and spike suppression** up to 8Kv and 15Kv through air
- **Memory retention** for firmware and programming up to 200 years and electrostatic discharge to 4Kv
- **Real-Time-Clock time retention** 45 days or greater without power
- **Internal memory backup** and restore

### Physical:

- Double-sided construction for mounting directly to breaker box or stand alone
- Pre-drilled mounting holes for easy installation
- Provided with a removable hinged locking door mount door, or optional flush mount door. 4 size enclosure provided with a screw cover.

- High voltage barriers separate Normal/Emergency and Class 1/Class 2 wiring

### Electrical:

- 120 or 277 VAC @ 1 Amp, 347 VAC optional

### Capacities:

- Up to 64 single pole relays
- 2 to 4 add-on modules

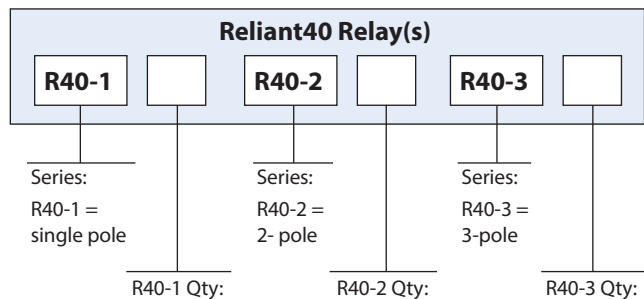
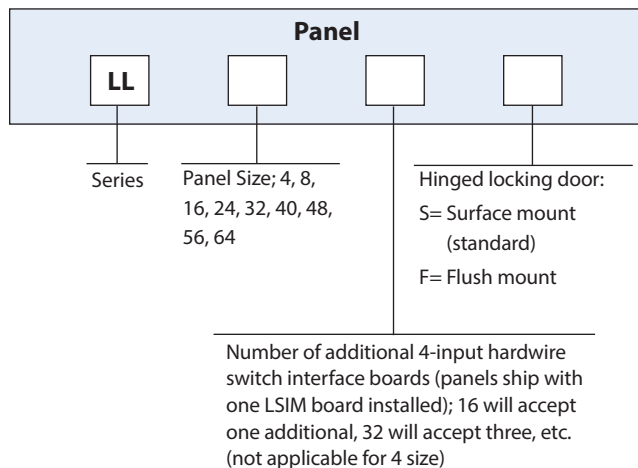
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL
- CUL
- FCC Part 15
- FCC Part 68
- Title 24
- ASHRAE compliant

## Ordering







**LightSync Input Module:** Provides 4 hardwired switch inputs. Accepts 2 or 3 wire switches. This module mounts directly on the output module in the panel or remotely on the LightSync network. More details and ordering information on page 39.

**LightSync Occupancy Sensor Input Module:** Provides 4 inputs and power outputs for occupancy sensors. This module mounts directly on the output module in the panel or remotely on the LightSync network. More details and ordering information on page 41.

**LightSync Occupancy Sensor 8 Input Module:** Provides 8 inputs and power outputs for occupancy sensors. This module mounts directly on the output module in the panel or remotely on the LightSync network. More details and ordering information on page 43.

**LightSync Dimming Output Module:** Provides 4 independent dimming outputs for 0-10V controlled devices that can control up to 200 ballasts. This module mounts directly on the output module in the panel or remotely on the LightSync network. More details and ordering information on page 47.

**Line Voltage Dimmer:** Provided with 4 independent forward phase control channels of up to 500 watts per channel. More information on page 49.

**LightSync Serial Interface Input Control Module:** Add-on modules communicate with BAS systems providing LightSync input emulation. More details and ordering information on page 57.

**LightSync Motor Control Module:** Provides 4 independent DC motor control outputs. Each output can control up to 2 Amps @ 30VDC. This module mounts directly on the output module in the panel or remotely on the LightSync network. More details and ordering information on page 51.

**LightLEEDer Network Controller Modules:** Controls network activity including syncing clocks and data between panels as well as other communications. Controllers are available in basic or advanced configurations. More details and ordering information on page 37.

**LightLEEDer Serial Interface:** Add-on modules communicate with BAS systems providing status and control. Modules are available for panel level control or as a single point gateway for network control. More details and ordering information on page 53.

**LightLEEDer DMX512 Serial Interface:** Provides direct control of relays using DMX512 serial control signals. Modules are available for panel level control or as a single point gateway for network control. More details and ordering information on page 59.

**LightLEEDer Modem:** Provides a 56K baud modem for dial-up connection. More details and ordering information on page 63.

**LightLEEDer Telephone DTMF Module:** Provides voice prompted control and status with a touch-tone telephone. Modules are available for panel level control or as a single point gateway for network control. More details and ordering information on page 61.

**Reliant40 Relays:** Superior breaker style designed for durability, flexibility, and ease of use. Relays are available in 1, 2, or 3 pole configurations, control up to 40 Amps, and have SCCR rating of 18,000 Amps @ 347VAC. More details and ordering information on page 31.

**LightSync Data Line Devices:** A full line of data line devices are available for controlling relays, motors, and ballasts. See section 6 for more details and ordering information.

- Data line switches including Classic and G2
- Key switch including disable
- Photo control
- Dimming
- Input module
- Motor control module
- Touchswitch
- SlideSwitch
- DTS
- Power supply and power supply repeater
- Hub

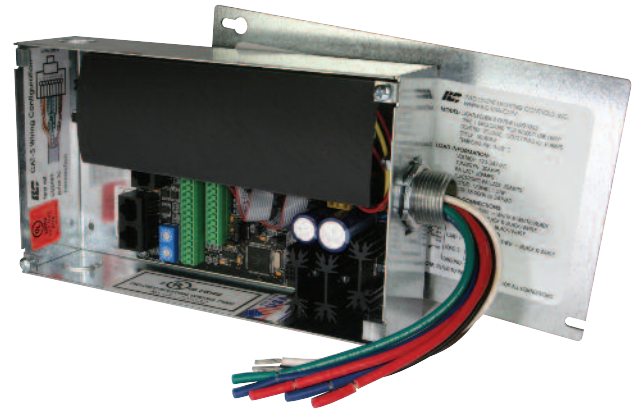






## LightLEEDer 2 Load Room Controller

- All products Made in the USA
- 2 load programmable Room Lighting Controller
- Stand-alone or Networked
- LightSync switch capable
- Built-in photo controller
- Occupancy sensor interface
- 0-10V dimming control
- Suitable for plenum mounting



## Overview

The LightLEEDer-2RC Room Lighting Controller is a 2-relay full featured mini panel with the common features desired for today's 1 or 2 room control. It has been designed to be used as a stand-alone panel or can be used as an expansion or remote panel from a standard LightLEEDer panels local port. As with all of our LightLEEDer panels, it comes with our Reliant40 latching relays which feature a four contact design - the first true 40Amp lighting relay. It also has integrated electronics for two dimming outputs for controlling 0-10V dimming ballasts, two inputs for photocell heads, four hardwired inputs, power for occupancy sensors, and a local LightSync port for up to two 6-button data line switches.

## Features

### General Information:

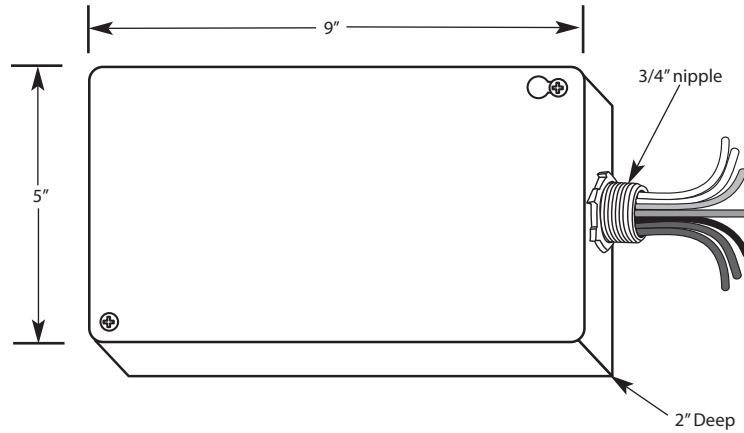
- **Made in the USA**
- **2 load** Programmable Room Lighting Controller
- **Relays** are the superior Reliant40 design
- **Standalone** or networked from a LightLEEDer controller
- **Expansion** provided from a LightLEEDer's local port
- **Compatible** with LL-4RC and LL-4X panels
- **Dimming** 0-10V outputs integrated for controlling 2 zones
- **4 Inputs** for hardwired switches or occupancy sensors
- **Power** for occupancy sensors
- **Photocell** controller integrated for 2 heads
- **LightSync data line** device ready utilizing RJ45 connectors and standard CAT-5 cabling for data line
- **Suitable** for plenum mounting

### LightLEEDer Expansion Processor (optional):

- Processor for only controlling remote LL-2RC, LL-4RC, or LL-4X panels
- Controls up to 16 LL-2RC, LL-4RC, or LL-4X remote panels
- Provides a sub-net local port for communications
- Allows LightSync data line devices and power
- Provides all standard panels controls to remote panels
- Interconnects with standard panels
- Combine up to 255 sub-net or standard panels per lighting system



### Physical



### Specifications

#### Safeguards:

- Power surge and spike suppression up to 123 volts on the 24VAC power input
- Memory retention for firmware and programming up to 200 years and electrostatic discharge to 4kv

#### Physical:

- Enclosure: 5" x 9" x 2" NEMA 1 with screw cover
- 3/4" nipple for mounting to an electrical box
- 6" wire leads provided for high voltage connections
- Push-to-connect low voltage connections
- Provided with pre-drilled mounting holes
- High voltage barriers separate Class 2 wiring

#### Integrated Interfaces:

- 4 inputs for hard wired switches or occupancy sensors
- Power for occupancy sensors
- Dimming 0-10V outputs for controlling 2 zones
- Photocell controller for 2 heads or zones
- LightSync port for up to 2 data line switches

#### Electrical:

- 120/277VAC @.6 amps (120/347VAC Optional)
- Input: 24 VDC @ 200mA maximum draw
- Dimming: 100mA sink

#### Relays:

- Superior breaker style design
- 40 amp relays de-rated to 30 amps
- 30 Amps ballast or resistive loads
- SCCR to 18,000 symmetrical amps

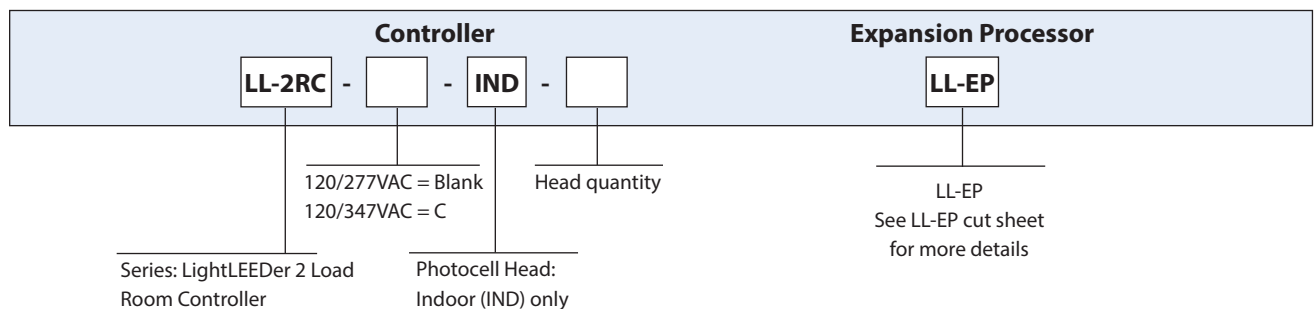
#### Operating Environment:

- Location: Interior space
- Operating Temperature: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

#### Certifications and Approvals:

- UL and CUL listed
- FCC Part 15
- Title 24
- ASHRAE compliant

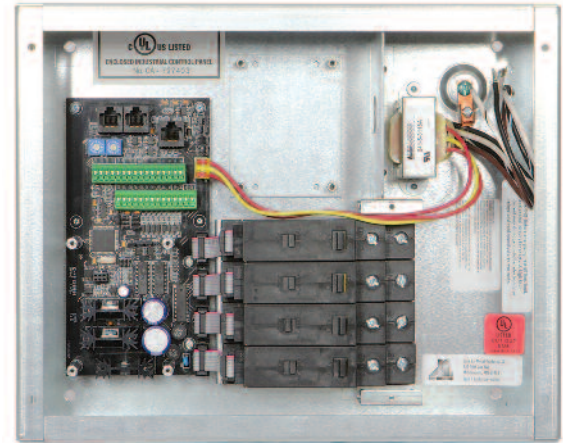
### Ordering





## LightLEEDer 4 Load Room Controller

- All products Made in the USA
- 4 load programmable Room Lighting Controller
- Automatic receptacle plug load control
- Stand-alone or Networked
- LightSync switch capable
- Built-in photo controller
- Occupancy sensor interface
- 0-10V dimming control
- Suitable for plenum mounting



## Overview

The LightLEEDer-4RC Room Lighting Controller is a 4-relay full featured panel with the common features desired for today's 1 or 2 room control. It has been designed to be used as a stand-alone panel or can be used as an expansion or remote panel from a standard LightLEEDer panels local port. As with all of our LightLEEDer panels, it comes with our Reliant40 latching relays which feature a four contact design - the first true 40Amp lighting relay. It also has integrated electronics for four dimming outputs for controlling 0-10V dimming ballasts, two inputs for photocell heads, four hardwired inputs, power for occupancy sensors, and a local LightSync port for up to two 6-button data line switches.

## Features

### General Information:

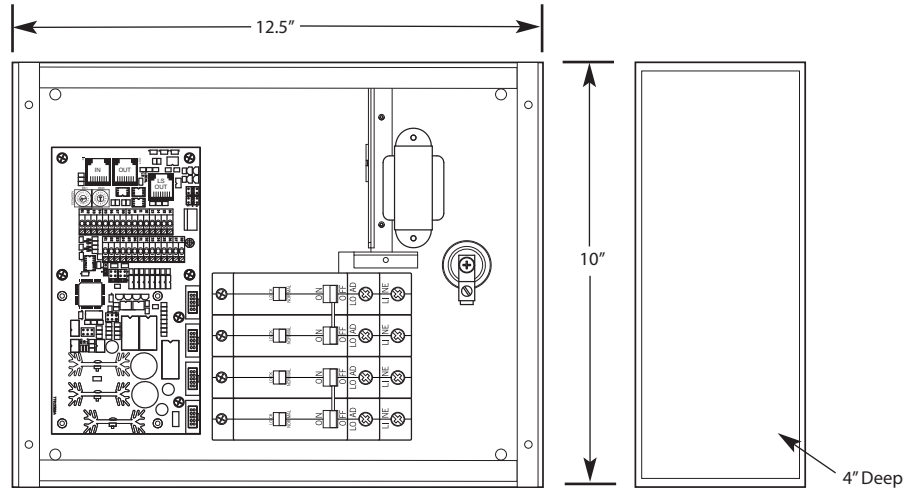
- **Made in the USA**
- **Automatic** receptacle plug load and lighting circuit control
- **4 load** Programmable Room Lighting Controller
- **Relays** are the superior Reliant40 design
- **Standalone** or networked from a LightLEEDer controller
- **Expansion** provided from a LightLEEDer's local port
- **Compatible** with LL-2RC and LL-4X panels
- **Dimming** 0-10V outputs integrated for controlling 4 zones
- **4 Inputs** for hardwired switches or occupancy sensors
- **Power** for occupancy sensors
- **Photocell** controller integrated for 2 heads
- **LightSync data line** device ready utilizing RJ45 connectors and standard CAT-5 cabling for data line
- **Suitable** for plenum mounting

### LightLEEDer Expansion Processor (optional):

- Processor for only controlling remote LL-4RC, LL-2RC, or LL-4X panels
- Controls up to 16 LL-4RC, LL-2RC, or LL-4X remote panels
- Provides a sub-net local port for communications
- Allows LightSync data line devices and power
- Provides all standard panels controls to remote panels
- Interconnects with standard panels
- Combine up to 255 sub-net or standard panels per lighting system



Physical



Specifications

Physical:

- Enclosure: 12.5" x 10" x 4" NEMA 1
- Screw cover provided
- Galvanized enclosure and cover
- Provided with pre-drilled mounting holes
- High voltage barriers separate Class 2 wiring
- Ground lug included
- Knockout provided for larger power transformer
- Clearly marked connections

Integrated Interfaces:

- 4 inputs for hard wired switches or occupancy sensors
- Power for occupancy sensors
- Dimming 0-10V outputs for controlling 4 zones
- Photocell controller for 2 heads or zones
- LightSync port for up to 2 data line switches

Electrical:

- 120/277VAC @.5 amps (120/347VAC Optional)
- 120, 277, or 347 VAC 1 amp optional

Relays:

- Superior breaker style design
- Switch type override control
- Lockout feature disables control
- 40 Amp relays ballast or resistive loads
- SCCR to 18,000 symmetrical amps
- 1-pole relays only

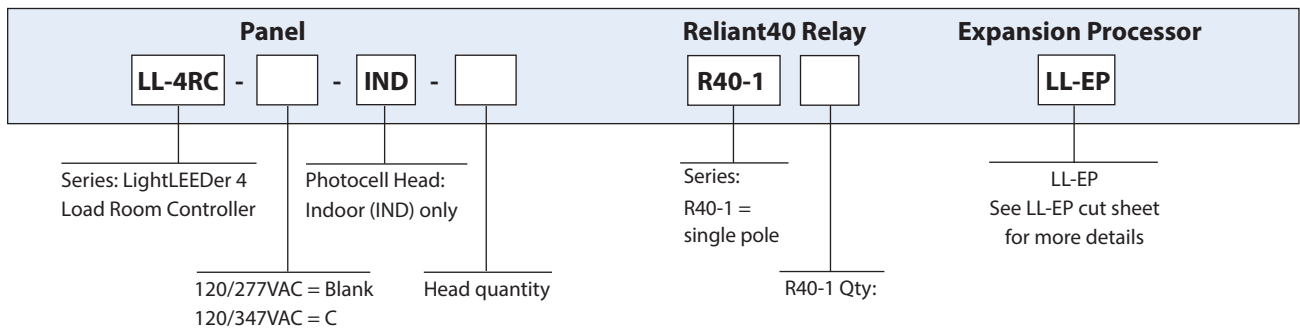
Operating Environment:

- Location: Interior space
- Operating Temperature: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

Certifications and Approvals:

- UL and CUL listed
- FCC Part 15
- Title 24
- ASHRAE compliant
- LEED compliant

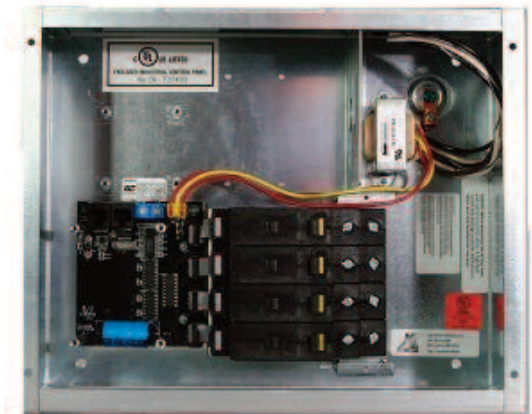
Ordering





## LightLEEDer-4X Remote/Expansion Lighting Controller

- All products Made in the USA
- 4 load remote/expansion lighting controller
- Automatic receptacle plug load control
- Economical lighting controller solution
- Mounting for 2 LightSync modules and 1 photo sensor controller
- Reliant40 relays
- Ideal for distributed loads



### Overview

The LightLEEDer-4X (LL-4X) lighting controller is a 4 relay remote/expansion lighting control panel designed to keep the price down but provide the same relay control as our standard LightLEEDer panels. It has been designed to be used as an expansion or remote relay panel from a standard LightLEEDer panel's local port. Multiple sets of these sub-net expansion panels can be networked along with standard panels to provide the quality of controls points required for your project. As with all of our LightLEEDer panels, it comes with our Reliant40 latching relays which feature a superior four contact design - the first true 40Amp lighting relay. Each LL-4X enclosure is provided with mounting for 2 LightSync modules and 1 photo sensor controller.

### Features

#### General Information:

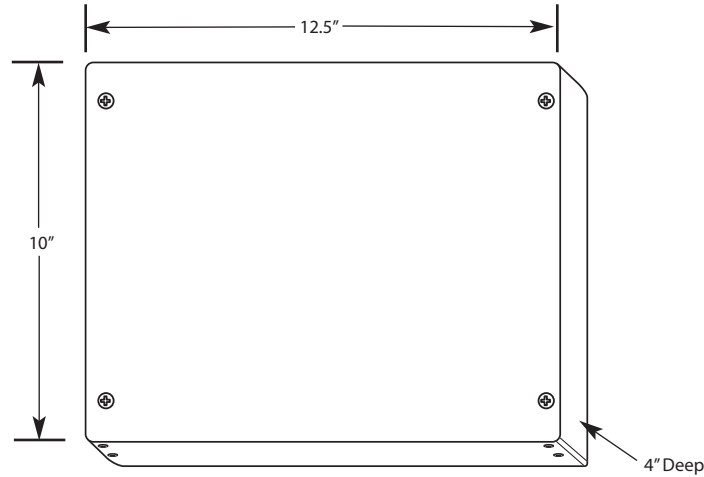
- **Made in the USA**
- **Economical** lighting control solution
- **Automatic** receptacle plug load and lighting circuit control
- **4 load** remote/expansion lighting controller
- **Expansion** provided from a LightLEEDer's local port
- **Capacity** of up to 4 relays
- **Relays** are the superior Reliant40 design
- **Add-on** capability for 2 LightSync modules and 1 photo sensor controller
- **Connects** on the LightLEEDer local sub-nets
- **Combine** up to 16 LL-4X, LL-2RC, or LL-4RC panels per sub-net
- **Compatible** with LL-2RC or LL-4RC remote lighting controllers
- **Same Features** as a LightLEEDer lighting controllers
- **Distributed** load capacity

#### LightLEEDer Expansion Processor (optional):

- Processor for only controller remote LL-4X, LL-2RC, or LL-4RC panels
- Controls up to 16 LL-4X, LL-2RC, or LL-4RC remote panels
- Provides a sub-net local port for communications
- Allows LightSync data line devices and power
- Provides all standard panels controls to remote panels
- Interconnects with standard panels
- Combine up to 255 sub-net or standard panels per lighting system



### Physical



### Specifications

**Physical:**

- Enclosure: 12.5" x 10" x 4" NEMA 1
- Screw cover provided
- Galvanized enclosure and cover
- Provided with pre-drilled mounting holes
- High voltage barriers separate Class 2 wiring
- Ground lug included
- Knockout provided for larger power transformer
- Clearly marked connections

**Electrical:**

- 120/277VAC @.5 amps (120/347VAC Optional)
- 120, 277, or 347 VAC 1 amp optional

**Relays:**

- Superior breaker style design
- Switch type override control
- Lockout feature disables control
- 40 Amp relays ballast or resistive loads
- SCCR to 18,000 symmetrical amps
- 1-pole relays only

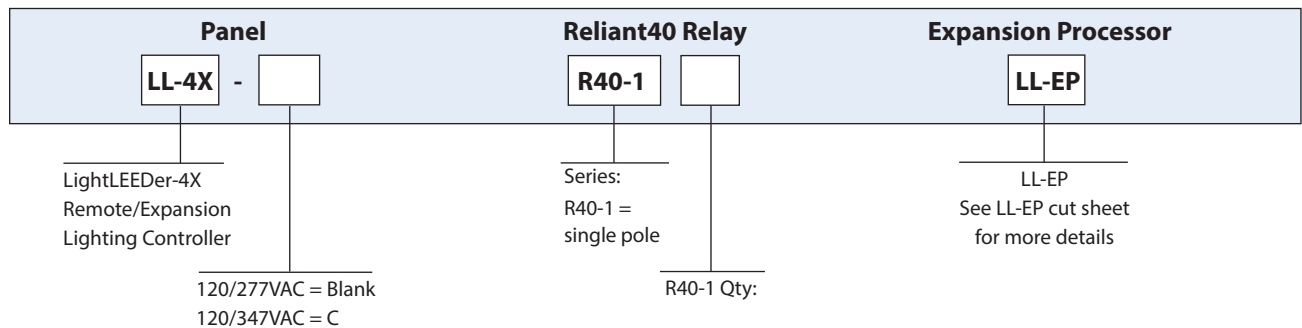
**Operating Environment:**

- Location: Interior space
- Operating Temperature: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

**Certifications and Approvals:**

- UL and CUL listed
- FCC Part 15
- Title 24
- ASHRAE compliant
- LEED compliant

### Ordering







## Controllable Circuit Breaker Panel

- 365-day programmable breaker panel
- Automatic receptacle plug load control
- Integrates all of the features of a LightLEEDer panel into a breaker panel
- Communicates on the LightSync™ network
- LightSync switch and accessory ready
- USB, modem and TCP/IP connectivity available
- Integrated surge suppression
- Built-in programming backup and restore
- Connect up to 254 panels and 16,510 devices together
- Allows network connections across the Internet



## Overview

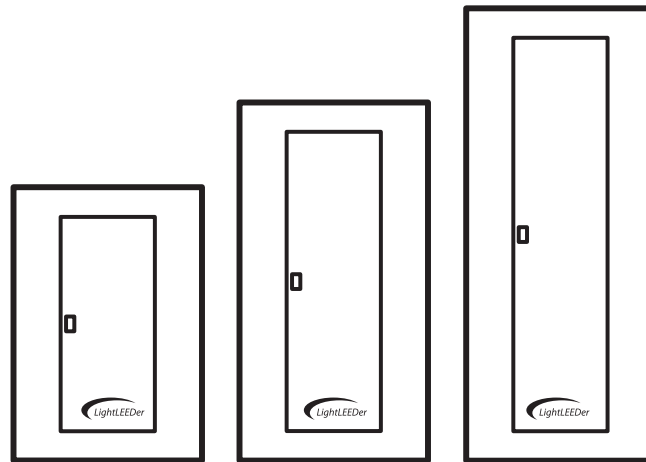
The LightLEEDer programmable breaker panel integrates lighting control into a panel board. The panels are custom built with the desired voltage, breakers, and mains. Panels range in size from 6 to 42 breakers and are equipped with CAT-5 RJ45 connectors for LightSync data line devices and interconnecting panels. Panels include a keyboard and LCD screen, along with USB and TCP/IP connections for easy programming with our free LightLEEDer Pro Software. Add-On modules are available for connecting to BAS, theatrical, or security systems.

## Features

- **Automatic** receptacle plug load and lighting circuit control
- **Programming Options** are done with a Integrated keypad with 4-line LCD display or using LightLEEDer Pro software via USB or TCP/IP.
- **LightSync Data Line Device Ready** utilizing RJ45 connectors and standard CAT-5 cabling for data line.
- **Network Capability** allows you to connect up to **254 panels** and **64 LightSync devices** per panel, plus an additional **254 devices** on the panel network.
- **Internet Capability** to interconnect panels across the internet.
- **Relay Groups** can comprise any relay or controllable breaker on the network and be assigned to any of the **256 available groups** — controlled by any timer, switch, or other external commands.
- **Relay Presets** can be programmed from any relay or controllable breaker ON/OFF patterns and be assigned to any of the **256 available presets** — controlled by any timer, switch, or other external commands.
- **Timer Scheduling** for **128 available timers** that can turn breaker relays ON or OFF for Time-of-Day, Astronomical times, and Open/Close.
- **Clock Functions** include Automatic Astronomical calculation of Sunrise and Sunset, Adjustable Daylight Saving Time and Enable/Disable.
- **Switching Inputs** accepts virtually any type of switch, momentary or maintained, 2- or 3-wire switch and directly powers motion sensors, data line switches and devices.
- **Switch Input Flexibility** is provided with time-of-day function change and also has “and” and “or” logic built in.
- **Add-On Modules** available for each controller, and include BACnet IP, BACnet MSTP, Modbus RTU, Modbus ASCII, N2, LonWorks, DMX512, DTMF telephone switching and modem.



## Physical



Physical size depends on panel configuration

## Specifications

### Breakers:

- 1 or 2 pole controllable breakers
- 1-, 2-, or 3-pole standard breakers
- Amperage: 15 to 100 Amp
- Mains: Lugs or breakers -100, 225, 400, and 600 Amp
- Voltage: 120/240, 208/120, 480/277 VAC

### Physical:

- 16 gauge NEMA 1 enclosures
- Provided with pre-drilled mounting holes
- Provided with a hinged locking door for flush or surface mounting

### Power Supply:

- 120 or 277 VAC @ 1 Amp, 347 VAC optional

### Capacities:

- Up to 42 breakers
- 2 to 4 add-on modules

### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL and CUL Listed

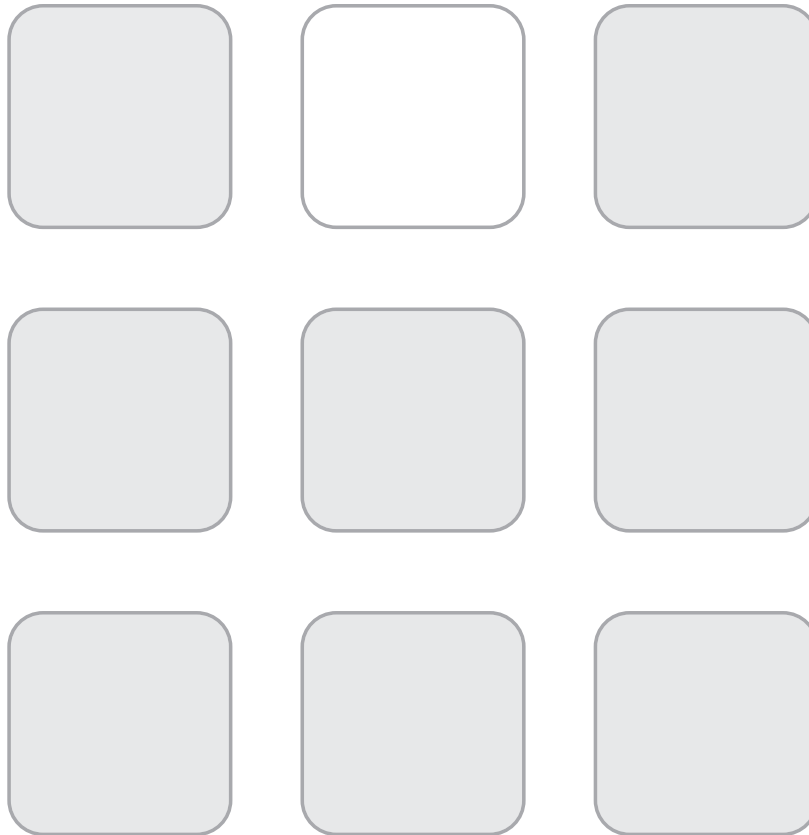
## Ordering

Contact ILC for ordering information

## Section 2: LightLEEDer Common Add-on Devices

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- LightSync Input Module
- LightSync Occupancy Sensor Input
- LightSync Occupancy Sensor 8 Input Module
- LightLEEDer Network Controller Module
- LightLEEDer Serial Interface Control Modules
- LightSync Dimming Module
- LightSync LVD Line Voltage Dimmer
- LightSync Power Supply Repeater, Power Supply
- LightSync Expansion Processor



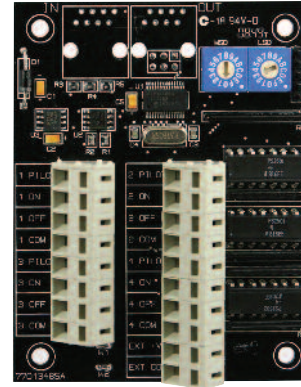




# LIGHT *Sync* Input Module

Hardwired Device Interface

- Provides hardwired inputs
- Installs directly onto output board or remotely
- 4 inputs per module
- Made in the USA
- Easy non-screw push-to-connect terminals
- Optically isolated inputs protect electronics
- Accepts dry contact closures or 12-24 VDC signals
- LED pilot outputs for true relay, group, or preset status



LightLEADER Common  
Add-on Devices

## Overview

The LightSync Input Module is designed to accept up to 4 hardwired switch inputs. Each input accepts a 2 or 3 wire dry contact switch closure or an equivalent open collect signal from any source. Each input module can also be configured to accept a 12-24 VDC signal from security or BAS systems. Any input can be programmed to control any relay(s), group(s), or preset(s) in any or all panels. Each input has an associated pilot status LED output that indicates the true status of any relay, group, or preset. It may also be programmed to a reverse status (LED is ON if the relay is OFF) or ON always. Inputs have a time-of-day or open/close time of action function which could disable the input or change the input type.

## Features

### General Information:

- **4 hardwire inputs** and status outputs per module
- **Made in the USA**
- **Installs** directly onto the output board
- **Digitally addressable** device for a unique address
- **Remote mounting** option for LightSync network
- **RJ45 connectors** for remote mounting module
- **Terminals** are an easy non-screw push-to-connect type
- **Optically isolated** inputs that protect the electronics
- **Accepts** dry contact closures or open collector outputs
- **Configurable** to accept 12-24 VDC signals
- **Accepts** 2 or 3 wire momentary or maintained switches
- **Associated LED pilot output** is provided for each input
- **True status pilot** for relay, group, or presets

### Remote Mounting Option:

- **Remote mount** anywhere on the LightSync network
- **Self powered** from the network
- **RJ45 connectors** provided for easy connection
- **Mounting plate** available
- **Great choice** for a central switch control station. Eliminates wiring individual switches to panels - only a data line required

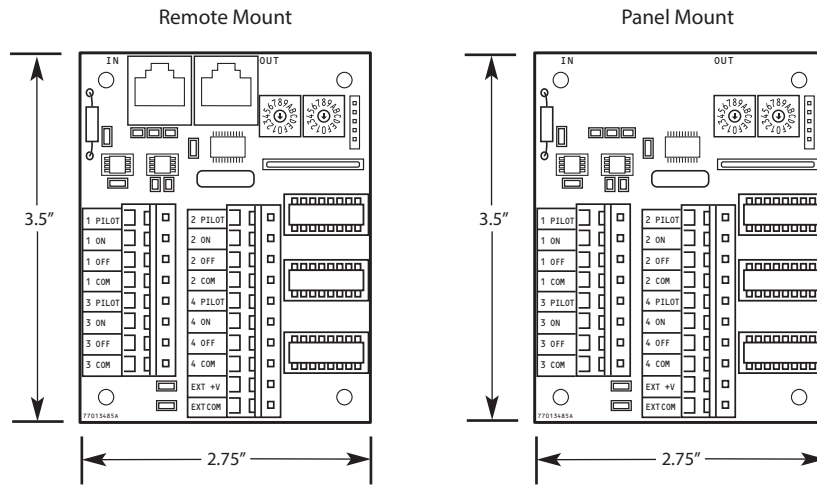
INTELLIGENT LIGHTING CONTROLS, INC.  
[www.ilc-usa.com](http://www.ilc-usa.com)



# LIGHT Sync Input Module

Hardwired Device Interface

## Physical



## Specifications

### Safeguards:

- Optically isolated inputs eliminate connection issues

### Physical:

- 2.75" Wide X 3.5" High
- Easy non-screw push-to-connect terminals
- Digital addressing switches
- RJ45 connectors for remote mounting options
- Remote mount option includes mounting plate

### Electrical:

- Powered from the panel or from the LightSync network

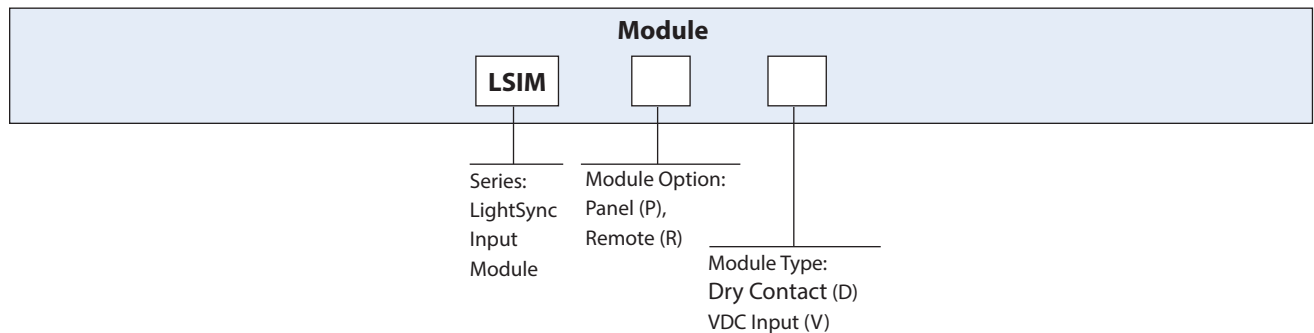
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

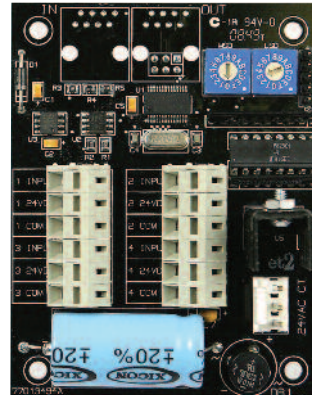
- FCC Part 15

## Ordering





- Provides power and inputs for occupancy sensors
- Installs directly onto output board or remotely
- 4 inputs per module that accept 24V signals
- Optically isolated inputs protect electronics
- Connect multiple sensors to each input
- Eliminates need for expensive power packs
- Works with major manufacturers' sensors



LightLEEDer Common  
Add-on Devices

## Overview

The LightSync Occupancy Sensor Input module is designed to power and receive signals from 2 sensors on each of its 4 independent inputs. Eliminate expensive power packs by simply direct-wiring the sensors into the LightLEEDer inputs. This module mounts directly in the panel on the output module, or can be mounted remotely in a location central to the sensors. Each independent input can control any relay(s), group(s), or preset(s) throughout the network. Inputs also have a time-of-day or open/close time-of-action which could disable the input or change the relays controlled.

## Features

### General Information:

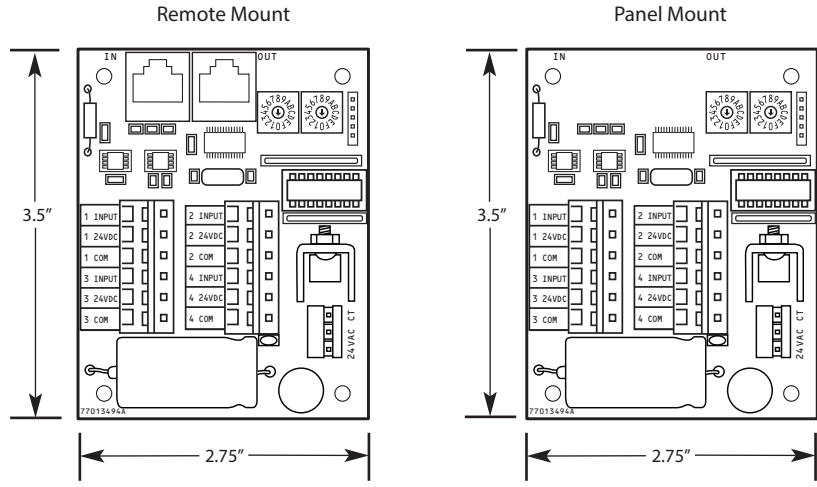
- **Provides power and inputs** for occupancy sensors
- **Made in the USA**
- **Installs** directly onto the output board
- **Digitally addressable** device for a unique address
- **Remote mounting option** for LightSync network
- **RJ45 connectors** for remote mounting module
- **Connectors** are easy non-screw push-to-connect type
- **Optically isolated inputs** to protect the electronics
- **Sensor signals** accepted directly on module
- **Connect multiple** sensors to each input
- **Power packs** not required
- **Works** with most major manufactured sensors

### Remote Mounting Option:

- **Remote mount** anywhere on the LightSync network
- **Powered** from a 24VAC transformer
- **RJ45 connectors** provided for easy connection
- **Mounting plate** available
- **Great choice** for centrally locating the module with sensors



**Physical**



**Specifications**

**Safeguards:**

- Optically isolated inputs protect electronics

**Physical:**

- 2.75" W x 3.5" H
- Easy non-screw push-to-connect connectors
- Digital addressing switches
- RJ45 connectors for remote mounting option
- Remote mount option includes mounting plate and transformer

**Electrical:**

- Powered from panel transformer (remote option powered by 24VAC transformer).
- 200mA @ 24VDC maximum draw per module

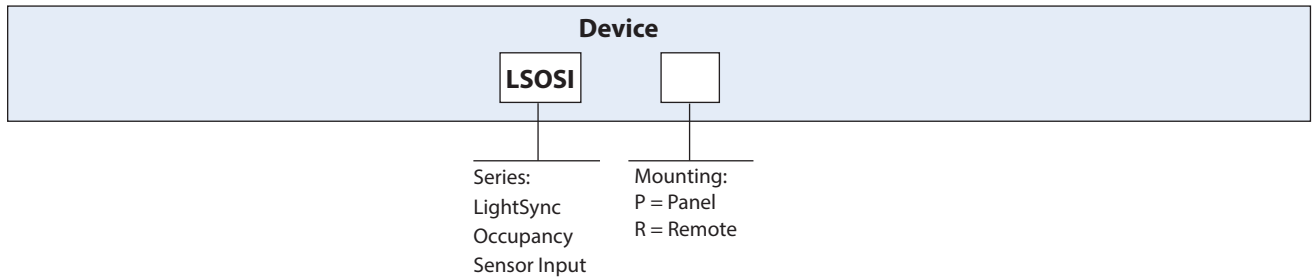
**Operating Environment:**

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

**Certifications and Approvals:**

- FCC Part 15

**Ordering**



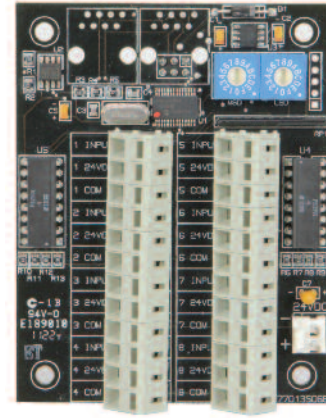




# LIGHT *Sync* OS81

Occupancy Sensor  
8 Input Module

- Provides power and inputs for occupancy sensors
- Installs directly onto output board or remotely
- 8 inputs per module that accept 24V signals
- Optically isolated inputs protect electronics
- Connect multiple sensors to each input
- Eliminates need for expensive power packs
- Works with major manufacturers' sensors
- Made in the USA



LightLEEDer Common  
Add-on Devices

## Overview

The LightSync Occupancy Sensor 8 Input module is designed to power and receive signals from multiple sensors on each of its 8 independent inputs. Eliminate expensive power packs by simply direct-wiring the sensors into the LightLEEDer inputs. This module mounts directly in the panel on the output module, or can be mounted remotely in a location central to the sensors. Each independent input can control any relay(s), group(s), or preset(s) throughout the network. Inputs also have a time-of-day or open/close time-of-action which could disable the input or change the relays controlled.

## Features

### General Information

- **Provides power and inputs** for occupancy sensors
- **Made in the USA**
- **Installs** directly onto the output board
- **Digitally addressable** device for a unique address
- **Remote mounting option** for LightSync network
- **RJ45 connectors** for remote mounting module
- **Connectors** are easy non-screw push-to-connect type
- **Optically isolated inputs** to protect the electronics
- **Sensor signals** accepted directly on module
- **Connect master and slave** sensors to each input
- **Works** with most major manufactured sensors

### Remote Mounting Option

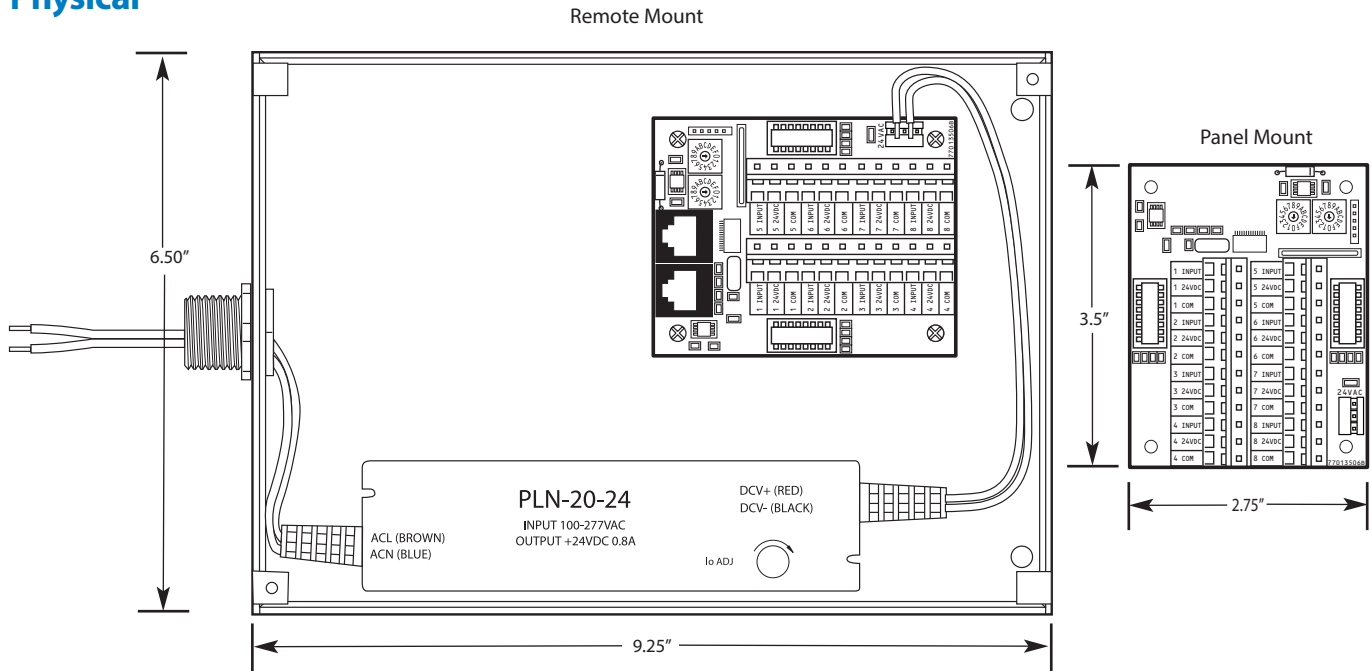
- **Remote mount** anywhere on the LightSync network
- **Powered** from a 120/277VAC power supply
- **RJ45 connectors** provided for easy connection
- **Great choice** for centrally locating the module with sensors



# LIGHT Sync OS8I

Occupancy Sensor  
8 Input Module

## Physical



## Specifications

### Safeguards:

- Optically isolated inputs protect electronics

### Physical:

- 2.75" W x 3.5" H
- Easy non-screw push-to-connect connectors
- Digital addressing switches
- RJ45 connectors for remote mounting option

### Remote Mount Physical:

- Enclosure: 6.50" x 9.25" x 2.50" with screw cover
- 1/2" nipple for mounting to an electrical box
- 6" wire leads provided for high voltage connection
- Push-to-connect low voltage connections
- Provided with pre-drilled mounting holes

### Electrical:

- Electronics powered from LightSync data line
- Sensors powered from 120/277VAC power supply
- Current: 800mA
- Voltage: 24VDC
- Current limited circuit

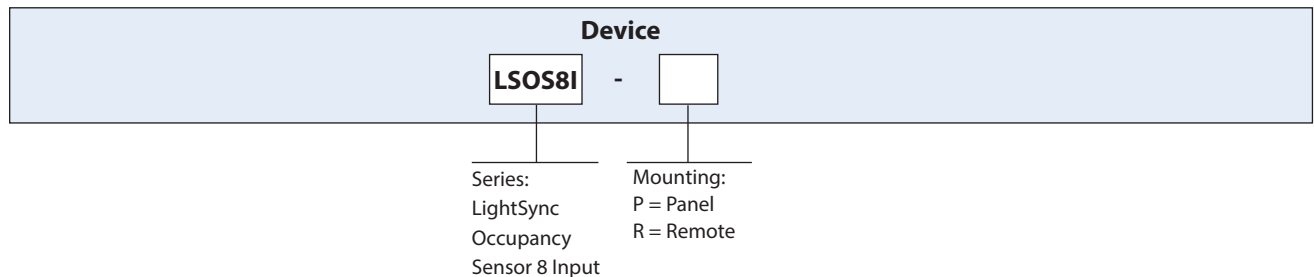
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- FCC Part 15
- UL

## Ordering

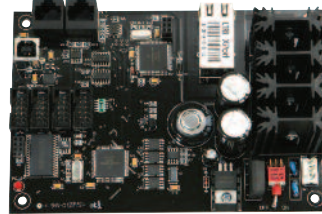




- Controls network communications
- Enables interconnections between panels
- Syncs clocks and data between panels
- Allows panel network LightSync devices
- USB or TCP/IP connections to a PC
- Panel mount or remote panel w/ hinged locking door



Basic Network Controller



Advanced Network Controller



Remote Advanced Network Panel  
W/ Hinged Locking Door

## Overview

The LightLEEDer Network Controller Modules manage network activities including syncing panel clocks, and data between panels. The Basic Network Module manages communication between up to 254 panels, allows up to 254 LightSync devices on the panel network, and provides USB connection to a PC. The Advanced Network Module allows the features of the Basic Network Controller. Additional features include high-speed LightSync device scanner with data line power, single point gateway options, and TCP/IP to host communications. The Advanced Network controller can double stack on top of a processor in any panel, or is available in a NEMA 1 enclosure with a hinged locking door. This provides a remote panel with room for Gateways, PSR's, and other required devices.

## Features

### Basic Network Controller General Information:

- **Network** up to 254 panels
- **Made in the USA**
- **Communications** are controlled across the network
- **254 LightSync devices** permitted on the panel network
- **USB connection** throughout the network for programming and control
- **Installs directly** into any panel
- **RJ45 connectors** for easy connection to the network
- **Ribbon connectors** for easy installation into any panel

### Advanced Network Controller General Information:

- **Provides** all Basic Network Controller features
- **High speed LightSync device** scanner for fast communications
- **Ethernet port** for TCP/IP connection for programming and control
- **4 Gateways** ports for single point connections to the BAS system
- **Powers data line** for LightSync devices

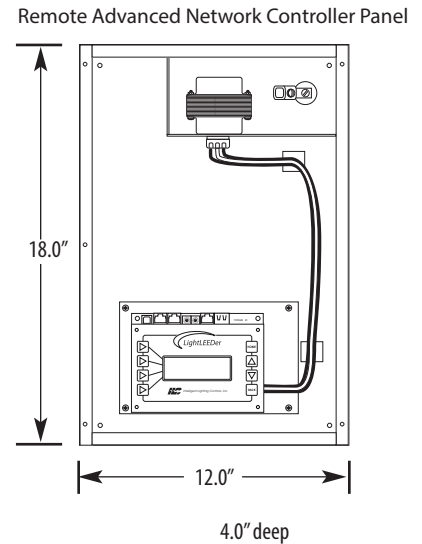
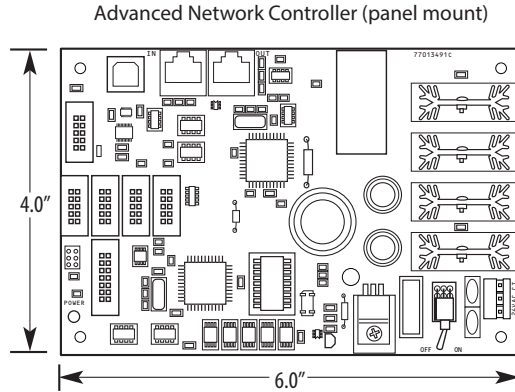
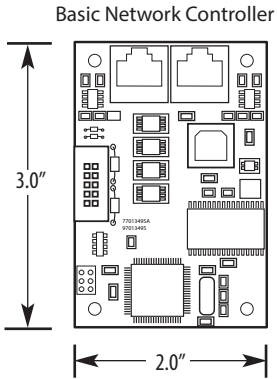
### Remote Advanced Network Controller Panel General Information:

- **Provided** with a NEMA 1 enclosure w/ hinged locking door
- **Segregates** Advance Network Controller from lighting controller
- **Localizes** network access point to any control room
- **Mounts** anywhere on the LightSync network
- **Customize** with any of the available Gateways, PSR boards, or other devices. Contact ILC for more information



## Network Controller Modules

### Physical



### Specifications

#### Physical

##### Panel Mount:

- Basic: 2" Wide X 3" High
- Advanced: 6" Wide X 4" High
- Removable power connector
- USB connector
- RJ45 Ethernet connector

##### Advanced Remote Panel W/ HLD:

- 12" Wide X 18" High X 4" Deep
- NEMA1 enclosure with knockouts
- Hinged locking door provided
- ANSI 61 gray finish
- Mounting holes provided
- High voltage divider

##### Electrical:

- Panel Mount: Powered from panel
- Remote Panel: 120/277 VAC, 1 Amp

##### Configuration:

- Software programming
- Directly through keypad

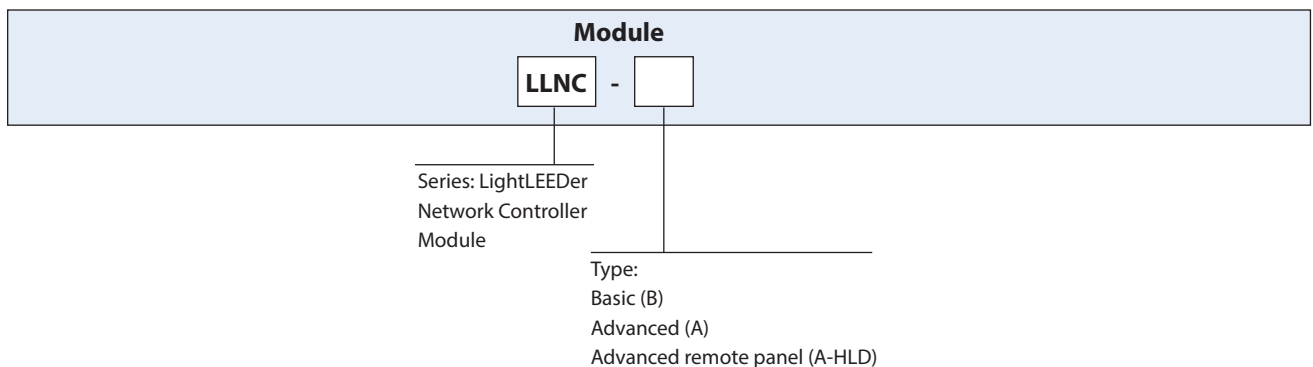
##### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

##### Certifications and Approvals:

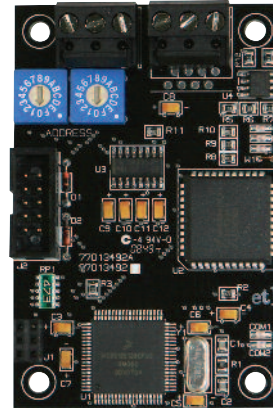
- UL
- CUL
- FCC Part 15

### Ordering





- Direct control for Building Automation System
- Connect with BACnet IP/MSTP, Modbus ASCII/RTU, LonWorks, N2, or ILC protocol
- Allows direct control of relays
- Provides relay status
- Able to control relays using timer options
- Allows BAS to enable or disable switch inputs
- Optional single point gateway available



## Overview

The LightLEEDer Serial Interface Module can be added to any panel to provide control from any building automation system using BACnet IP, BACnet MSTP, Modbus RTU, Modbus ASCII, Modbus TCP, LonWorks, Metasys N2, or ILC serial protocol. With the panel module, commands can be sent to the panel to force relays ON and OFF, force relays On and OFF with a timer option (blink, double blink, HID delay, Alarm ON, Alarm OFF, Pulse ON, and Pulse OFF), monitor relay status, monitor input status, and enable/disable inputs. A single point gateway is available for control and status of relays, groups, and presets on the network.

## Features

### Protocols:

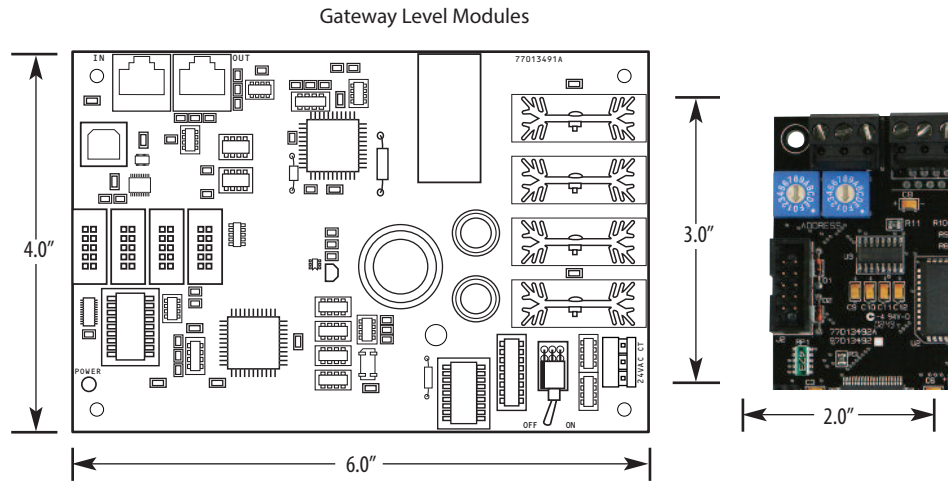
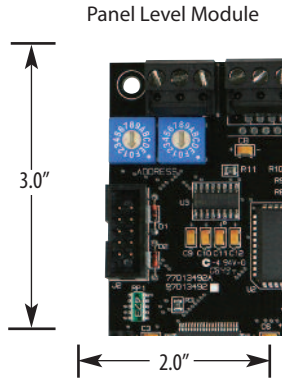
- **BACnet IP**– an ASHRAE protocol communicating on a TCP/IP network
- **BACnet MSTP**– an ASHRAE protocol communicating on a RS485 network
- **Modbus RTU**– a Modicon protocol communicating on RS485/RS232 in a binary coded format
- **Modbus ASCII**– a Modicon protocol communicating on RS485/RS232 in an ASCII coded format
- **Modbus TCP**– a Modicon protocol communicating on a TCP/IP network
- **LonWorks**– an Echelon protocol communicating on a 2 wire data line
- **Metasys N2**– a Johnson Controls protocol communicating on RS485
- **ILC Open Protocol**– an ILC protocol communicating on RS485/RS232 in an ASCII coded format

### General Information:

- **Direct communications** for BAS control of lighting panel
- **Made in the USA**
- **Direct control** of any relay output giving complete control
- **True status** of relays in the lighting panel
- **Timer option** commands available for blink alerts and alarms
- **Allows enable/disable** commands for switch inputs
- **Installs directly** into any panel
- **Extractable files** from BACnet and LonWorks modules



### Physical



NOTE: Physical appearance may vary between protocols.

### Specifications

**Physical:**

- Panel Level: 2" Wide X 3" High
- Gateway Level: 6" Wide X 4" High  
2" Wide X 3" High
- RJ45 connectors for Ethernet based communications
- Removable screw connectors for data line communications

**Electrical:**

- Powered from the panel

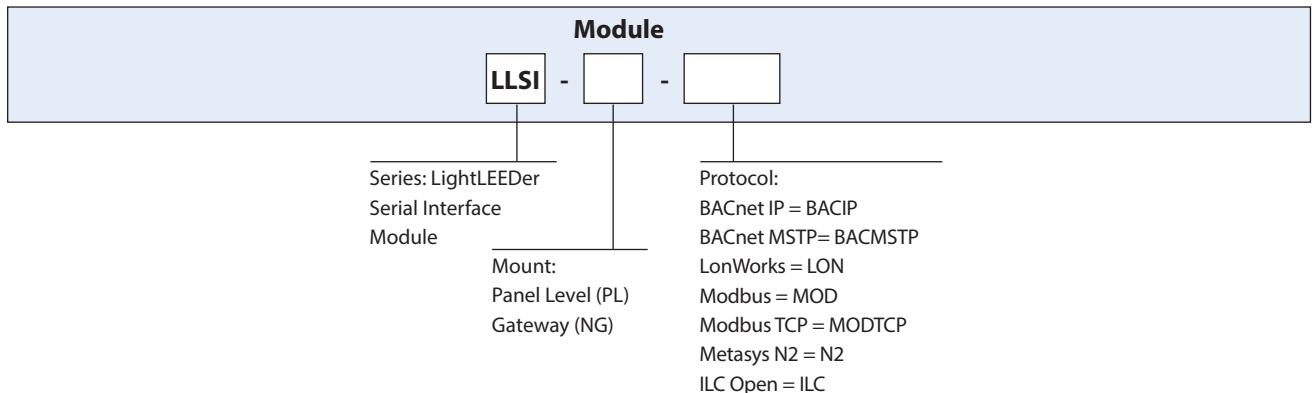
**Operating Environment:**

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

**Certifications and Approvals:**

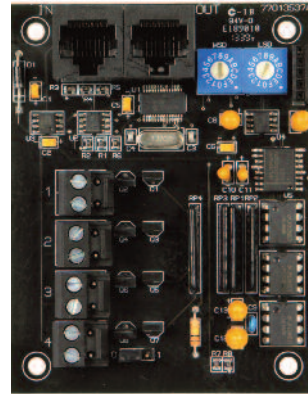
- FCC Part 15

### Ordering





- Controls 0-10V dimmable ballast or other 0-10V devices
- Installs directly onto output board or remotely mounted
- Provides 4 independent output channels per module
- Each output is capable of driving up to 200 ballasts
- Responds to LightSync inputs, hardwired inputs, and timers
- Able to track DMX512 signals
- Standard voltage sink module or optional sink/source/direct module
- Standard module output will go to 10V upon power loss



## Overview

The LightSync Dimming Module is designed for 0-10V device control. It can be used in conjunction with a photocell controller for programmable daylight harvesting. This module can be installed in the lighting control panel or remotely mounted on the LightSync network. Each of the 4 independent channels can control up to 200 ballasts with 256 steps between 0 and 10V. Outputs are designed to sink voltage, and an optional module is available with sink/source/direct drive option. Each output may be programmed to respond to 16 inputs per channel. The intuitive software provided makes it easy to program and adjust the settings. If the power is lost to the standard dimming module, the output signal to the ballast will go to 10V for full brightness.

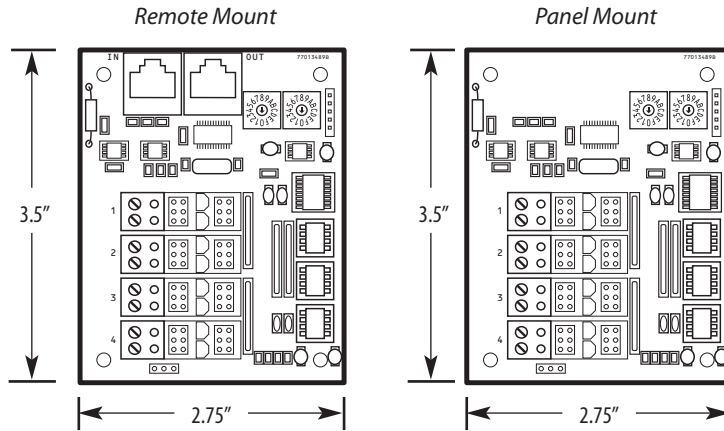
## Features

### General Information:

- **4 independent channels** per module provide the flexibility to control up to 4 zones
- **Made in the USA**
- **Each output** can control up to 200 typical ballasts at .5mA each
- **Power-On level settings** allow each output to be configured for 0 to 100% levels upon power-up
- **Power Loss** to dimming module sets dimming to full brightness
- **LightSync photocell** tracking programmed directly to output point(s)
- **Each output may be programmed** to respond to 16 LightSync or hardwire inputs. Each input can be programmed to force the output to a preset level, raise or lower at 10% increments, and can work in conjunction with a photocell. Inputs can be set to “revert to photocell control” after a period of time that can range from 5 to 600 minutes in 5 minute increments.
- **Fade rate** of 0 to 300 seconds can be programmed for each output
- **Minimum and maximum output levels** can be configured for each output
- **With a DMX512 serial interface**, each output can be controlled by any of the DMX512 signal channels
- **Panel mount** installs directly on output board
- **Remote mounting** option for LightSync network
- **RJ45 connectors** for remote mounting module
- **Removable connectors** for easy installation
- **Digitally addressable**
- **Optional** sink/source and direct drive output module



## Physical



## Specifications

### Physical:

- 2.75" Wide X 3.5" High
- Removable output connectors
- Digital addressing switches
- RJ45 connectors for remote mounting options

### Electrical:

- Powered from the panel or from the LightSync network
- 100mA sink per channel (Optional Module: 100mA sink/source and 10mA direct)
- 0-10VDC

### Configuration:

- Software programming
- Directly through keypad

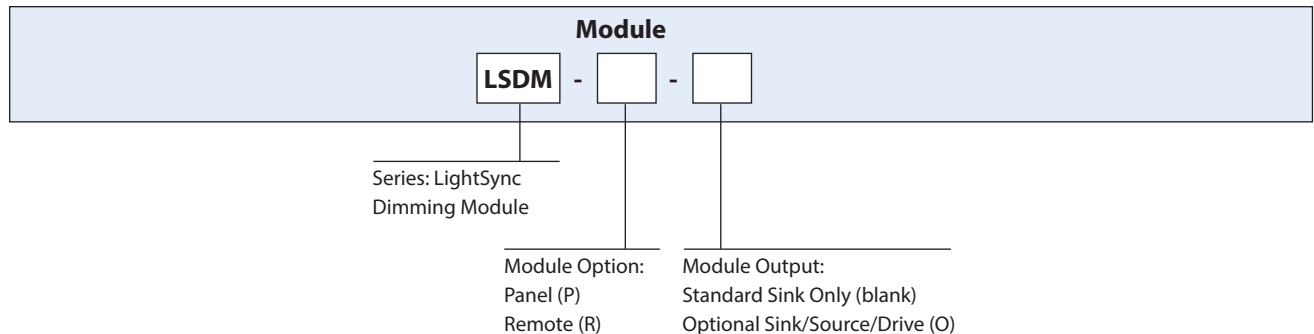
### Operating Environment:

- Location: Interior space
- Operating Temp: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- FCC Part 15

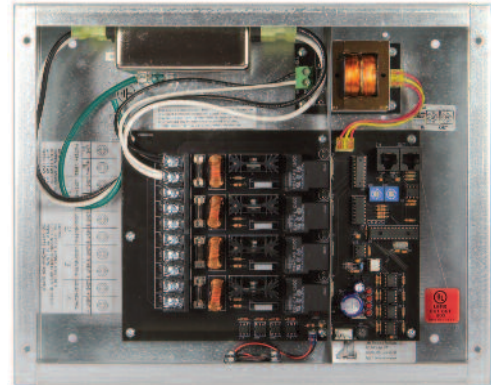
## Ordering







- Line voltage dimming
- 4 independent dimming outputs
- 500 Watts per channel
- Relay On/Off control for each channel
- Communicates on the LightSync data line
- Controls Incandescent, LED, and cold cathode loads
- Made in the USA



## Overview

The LightSync Line Voltage Dimmer is controlled in the ILC lighting control system network. It contains 4 independent forward phase control channels capable of up to 500 watts per channel. It is designed to control incandescent, LED, and cold cathode fixtures and dim loads through the full range with smooth transitioning. Being a LightSync device, it can be directly controlled anywhere on the network with photo sensors, switches, sliders, timers and more.

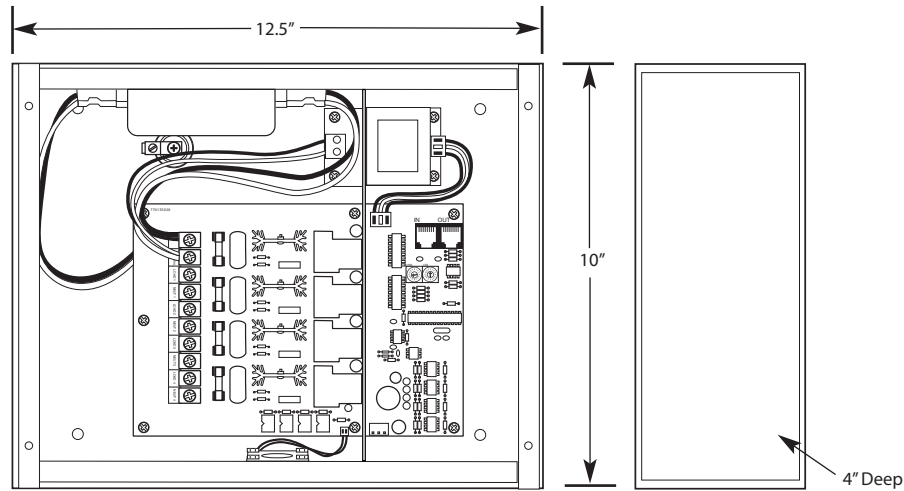
## Features

### General Information:

- **Made in the USA**
- **4 independent channels** are provided for the flexibility to control up to 4 zones
- **Forward** phase solid state control
- **Relay control** for turning loads On/Off
- **Each output** is capable of controlling up to 500 watts
- **Power-On level settings** allow each output to be configured for 0 to 100% levels after a building power loss
- **LightSync photocell** tracking programmed directly to output channel(s)
- **Each output may be programmed** to respond to 16 LightSync or hardwire inputs. Each input can be programmed to force the output to a preset level, raise or lower at 10% increments and can work in conjunction with a photocell. Inputs can be set to "revert to photocell control" after a period of time that can range from 5 to 600 minutes in 5 minute increments.
- **A fade rate** of 0 to 300 seconds can be programmed for each output
- **Minimum and maximum levels** can be configured for each output
- **With a DMX512 serial interface**, each output can be controlled by any of the 512 signal channels
- **Digitally addressable** device for a unique address



## Physical



## Specifications

### Physical:

- Galvanized NEMA 1 enclosure
- Screw cover provided
- 12.5" wide X 10" high X 4" deep
- Knockouts provided
- Screw connectors for each output
- Neutral wire terminations included
- Fused outputs
- Digital addressing switches
- RJ45 connectors for data connections

### Electrical:

- 120 VAC
- 20 amps
- 4- 500 watt dimming outputs

### Configuration:

- Software programming
- Directly through keypad

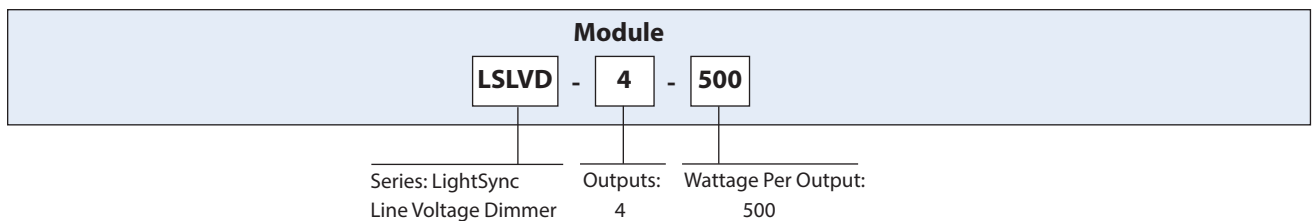
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 40° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL916
- FCC Part 15

## Ordering





# LIGHT Sync PSR & PS

Power Supply Repeater and Power Supply

- Extends power and data for LightSync devices on the network
- Made in the USA
- Allows data line "T" connections
- Increased data line length to 3000 linear feet
- Adds power for up to 20 LightSync devices
- Remote mounting NEMA 1 enclosure
- Optional power supply without data extension



LightLEADER Common  
Add-on Devices

## Overview

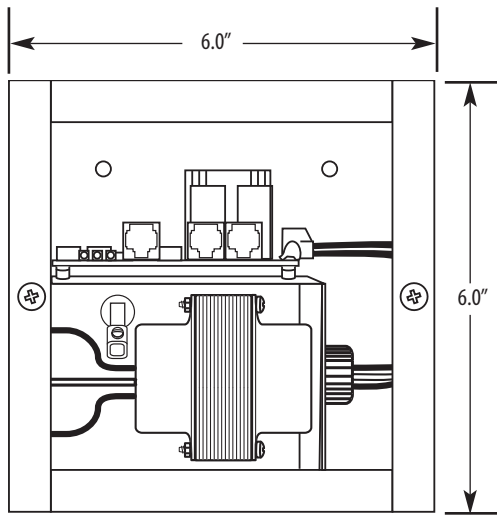
The LightSync Power Supply Repeater extends the data and adds power on the data line for LightSync devices. It renews data and increases the data line length by 3000 linear feet and also allows data lines "T's". Power is added for up to 20 additional LightSync devices on the data line and 3000 cumulative feet. The Power Supply Repeater and Power Supply come in a NEMA 1 enclosure with a multi-tap transformer and a high voltage divider.

## Features

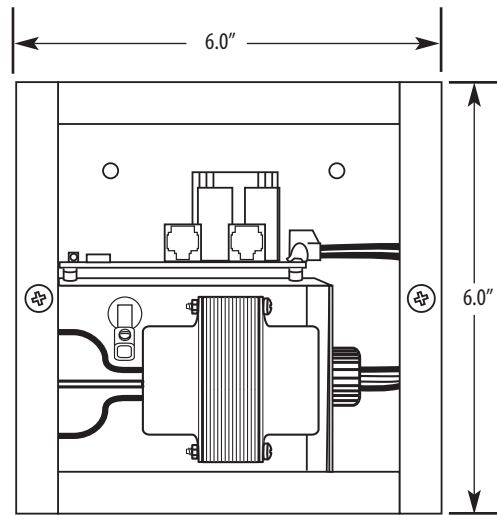
- **Made** in the USA
- **Data** is renewed and extended by an additional 3000 feet
- **Nodes** on the data line increase by 31 devices for data
- **Powers** up to 20 LightSync devices 3000 cumulative feet
- **Allows splitting** or "T" connections of data line
- **Enclosure** is NEMA 1 rated with high voltage divider
- **Remote mount** anywhere on the LightSync network
- **RJ45 connectors** provided for easy connection
- **Wired** from the factory, ready to install
- **Optional** power supply for data line devices without having data renewed and extended



## Physical



Power Supply Repeater



Power Supply

## Specifications

### Physical:

- Standard NEMA-1 enclosure
- 6"W x 6"H x 4"D
- Operates in any position
- High voltage barrier division
- Factory wired, ready to install
- RJ45 connectors provided for easy connection
- Feed through for main data line

### Electrical:

- 120/277 VAC, optional 120/ 347 VAC

### Power Supply Repeater Capacities:

- Powers up to 20 LightSync devices 3000 cumulative feet
- Extends data 3000 linear feet
- Allows "T" connections

### Power Supply Capacities:

- Powers up to 20 LightSync devices 3000 cumulative feet

### Operating Environment:

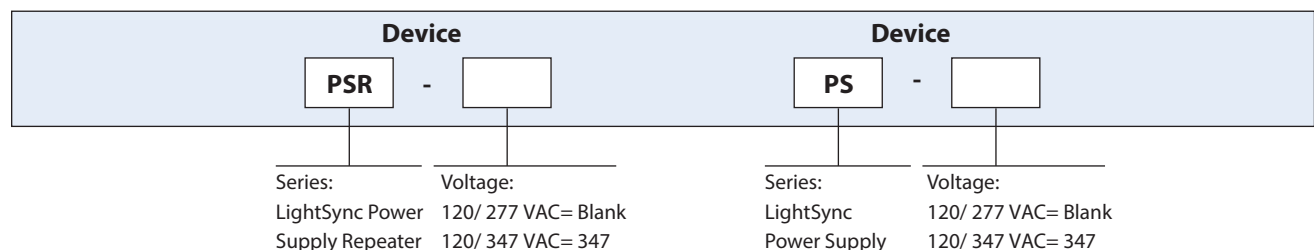
- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL CUL
- FCC Part 15

**Note:** The LightSync Power Supply provides power ONLY to a network expansion and DOES NOT repeat data. To extend the data network beyond 3000 cumulative feet, a LightSync Power Supply Repeater is required.

## Ordering





- Made in the USA
- Used for controlling LL-2RC, LL-4RC, and LL-4X remote panels
- Adds standard panel capabilities to remote panels
- USB, modem and TCP/IP connectivity available
- Integrated surge suppression
- Built in programming, backup and restore
- Connect up to 16 LL-2RC, -4RC, or -4X panels
- Remote mounting options



## Overview

The LightLEEDer Expansion Processor gives the LightLEEDer-2RC, -4RC, and -4X remote panels all of the features of a standard LightLEEDer panel which include networking and time scheduling. Processors include a keyboard/LCD along with USB and optional TCP/IP or modem connection for programming with the complementary LightLEEDer Pro Software. Add-On modules are also available for connecting to BAS, theatrical, or security systems.

## Features

### General Information:

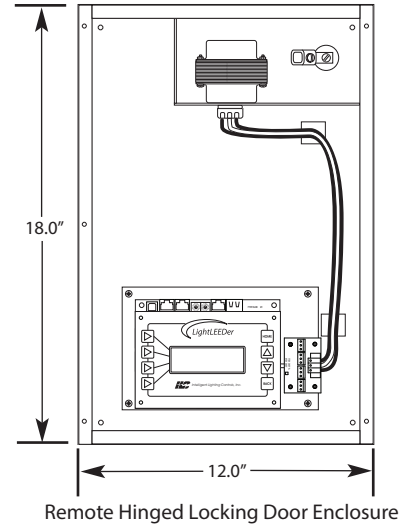
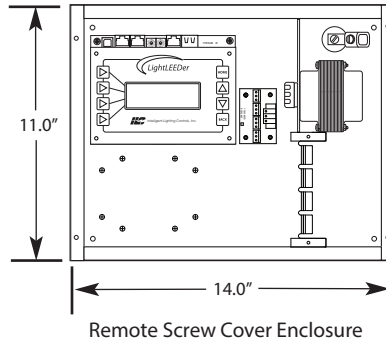
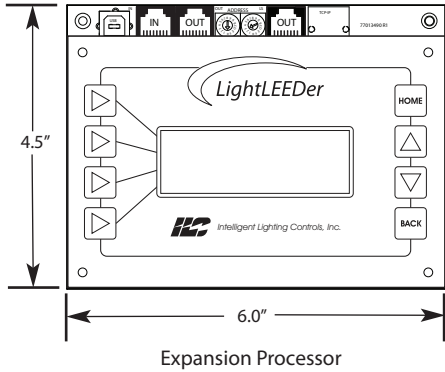
- **Made in the USA**
- **Controls** up to 16 remote LL-2RC, -4RC, and -4X panels
- **Adds** standard panel capabilities to remote panels
- **Programming Options** are done with a Integral keypad with 4 line LCD Display or using LightLEEDer Pro software via USB or optional TCP/IP or optional modem
- **LightSync Data Line Device Ready** utilizing RJ45 connectors and standard CAT-5 cabling for data line
- **Network Capability** gives you the ability to connect up to the LightLEEDer network.
- **Internet Capability** to interconnect panel networks across the internet
- **Relay Groups** can be comprised of any relay on the network and assigned to any of the 256 groups available can be controlled by any timer, switch, or other external commands
- **Relay Presets** can be programmed from any relay ON/OFF patterns and be assigned to any of the 256 presets available and can be controlled by any timer, switch, or other external commands
- **Timer Scheduling** for 128 available timers that can turn relays ON or OFF for Time-of-Day, Astronomical times, and Open/Close.
- **Clock Functions** features Automatic Astronomical calculation of Sunrise and Sunset and Adjustable Daylight Saving Time and enable/disable feature
- **Add-On Modules** can be added to each controller which include BACnet IP, BACnet MSTP, Modbus RTU, Modbus ASCII, Modbus TCP, N2, LonWorks, DMXS12, DTMF telephone switching and modem

### Safeguards:

- **Power surge and spike suppression** up to 123 volts on the 24VAC power input
- **Data Line surge and spike suppression** up to 8kv direct and 15ky thru air
- **Memory retention** for firmware and programming up to 200 years and electrostatic discharge to 4kv
- **Real-Time-Clock time retention** 45 days or greater without power
- **Internal memory backup** and restore



### Physical



### Specifications

#### Expansion Processor Physical:

- 6.0"W x 4.5"H x 2.0"D
- Mounts in lighting panel or remotely
- Digital addressing switches
- RJ45 data line connectors
- USB interface

#### Remote Screw Cover Enclosure Option:

- 14"W x 11"H x 6"D
- NEMA 1 enclosure
- Screw cover
- Provided with pre-drilled mounting holes
- High voltage barrier separate low/high voltage wiring
- Transformer provided
- Room for other accessories

#### Remote Hinged Locking Door Enclosure Option:

- 12"W x 18"H x 4"D
- NEMA 1 enclosure
- Hinged locking door
- Slam latch provided
- Provided with pre-drilled mounting holes

#### Remote Hinged Locking Door Enclosure Option (Cont.):

- High voltage barrier separate low/high voltage wiring
- Transformer provided
- Room for other accessories

#### Electrical:

- 120 or 277 VAC @ 1 Amp, 347 VAC optional

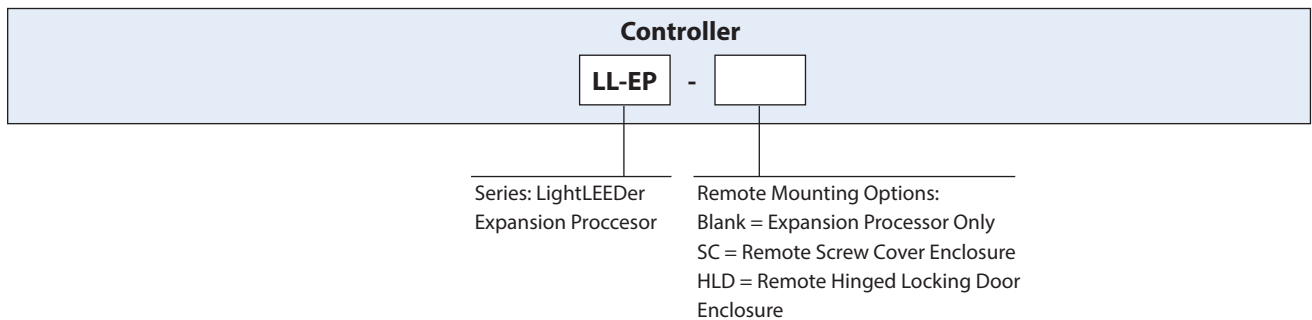
#### Operating Environment:

- Location: Interior space
- Operating Temperature: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

#### Certifications and Approvals:

- UL
- CUL
- FCC Part 15
- Title 24
- ASHRAE compliant
- LEED compliant

### Ordering



# Section 3: Photo Sensors

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- LightSync Photo Sensor
- LightSync Photo Sensor 4
- Hardwire Photo Sensor





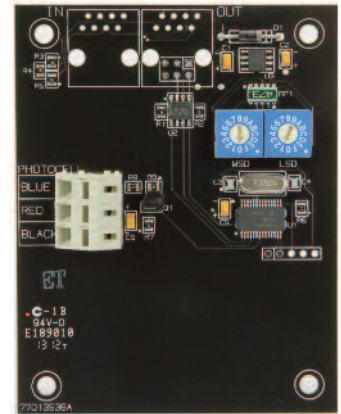




# LIGHTSync™ Photo Sensor

Network Photo Sensor Controller  
Indoor or Outdoor Sensor

- Monitors light levels indoors or outdoors
- Light range from 0 to 1800 foot candles
- Communicates directly on the data line
- Panel or remote mounted electronics
- 8 individually adjustable on and off control points
- Adjustable photocell filter
- Made in the USA
- Powered directly from the data line



## Overview

The LightSync Photo Sensor monitors light levels and transmits data across the LightSync network to the lighting control panels. Each sensor has 8 individual set points for on or off control with a selectable dead-band and is programmable to control any or all relays, groups, or presets. Each sensor has a built-in adjustable filter to eliminate false triggering from lightning or other light sources. This sensor can be used for daylight harvesting to shed lighting loads or used with a dimming module to dim loads. The indoor and outdoor photocell heads convert the analog light levels to a digital form and are UV and weather resistant.

## Features

- **Light levels** monitored indoors or outdoors to 1800 foot candles
- **Made in the USA**
- **Control points** consist of 8 individual On and Off inputs
- **Dead-band** for each control point
- **Analog to digital** photocell heads
- **Photocell filter** to eliminate false triggering of loads
- **Digitally addressable** device for a unique address
- **RJ45 connectors** for easy data line connections
- **Mounting options** for in the panel or at a remote location
- **UV resistant** photocell heads
- **Encased photocell head** protects sensor from the elements
- **Connectors** are push-to-connect

## Safeguards:

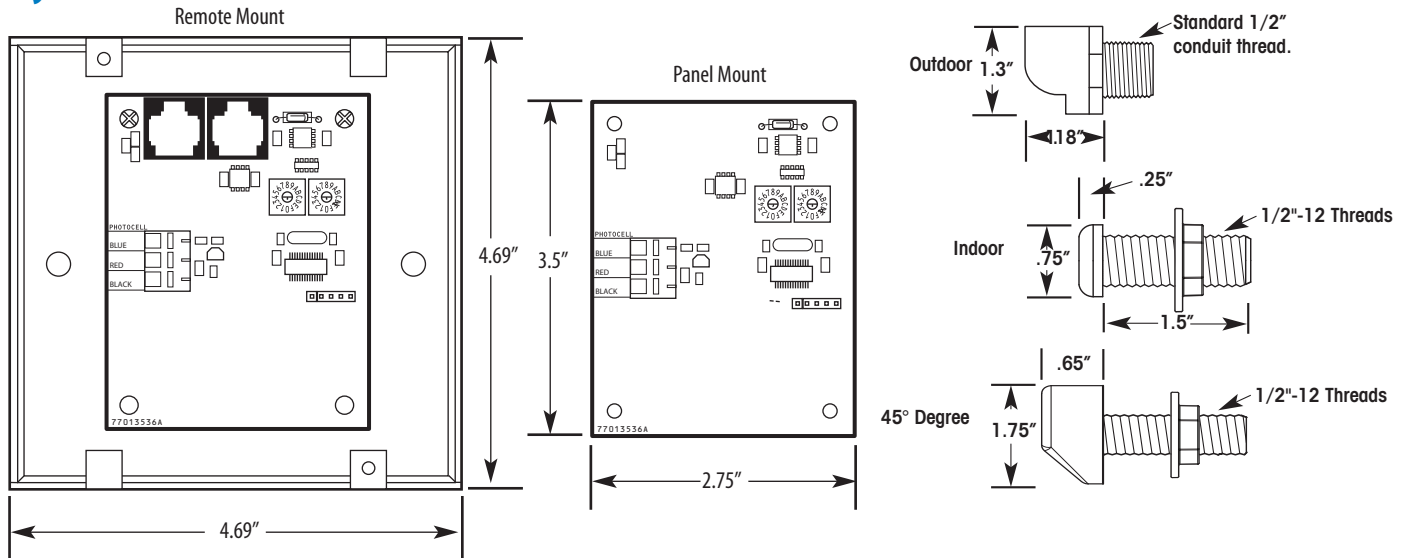
- Photocell filter to eliminate false triggering of loads
- UV resistant photocell heads
- Encased outdoor photocell head protects sensor from the elements



# LIGHT Sync™ Photo Sensor

Network Photo Sensor Controller  
Indoor or Outdoor Sensor

## Physical



## Specifications

### Controller Physical:

- 2.75" Wide x 3.50" High
- Digital addressing switches
- Power out and digital input connections
- Remote mount has RJ45 connectors easy data line connections
- Remote mount provided with a 4.69" x 2.25" deep steel box with cover
- Panel mount supplied with connector for direct connection onto a relay driver board
- Push-to-connect photo sensor input

### Electrical:

- Powered from the panel or the LightSync network

### Photocell Heads:

- Outdoor photocell mounts in a 1/2" LB type fitting or junction box
- Indoor photocell mounts to ceiling tile or other structure
- Indoor 45 degree photocell mounts to ceiling or other structure. Angled for light harvesting.

### Controller Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 50° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

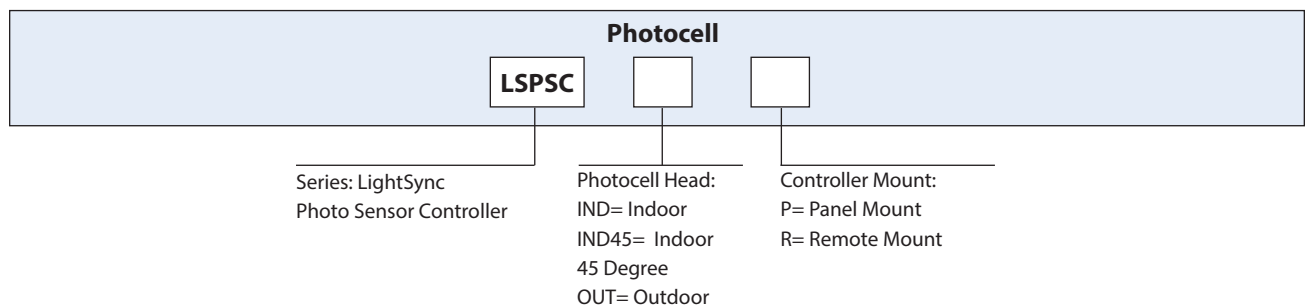
### Photocell Operating Environment:

- Location: Interior/Exterior Space
- Operating Temp.: -35° to 50° C
- Humidity: 10% to 100% Condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications:

- UL CUL
- FCC Part 15

## Ordering

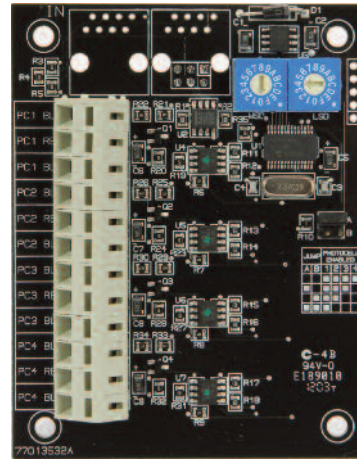




# LIGHTSync™ Photo Sensor 4

Network Photo Sensor Controller  
Indoor or Outdoor Sensor

- Incorporates 4 photo sensor controllers in 1 board
- Monitors light levels indoors or outdoors
- Light range from 0 to 1800 fc
- Communicates directly on the data line
- Panel or remote mounted electronics
- 8 individually adjustable on and off control points
- Adjustable photocell filter
- Powered directly from the data line
- Made in the USA



## Overview

The LightSync Photo Sensor 4 incorporates a space-saving 4 head controller in 1 module. As with our standard photocell controller it monitors the light levels and transmits the data across the LightSync data line to the lighting control panels. Each sensor has 8 individual set points for on or off control with a selectable dead-band and is programmable to any or all relays, groups, or presets. Each sensor has a built in adjustable filter to eliminate false triggering from lightning or other sudden light sources. Can be used for daylight harvesting to shed lighting loads or used with a dimming module to dim loads. The indoor and outdoor photocell heads convert the analog light levels to a digital form and are UV resistant.

## Features

### General Information:

- **Light levels** monitored indoors or outdoors from 0 to 1800 fc
- **Incorporates** 4 LightSync photocell controllers in 1 module
- **Configurable** from 1 to 4 photocells
- **Control points** consists of 8 individual On and Off inputs
- **Dead-band** for each control point
- **Analog to digital** photocell heads
- **Photocell Filter** to eliminate false triggering of loads
- **Digitally addressable** device for a unique address
- **RJ45 connectors** for easy data line connections
- **Photocell head connectors** are push-to-connect type
- **Mounting** options for in the panel or at a remote location

### Safeguards:

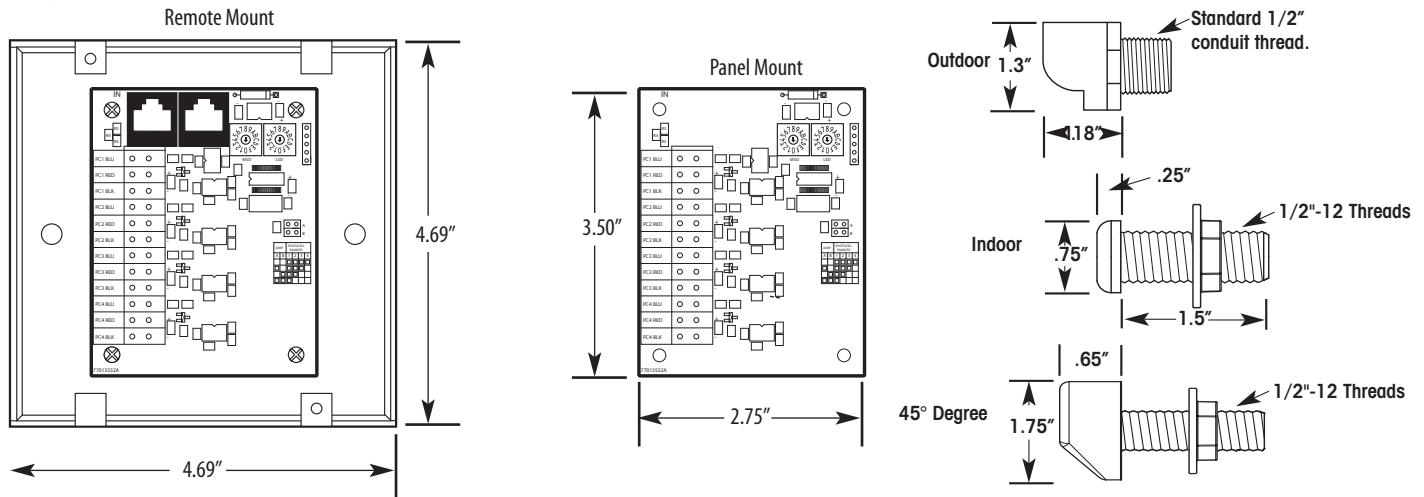
- Photocell filter to eliminate false triggering of loads
- UV resistant photocell heads
- Encased outdoor photocell head protects sensor from the elements



# LIGHT Sync™ Photo Sensor 4

Network Photo Sensor Controller  
Indoor or Outdoor Sensor

## Physical



## Specifications

### Controller Physical:

- 2.75" Wide x 3.50" High
- Digital addressing switches
- Configuration selection jumpers
- Remote mount has RJ45 connectors easy data line connections
- Remote mount provided with a 4.69" x 2.25" deep steel box with cover
- Panel mount supplied with connector for direct connection onto a relay driver board
- Push-to-connect photo sensor inputs

### Photocell Heads:

- Outdoor photocell mounts in a 1/2" LB type fitting or junction box
- Indoor photocell mounts to ceiling tile or other structure
- Indoor 45 degree photocell mounts to ceiling or other structure. Angled for light harvesting.

### Electrical:

- Powered from the panel or the LightSync network

### Controller Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 50° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

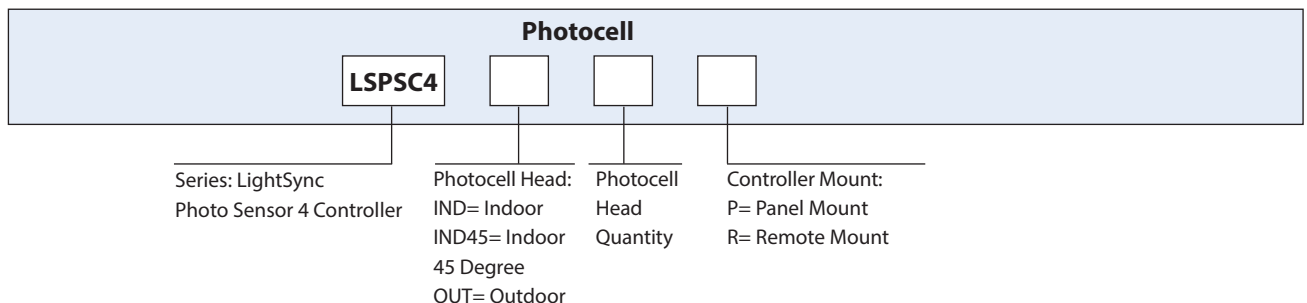
### Photocell Operating Environment:

- Location: Interior/Exterior Space
- Operating Temp.: -35° to 50° C
- Humidity: 10% to 100% Condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications:

- UL
- CUL
- FCC Part 15

## Ordering



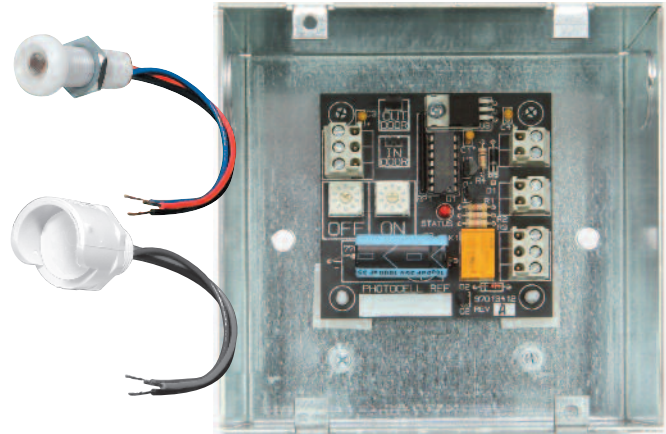
INTELLIGENT LIGHTING CONTROLS, INC.  
www.ilc-usa.com



# Hardwire Photo Sensor

Hard Wired Photo Sensor Controller  
Indoor or Outdoor Sensor

- Monitors light levels indoors or outdoors
- Indoor range 1 to 100 foot candles
- Outdoor range 1 to 1000 foot candles
- Panel or remote mounted
- Individually adjustable on and off control points
- Hardwired directly to panel
- Additional NO/NC dry contact output
- Made in the USA



## Overview

The Hardwire Photo Sensor monitors light levels and signals the lighting control panel's inputs. Each sensor has 10 adjustable set points for on or off control. Each sensor has a built-in filter to eliminate false triggering from lightning or other sudden light sources. The indoor and outdoor photocell heads convert the analog light levels to a digital form and are UV and weather resistant.

## Features

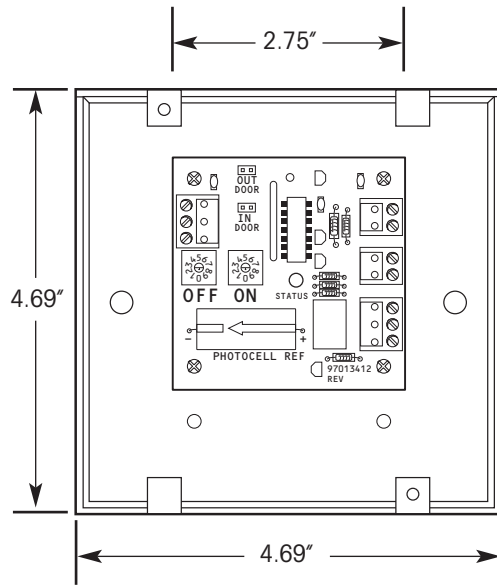
### General Information

- **Light levels** are monitored indoors or outdoors to 1000 foot candles
- **Made in the USA**
- **Hardwire** directly to panel inputs
- **Adjustable** for indoor and outdoor ranges
- **Control points** consist of 10 adjustable On and Off settings
- **Analog to digital** photocell heads
- **Photocell filter** to eliminate false triggering of loads
- **Photocell head connectors** are screw-to-connect type
- **Mounts** directly in the panel or in a remote location
- **Remote controller** can be mounted up to 5000 feet from lighting panel
- **UV resistant** photocell heads
- **Encased photocell head** protects sensor from the elements

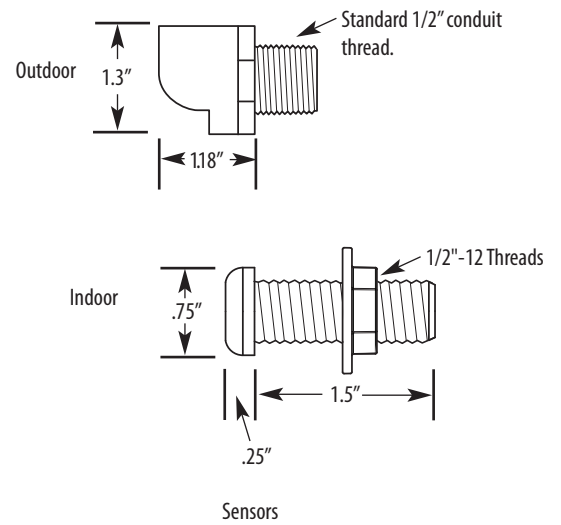


# Hardwire Photo Sensor

## Physical



## Hard Wired Photo Sensor Controller Indoor or Outdoor Sensor



## Specifications

### Safeguards:

- Photocell filter eliminates false triggering of loads

### Controller Physical:

- 2.75" Wide x 2.75" High
- Remote Enclosure: 4.69" wide X 4.69" high X 2.00" deep. Cover Included.
- Screw connections
- Clearly marked labels
- Digital output and Form C SPDT output

### Photocell Heads:

- Outdoor photocell mounts in a 1/2" LB type fitting or junction box
- Indoor photocell mounts to ceiling tile or other structure

### Electrical:

- Power supply: 25mA maximum @ 9 VAC/12 VDC
- Open collector output: 50mA maximum
- Dry contact output: 2 amps @ 30 VDC

### Controller Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 50° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

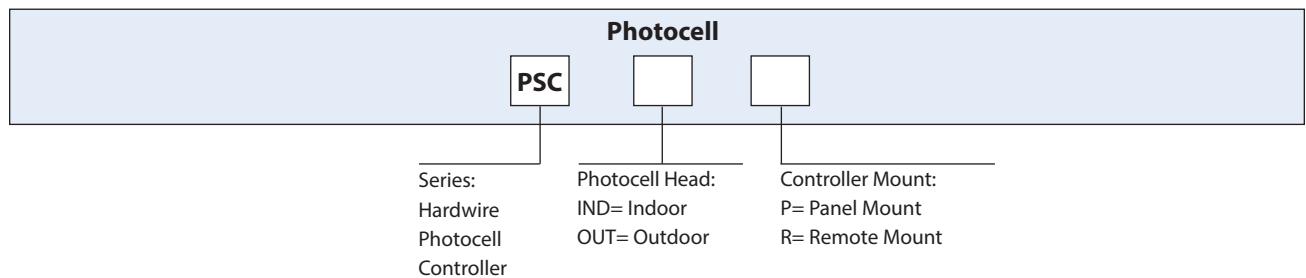
### Photocell Operating Environment:

- Location: Interior/Exterior Space
- Operating Temp.: -35° to 50° C
- Humidity: 10% to 100% Condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications:

- UL CUL
- FCC Part 15

## Ordering



# Section 4: Occupancy Sensors

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- Occupancy Sensors
- LightSync Occupancy Sensor Input Module
- LightSync Occupancy Sensor 8 Input Module









# Occupancy Sensors

- Single or dual technology sensors
- Wall, ceiling, or surface mount
- Direct interface to lighting panels
- Line voltage or low voltage control
- Multiple coverage area patterns



## Overview

ILC provides a full line of occupancy sensors to meet your facilities requirements. Sensors are available with passive infra red detection or dual-technology sensors that combine infrared detection along with sonic detection for a more robust sensor. Sensors are available in many types including wall switches, ceiling mount, corner mount and surface mount. They are also available with a wide variety of lenses that focus on the size of the room or hallway providing full coverage of detection.

## Sensor Types



*Ceiling-mount sensors are appropriate for large areas that feature obstacles such as partitions, in addition to narrow spaces such as corridors and warehouse aisles.*



*High wall and corner mount extended range sensors are excellent for areas like classrooms and gymnasiums.*



*Wall switch (wall-box) sensors, are easy to install, and are appropriate for smaller, enclosed spaces, such as private offices with a clear line of sight between sensor and task area.*

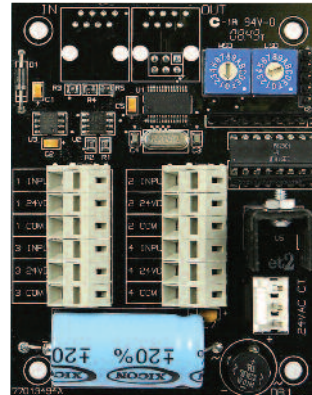
**Contact ILC for ordering information**

INTELLIGENT LIGHTING CONTROLS, INC.  
[www.ilc-usa.com](http://www.ilc-usa.com)





- Provides power and inputs for occupancy sensors
- Installs directly onto output board or remotely
- 4 inputs per module that accept 24V signals
- Optically isolated inputs protect electronics
- Connect multiple sensors to each input
- Eliminates need for expensive power packs
- Works with major manufacturers' sensors



## Overview

The LightSync Occupancy Sensor Input module is designed to power and receive signals from 2 sensors on each of its 4 independent inputs. Eliminate expensive power packs by simply direct-wiring the sensors into the LightLEEDer inputs. This module mounts directly in the panel on the output module, or can be mounted remotely in a location central to the sensors. Each independent input can control any relay(s), group(s), or preset(s) throughout the network. Inputs also have a time-of-day or open/close time-of-action which could disable the input or change the relays controlled.

## Features

### General Information:

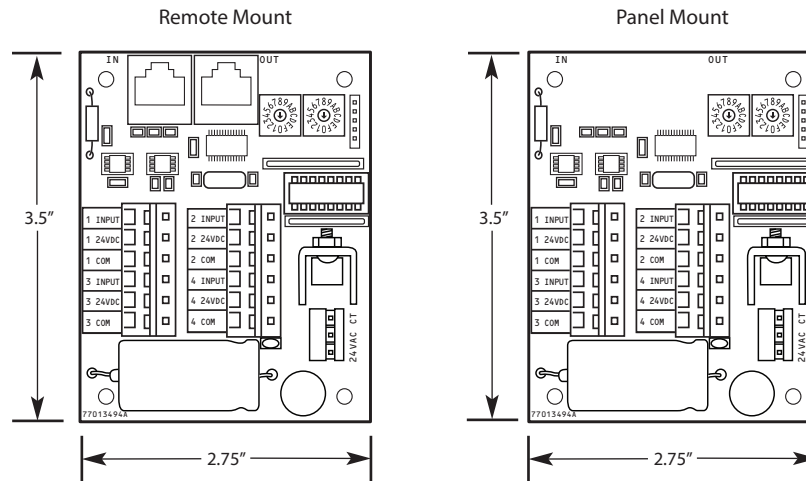
- **Provides power and inputs** for occupancy sensors
- **Made in the USA**
- **Installs** directly onto the output board
- **Digitally addressable** device for a unique address
- **Remote mounting option** for LightSync network
- **RJ45 connectors** for remote mounting module
- **Connectors** are easy non-screw push-to-connect type
- **Optically isolated inputs** to protect the electronics
- **Sensor signals** accepted directly on module
- **Connect multiple** sensors to each input
- **Power packs** not required
- **Works** with most major manufactured sensors

### Remote Mounting Option:

- **Remote mount** anywhere on the LightSync network
- **Powered** from a 24VAC transformer
- **RJ45 connectors** provided for easy connection
- **Mounting plate** available
- **Great choice** for centrally locating the module with sensors



## Physical



## Specifications

### Safeguards:

- Optically isolated inputs protect electronics

### Physical:

- 2.75" W x 3.5" H
- Easy non-screw push-to-connect connectors
- Digital addressing switches
- RJ45 connectors for remote mounting option
- Remote mount option includes mounting plate and transformer

### Electrical:

- Powered from panel transformer (remote option powered by 24VAC transformer).
- 200mA @ 24VDC maximum draw per module

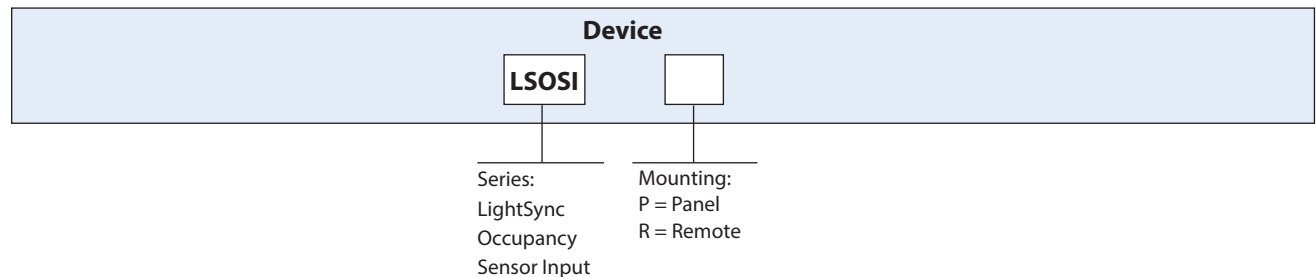
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

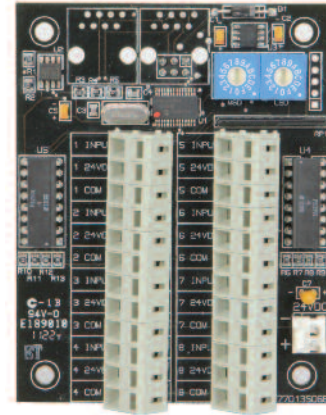
- FCC Part 15

## Ordering





- Provides power and inputs for occupancy sensors
- Installs directly onto output board or remotely
- 8 inputs per module that accept 24V signals
- Optically isolated inputs protect electronics
- Connect multiple sensors to each input
- Eliminates need for expensive power packs
- Works with major manufacturers' sensors
- Made in the USA



## Overview

The LightSync Occupancy Sensor 8 Input module is designed to power and receive signals from multiple sensors on each of its 8 independent inputs. Eliminate expensive power packs by simply direct-wiring the sensors into the LightLEEDer inputs. This module mounts directly in the panel on the output module, or can be mounted remotely in a location central to the sensors. Each independent input can control any relay(s), group(s), or preset(s) throughout the network. Inputs also have a time-of-day or open/close time-of-action which could disable the input or change the relays controlled.

## Features

### General Information

- **Provides power and inputs** for occupancy sensors
- **Made in the USA**
- **Installs** directly onto the output board
- **Digitally addressable** device for a unique address
- **Remote mounting option** for LightSync network
- **RJ45 connectors** for remote mounting module
- **Connectors** are easy non-screw push-to-connect type
- **Optically isolated inputs** to protect the electronics
- **Sensor signals** accepted directly on module
- **Connect master and slave** sensors to each input
- **Works** with most major manufactured sensors

### Remote Mounting Option

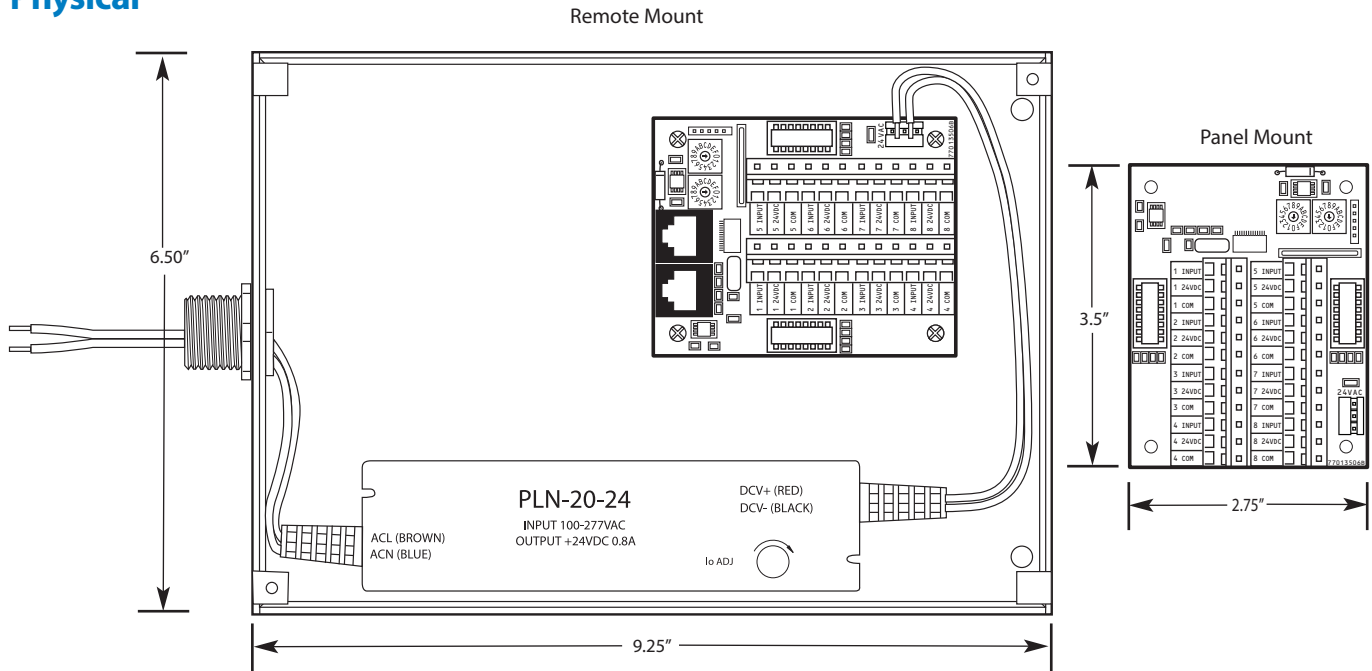
- **Remote mount** anywhere on the LightSync network
- **Powered** from a 120/277VAC power supply
- **RJ45 connectors** provided for easy connection
- **Great choice** for centrally locating the module with sensors



# LIGHT Sync OS8I

Occupancy Sensor  
8 Input Module

## Physical



## Specifications

### Safeguards:

- Optically isolated inputs protect electronics

### Physical:

- 2.75" W x 3.5" H
- Easy non-screw push-to-connect connectors
- Digital addressing switches
- RJ45 connectors for remote mounting option

### Remote Mount Physical:

- Enclosure: 6.50" x 9.25" x 2.50" with screw cover
- 1/2" nipple for mounting to an electrical box
- 6" wire leads provided for high voltage connection
- Push-to-connect low voltage connections
- Provided with pre-drilled mounting holes

### Electrical:

- Electronics powered from LightSync data line
- Sensors powered from 120/277VAC power supply
- Current: 800mA
- Voltage: 24VDC
- Current limited circuit

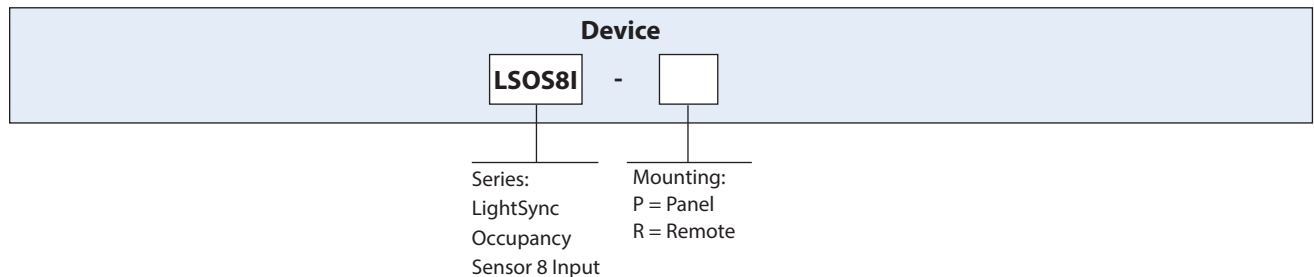
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- FCC Part 15
- UL

## Ordering



# Section 5: CAT5 Switches and Devices

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- LightSync G2 Data Line Switch
- LightSync Classic Data Line Switch
- LightSync Touch Screen Station
- LightSync Key Switch
- LightSync Disable Key Switch
- LightSync Touch Switch
- LightSync Slide Switch



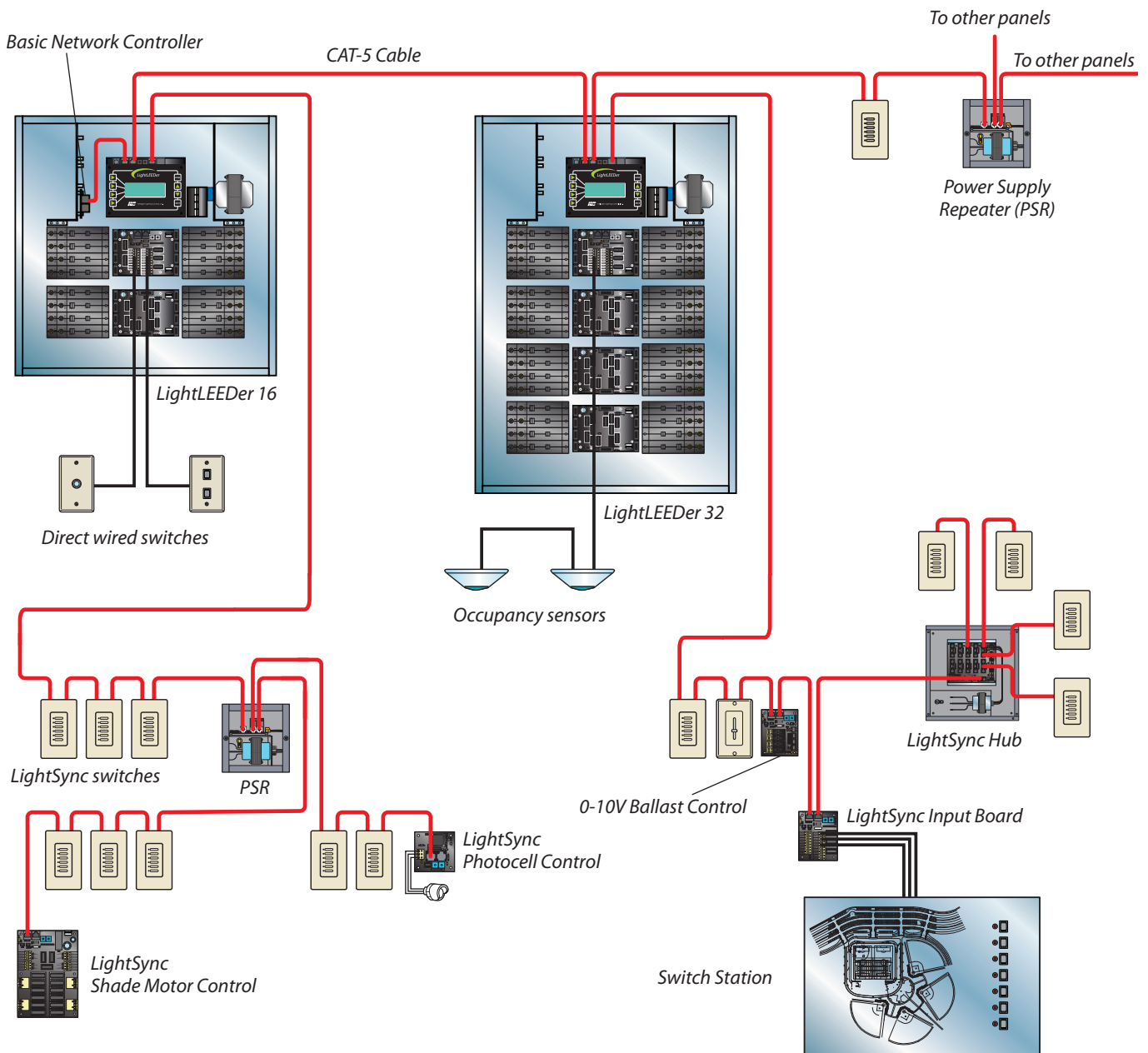






## LightSync™ Network Overview

The LightLEEDer lighting control panels are capable of being networked together along with a variety of LightSync devices to form a powerful, flexible lighting control solution for nearly every application. Network up to 254 panels and 16,510 LightSync devices using standard CAT-5 cable to form a network chain. Below is a simple riser drawing that graphically depicts how a system is interconnected. Whether you have a single panel or multiple panels the same network concept applies.







# LIGHTSync G2

Data Line  
Switch Input

- Data line pushbutton switch station
- Made in the USA
- 1 to 6-button configuration
- Switch locator LED
- Status indicator LED for true relay, group or preset status
- Mounts in a standard single gang electrical box
- Laser engraving available
- Replaceable fronts and buttons



Available in White , Ivory and Gray

## Overview

The LightSync G2 data line pushbutton switch station offers all the functions of the classic LightSync switch but is more affordable and flexible. Switch stations are available with 1 to 6 pushbuttons and have a status LED associated with each button along with a locator LED that is always lit. Each button may be individually programmed to control any relay(s), group(s) or preset(s) throughout the network. Switch faceplates are removable and can be laser etched for switch identification.

## Features

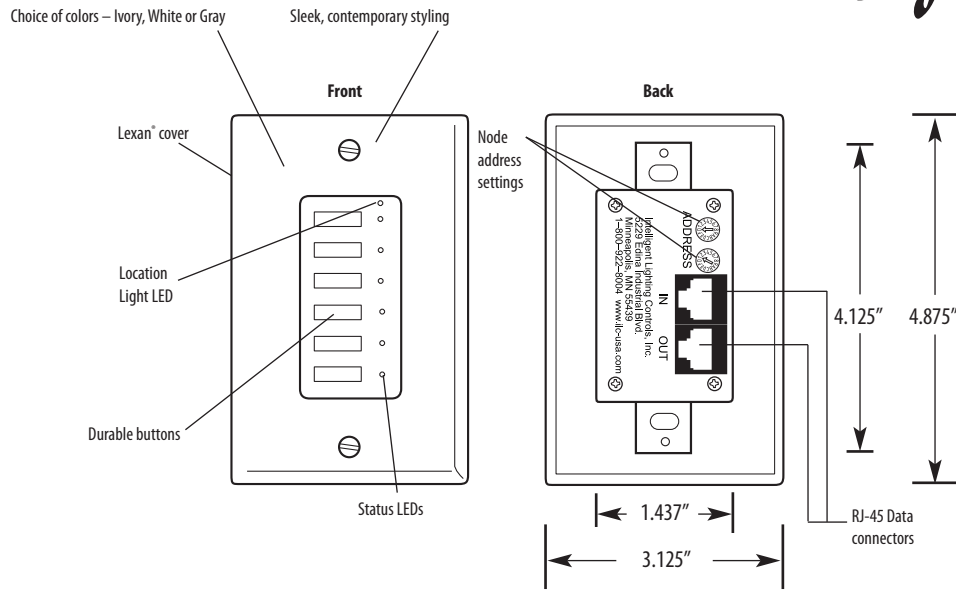
- **Data line** pushbutton switch station
- **Made** in the USA
- **Buttons range** from 1 to 6 per station
- **Switches beep** audibly when activated
- **Program** each button to control any relay(s), group(s) or preset(s)
- **Switch locator LED** helps find the switch in a dark room
- **Status LEDs** indicate the true state of a relay, group or preset
- **Replaceable faceplates and buttons**
- **Mounts** in a standard single gang box
- **Laser engraving** is available for switch identification
- **Remote mount** anywhere on the LightSync network
- **Self powered** from the network
- **RJ45 connectors** provided for easy connection
- **Addressable** rotary switches
- **Decora**® style switch plate provided
- **Available in white, ivory, or gray**



# LIGHT Sync G2

Data Line  
Switch Input

## Physical



## Specifications

### Physical:

- Standard single gang mounting
- Digital addressing switches
- RJ45 connectors provided for easy connection
- Switch plate is made of Lexan with screws provided
- Mounting screws provided
- Laser engraving up to 10 characters

### Switch Plates:

- Brushed Aluminum (visible screws)
- Stainless Steel (visible screws)
- Painted (visible screws)

### Electrical:

- Powered from the panel or LightSync network

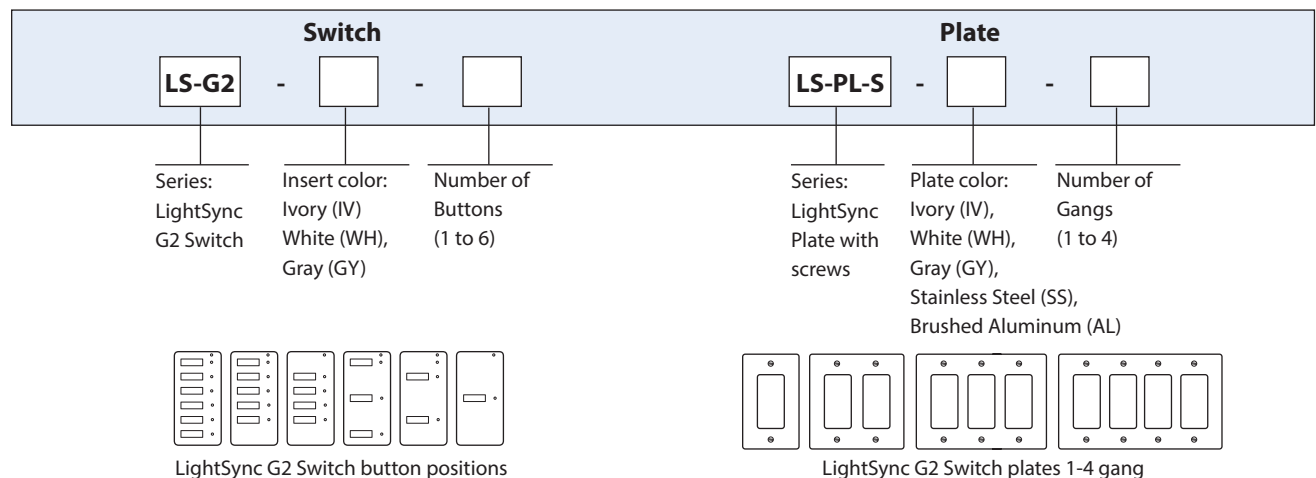
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL CUL
- FCC Part 15

## Ordering





# LIGHT *Sync* LS

## Classic Data Line Switch

- Data line pushbutton switch station
- Made in the USA
- 1 to 6 button configuration
- Architectural design with matching screwless cover
- Status indicators for true relay, group or preset status
- Mounts in a standard single gang electrical box
- Engraved button identification available
- Hardwired version available



Standard cover



Optional painted steel plate with visible screws



Optional stainless steel screwless plate

## Overview

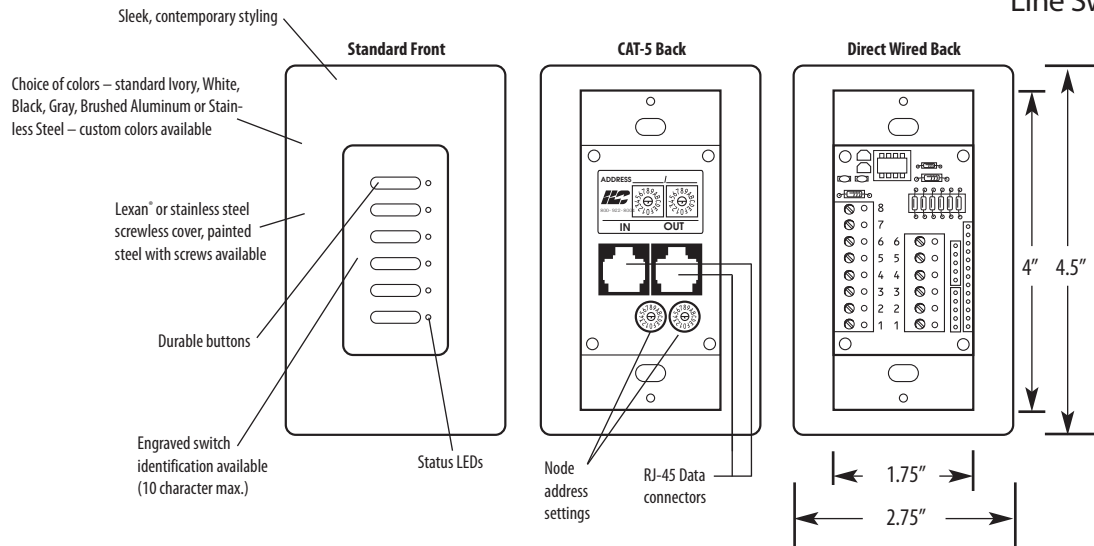
The LightSync classic data line pushbutton switch station offers a flexible switch that will meet your lighting needs. Switch stations are available with 1 to 6 pushbuttons and have a status LED associated with each button. Each button may be individually programmed to control any relay(s), group(s) or preset(s) throughout the network. Switch faceplates are available in four colors, plus stainless steel and brushed aluminum.

## Features

- **Data line** pushbutton switch station
- **Made** in the USA
- **Buttons range** from 1 to 6 per station
- **Audible** switch beep upon activation
- **Program** each button to control any relay(s), group(s) or preset(s)
- **Status LEDs** for indicating the true state of a relay, group or preset
- **Faceplates** are available in white, ivory, gray, black, stainless steel and brushed aluminum
- **Mounts** in a standard single gang box
- **Engraving** is available for switch identification
- **Remote mount** anywhere on the LightSync network
- **Self powered** from the network
- **RJ45 connectors** provided for easy connection
- **Addressable** rotary switches
- **Decora**<sup>®</sup> style matching switch plate provided



## Physical



## Specifications

### Physical:

- Standard single gang mounting
- Digital addressing switches
- RJ45 connectors provided for easy connection
- Screw or screwless plates available
- Mounting screws provided
- Laser engraving available, up to 10 characters
- Available in ivory, white, black, gray, stainless steel and brushed aluminum

### Switch Plates:

- Lexan® (screwless)
- Brushed Aluminum (visible screws)
- Stainless Steel (screwless/visible screws)
- Painted (visible screws)

### Electrical:

- Powered the from panel or LightSync network

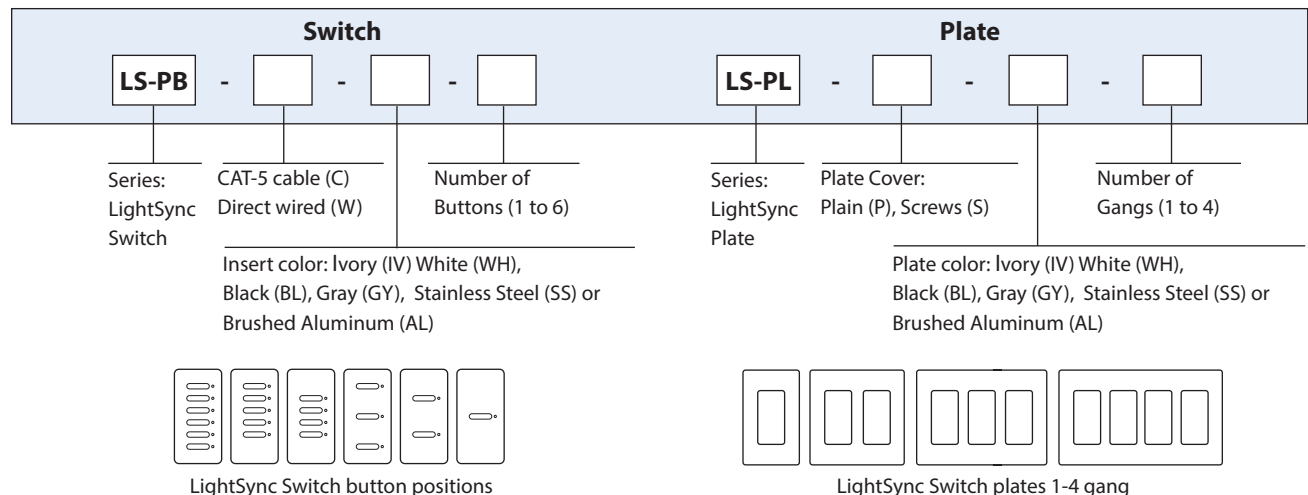
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

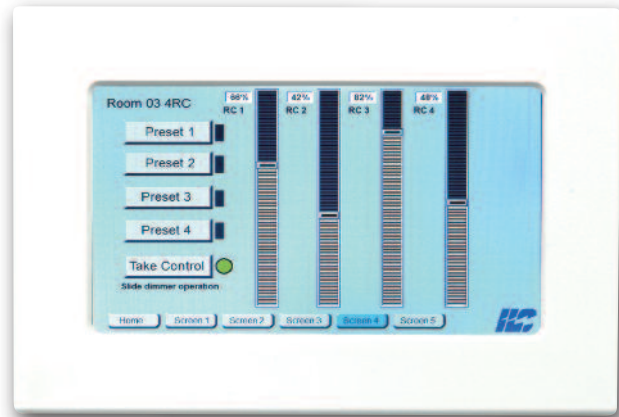
- UL
- FCC Part 15

## Ordering (Contact factory for available custom color and options.)





- Touch activated switch station
- Available with 4.3" or 7.0" color screens
- All-in-one wall mount
- Emulates up to 512 LightSync inputs
- Control buttons, status indicators, and dimming sliders
- Communicates directly to lighting panels
- Graphic control software provided



## Overview

LightSync Touch Screen Stations provide the ultimate in wall-mounted touch control, ideal for conference rooms or architectural controls. These multi-screen touch stations communicate directly to the lighting control system on the LightSync network. Choose the 4.3" screen with a 480 x 272 resolution, or the 7.0" screen with a 800 x 480 resolution; both have a 65K true color LCD screen with resistive touch. The touch control stations are a complete package, provided with an electrical box that contains the complete interface, just connect to the LightSync data line and a 120VAC source. The touch screen has a capacity of up to 16 screens that can be designed with a variety of controls and security. With the use of the included intuitive software, you will be able to design the control station screens to your facility's needs.

## Features

### Hardware Information:

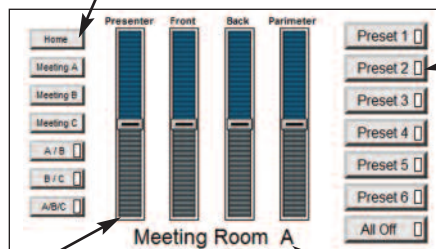
- **Touch** activated switch station
- **All-in-one** wall mount assembly
- **Mounting box** included
- **Screens** are available in 4.3" or 7.0" size
- **Color** high resolution screens
- **Bright** screens can be easily viewed
- **Network** ready for the LightSync data line

### General Information:

- **Security** available to limit access
- **Capacities** of up to 16 screens
- **Emulates** up to 512 LightSync inputs
- **andscape** or Portrait orientation
- **Custom** background capability
- **Factory** configuration available
- **Field** configuration software provided
- **Screen Library** configurations provided

### Control Buttons

- Up to 32 buttons per screen
- 32 button size, shape, and color options
- Invisible button target option
- Relay control; turn on, turn off, or toggle
- Screen navigate control; go-to or go-to w/password
- Button text; white or black
- Controls relays, groups, presets, dimmers, and motor controls



### Status Icons

- Up to 32 real time status indicators per screen
- 48 indicator size, shape, and color options
- Status of relays, groups, and presets

### Dimming Sliders

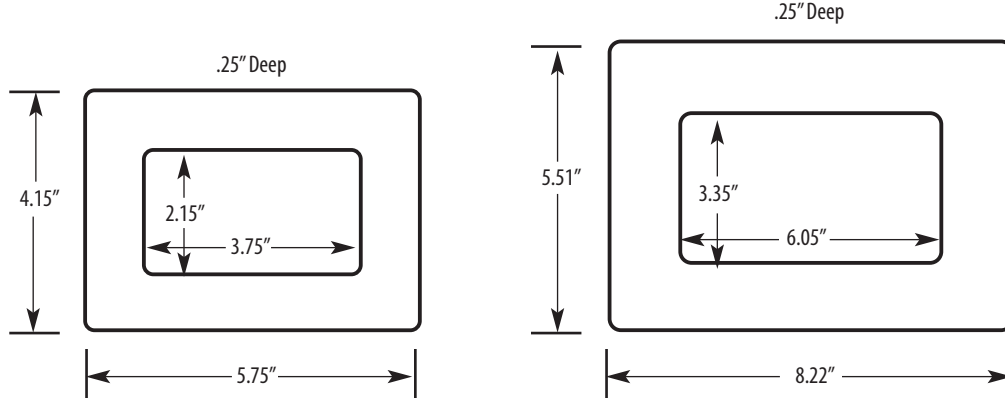
- Up to 8 dimming sliders per screen
- 6 slider sizes and colors options
- Controls 0-10V or line voltage dimmers

### Text/Status Objects

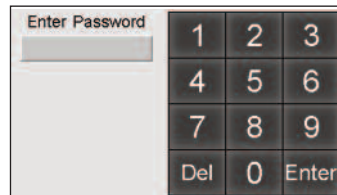
- Up to 16 text/status objects per screen
- Static text
- Dimming slider text value
- 0-10V or line voltage dimmer output value



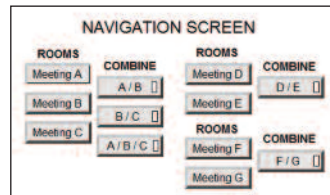
### Physical



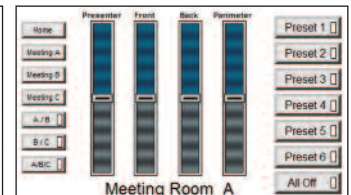
Home screen with logo



Security entry screen



Navigation screen



Control screen

Screen Samples

### Specifications

**Physical:**

- Flush mount compact design
- Galvanized 16GA enclosure:
  - 4.3":** 6.50"W x 3.45"H x 2.75"D
  - 7.0":** 7.95"W x 4.30"H x 2.75"D
- Black, Ivory, or White ABS plastic bezel:
  - 4.3":** 5.75"W x 4.13"H x .25"D
  - 7.0":** 8.22"W x 5.51"H x .25"D
- Resistive touch screen
- Digital addressing switches
- RJ45 connectors for data line

**Electrical:**

- 120V
- 1 Amp

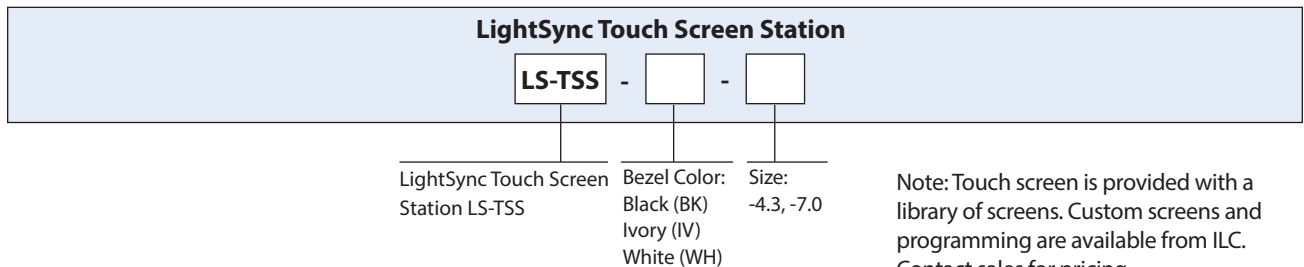
**Operating Environment:**

- Location: Interior Space
- Operating Temp.: 0° to 50° C
- Humidity: 10% to 95% Non-condensing
- Atmosphere: Non-explosive/corrosive

**Certifications and Approvals:**

- UL
- CUL

### Ordering







# LIGHT *Sync* Key Switch

Data Line  
Key Switch

- Data line key switch station
- Made in the USA
- Momentary or maintained switches
- Architectural design with matching screwless cover
- Status indicators for true relay, group or preset status
- Mounts in a standard single gang electrical box
- Engraved button identification available
- Hardwired version available



Standard cover

## Overview

The LightSync data line key switch provides an extra level of security and limits access to only those who possess the key. Switch stations have a high quality 5-tumbler key switch and status LED. Key switches may be programmed to control any relay(s), group(s) or preset(s) throughout the network. Switch faceplates are available in four colors, stainless steel, and brushed aluminum and are supplied with matching Decora® switch plates.

## Features

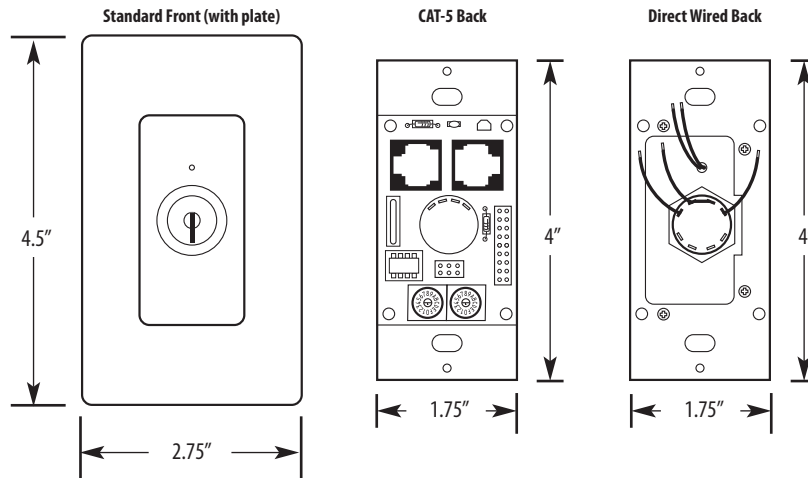
- **Data line** key switch station
- **Made** in the USA
- **Switches** supplied with momentary or maintained closures
- **Secure** 5-tumbler high quality switches
- **Program** to control to control any relay(s), group(s) or preset(s)
- **Status LEDs** for indicating the true state of a relay, group or preset
- **Faceplates** are available in white, ivory, gray, black, stainless steel and brushed aluminum
- **Mounts** in a standard single gang box
- **Engraving** is available for switch identification
- **Remote mount** anywhere on the LightSync network
- **Self powered** from the network
- **RJ45 connectors** provided for easy connection
- **Addressable** rotary switches
- **Decora®** style matching switch plate provided
- **Hardwired** version available



# LIGHT *Sync* Key Switch

Data Line  
Key Switch

## Physical



## Specifications

### Physical:

- Standard single gang mounting
- Digital addressing switches
- RJ45 connectors provided for easy connection
- Screw or screwless plates are available
- Mounting screws provided
- Laser engraving up to 10 characters provided
- Available in ivory, white, black, gray, stainless steel and brushed aluminum

### Switches:

- Momentary SPDT
- Maintained SPDT (on-off-on) key removable in "on" position (Version A)
- Maintained SPDT (on-off-on) key removable in "off" position (Version B)

### Switch Plates:

- Lexan® (screwless)
- Brushed Aluminum (visible screws)
- Stainless Steel (screwless/visible screws)
- Painted (visible screws)

### Electrical:

- Powered from the panel or LightSync network

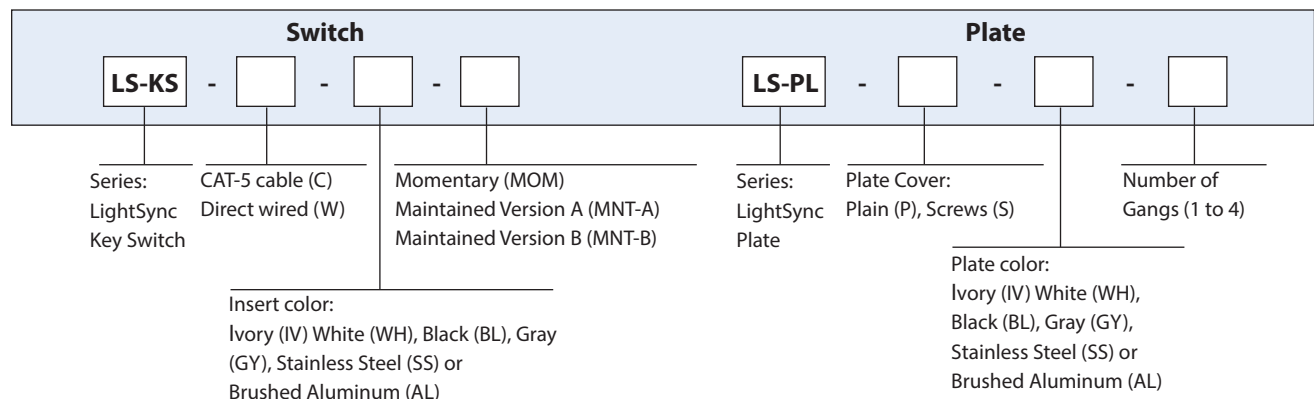
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- FCC Part 15

## Ordering





- Disables LightSync devices
- Made in the USA
- Maintained switch with removable key
- Architectural design with matching screwless cover
- Status indicator for disable state
- Mounts in a standard single gang electrical box
- Engraved button identification available



## Overview

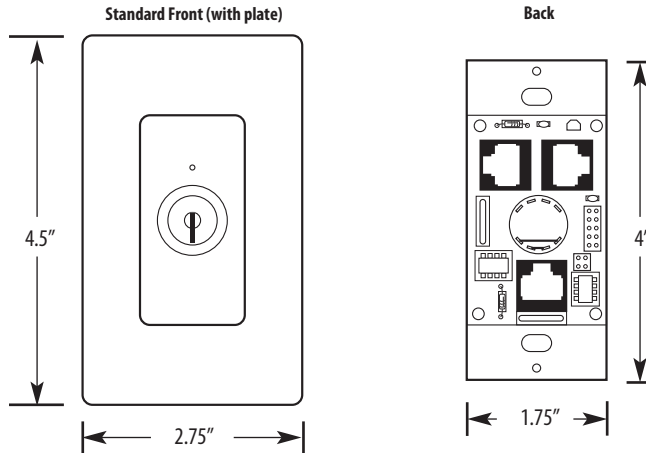
The LightSync disable key switch provides an extra level of security by disabling all Lightsync devices down from the disable switch. Ideal for areas with switches that require control functions to be limited or locked out. Switch stations have a high quality 5-tumbler key switch and status LED. Faceplates are available in four colors and are supplied with matching switch plates.

## Features

- **Disables** LightSync devices on the data line
- **Feed-through** allows for normal data line communication
- **Made** in the USA
- **Key Switch** maintained type with removable key
- **Secure** 5-tumbler high quality switches
- **Status LED** indicates disable state
- **Faceplates** are available in white, ivory, gray, black, stainless steel and brushed aluminum
- **Mounts** in a standard single gang box
- **Engraving** is available for switch identification
- **Mount** anywhere on the LightSync network
- **Self-powered** from the network
- **RJ45 connectors** provided for easy connection
- **Decora**<sup>®</sup> matching switch plate provided



### Physical



### Specifications

#### Physical:

- Standard single gang mounting
- Data in, data out, and data disable out ports
- RJ45 connectors provided for easy connection
- Screw or screwless plates available
- Mounting screws provided
- Laser engraving up to 10 characters available
- Available in ivory, white, black, gray, stainless steel and brushed aluminum

#### Switches:

- Maintained SPST key removable in "on" or "off" position

#### Switch Plates:

- Lexan® (screwless)
- Brushed Aluminum (visible screws)
- Stainless Steel (screwless/visible screws)
- Painted (visible screws)

#### Electrical:

- Powered from the panel or LightSync network

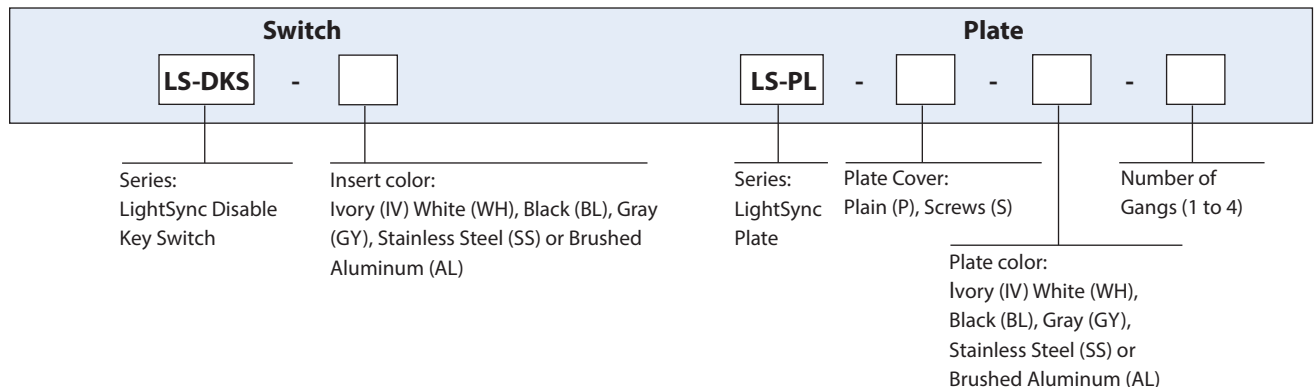
#### Operating Environment:

- Location: Interior space
- Operating Temp: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

#### Certifications and Approvals:

- UL
- FCC Part 15

### Ordering





# LIGHT *Sync* Touch Switch

Digital Touch Switch

- Durable vandal resistant data line switch station
- Made in the USA
- 1 to 3 button configurations
- Status indicators for true relay, group or preset status
- Mounts in a standard single gang electrical box
- Engraved button identification available
- Hardwired version available



## Overview

The LightSync Digital Touch Switch station offers a durable switch that is resistant to impact and vandalism. Switch stations are available with 1 to 3 highly durable push button switches and have a status LED associated with each button. Each button may be programmed to control any relay(s), group(s) or preset(s) throughout the network. Switch faceplates are available in four colors, stainless steel, or brushed aluminum and are supplied with switch plates.

## Features

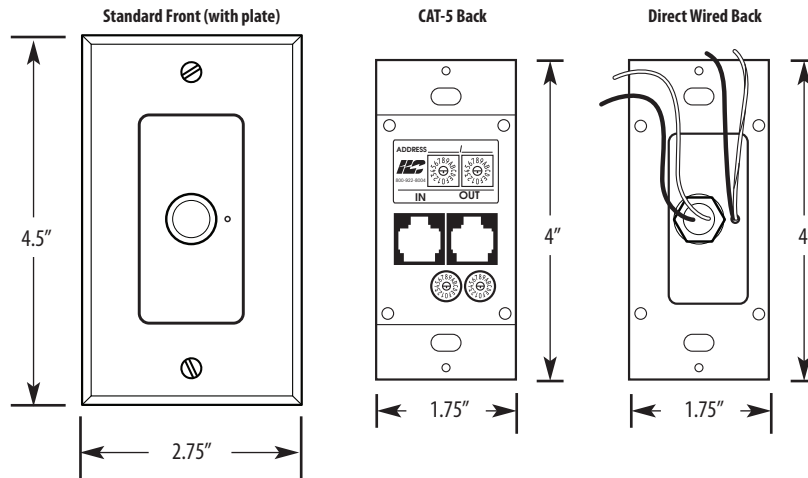
- **Durable** vandal resistant data line switch station
- **Made** in the USA
- **Buttons** range from 1 to 3 per station
- **Audible** switch beeps upon activation
- **Programmable buttons** control any relay(s), group(s) or preset(s)
- **Status LEDs** for indicating the true state of a relay, group or preset
- **Faceplates** are available in white, ivory, gray, black, stainless steel and brushed aluminum
- **Mounts** in a standard single gang box
- **Engraving** is available for switch identification
- **Remote mount** anywhere on the LightSync network
- **Self powered** from the network
- **RJ45 connectors** provided for easy connection
- **Addressable** rotary switches
- **Decora**® style matching switch plate provided
- **Hardwired** version available



# LIGHT *Sync* Touch Switch

Digital Touch Switch

## Physical



## Specifications

### Physical:

- Standard single gang mounting
- Digital addressing switches
- RJ45 connectors provided for easy connection
- Screw or screwless plates are available
- Mounting screws provided
- Engraving up to 10 characters
- Stainless Steel Switch

### Switch Plates:

- Lexan® (screwless)
- Brushed Aluminum (visible screws)
- Stainless Steel (screwless/visible screws)
- Painted (visible screws)

### Electrical:

- Powered from the panel or LightSync network
- 200,000 electrical life cycles

### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary
- Switch Ingress Protection: IP68

### Certifications and Approvals:

- FCC Part 15

## Ordering

Switch				Plate				
LS-TS	-		-		-		-	
Series: LightSync Touch Switch		CAT-5 cable (C) Direct wired (W)		Number of buttons (1 to 3)	Series: LightSync Plate	Plate Cover: Plain (P), Screws (S)		Number of Gangs (1 to 4)
Insert color: Ivory (IV) White (WH), Black (BL), Gray (GY), Stainless Steel (SS) or Brushed Aluminum (AL)				Plate color: Ivory (IV) White (WH), Black (BL), Gray (GY), Stainless Steel (SS) or Brushed Aluminum (AL)				

LightSync Touch Switch button positions

LightSync Switch plates 1-4 gang



# LIGHT *Sync* Slide Switch

Intelligent  
Dimmer Control

- Data line slide switch controller
- Made in the USA
- Controls 0 to 10V dimmer modules
- Architectural design with matching screwless cover
- Mounts in a standard single gang electrical box
- Engraved button identification available



Standard cover

## Overview

The LightSync slide switch provides analog control of 0 to 10V dimming modules through the network data line. The switch is fully programmable for analog output range and can be set to turn loads “on” or “off” at any level with up to 8 individual set points. Each set point can control any relay anywhere in the network. Switch faceplates are available in four colors, stainless steel, and brushed aluminum and are supplied with matching switch plates.

## Features

### General Information:

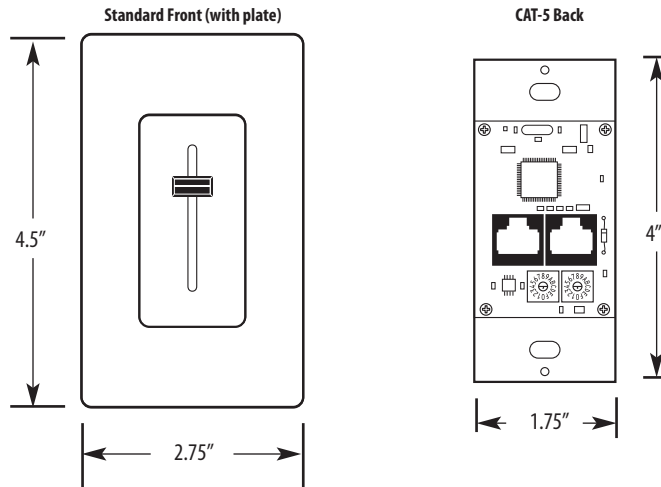
- **Data line** slide switch control
- **Made** in the USA
- **Controls** 0 to 10V dimmer modules
- **Analog** slide switch control
- **Programmable** to one or more modules
- **8 set-points** for direct relay control
- **Fully adjustable scaling** for level and voltage
- **Faceplates** are available in white, ivory, gray, black, stainless steel and brushed aluminum
- **Mounts** in a standard single gang box
- **Engraving** is available for switch identification
- **Remote mount** anywhere on the LightSync network
- **Self powered** from the network
- **RJ45 connectors** provided for easy connection
- **Addressable** rotary switches
- **Decora**® style matching switch plate provided



# LIGHT *Sync* Slide Switch

Intelligent Dimmer Control

## Physical



## Specifications

### Physical:

- Standard single gang mounting
- High quality slide switch
- Digital addressing switches
- RJ45 connectors provided for easy connection
- Screw or screwless plates are available
- Mounting screws provided
- Laser engraving up to 10 characters
- Available in ivory, white, black, gray, stainless steel and brushed aluminum

### Switch Plates:

- Lexan® (screwless)
- Brushed Aluminum (visible screws)
- Stainless Steel (screwless/visible screws)
- Painted (visible screws)

### Electrical:

- Powered from the panel or LightSync network

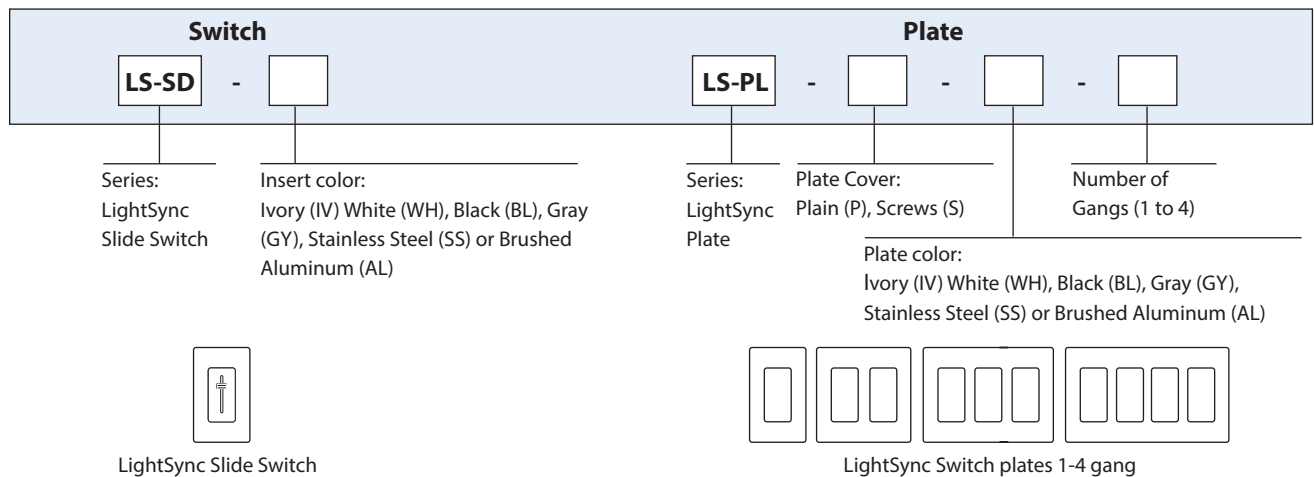
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- FCC Part 15

## Ordering



INTELLIGENT LIGHTING CONTROLS, INC.

[www.ilc-usa.com](http://www.ilc-usa.com)



# Section 6: LightLEEDer Specialty Add-on Devices

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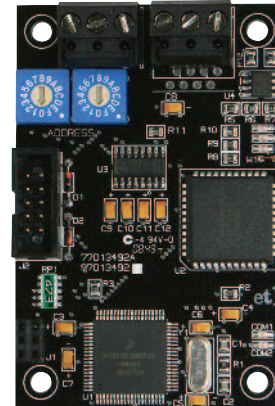
- LightLEEDer DMX 512 Control Modules
- LightLEEDer DMX Driver Modules
- LightSync Motor Control Module
- LightSync Serial Interface Input Control Module
- LightSync Conditional Input Module
- LightSync Data Line Transient Suppressor
- LightLEEDer Voice Prompted DTMF Telephone Modules
- LightLEEDer Modem Module
- LightSync Device Hub
- LightLEEDer Serial Interface Ethernet Control Modules
- LightLEEDer Dry Contact Output Board
- LightLEEDer Relay Simulator Register







- Theatrical control using DMX512 control signals
- Map any DMX channel to any relay(s)
- Control of 0 - 10V dimming outputs
- Adjustable ON and OFF set points
- Settable DMX frame filter
- Settable Lock-on and Lock-off feature



## Overview

The LightLEEDer DMX512 Control Module provides control of relays and 0 - 10V dimming. Any channel from the DMX controller can be mapped to control any relay or group of relays ON or OFF in the panel. DMX channels can also be programmed to control 0 - 10V dimmable ballasts or other 0 - 10V devices. The On and Off set points are adjustable from 1 to 99% and relays may be locked-on or off. An adjustable DMX frame filter is included to prevent switching if a system drops a frame.

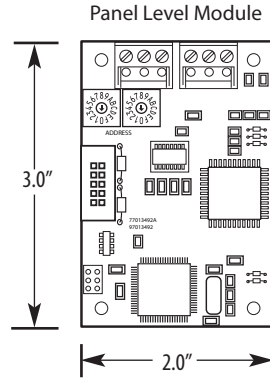
## Features

### General Information:

- **USITT DMX512** interface for direct RS485 serial interface to dimming control stations
- **Made in the USA**
- **Supports** the full 512 DMX channels
- **Direct control** of any relay output in the lighting control panel
- **Map any DMX** channel to any relay output gives total flexible control
- **Adjustable** ON and OFF points
- **DMX frame filter** to prevent switching if a system drops a frame
- **Installs directly** into any panel and is automatically recognized
- **Lock-ON/OFF** feature allows locking relay output(s) to one state
- **Configured** through the keypad or with LightLEEDer Pro software



### Physical



### Specifications

**Physical:**

- Panel Level: 2" Wide X 3" High
- Removable screw connectors for data line communications

**Electrical:**

- Powered from the panel

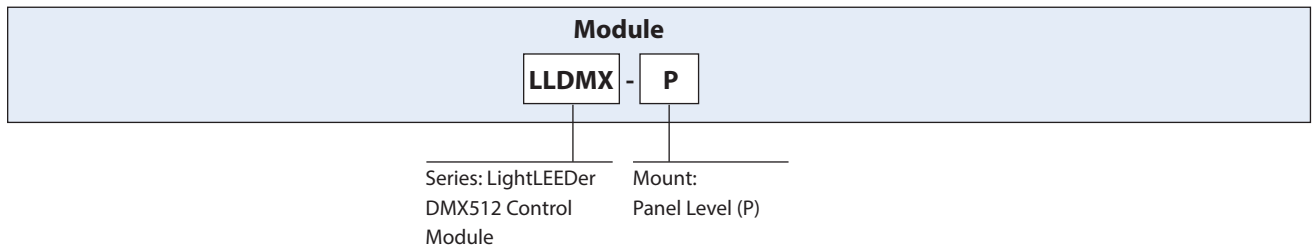
**Operating Environment:**

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

**Certifications and Approvals:**

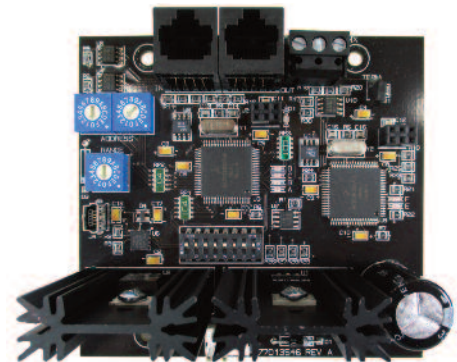
- FCC Part 15

### Ordering





- Send DMX512 dimming control signals
- 64 dimming control channels per module
- Map a control channel to any DMX channel
- Control channels controlled by inputs, Presets or other LightLEEDer controls
- Channels are programmable or 1 to 1 control
- Intuitive software provided



## Overview

The LightSync DMX Driver Module is designed to drive DMX512 levels from a LightLEEDer lighting controller using RS485 communications. Each LS DMX Driver Module is capable of controlling up to 64 channels per module, per panel in the LightLEEDer system. Each dimming output channel can be mapped to control from 1 to all of the 512 DMX channels. This module connects to the local LightSync port on the LightLEEDer controller and can be mounted in the panel or remotely. The DMX output control channels are controlled from 0 -100% using the dimming controls in the lighting controller.

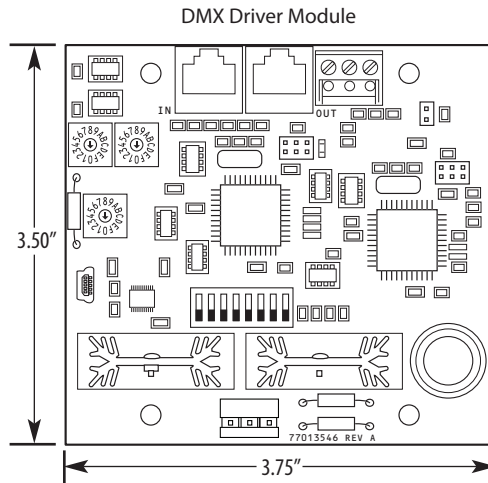
## Features

### General Information:

- **DMX512** output driver
- **Supports** the full 512 DMX channels
- **Direct control** of any DMX channel from the lighting control panel
- **Map any dimming** output channel to any DMX channel
- **64 dimming output** channels per panel
- **Controlled** using LightLEEDer options which include; Timers, Presets, inputs, sliders, and data line devices
- **Installs** directly into any panel or remotely
- **Configured** through the keypad or with LightLEEDer Pro software
- **DMX mapping** can be 1 to 1, or programmable with LightLEEDer DMX Output Map software



## Physical



## Specifications

### Physical:

- 3.75" wide X 3.50" high
- Screw connector for DMX
- USB mini software programming interface
- Rotary address and range switches
- Configuration dip switches
- Status diagnostic LEDs provided
- Data line terminator resistor enable jumper
- Easy installation into any panel

### Electrical:

- 24VAC @ 150mA

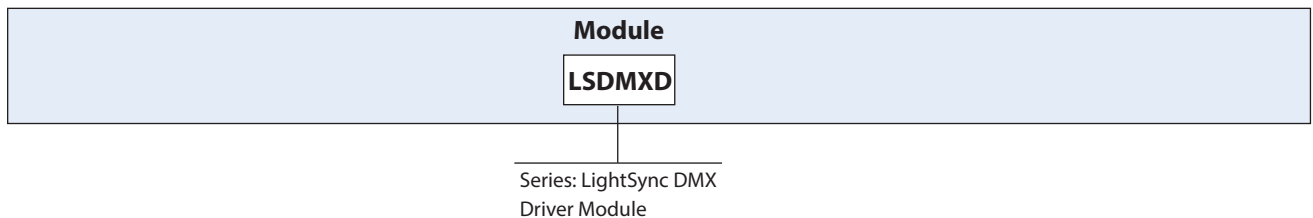
### Operating Environment:

- Location: Interior space
- Operating Temp: 0°-50° C
- Humidity: 10%-90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL CUL

## Ordering

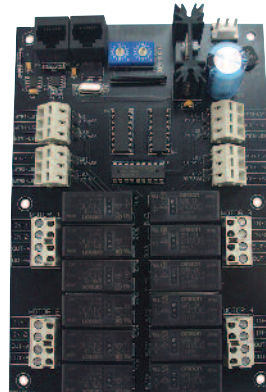




# LIGHTSync MC

Motor Control Module

- Controls shades, louvers, doors and other DC motor devices
- Dry contact outputs
- Inputs for mechanical limit switches
- Installs directly into the panel or remotely
- Provides 4 independent output channels per module
- Responds to LightSync inputs, hardwired inputs, and timers



## Overview

The LightSync Motor Control Module is designed to control window shades, louvers, doors, and other DC motor controlled devices. Each output can be programmed to respond up to 16 inputs which include LightSync switches, LightSync photocells, hardwired switches, and timers. These inputs can be programmed to drive the motor in one direction or another for a selectable time from .1 to 300 seconds.

## Features

### General Information:

- **4 independent channels** are provided per module giving the flexibility to control up to 4 zones
- **Made in the USA**
- **Capable of controlling** up to 4 amps @ 30VDC for each output
- **LightSync photocell** control for daylight harvesting
- **Each output may be programmed** to respond to 16 LightSync or hardwire inputs. Each input can be programmed to run the motor in either direction for a selectable time or latch indefinitely.
- **Limit switch** inputs directly on the module
- **Pulse time** is selectable from 0.1 to 300 seconds
- **Digitally addressable** device has a unique address
- **Remote mounting** ability on the LightSync network
- **RJ45 connectors** for easy connection to the network
- **Removable connectors** for easy installation

### Remote Mounting Option:

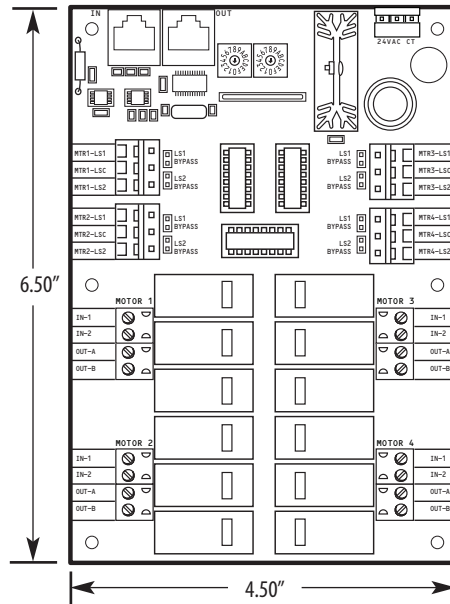
- **Remote mount** anywhere on the LightSync network
- **Powered** from provided transformer
- **RJ45 connectors** provided for easy connection
- **Mounting plate** available for easy installation



## Physical

# LIGHT Sync MC

Motor Control Module



## Specifications

### Physical:

- 4.50" Wide X 6.50" High
- Removable output connectors
- Digital addressing switches
- RJ45 connectors for remote mounting options

### Electrical:

- Electronics powered from the panel or from the LightSync network
- XFMR: 120, 277 or optional 347 VAC
- Motor power from external source
- 4 amps @ 30 VDC load capacity

### Configuration:

- Software programming
- Directly through keypad

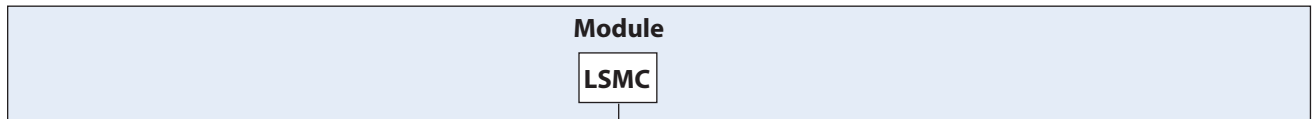
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- FCC Part 15

## Ordering



Series: LightSync  
Motor Control Module

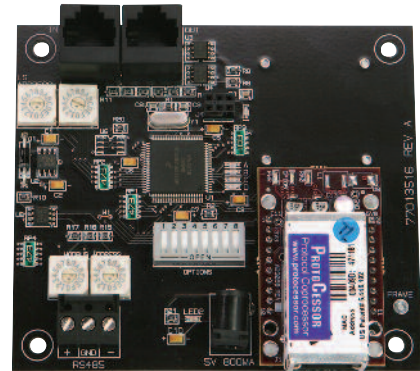




# LIGHT *Sync* SIICM

Serial Interface  
Input Control Module

- BAS interface for LightSync inputs
- Emulates switch inputs and photocells
- Direct control for Building Automation System
- Connect with BACnet, Modbus, LonWorks, or Metasys N2
- Panel programmed as an actual device
- Supports all standard input options
- Made in the USA



## Overview

The LightLEEDer Serial Interface Input Control Module can be added to any LightLEEDer panel to provide LightSync device emulation from any building automation system using BACnet IP, BACnet MSTP, Modbus RTU, Modbus ASCII, Modbus TCP, LonWorks, ILC ASCII, or Metasys N2 serial protocol. With the panel module, commands can be sent to the panel to trigger inputs ON and OFF, force photocell levels to drive dimming outputs, and read status of pilots and photocell levels. Inputs are mapped through the panels keypad or with LightLEEDer Pro software.

## Features

### General Information:

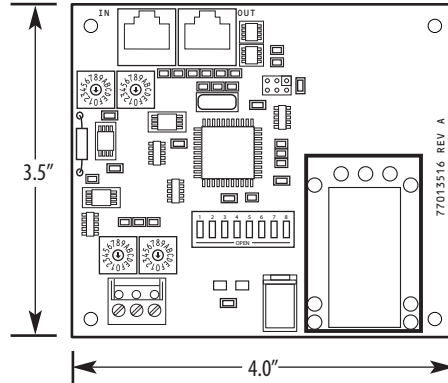
- **Direct communications** for BAS control of LightSync input points
- **Made in the USA**
- **Emulates** LightSync inputs and analog photocells
- **Status** (pilots) of relays, groups, presets, and photocell levels
- **Installs directly** into any panel or remotely on the LightSync network
- **Extractable files** from BACnet and LonWorks modules
- **Control** from 1 to 8 LightSync devices per module
- **Points** for up to 64 inputs with photocells using 8 inputs per
- **Adjustable** from baud rate

### Protocols:

- **BACnet IP**– an ASHRAE protocol communicating on a TCP/IP network
- **BACnet MSTP**– an ASHRAE protocol communicating on a RS485 network
- **Modbus RTU**– a Modicon protocol communicating on RS485 in a binary coded format
- **Modbus ASCII**– a Modicon protocol communicating on RS485 in an ASCII coded format
- **Modbus TCP**– a Modicon protocol communicating on a TCP/IP network
- **LonWorks**– an Echelon protocol communicating on a 2 wire data line
- **Metasys N2**– a Johnson Controls protocol communicating on RS485
- **ILC ASCII**– an ILC open protocol communicating RS232 in a ASCII coded format



## Physical



NOTE: Physical appearance may vary between protocols.

## Specifications

### Physical:

- 4" Wide X 3.5" High
- Connectors for interface to LightLEEDer network
- RJ45 connectors for Ethernet based communications
- Removable screw connectors for data line communications
- Rotary and dip switches for addressing and configuring

### Electrical:

- Powered from the panel
- 5 VDC power supply provided

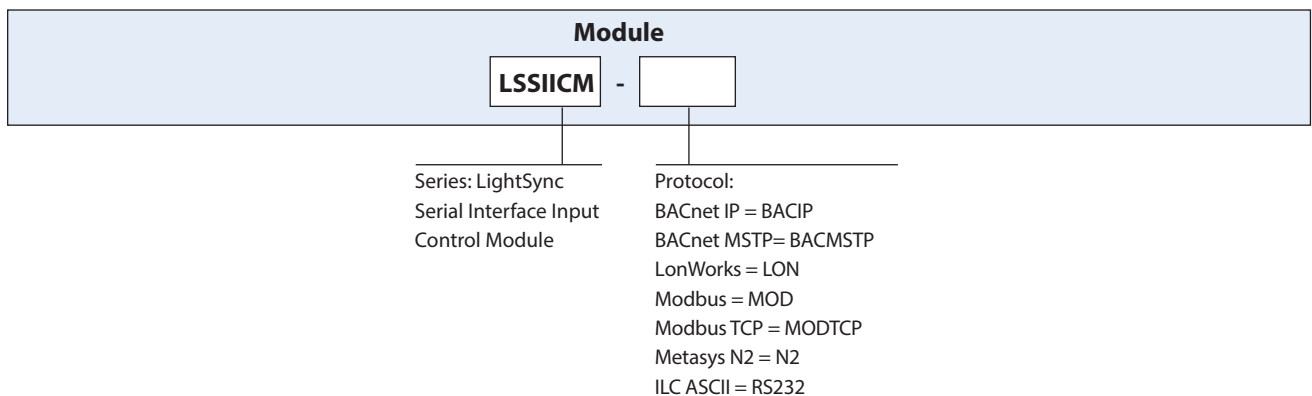
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

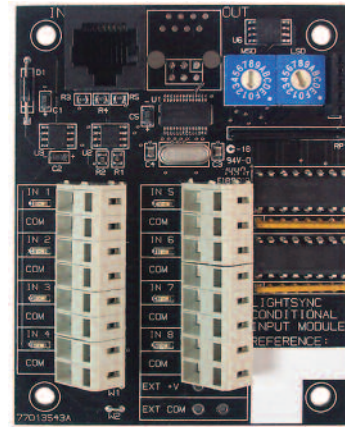
- FCC Part 15

## Ordering





- Provides enhanced conditional hardwired inputs
- Installs directly onto output board or remotely
- 8 inputs per module
- Made in the USA
- Easy non-screw push-to-connect terminals
- Optically isolated inputs protect electronics
- Accepts dry contact closures or optional 12-24VDC signals
- LED pilot input closure status



## Overview

The LightSync Conditional Input Module is designed to accept up to 8 hardwired switch inputs. Each input can be programmed with conditionals related to inputs and pilots in the module. You can setup “AND”/“OR” logic schemes for each input that needs to be true to activate the switch input. This is very useful in certain situations where you want an input active only when certain conditions exist. Any input can be programmed to control any relay(s), group(s), or preset(s) in any or all panels. Each input has an associated pilot status LED that activates when the input is closed. Inputs have a time-of-day or open/close time of action which could disable the input or change the relays controlled.

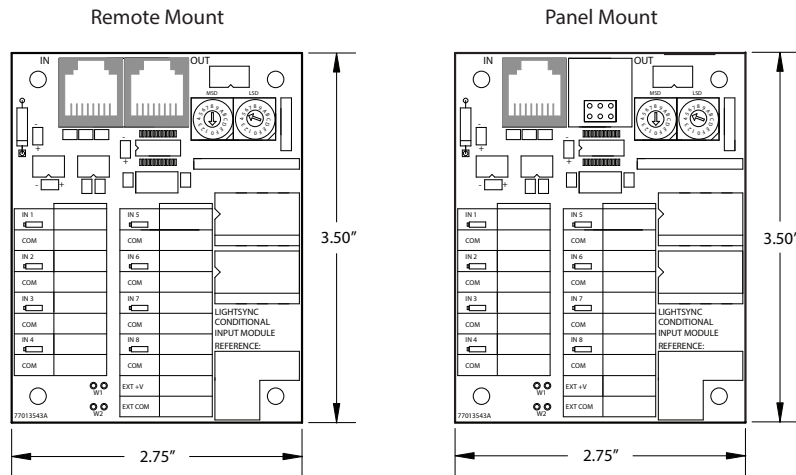
## Features

### General Information:

- **8 conditional inputs** per module
- **Conditional input module** enhances current LightLEEDer conditionals
- **Made in the USA**
- **Installs** directly onto the output board
- **Digitally addressable** device for a unique address
- **Remote mounting** option for LightSync network
- **RJ45 connectors** for remote mounting module
- **Connectors** are an easy non-screw push-to-connect type
- **Optically isolated** inputs to protect the electronics
- **Accepts** dry contact closures or open collector inputs
- **Optional** module for 12 - 24 VDC signals
- **Accepts 2 wire** momentary or maintained switch closures
- **Switch closure LED** status is provided for each input
- **Software** logic programming



### Physical



### Specifications

#### Remote Mounting Option:

- Remote mount anywhere on the local LightSync network
- Self powered from the network
- RJ45 connectors provided for easy connection
- Mounting plate available

#### Safeguards:

- Optically isolated inputs eliminate issues connecting systems together

#### Physical:

- 2.75" Wide 3.50" High
- Easy non-screw push-to-connect terminals
- Digital addressing switches
- Status LED for each input

#### Electrical:

- Powered from the panel or from the LightSync network

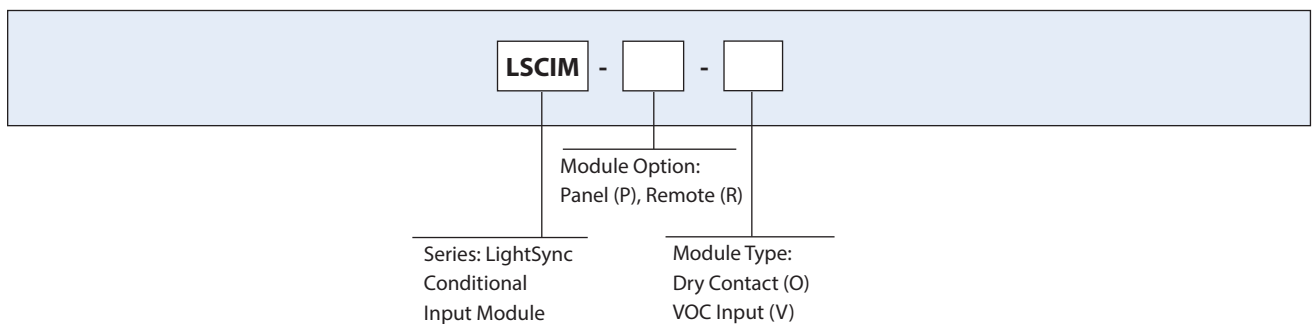
#### Operating Environment:

- Location: Interior space
- Operating Temperature: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

#### Certifications and Approvals:

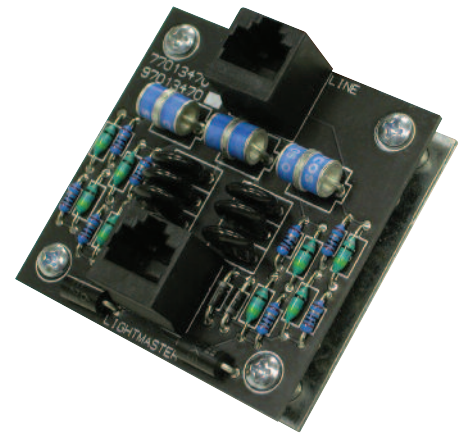
- UL CUL
- FCC Part 15

### Ordering





- Designed to help protect the LightSync data line from transient voltage surges and spikes
- Made in the USA
- Protects panels and devices
- Recommended for underground data lines
- Mounting bracket included
- Meets ANSI/IEEE ratings



## Overview

The LightSync Data Line Transient suppressor protects lighting panels and devices from induced spikes and surges on the data line. Although direct lightning events cannot be completely suppressed, data line surges from magnetic induction or capacitive coupling can, preventing damage to lighting control equipment. The suppressor features a three stage clamping circuit employing a high capacity gas discharge tube (GOT), 1500W fast clamping transient suppression diodes, and metal oxide varistors (MOV).

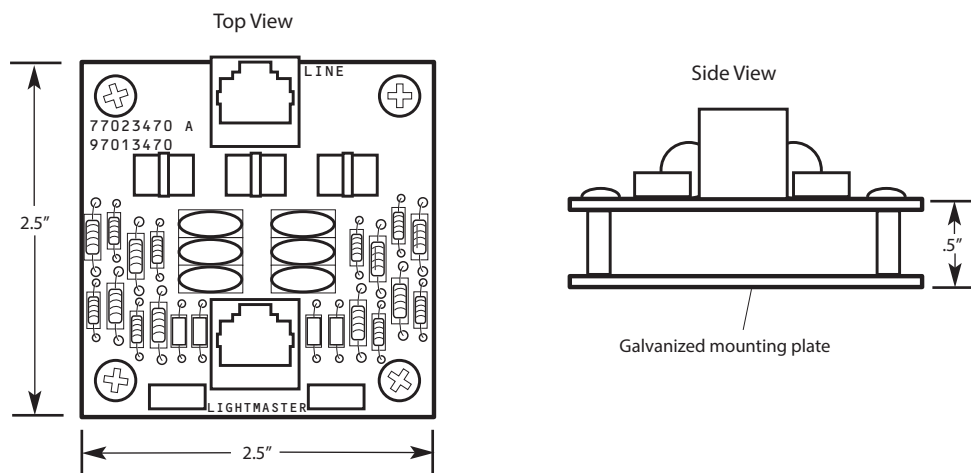
## Features

### General Information:

- **Made** in the USA
- **Data line** protection from voltage surges and spikes
- **Protects** panels and devices
- **Suppression** for data and power
- **Mounts** directly in the panel or remotely
- **Ideal** for underground data cable runs
- **Mounting bracket** included for easy mounting
- **RJ45 connectors** provided for easy connection
- **Grounding** is provided through the mounting bracket
- **Power** is not required



## Physical



## Specifications

### Physical:

- 2.5" x 2.5" size
- RJ45 connectors provided for easy connection
- Galvanized mounting plate

### Electrical:

- Nominal voltage 5-15 VDC, 3-10 VAC
- Maximum continuous voltage 17 VDC, 12 VAC
- Designed to meet surge rating ANSI/IEEE 62.41-1991 Cat A, Cat B, Cat C

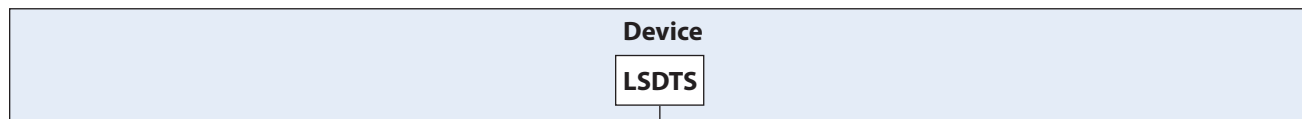
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- FCC Part 15

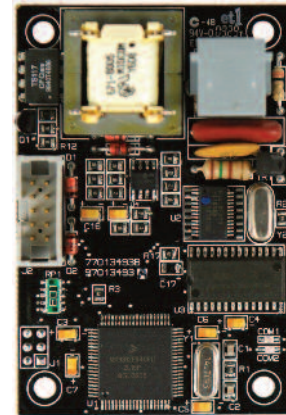
## Ordering



Series:  
LightSync Data Line  
Transient Suppressor



- Dial-in telephone controlled commands
- Control any relay, group, or preset
- Easy voice prompted menu
- No programming necessary
- Optional network wide single point gateway
- Made in the USA
- FCC Part 64 certified for commercial or residential use



## Overview

The LightLEEDer Voice Prompted DTMF Telephone Control module can be added to any panel to provide control from your touch-tone telephone. Voice prompts and telephone DTMF signals (telephone button activations) can control relays, groups, or presets ON or OFF and retrieve current status. Any standard telephone, digital telephone, or cell phone can be used for a switch station. Multiple modules can be installed into a single panel. An optional DTMF Gateway is available that gives a single point connection for network wide control and status.

## Features

### General Information:

- **Voice promoted** menu allows easy control
- **Made in the USA**
- **Controls** relays, groups, and presets
- **True status** reports via voice
- **Works with any** standard, digital, or cell phone
- **Installs** directly into any panel
- **Connects** to a standard analog telephone line

### Panel Level Control Information:

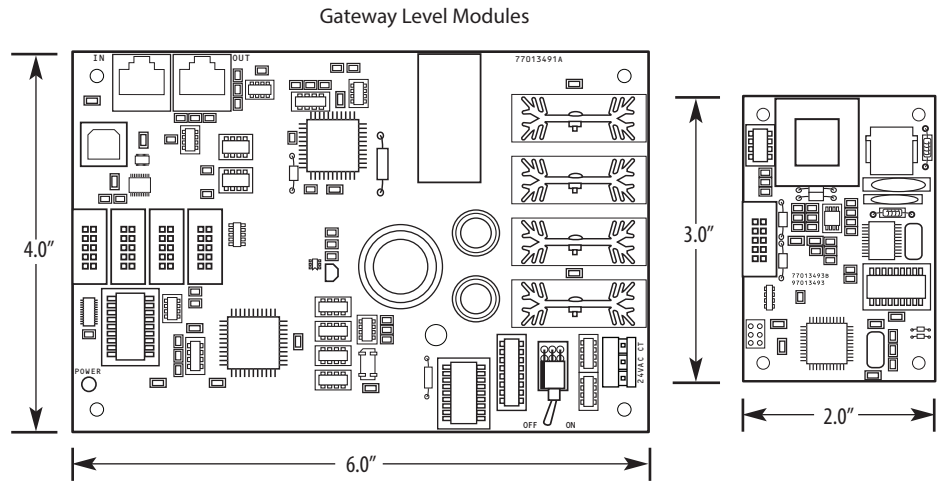
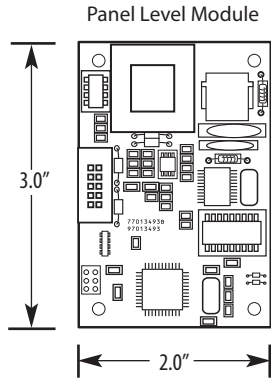
- **Direct control** of relays in the panel
- **Controls** any panel level relay, group, and preset
- **Installation** of up to 4 modules per panel (Consult ILC Applications Department)
- **Programming** is not required, just plug-n-play
- **Phone line connection** to panel for total relay control
- **Ribbon connectors** for easy installation into any panel

### Network Level Control Gateway Information:

- **Network wide** control of any relay on the network
- **Controls** any relay, group, or preset on the network
- **Phone line connection** to only a single point for network wide control



### Physical



### Specifications

**Physical:**

- Panel Level: 2" Wide X 3" High
- Gateway Level: 6" Wide X 4" High  
2" Wide X 3" High
- RJ11 telephone connector

**Electrical:**

- Powered from the panel

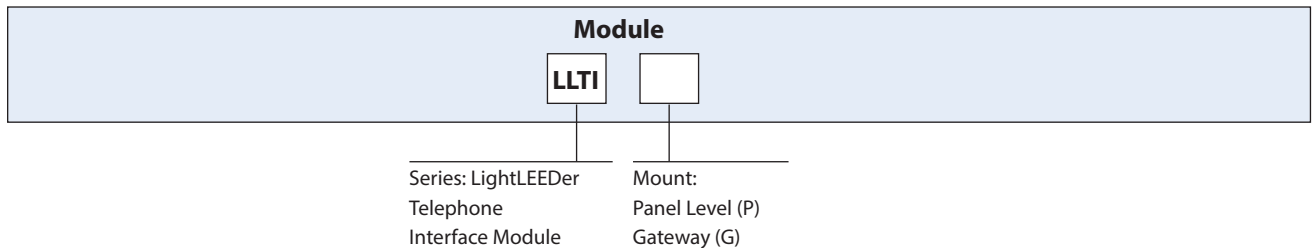
**Operating Environment:**

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

**Certifications and Approvals:**

- FCC Part 15
- FCC Part 68

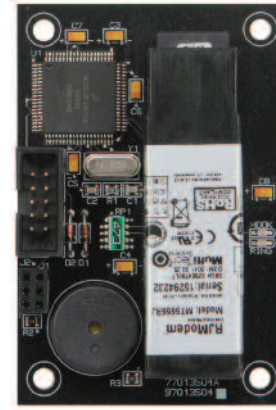
### Ordering







- Analog modem interface
- Connects up to 56K Baud
- Allows remote interface with LightLEEDer software
- Upload/download programming
- FCC Part 64 certified
- Made in the USA



## Overview

The LightLEEDer Modem Module can be added to any LightLEEDer panel to provide a connection over an analog phone line. With this module and the LightLEEDer Pro software, you have the ability to monitor, program, backup and control the lighting controller. Programming can remotely be uploaded/downloaded from a single panel or a network of panels.

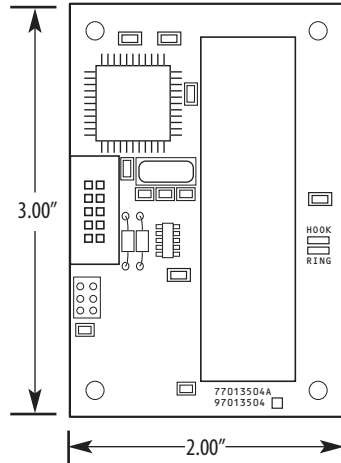
## Features

### General Information:

- **Made in the USA**
- **Programming** can remotely be uploaded/downloaded
- **Direct control** of any relay output
- **True status** of relays or inputs in the lighting panel
- **Time-based** settings can easily be modified remotely
- **Installs directly** into any panel
- **Connection speeds** up to 56K Baud



## Physical



## Specifications

### Physical:

- 2.00" Wide X 3.00" High
- RJ11 connectors for analog phone line communications
- Audible sounder

### Electrical:

- Powered from the controller

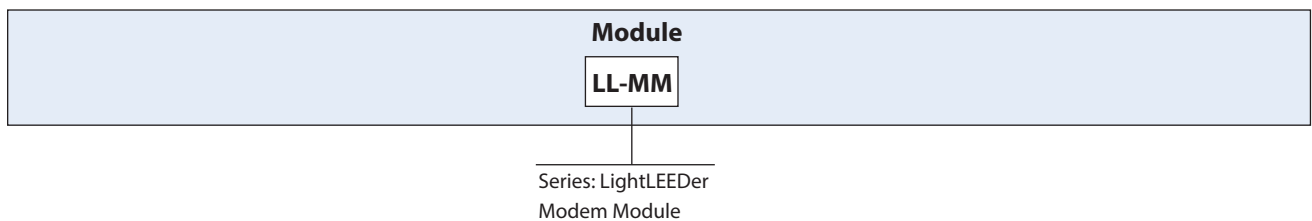
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL60950-1
- FCC Part 15 Class B
- FCC Part 68

## Ordering





- Allows home run wiring of LightSync devices
- Made in the USA
- Provides 20 ports for connecting LightSync devices
- Powers up to 20 LightSync devices
- Installs anywhere on the network data line



## Overview

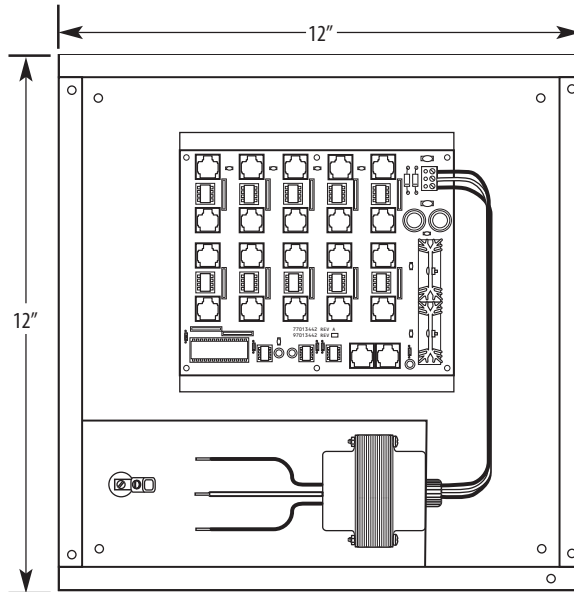
The LightSync device hub provides device installation using a home run configuration where the data lines are pulled directly from the devices to a single location. The hub has 20 ports that supplies power for the devices along with renewed data communications. Each port can run up to 1500 feet to devices. The hub is supplied in a NEMA 1 enclosure with a multi-tap transformer and a high voltage divider.

## Features

- **Made in the USA**
- **Home run** connects devices to one location
- **Connections** for up to 20 LightSync devices are provided
- **Data** is renewed from each port to allow data lines up to 1500 feet
- **Power** is provided from each port to allow data lines up to 1500 feet
- **Enclosure** is NEMA 1 rated with high voltage divider
- **Remote mount** anywhere on the LightSync network
- **RJ45 connectors** provided for easy connection
- **Wired** from the factory, ready to install
- **Optional** mounting configurations available



## Physical



LightSync 20-port Hub

## Specifications

### Physical:

- Standard NEMA-1 enclosure
- 12"W x 12"H x 4"D
- Operates in any position
- High voltage barrier division
- Factory wired, ready to install
- RJ45 connectors provided for easy connection
- Feed through for main data line
- Ground lug provided

### Electrical:

- 120/277 VAC multi-tap transformer

### Capacities:

- Powers up to 20 LightSync devices

### Operating Environment:

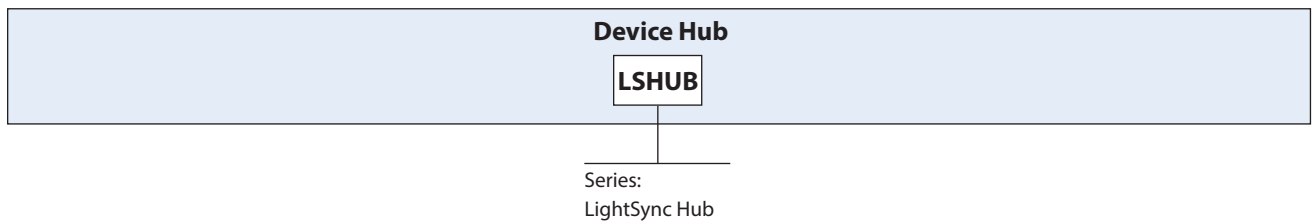
- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- FCC Part 15

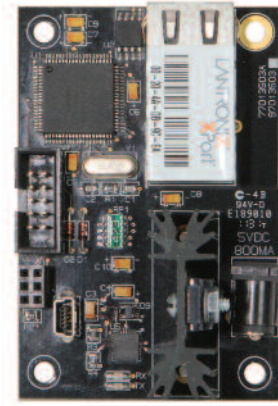
**Note:** LightSync Hub is designed for LightSync devices only and will not accept panel communications through any of the 20 LightSync ports.

## Ordering





- Direct control for Building Automation System
- Connect with Modbus TCP
- Custom programmable for other protocols
- Allows direct control of relays
- Communicates relay status
- Able to control relays using timer options
- Allows BAS to enable or disable switch inputs
- Optional single point gateway



## Overview

The LightLEEDer Serial Ethernet Interface Module can be added to any panel to provide control from any building automation system using Modbus TCP serial protocol. With the panel module, commands can be sent to the panel to force relays ON and OFF, force relays ON and OFF with a timer option (blink, double blink, HID delay, Alarm ON, Alarm OFF, Pulse ON, and Pulse OFF), monitor relay status, monitor input status, and enable/disable inputs. A single point gateway is available for control and status of relays, groups, and presets on the network.

## Features

### Protocols:

- **Modbus TCP**– a Modicon protocol communicating on a TCP/IP network
- **Custom**– programmable for other protocols

### General Information:

- **Direct communications** for BAS control of lighting panel
- **Direct control** of any relay output giving complete control
- **True status** of relays in the lighting panel
- **Timer option** commands available for blink alerts and alarms
- **Allows enable/disable** commands for switch inputs
- **Installs directly** into any panel

### Panel Level Control Information:

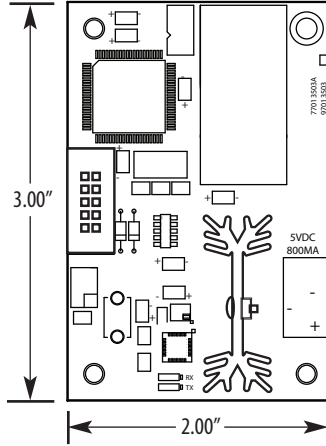
- **Panel level** control of all relays
- **Installation** of up to 4 modules per panel (Consult ILC Applications Department)
- **Programming** is not required, just plug-n-play
- **Ribbon connectors** for easy installation into the panel

### Network Level Control Information:

- **Network-wide** control allows control of any relay on the network
- **Group control** for grouped relays in panels on the network
- **Ethernet** connection to a single point for network control
- **Connects** directly to an Advance Network Controller



### Physical



### Specifications

**Physical:**

- 2.00" Wide X 3.00" High
- RJ45 connectors for Ethernet based communications
- Removable screw connectors for data line communications

**Electrical:**

- Powered from the panel power supply

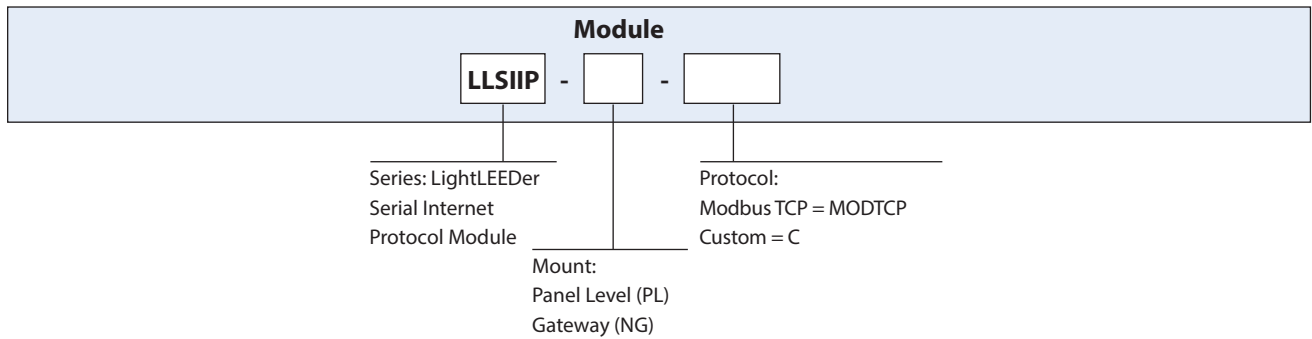
**Operating Environment:**

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

**Certifications and Approvals:**

- UL
- CUL
- FCC Part 15

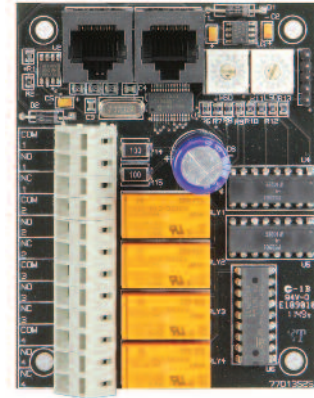
### Ordering





## Dry Contact Output Board

- 4 isolated dry contact outputs
- Drives up to 1.6 amps @ 30VDC per output
- Optically isolated output drivers protect electronics
- Installs directly onto the output board or remotely
- Normally open and closed outputs
- Made in the USA



## Overview

The LightLEEDer Dry Contact Output Board provides 4 isolated dry contact digital outputs. This board can interface any system that can recognize a momentary or maintained dry contact closure. Common applications for this device are interfacing building automation systems, security systems, and triggering dimming presets in other systems. Each board is provided with push-to-connect connectors for easy termination and is provided in panel or remote mounting styles.

## Features

### General Information:

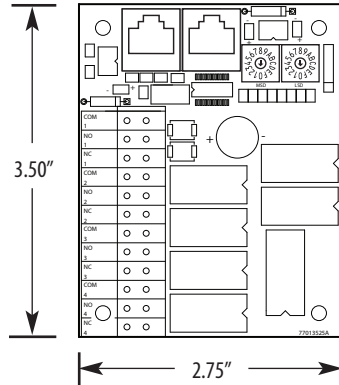
- **Made in the USA**
- **4 independent** dry contact outputs are provided per module
- **Used** as an expansion of relays from the local port
- **Outputs** have normally open and normally closed contacts
- **Isolation** between each output
- **Optically isolated** to protect electronics
- **Capable of controlling** up to 1.6 Amps @ 30VDC for each output
- **Digitally addressable** device for a unique address
- **Remote mounting** ability on the Local LightSync network
- **RJ45 connectors** for easy connection to the network
- **Push-to-Connect** terminations for easy installation

### Remote Mounting Options:

- **Remote mount** anywhere on the Local LightSync network
- **Powered** from the network
- **RJ45 connectors** provided for easy connection
- **Mounting plate** available for easy installation



### Physical



### Specifications

**Physical:**

- 2.75" Wide X 3.50" High
- Push-to-connect output connectors
- Accepts up to 2 - #18 AWG wires per connection
- Digital addressing switches
- RJ45 connectors for remote mounting options

**Electrical:**

- Electronics powered from the panel Local port
- 1.6 amps @30VDC load capacity

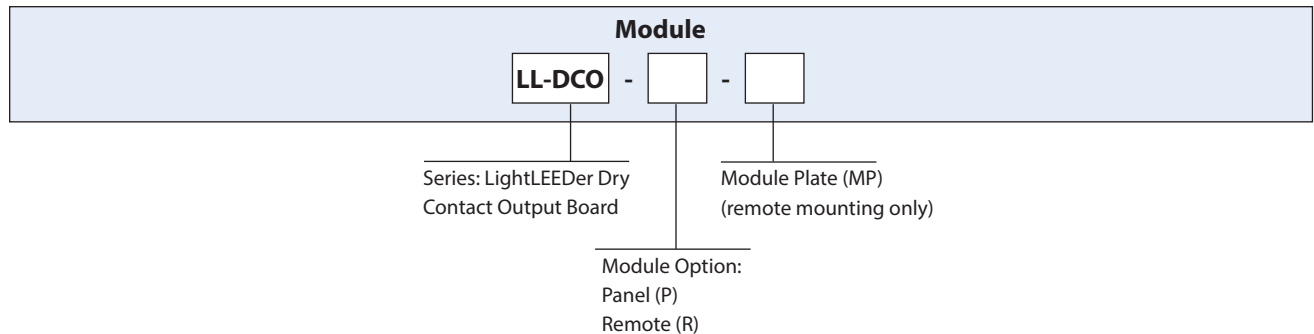
**Operating Environment:**

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

**Certifications and Approvals:**

- UL
- CUL
- FCC Part 15

### Ordering

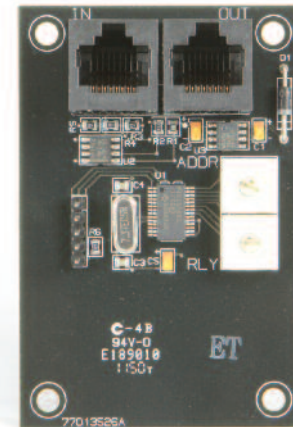






## Relay Simulator Register

- Made in the USA
- Relay simulator register
- Adds logic control to system
- Holds ON or OFF relay logic
- Can be used with relay or input conditionals
- Uses unused relay points in a panel



## Overview

The LightLEEDer Relay Simulator Register is a device designed to provide an internal register that can be controlled like a relay in the panel. By adding this to the panel, simulated relays can be turned ON or OFF and be used in conjunction with Input or Relay conditionals to obtain complicated logic programming. This device is connected to the panels Local data port and can be configured as simulated relays beyond the physical relays in the panel.

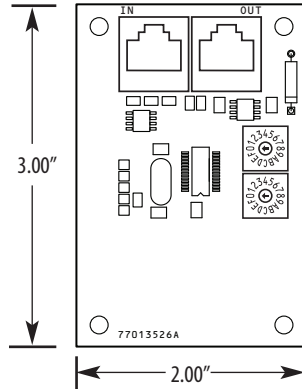
## Features

### General Information:

- **Made in the USA**
- **Simulated** relay output register
- **Logic** capabilities increased
- **Holds** relay ON and OFF values
- **Programs** and looks just like a normal relay from the system
- **Programming** logic used in Input and Output conditionals
- **Occupies** unused relay points in a panel
- **Mounts** directly in the panel
- **Powered** directly from the data line



## Physical



## Specifications

### Physical:

- 2.0" wide X 3.00" high
- Data IN and Data OUT RJ45 connectors
- Address switch
- Relay count switch

### Electrical:

- Powered directly from the data line

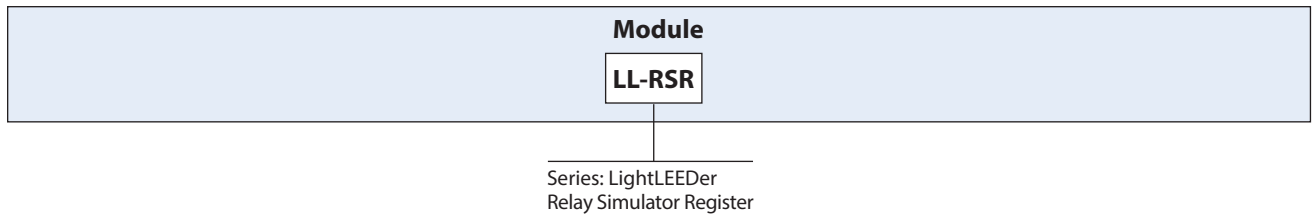
### Operating Environment:

- Location: Interior space
- Operating Temp: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL
- CUL
- FCC Part 15

## Ordering



## Section 7: ILC LightLEEDer Retrofit Lighting Control Panels

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- LightLEEDer Retrofit Package
- LightLEEDer-24/40/48Microlite® Retrofit Insert
- LightLEEDer-8X Retrofit Insert







- Made in the USA
- Retrofit outdated or obsolete hardware
- Updates RSX, Quanta Elite, LightMaster, or competitors systems
- Options for using existing relays and relay driver boards
- Adds many features and capabilities
- Ability to add LightLEEDer panels to an existing system



### Overview

A LightLEEDer Retrofit Package can take your present outdated lighting control system and get it up to today's standards. All of the enhanced features of the LightLEEDer system will be available with this retrofit system from LightSync switches to BAS control. Upgrades can vary from totally gutting the panel's electronics and relays to just replacing the controller itself. Contact ILC for more details.

### Features:

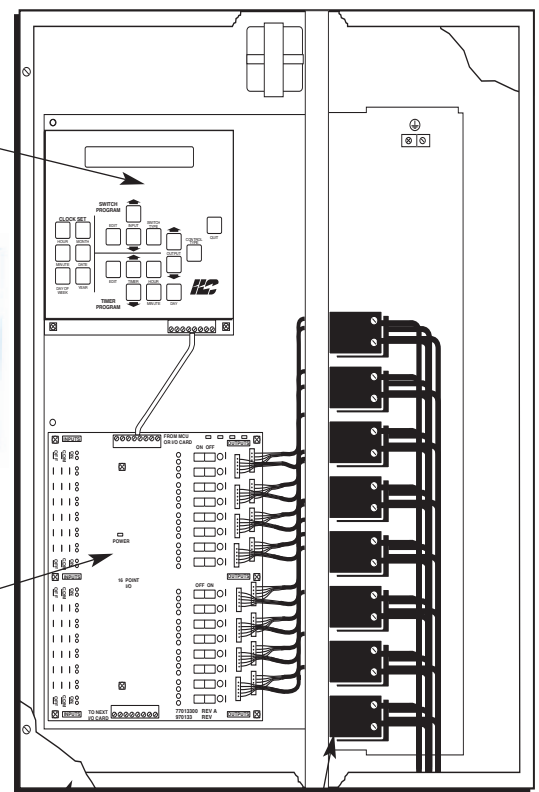
- **Programming Options** are done with an integrated keypad with 4-line LCD display or using the free LightLEEDer Pro software via USB or TCP/IP.
- **Network Capability** allows up to 254 panels and 64 LightSync devices.
- **TCP/IP** optional connection for programming or control on a LAN or WAN
- **Relay Groups** can comprise of any relay on the network and be assigned to any of the 256 available
- **Relay Presets** can be programmed to any ON/OFF pattern and be assigned to any of the 256 available
- **128 Timer Schedules** that can turn relays ON/OFF for Time-of-Day, Astronomical times, or Open/Close times
- **Add-On Modules options** include BACnet IP, BACnet MSTP, Modbus RTU, Modbus ASCII, N2, LonWorks, DMX512, DTMF telephone switching and modem.

**Contact ILC for more information on retrofitting your existing lighting control system.**

*The retrofit upgrade includes a new backplane insert with LightLEEDer processor, electronics and features*



*Some or all of your older, obsolete, electronics will be removed.*



**SAVINGS:** The existing enclosure does not need to be removed

**SAVINGS:** The existing relays and line voltage wiring can remain intact.





## LightLEEDer-24/40/48 Microlite® Retrofit Insert

- Retrofit outdated or obsolete MicroLite® hardware
- Updates all MicroLite® 24, 40, or 48 size relay panels
- Reuse existing enclosure, conduit, and wiring
- Easy Installation
- Provided on a single back plate insert
- Made in the USA



## Overview

A LightLEEDer-24, -40, or -48 MicroLite® Retrofit Insert can take your present outdated or failing MicroLite® lighting control system and get it up to today's standards. All of the enhanced features of the LightLEEDer system will be available with this retrofit system from LightSync switches to BAS control. Upgrades are as simple as removing the existing hardware and replacing it with the LightLEEDer hardware provided on a single back plate insert. Reuse existing enclosure, conduit, and wiring. The LightLEEDer programmable lighting controller retrofit insert provides a dependable, flexible, and energy savings controller featuring the robust Reliant40 relay.

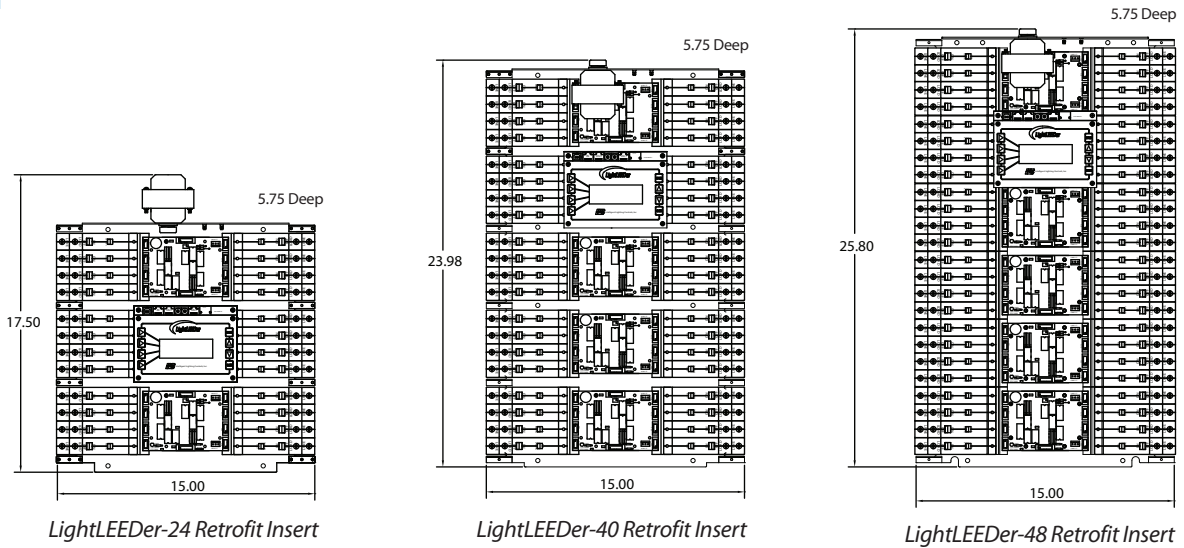
## Features

### General Information:

- **Electronics, Relays and Transformer** provided on a single insert
- **Reuse** existing enclosure and door
- **Installs** directly in an existing MicroLite® enclosure
- **Conduit** and wiring can be reused
- **Capacities** of up to 24, 40, or 48 relays
- **Relays** are the superior Reliant40 design
- **Optional** inputs for switches and occupancy sensors
- **Supports** LightSync data line devices
- **Standalone** or networked controls
- **Networked** with CAT5 cable
- **BAS/EMS** interface options
- **Compatible** with standard LightLEEDer panels
- **Same features** as the LightLEEDer controller
- **Meets** current energy code requirements
- **Made in the USA** relays and hardware



### Physical



### Specifications

#### Relays:

- Superior latching relays
- Switch type override control
- Lockout feature disables control from panel
- 40 Amps @ 120, 277, 347 VAC
- SCCR to 18,000 symmetrical amps
- 1, 2, or 3 pole configurations

#### Safeguards:

- Power surge and spike suppression up to 123 volts on the 24VAC power input
- Data line surge and spike suppression up to 8kv direct and 15kv thru air
- Memory retention for firmware and programming up to 200 years and electrostatic discharge to 4kv
- Real-Time-Clock time retention 45 days or greater without power
- Internal memory backup and restore

#### Physical:

- 24 Relay Insert: 17.5" H x 15" W x 5.75" D
- 40 Relay Insert: 23.9" H x 15" W x 5.75" D
- 48 Relay Insert: 25.8" H x 15" W x 5.75" D

- Double sided construction similar to MicroLite®
- Provided with pre-drilled mounting holes
- High voltage barriers separate Normal/Emergency/Class2 wiring

#### Electrical:

- 120/277 VAC @ 1 amps or optional 347 VAC

#### Capacities:

- Up to 24, 40, or 48 single pole relays
- 1 to 4 add-on modules

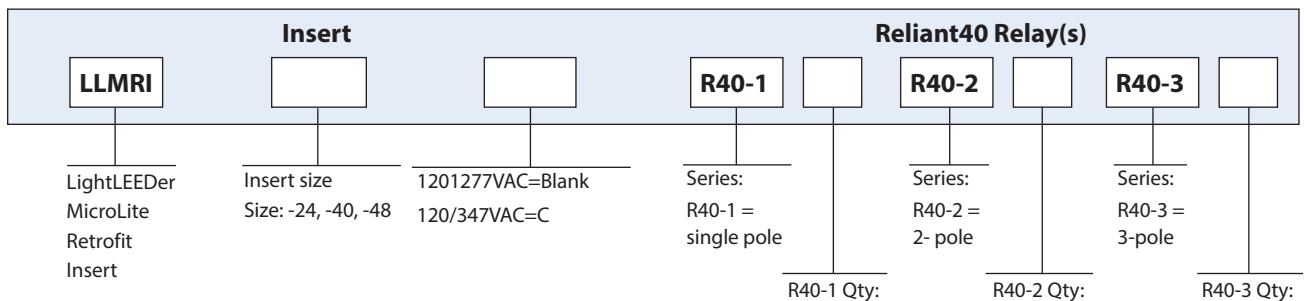
#### Operating Environment:

- Location: Interior space
- Operating Temperature: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

#### Certifications and Approvals:

- UL and CUL listed
- FCC Part 15
- Title 24
- ASHRAE compliant
- LEED compliant

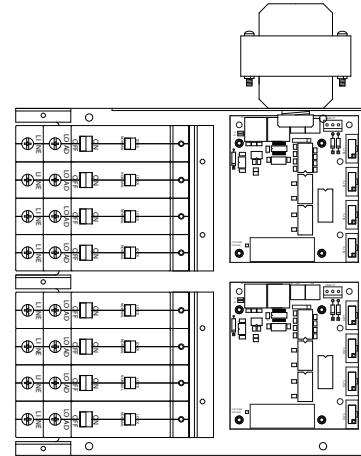
### Ordering







## LightLEEDer-8X Retrofit Insert



- Retrofit outdated or obsolete 8 relay panels
- Retrofits MicroLite®50 and others
- Reuse existing enclosure, conduit, and wiring
- Easy Installation
- Provided on a single back plate insert
- Made in the USA

## Overview

A LightLEEDer-8X Retrofit Insert can take your present outdated or failing lighting control panel and get it up to today's standards. All of the enhanced features of the LightLEEDer system will be available with this retrofit system from LightSync switches to BAS control. Upgrades are as simple as removing the existing hardware and replacing it with the LightLEEDer-8X hardware provided on a single back plate insert. Re-use the existing enclosure, conduit, and line voltage wiring. LightLEEDer-8X panels are controlled with an Expansion Processor (optional) or a standard LightLEEDer panel. The LightLEEDer programmable lighting controller retrofit insert provides a dependable, flexible, and energy savings controller featuring the robust Reliant40 relay.

## Features

### General Information:

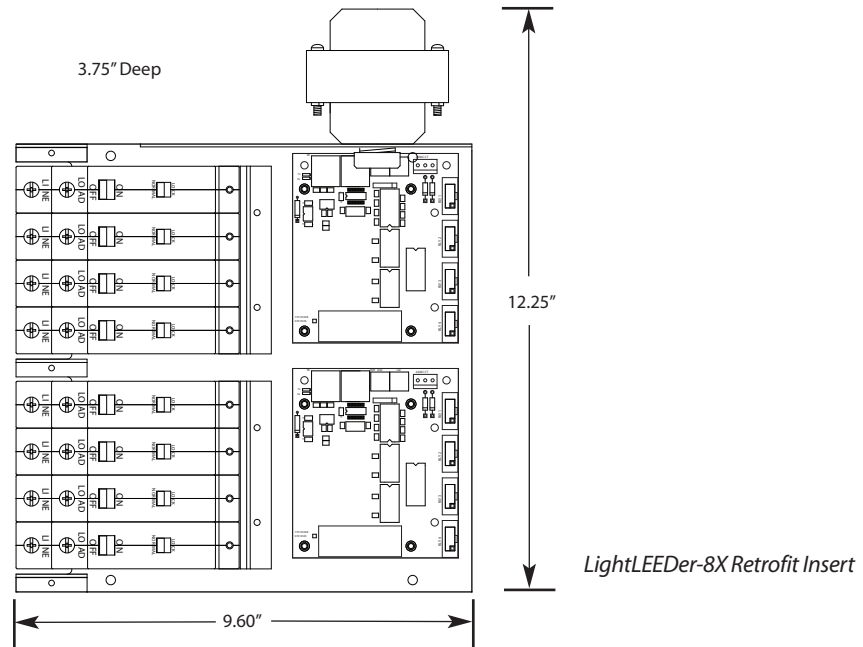
- **Electronics, Relays, and Transformer** provided on a single insert
- **Installs** directly in a MicroLite®50 or other manufactures enclosure
- **Expansion** provided from LightLEEDer's local port
- **Capacity** of up to 8 relays
- **Relays** are the superior Reliant40 design
- **Add-on** capability for 2 LightSync input modules
- **Connects** on the LightLEEDer local sub-net
- **Combine** up to 8 LL-8X Retrofit Inserts per sub-net
- **Compatible** with all LightLEEDer lighting controllers
- **Same Features** as a LightLEEDer lighting controller
- **Made** in the USA

### External Controller:

- Expansion Controller or a standard LightLEEDer panel
- Required for all installations
- Connect remote LL-8X panels to emulate a single panel
- Controls up to 8 retro inserts
- Provides a sub-net for communications
- Allows LightSync data line devices and power
- Provides all standard panel controls
- Combine up to 255 sub-net or standard panels per lighting system



### Physical



### Specifications

**Physical:**

- 9.60" W x 12.25" H x 3.75" D
- Galvanized back plate insert
- Provided with pre-drilled mounting holes
- High voltage barriers separate Class2 wiring

**Electrical:**

- 120/277 VAC @ 1 amps or optional 347 VAC

**Relays:**

- Superior latching relays
- Switch type override control
- Lockout feature disables control
- 40 Amps ballast or resistive loads
- SCCR to 18,000 symmetrical amps
- 1-pole configurations

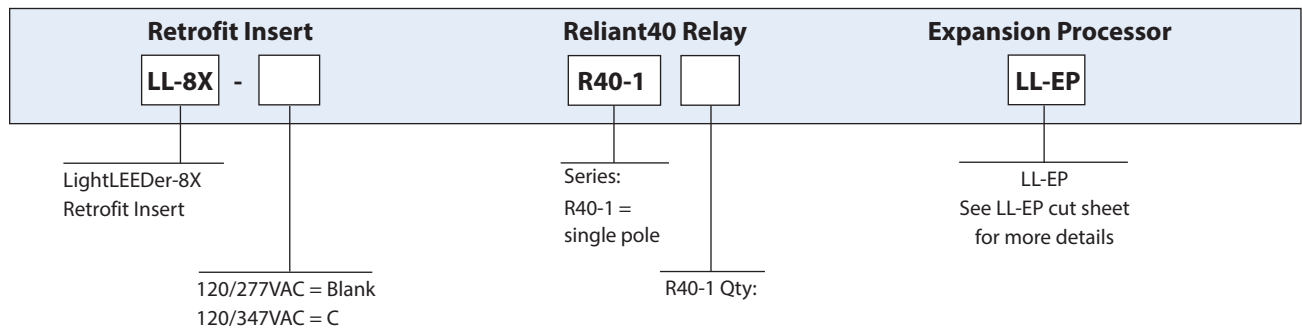
**Operating Environment:**

- Location: Interior space
- Operating Temperature: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

**Certifications and Approvals:**

- UL and CUL listed
- FCC Part 15
- Title 24
- ASHRAE compliant
- LEED compliant

### Ordering



# Section 8: ILC Apprentice II Lighting Control Panels

• Apprentice II Controller

• Apprentice II Accessories Quick View







- 365-day programmable Lighting Control Panel
- All products Made in the USA
- LightSync™ switch and accessory ready
- Network up to 48 control points
- Available in 4, 8, 16 and 32 relay panel sizes
- Uses reliable zero-cross Softcross™ relay
- Optional add-on modules available
- Programming software provided with every panel
- USB, modem and TCP/IP connectivity available



## Overview

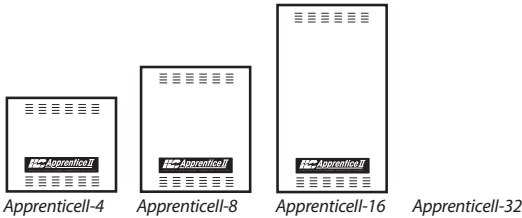
The Apprentice II programmable lighting control panel is an energy saving lighting controller. You can network up to 48 control points and 32 LightSync™ devices per network and connect via easy to use RJ-45 ports. Connect and program panels using a USB port on a laptop and our free Apprentice II software. Add-on cards are easy to install and add the following capabilities: BACnet, LonWorks, N2, MODBUS, TCP/IP, or modem interface, DMX control and DTMF telephone switching.

## Features

- **Made in the USA** relays and hardware.
- **Programming Options** are done with an Integrated keypad with 4-line LCD display or using Apprentice II Pro software via USB or TCP/IP.
- **LightSync Data Line Device Ready** utilizing RJ45 connectors and standard CAT-5 cabling for data line.
- **Network capability** allows you to connect panels for up to **48 outputs** and **32 LightSync** devices per network.
- **Internet Capability** to program, monitor, and control panels across the network or internet with the addition of a TCP/IP module.
- **Relay Groups** consist of any relay on the network and can be assigned to any of the **48 available groups** — controlled by any timer, switch, or other external commands.
- **Relay Presets** can be programmed from any relay ON/OFF patterns and be assigned to any of the **48 available presets** — controlled by any timer, switch, or other external commands.
- **Timer Scheduling** for **48 available timers** that can turn relays ON or OFF for Time-of-Day, Astronomical times, and Open/Close.
- **Clock Functions** include Automatic Astronomical calculation of Sunrise and Sunset and Adjustable Daylight Saving Time and Enable/Disable.
- **Switching Inputs** accepts virtually any type of switch input, momentary or maintained, 2- or 3-wire switch and directly powers data line switches and devices.
- **Add-On Modules** can be added to each controller, including BACnet IP, BACnet MSTP, Modbus RTU, Modbus ASCII, N2, LonWorks, DMX512, TCP/IP, DTMF telephone switching and modem.
- **Expansion panels** with 4 to 16 relays are available to expand the number of relay outputs on a standard panel.



### Physical



Enclosure Size Options (NEMA Type 1 w/cover)				
Enclosure Type	Relays	Width	Height	Depth
ApprenticeII-4	4	14 in.	12 in.	4 in.
ApprenticeII-8	8	14 in.	16 in.	4 in.
ApprenticeII-16	16	14 in.	24 in.	4 in.
ApprenticeII-32	32	16 in.	42 in.	4 in.

### Specifications

#### Relays:

- **Single pole** zero-cross Softcross™ relays control 120 or 277VAC @ 20 Amps for ballasts and resistive loads. Available in normally open or normally closed.
- **1 Pole relays** with the same footprint as the single pole control up to 347VAC @ 20 Amps for ballasts, resistive and general loads. Available with normally open contacts.
- **2 Pole relays** with the same footprint as the single pole control up to 277VAC per pole @ 20 Amps for ballasts, resistive and general loads. Available with normally open contacts.

#### Safeguards:

- **Power surge and spike suppression** up to 123 volts on the 24VAC power input
- **Memory retention** for firmware and programming up to 50 years
- **Real-Time-Clock time retention** 45 days or greater without power

#### Physical:

- NEMA1 galvanized enclosure
- Double sided construction for wiring on both sides
- Provided with pre-drilled mounting holes

- Painted removable hinged locking door for flush or surface mounting
- High voltage barriers separate Normal/Emergency and Class 2 wiring

#### Electrical:

- 120/ 277 VAC or optional 120/ 347 VAC
- 1 Amp

#### Capacities:

- 4, 8, 16, or 32 relays

#### Operating Environment:

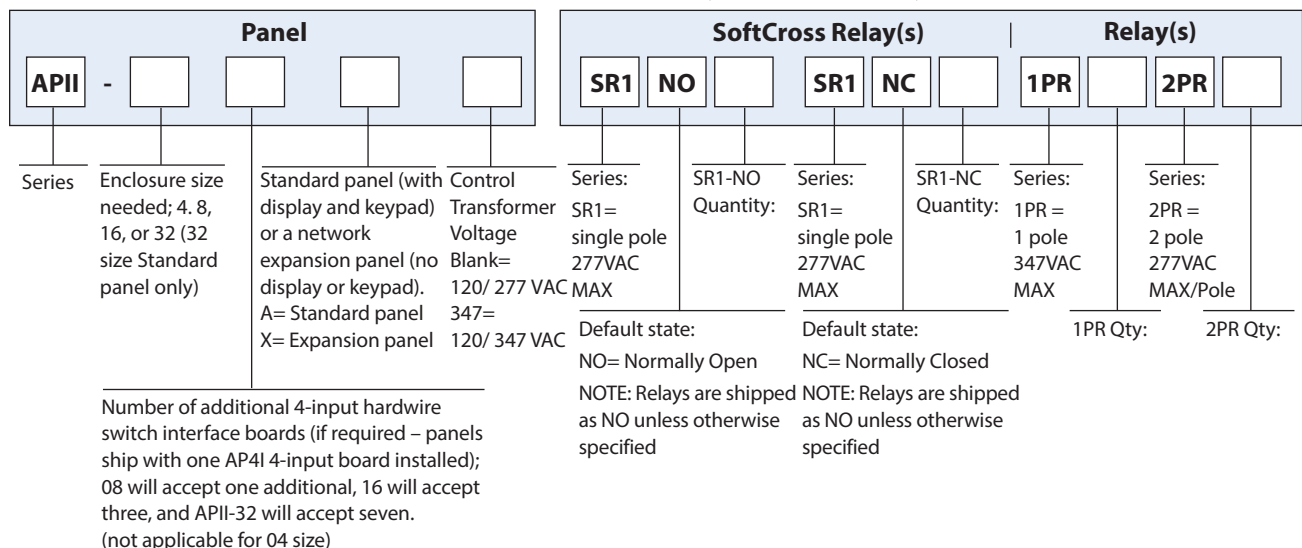
- Location: Interior space
- Operating Temp.: 0° to 40° C
- Humidity: 10% - 90% Non-condensing
- Vibration: Stationary

#### Certifications and Approvals:

- UL CUL
- FCC Part 15
- FCC Part 68
- Title 24
- ASHRAE compliant

### Ordering

**Ordering Notes:** - Only 1 standard panel allowed per network.  
 - Expansion panels can only have 4, 8, or 16 relays/panel.





Detailed cut-sheets of these Apprentice II accessories are available at [www.ilc-usa.com](http://www.ilc-usa.com)

### Relays

**Softcross Relay:** Single pole electrically held 120/277VAC 20 amp relay. Features zero-cross switching for endurance and reliability. Relays are available in normally open or closed.

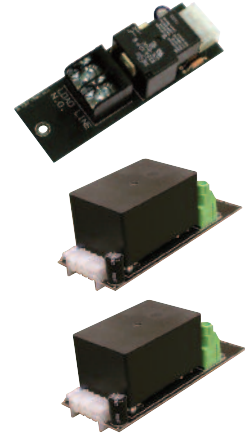
**Order:** SRI\_ (NO, NC)

**1-Pole Relay:** Single pole normally open relay controls up to 20 Amps @347VAC

**Order:** 1PR

**2 Pole Relay:** Provides 2 pole 20 Amp control from a single space in the panel. Normally open contacts configuration.

**Order:** 2PR



### Switch Input

**Input Module:** Provides 4 hardwired inputs that accept 3 or 4 wire momentary or maintained contacts. Also provides pilot outputs for each input.

**Order:** AP4I

**Order Panel Mount:** AP4IB-4

**Order Remote Mount:** LSIM-R-D

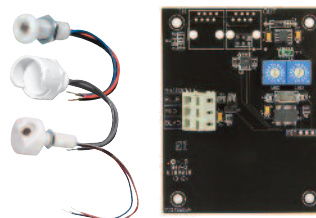
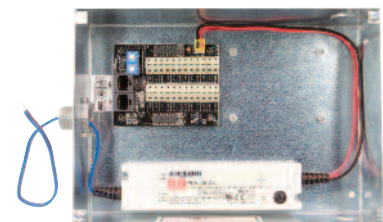
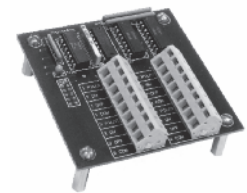
**Occupancy sensor 8 input remote module:** Provides 8 independent occupancy sensor inputs and 24VDC up to 800mA.

**Order:** LSO8I-R

**Photo Sensor Controller:** Remote hard-wire photo sensor monitors light levels with 10 adjustable set points.

**Order Indoor:** PSC-IND-R

**Order Outdoor:** PSC-OUT-R



*Apprentice II Accessories continued on the next page.*



### Add-on Modules

**Serial Interface:** Add-on modules are available to communicate with BAS systems allowing status and control. Modules install directly onto the controller board in each panel.

**Order:** BACnet = BC\_ (BACnet IP = IP, BACnet MSTP= MSTP);  
LonWorks = LON; Modbus = MB; Metasys N2 = N2

**Telephone DTMF:** Provides voice prompted control and status with a touchtone telephone.

**Order:** TI

**Telephone Modem:** Provides the ability to program and monitor over a telephone line.

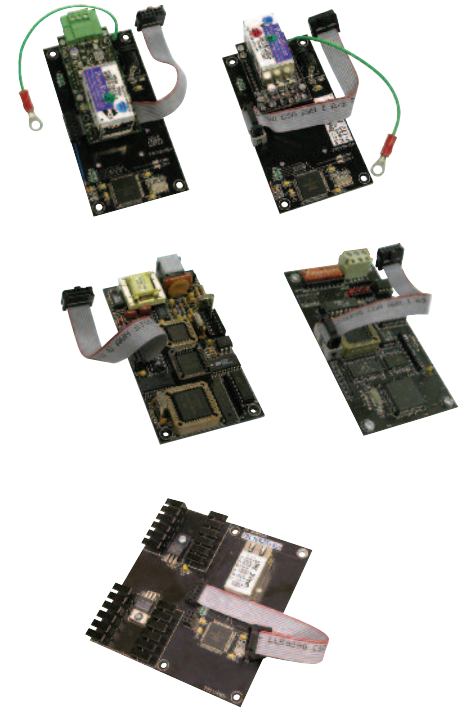
**Order:** MD

**DMX512 interface:** Provides direct control of relays using DMX512 serial control signals.

**Order:** MX

**TCP/IP interface:** Provides the ability to program and monitor over a LAN or WAN using TCP/IP.

**Order:** IP



### Enclosure

**Trim Rings:** Matching trim ring for flush mounting panels.

**Order:** FT\_ (size 04, 08, 16, 32)



Purchase Apprentice II controllers and accessories directly for ILC's web site at: <http://ilc-usa.com/store.php>



# Section 9: Relays

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- Reliant 40 Relays
- Emergency Power Control







# Reliant40 Relays

Latching Relays

- Rated for 40 Amps
- Made in the USA
- 4 contact latching design
- SCCR rated to 18,000 Symmetrical Amps
- 1-, 2-, or 3-pole configuration
- Manual ON/OFF lever with indicator
- Lock On/OFF switch



## Overview

The Reliant40 relay is designed for durability, flexibility, and ease of use. This relay is a superior relay that employs 4 latching nickel-silver contacts. The relay is available in 1, 2, or 3 pole configurations for controlling 120 VAC to 480 VAC loads. It is UL and C-UL listed and is rated for 120 VAC to 347 VAC per pole with current rating of up to 40 Amps. This relay carries a high fault SCCR rating of 18,000 Amps @ 347 VAC. It also features a manual toggle switch for ON/OFF activation and a Lock-ON/OFF switch to disable control from the panel electronics. Installation is easy with 1 screw and 1 push-on ribbon connector.

## Features

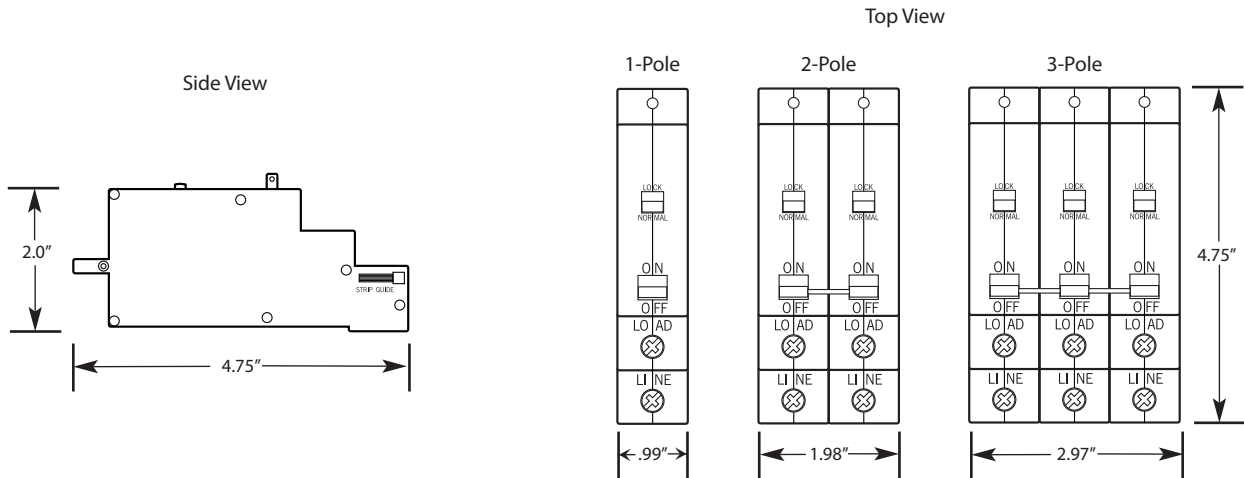
- **Made in the USA**
- **UL and CUL listed**
- **Suitable** for controlling all lighting loads
- **Electronic ballast** high current inrush load rating
- **Relay contacts** consist of 4 nickel-silver contacts designed for high currents
- **Latching** relay holds position without the presence of power, saving energy
- **Relay configurations** available in 1-, 2-, or 3-pole ganged assemblies
- **Manual lever override switch** with highly visible indicator
- **Lock-ON/Lock-OFF** feature disables On or OFF control from the electronics
- **Terminals** consist of 2 line and 2 load connections
- **Screw-actuated wire clamps** for use with 10-12 AWG solid or 8-12 AWG stranded copper wire
- **Easily mounted** - as easy as interfacing a tab and securing with a screw
- **Operates in any position**
- **Wire strip guide** located on the side of the relay



# Reliant40 Relays

Latching Relays

## Physical



## Specifications

### Physical:

- .99" Wide x 2.0" High x 4.75" Long (1 pole)
- Accepts 8-12 AWG stranded Cu wire or 10-12 AWG Solid Cu wire
- Easy installation into any panel
- Removable ribbon connector interface
- Clearly marked connection designations

### Low Voltage Control:

- 18 to 24 VDC
- Momentary duty rating
- 50 milliseconds minimum activation time
- 50 to 55  $\Omega$  coil resistance
- 100mA @ 5 VDC status & disable contacts

### Warranty:

- Five years

### Electrical:

- 120, 277 or 347 VAC per pole (controls 208/240/480 loads)
- 40 Amps HID and ballast loads
- 40 Amp resistive loads
- 16 Amp electronic ballast loads (UL's limit)
- 1.5 Hp @ 120VAC motor loads
- 18,000 Symmetrical Amp SCCR @ 347 VAC

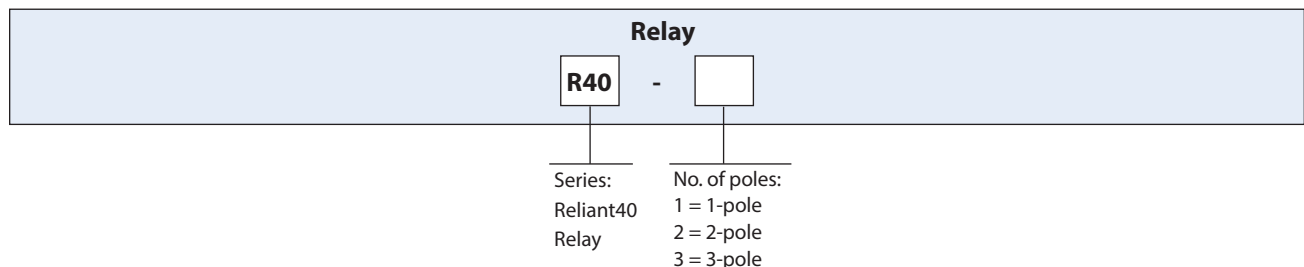
### Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 60° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications:

- UL and CUL Listed
- FCC

## Ordering





# Emergency Power Control

- Bypass control of emergency lights in the event of a power loss
- Made in the USA
- Meets UL924 requirements
- Works in conjunction with UL1008 transfer switch
- Diagnostic testing feature
- 5 year warranty



## Overview

ILC offers a full line of emergency power controls to sense a power outage and control the lights to meet UL924 requirements. The shunt relay is used on designated emergency lights to shunt or bypass around the lighting controls when a normal power outage occurs. The emergency power control device is used when normal and emergency lights are both being controlled by the lighting control panel, and when an outage occurs, normal lights are turned Off and emergency lights automatically turn On to meet the emergency lighting requirements.

## Features

### General Information:

#### UL 924 Emergency Power Control Device Options

- **EPC-A-1:** 120/277VAC 20 Amp emergency power control for a 4-11/16 JB, screw mount w/automatic diagnostics
- **EPC-1:** 120/277VAC 20 Amp emergency power control for a 4-11/16 JB w/ push-button and automatic diagnostics
- **EPC-1-RT:** 120/277VAC 20 Amp emergency power control for a 4-11/16 JB w/ single gang plaster ring mount. Provides push-button and automatic diagnostics
- **TR-A:** 120/277VAC 20 Amp emergency power control for a 4-11/16 JB w/ push-button and automatic diagnostics
- **EPC-PM:** 120 or 277VAC 20 Amp emergency power control w/fire alarm contact, 4-11/16" JB mount w/ 1/2" KO cover. Provided with a manual test button through KO
- **EPC-1-D:** 120/277/VAC 1800W emergency power control for 1-10V dimming, 4-11/16" JB w/ single gang plaster ring mount. Provided with push-button and automatic diagnostics
- **EPC-D-F:** 120 or 277VAC 20 Amp 2, 3, or 4 wire dimming loads emergency power transfer, 4-11/16" JB mount. Provided with push-button diagnostics

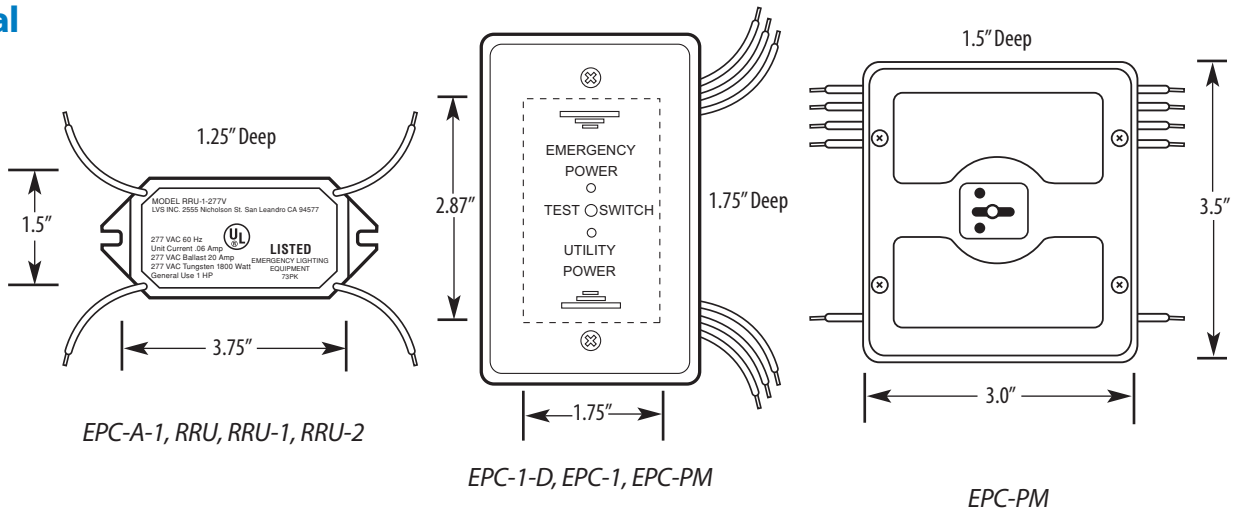
#### UL 924 Shunt Relay Device Options

- **RRU:** 120 or 277VAC 10 Amp N.O. N.C. shunt relay, screw mount 4-11/16" JB, enclosure, or fixture mount
- **RRU-1:** 120 or 277VAC 20 Amp N.C. shunt relay, screw mount 4-11/16" JB, enclosure, or fixture mount
- **RRU-2:** 120 or 277VAC 20 Amp N.O. shunt relay, screw mount 4-11/16" JB, enclosure, or fixture mount



# Emergency Power Control

## Physical



## Specifications

### Emergency Shunt Relay Physical:

- **Bypasses** panel control of designated emergency lights during a power outage
- **Mounts** vary depending on model
- **Lead** wires are color coded and clearly marked

### Emergency Power Control:

- **Controls** emergency lights to follow normal operation and bypass control during a power outage
- **Mounts** vary depending on model
- **Lead** wires are color coded and clearly marked
- **Test** switch and LED status Indicators

### Emergency Power Control Electrical:

- 120 or 277VAC

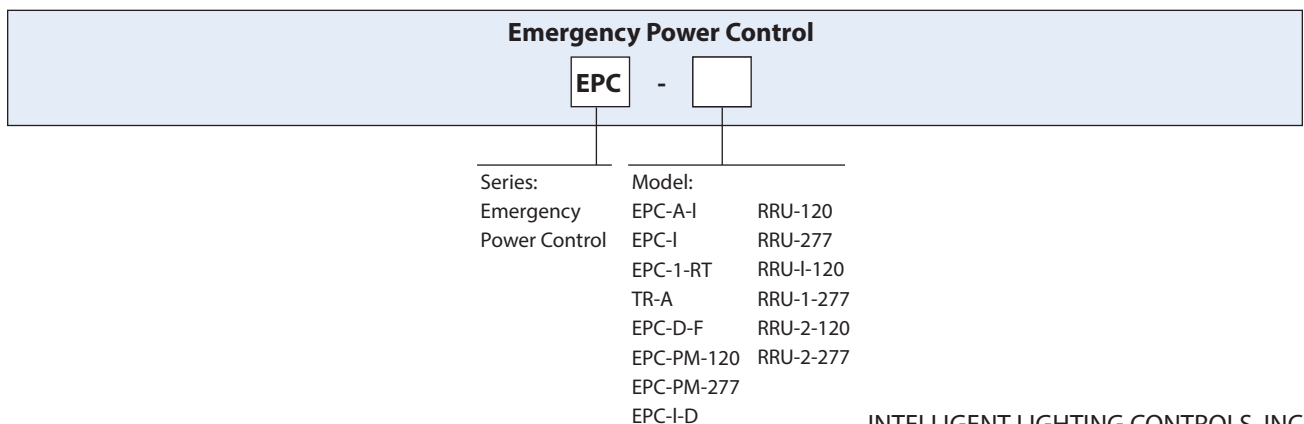
### Operating Environment:

- Location: Interior Space
- Operating Temp.: 32° to 140° F
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL924
- UL94V-0 flame rating

## Ordering



INTELLIGENT LIGHTING CONTROLS, INC.  
www.ilc-usa.com

# Section 10: Software and Computers

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- LightLEEDer Pro
- LightLEEDer InSite
- LightLEEDer Runtime Pro
- Factory Supplied Computers









- Windows®-based lighting control software
- Software comes free with every panel
- Simplifies programming LightLEEDer systems
- Graphical point and click menus
- Provides programming backup
- Interfaces stand-alone or networked systems
- Connect via USB, TCP/IP, or modem



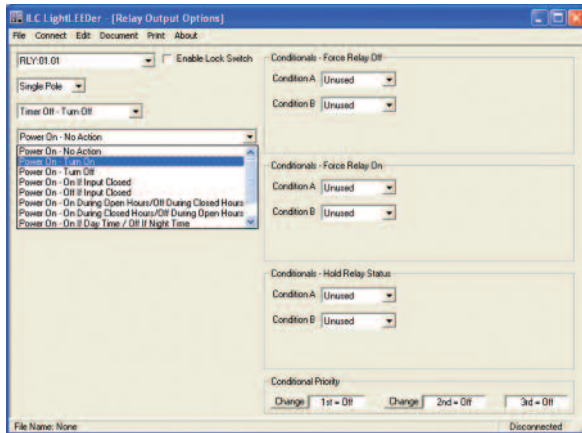
## Overview

The LightLEEDer Pro software provides Windows-based software that simplifies programming of stand-alone or networked LightLEEDer systems. Simply connect directly using a USB cable or through a network TCP/IP connection on a LAN or WAN and you're ready to program the system. Software also allows you to monitor relays, inputs, presets, and groups or control relays with a simple click of your mouse. Programming can be accomplished online or offline and files can be saved for backup.

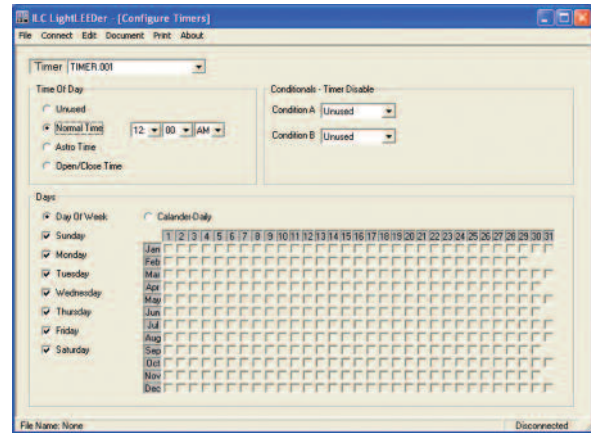
## Features

### General Information:

- **Windows**-based lighting control programming software
- **Complimentary** software with the purchase of a panel
- **Diagnostics** built in for panels and devices
- **Programming** can be done on or offline
- **Graphical** interface with point-and-click commands
- **Program** all LightLEEDer functions
- **Simplifies** programming
- **Connect** via USB, TCP/IP, or modem
- **Save/Open** programming files to a hard drive for backup and restore
- **Documentation** feature for printing or diagnosing programming issues
- **Compatible** for stand-alone or networked systems



Relay Options



Timer Configuration

## Specifications

### Programming Capabilities:

- **System Settings:** Set up panels, LightSync devices, dimmers, motor controls, serial Interfaces, naming, diagnostics, and clear memory
- **Clock Functions:** Set the time and date, longitude and latitude, and daylight saving time
- **Time Based Functions:** Timer schedules are set for time-of-day, astro time, or an open-close time. Timers to relays/groups, timed-on, blink alerts, alarms, and off-hour sweeps.
- **Relay Configuration:** Relay type and lock option, output timer, power-up options, relay conditionals, relay groups, relay presets, and input to relay mapping
- **Input Configuration:** Configure device types, input types, input conditionals, active times, and pilots

### Suggested Minimum System Requirements:

- PC or laptop
- 1.66 Ghz single core
- Windows XP, Vista, 7, 8
- USB 2.0
- 1G RAM
- SVGA monitor 1024 x 768
- 10/100 Ethernet adapter

### Connection Options:

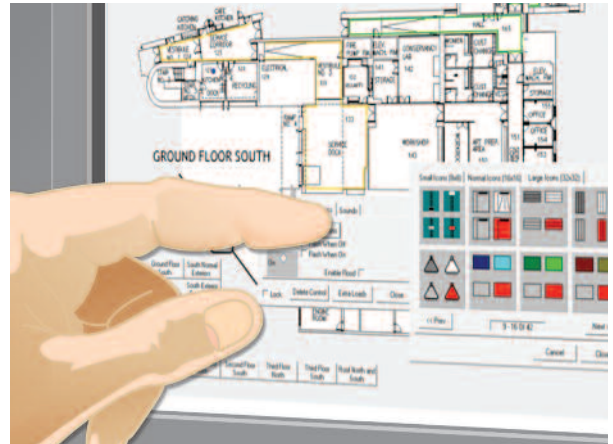
- USB 2.0
- TCP/IP 10/100

## Ordering

Software downloadable from ILC web site

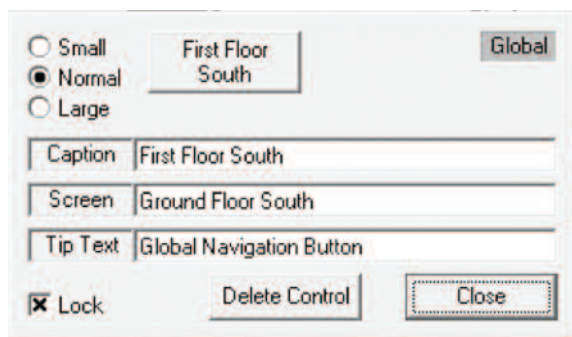


- Windows®-based graphical object software
- Real-time load monitoring and control
- Virtually limitless number of screens and control objects
- Screens can be as simple or detailed as you want
- Connect via USB or TCP/IP
- Multi level password protection

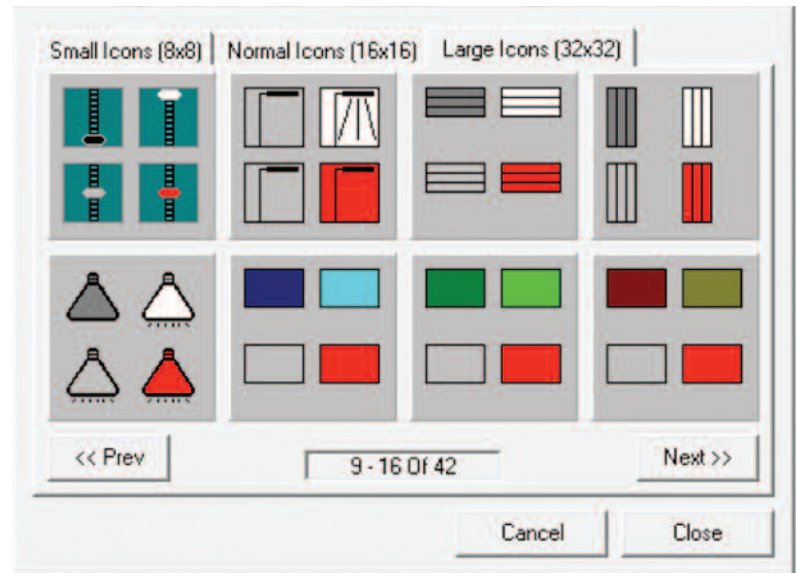


### Overview

LightLEEDer InSite software provides Windows-based graphical software that allows monitoring and control of relays using icons on custom or standard screens. With a simple click of the mouse, or a push on a touch-screen you can control relays, groups, presets, dimming outputs or navigate to different screens. Screens are simple bitmap pictures that can depict your facility's layout, created from architectural AutoCAD drawings, or standard screen layouts. Icons representing loads can be selected from an extensive library and display real-time status of the load. Navigation icons can be programmed to provide movement from one screen to another.

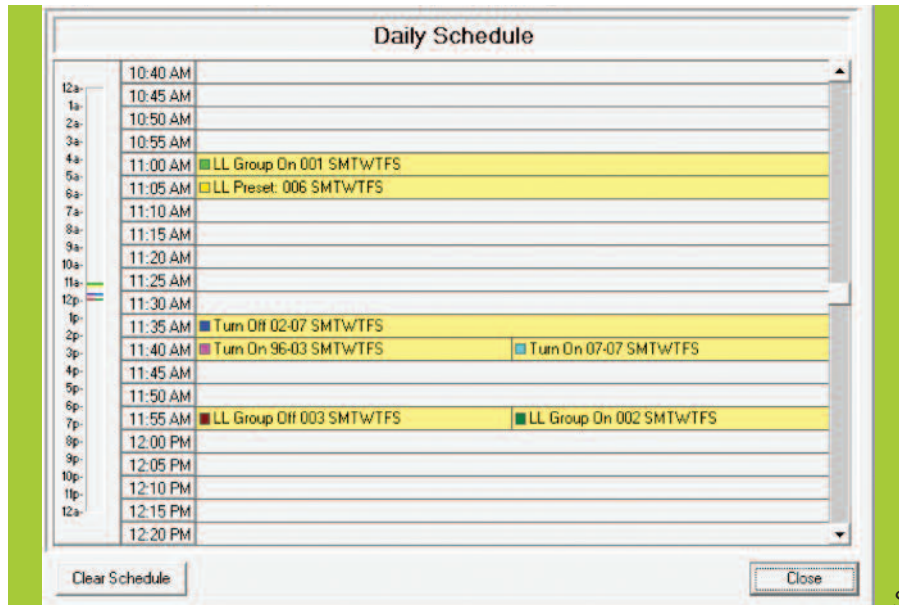


Develop Navigation Buttons



Customize Load Status Icons

Software and Computers



Set Schedules

## Specifications

### Programming Capabilities:

- Graphic screens can consist of any bitmap picture in virtually limitless numbers
- Control icons are unlimited per screen and can be chosen from an extensive library
- Icons can be edited at any time to include or exclude relays

### Graphical Control and Status:

- Simply point and click on an icon to control relays, groups, or presets
- Control 0-10V devices from a slider or icon
- Control DMX512 devices directly from the screen
- Control louvers with a click of an icon
- View real-time status of relays, groups, or presets

### Scheduling and Sequencing:

- Use the calendar-based scheduling system to automatically control relays, relay groups, or presets
- Up to 16 lighting sequences can be set to turn lights on/off at timed intervals for an event

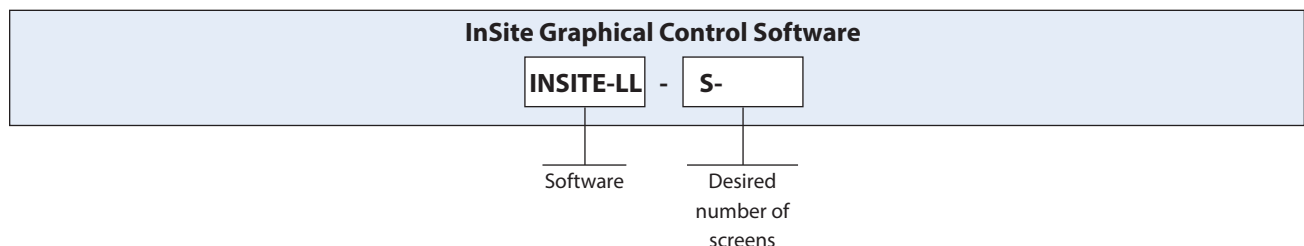
### Suggested Minimum System Requirements:

- PC or laptop
- 1.66 Ghz single core
- Windows XP, Vista, 7, 8
- USB 2.0
- 1G RAM
- SVGA monitor 1024 x 768
- 10/100 Ethernet adapter

### Connection Options:

- USB 2.0
- TCP/IP 10/100

## Ordering





- Windows®-based Runtime and Trending software
- Harvests data from lighting controllers
- Converts runtime to wattage used
- Monitors photocell and dimming levels
- Graphical point and click menus
- Connect via USB or TCP/IP
- Live usage wattage meters



## Overview

LightLEEDer Runtime Pro software is a Windows-based software that harvests and documents runtime and trending data of loads in stand-alone or networked LightLEEDer systems. Simply connect directly using a USB cable or through a network TCP/IP connection from your LAN or WAN and you're ready to compile data from the LightLEEDer system. Data harvested can be recorded for single or combined groups of relays. This data can be displayed as a spreadsheet report or in a graph form for daily or monthly usage. Reports are able to be directly exported to a comma separated value file that can be opened in Excel. Live usage wattage meters are available for displaying single or combined relays.

## Features

### General Information:

- **Windows**-based Runtime and Trending software
- **Harvest** data directly from lighting controllers
- **Records** load states, photocell and dimming levels
- **Graphical** interface with point-and-click commands
- **Connect** using USB or TCP/IP
- **Runtime** recorded to the minute
- **Trending** generates a graphical chart of ON and OFF times
- **Wattage** settings for each relay
- **Export** data into a spreadsheet
- **Print** data directly from graph screen
- **Compatible** for stand-alone or networked systems



Runtime Daily Usage

Monthly Reports

## Specifications

### Data Harvest:

- Data harvest time is every minute

### Runtime:

- Logs the time relay loads are ON
- Visual totals for each relay

### Trending:

- Logs the time relay loads are ON
- Graphical line chart for single or combined relays

### Data:

- Comma separated values .CSV

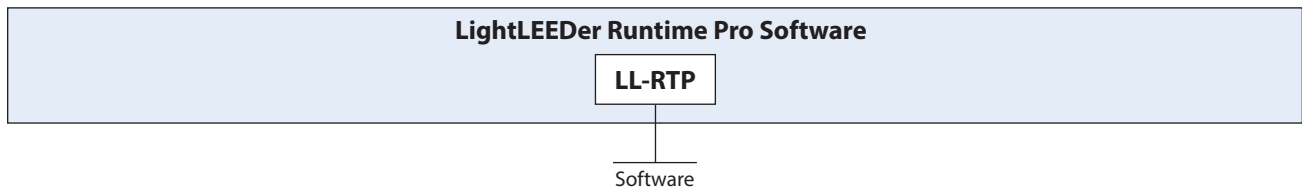
### Suggested Minimum System Requirements:

- PC or laptop
- 1.66 Ghz single core
- Windows XP, Vista, 7 or 8
- USB 2.0
- 1G RAM
- SVGA monitor 1024 x 768
- 10/100 Ethernet adapter

### Connection Options:

- USB 2.0
- TCP/IP 10/100

## Ordering





# Factory Supplied Computers

- High quality personal computer systems
- Windows® based
- Compatible with ILC's software
- Pre-configured and loaded for your application
- Laptops or desktops available
- Custom built for each job



## Overview

ILC Factory supplied computers provide a reliable high quality interface for your lighting control applications. Enhance your lighting control experience with programming, graphical control, or runtime monitoring software. Every computer supplied by ILC has been configured and tested with the lighting controller pre-loaded software. These computers are custom built to your requirements which may include touch screens, UPS backups, printers, switches, and other accessories.

## Features

### General Information:

- **Factory** supplied desktop or laptop computers
- **Assembled** in the USA
- **Technical support** provided from ILC
- **Compatibility** tested with ILC's software
- **Quality** hardware for reliability and endurance
- **Software** is pre-installed and tested
- **Configured** for top performance
- **Communicate** using USB, RS232, modem, or TCP/IP
- **Touch Screen** available

### Computer Tasks:

- **Programming** lighting controllers
- **Backup** programming in case of catastrophic failure
- **Diagnostics** for solving programming issues
- **Status** and monitoring of relays
- **Runtime** monitoring and recording of relays
- **Trending** and recording of relays
- **Graphical** navigation and control







- Control and status app
- Android cell phone or tablet
- Control Relays, Groups, Presets, and Shades
- Slide switches for controlling 0-10V, or line voltage dimmers
- Emulates LightSync switch inputs
- Easy Drag & Drop app configuration
- Communicates via Wifi network



## Overview

The Mobile-LS-Link™ Wifi Android App is designed to control relays, dimmers, and shades using an Android phone or tablet. This app has the ability to emulate up to 64 LightSync input devices which equates to 512 inputs and 512 status pilots. With up to 32 screens, you can build your screens with easy to use drag-and-drop control buttons, dimmer sliders, status indicators and static text. Each of the control objects can be custom configured for controlling relays, groups, presets, dimmers, or shades in the ILC lighting controller network.

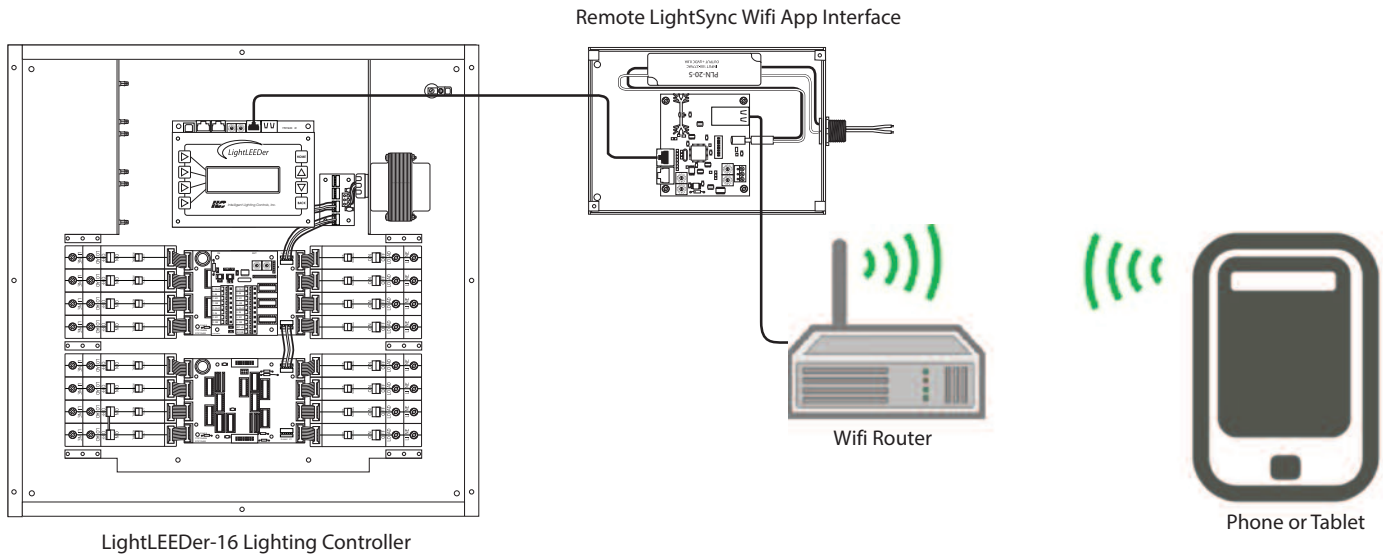
## Features

### General Information

- Allows up to 512 programmable control inputs per interface
- Up to 512 programmable status indicator points per interface
- Configurable buttons for controlling Relays, Groups, Presets, or shades
- Hold-and-drag slide dimmers for controlling 0-10V, or line voltage dimmers
- True status indicators for Relay outputs, Groups, Presets, or Dimmers
- Customizable text fields
- Drag and drop control/status/text setup configuration
- Up to 32 customizable screens
- Landscape or portrait operation
- Wifi communications to the LightSync Wifi App Interface
- Security via Wifi encryption
- Android phone or tablet
- Same programming features as LightSync devices



## Physical



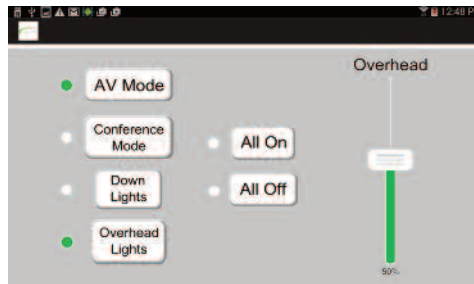
## Specifications

### Required Hardware:

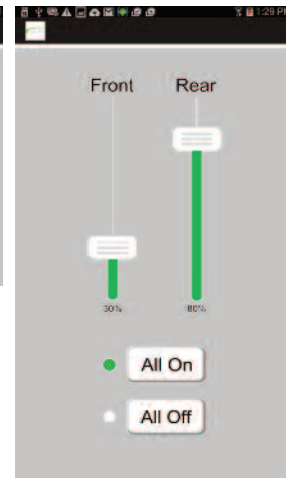
- Android cell phone or tablet
- Wifi router
- LightSync Wifi App Interface

### Android Requirements:

- Phone or tablet
- Minimum Android Version 4.1 Jelly Bean
- Wifi enabled



Landscape screen example



Portrait screen example

## Ordering

**Download app from the Google Play Store**  
**See LightSync Wifi App Interface cut-sheet for hardware information**

# Section 11: Hardwired Switch Stations

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- Touch Activated Graphic Control Stations
- LightSync Touch Screen Station
- NFP Series Switch Stations
- Wet or Wash-Down Location Touch Switch
- Security Touch Switch
- Heavy Duty Switch Stations
- Key Switch Stations
- Custom and Graphic Switch Stations
- Hinged Locking Door Switch Station







# Touch Activated Graphic Control Stations

- Touch activated switch station
- Available with screens from 3.5" to 17"
- High resolution color screens
- Communicates directly with lighting panels



## Overview

Touch Activated Graphic Control Stations provide the ultimate in graphics and control. These panel touch screens have an integrated touch sensor screen and are designed to be either flush or console mounted. They come equipped with communications connections that communicate directly to the lighting panels. With the use of graphical icons, you can control anything from a single story office space to the most complex control requirements imaginable. Through the use of high resolution graphics and programmed control objects, users can easily develop meaningful graphic control screens that enhance and simplify the control of any facility.

## Features

### General Information:

- **Touch activated** switch station
- **Screens** are available in sizes from 3.5" to 17"
- **High resolution** color screens
- **Bright** screens are easily seen
- **Network** ready with built in communications
- **USB** port for back up of programming
- **Configured** at the factory for easy installation
- **Fan-less** design for quiet operation
- **Security** can be enabled to limit access
- **Graphics software** installed
- **Custom** enclosures are available as required



# Touch Activated Graphic Control Stations

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## Physical

Contact ILC for Specific Physical Details

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## Specifications

**Physical:**

- Contact ILC

**Electrical:**

- 120 VAC

**Operating Environment:**

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary application NEMA Level A

**Certifications and Approvals:**

- FCC
- UL

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## Ordering

Contact ILC for Ordering Details



# NFP Series Switch Stations

Standard Low Voltage  
Switches & Plates

- Momentary center off rocker switches
- Made in the USA
- 1 to 8 switch configurations
- Status LEDs available for each switch
- Mounts in a standard electrical switch box
- Engraved switch identification available
- Custom configurations available



## Overview

NFP series switch plates are an attractive space-saving alternative to standard electrical wall switches. In addition to taking up less space than conventional wall switches (up to 8 switches on a 2-gang plate), NFP plates and switches can be ordered with either phenolic or engraved labeling to clearly identify the purpose of each switch. With optional LED pilot lights and a choice of colors and materials, NFP plates and switches provide an economical solution to many low voltage switching requirements.

## Features

### General Information:

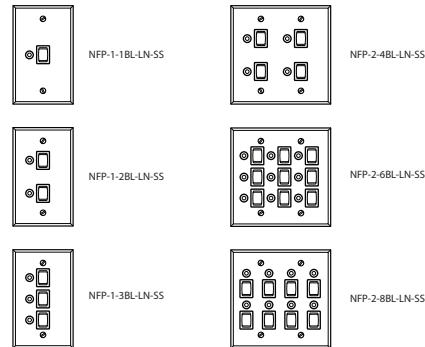
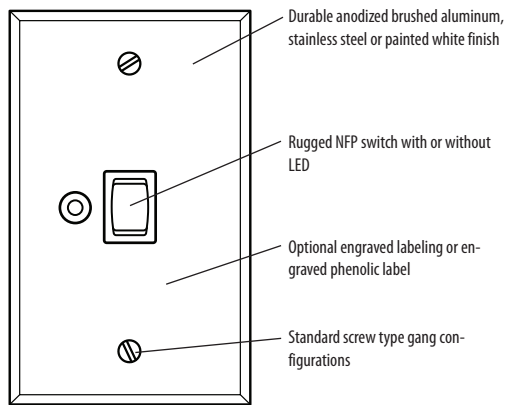
- **Switches** are heavy duty momentary center OFF rockers
- **Made in the USA**
- **Direct** wire to lighting controller
- **Switch stations** handle up to 8 switches on a 2 gang plate
- **Switch colors** include black, white, gray, or red
- **Status LEDs** optional for each switch
- **Durable switch plates** come in brushed aluminum, stainless steel, white, and other colors
- **Hardware** is included for mounting and wiring
- **Mounts** in a standard single gang or 2 gang box
- **Engraving** is available for switch identification
- **Custom** configure number of gangs, switches, and colors
- **Program** each button to control any relay(s), group(s) or preset(s)



# NFP Series Switch Stations

Standard Low Voltage  
Switches & Plates

## Physical



Custom NFP switch station configurations available

## Specifications

### Physical:

- Mounts in a 1 or 2 gang switch box
- Standard switch plate sizes
- Mounting screws provided
- Switch size: 9/16" x 13/16"
- Engraving up to 10 characters is available on phenolic labels or directly on plate surface
- Available in brushed aluminum, white, or stainless steel
- Status LED available with or without current limiting

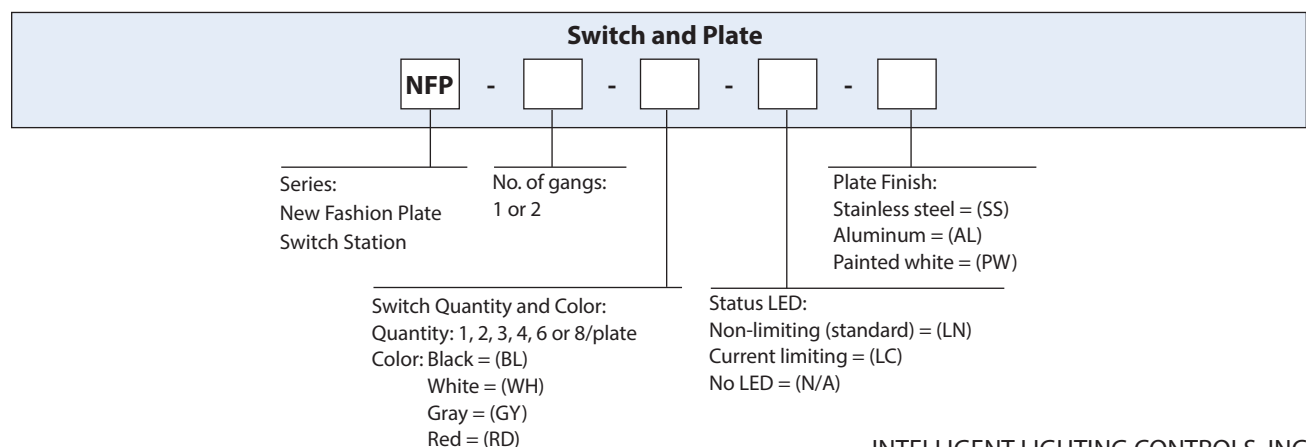
### Electrical:

- Momentary switched: 1 amp @ 24 VDC
- Momentary switched: 15 amp @ 125 VAC
- LED non-current limited: for LightLEEDer, LightMaster, or Apprentice II panels with internal limiting
- LED current limited: 30 VAC/VDC

### Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 60° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

## Ordering



INTELLIGENT LIGHTING CONTROLS, INC.  
[www.ilc-usa.com](http://www.ilc-usa.com)





# Wet or Wash-Down Location Touch Switch

- Durable wet or wash-down switch station
- Made in the USA
- Perfect for surface cleaning areas
- 1 to 3 button configurations
- Built-in status LED ring
- Status indicators for true relay, group, or preset status
- Mounts in a standard wet location single gang electrical box
- Engraved button identification available



## Overview

The touch switch station offers a durable push button or optional piezo switch that is ideal for medical or food-processing areas that are wet or require wash-down. Switches are rated to IP68, the International Electrotechnical Commission standard for ingress protection. Switch stations are available with 1 to 3 highly durable push button or optional piezo switches and have a status LED built into each button. Each button may be individually programmed to control any relay(s), group(s) or preset(s) throughout the network. Switch faceplates are stainless steel and are supplied with a sealing plate gasket.

## Features

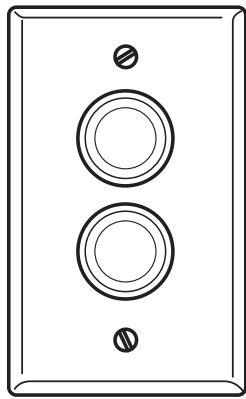
### General Information:

- **Durable** vandal and water resistant switch station
- **Made in the USA**
- **Life expectancy** up to 50 thousand electrical cycles
- **Sealed** for pressure washing or wet areas
- **Switch station** available in 1 to 3 button configurations
- **Buttons can be programmed** to control any relay(s), group(s) or preset(s)
- **Status LED ring** indicates the true state of a relay(s), group(s) or preset(s)
- **Stainless steel faceplates**
- **Mounts** in a standard wet location single gang box
- **Engraving** is available for switch identification
- **Custom** configurations available
- **Gasket** provided with switch station
- **Optional** solid state piezo switch

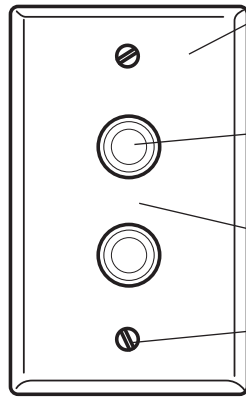


# Wet or Wash-Down Location Touch Switch

## Physical



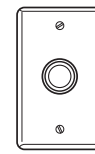
27mm Switch



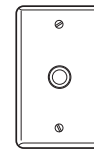
19mm Switch

- Durable stainless steel
- Push-button switch with LED ring
- Optional engraved labeling
- Standard screw type gang configurations

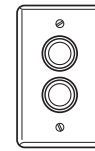
### WTS Switch Station Configurations



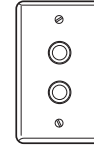
WTS-1-1-27-SS



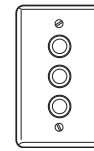
WTS-1-1-19-SS



WTS-1-2-27-SS



WTS-1-2-19-SS



WTS-1-3-19-SS

## Specifications

### Physical:

- Standard single gang mounting
- Stainless steel switch and switch plate
- Pigtail wires for termination
- Vandal and water resistant switch
- Waterproof connectors included
- Engraving up to 10 characters are available (4 characters for the 3 button switch)
- Gasket provided with switch station

### Switch:

- Stainless steel
- Diameter of .87" or 1.10"
- Green illuminated ring

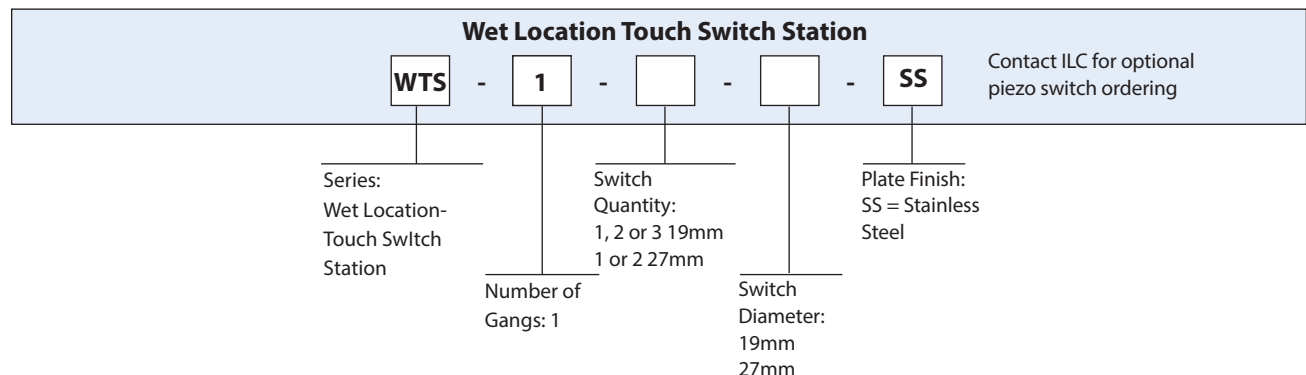
### Electrical:

- Current/voltage: 2A @ 24VDC
- LED: 20mA @ 2.8V
- 50,000 electrical life cycles

### Operating Environment:

- Location: Interior/Exterior space
- Operating Temp.: -20 to 55 C°
- Switch Intrusion: IP65
- Atmosphere: Non-explosive/corrosive

## Ordering





# Security Touch Switch

Touch Activated Switch

- Made in the USA
- Durable vandal resistant switch station
- 10 AWG steel plate
- Perfect for severe duty areas
- Mounts on a single gang electrical box



## Overview

The security touch switch station offers a durable push-button or optional piezo switch that is designed to control lighting control panels or DuraTouch modules. This switch is ideal for security or severe use environment installations where an impact resistant, durable switch is required. This switch may be individually programmed to control any relay, group or preset throughout the network. Switch face plates are made of 10AWG steel and painted with a durable white powder coat.

## Features

### General Information:

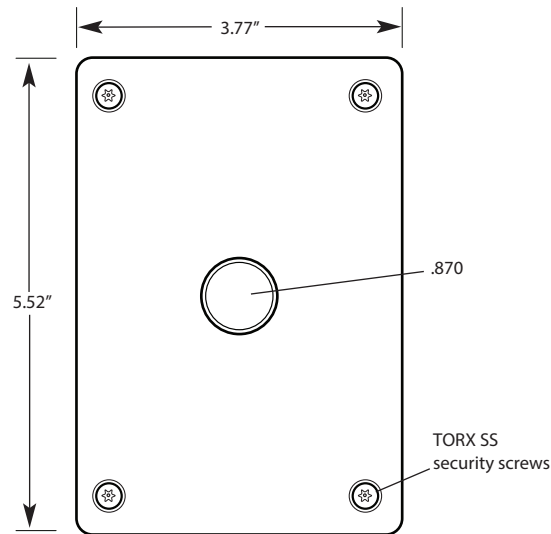
- **Durable** vandal resistant switch station
- **Made** in the USA
- **Life expectancy** up to 50 thousand cycles
- **Plate** is made of 10 AWG steel
- **Stainless steel** push-button switch or optional piezo switch
- **Program** each button to control any relay, group, or preset
- **Mounts** in a standard single gang box
- **Security** screws provided
- **Wire Pigtails** provided for easy installation
- **Painted** with durable white powder paint
- **Custom** configurations available



# Security Touch Switch

Touch Activated Switch

## Physical



## Specifications

### Physical:

- 10AWG steel plate
- White powder coat paint
- Standard single gang mounting
- Stainless steel pushbutton
- Pig tail wires for termination
- Engraving up to 10 characters are available

### Switch:

- Stainless steel
- Diameter of .870
- NO - SPST
- Status LED included

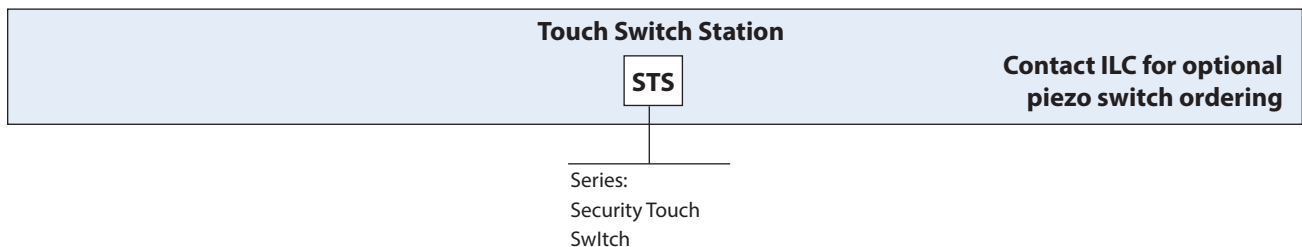
### Electrical:

- Current/voltage: 2A @ 24VDC

### Operating Environment:

- Location: Interior space
- Operating Temp: -20 to 55 C
- Humidity: 10% - 90% non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

## Ordering





# Heavy Duty Switch Stations

## Heavy Duty Momentary Switch Stations

- Momentary rocker switches
- Single pole double throw operation
- Decora® or Toggle heavy duty style switches
- Switch plates provided
- Mounts in a standard electrical switch box
- Tactile switch feel



## Overview

Momentary Switch Stations are available from ILC in a Decora or toggle style form. These heavy duty switches have a momentary On/Off with a neutral center position. The switches are manufactured by Leviton®, Hubbell®, or Pass & Seymour® and accept standard switch plates. Switches can be wired to signal an input to control a relay(s), group(s), or preset(s) in any of ILC's panels.

## Features

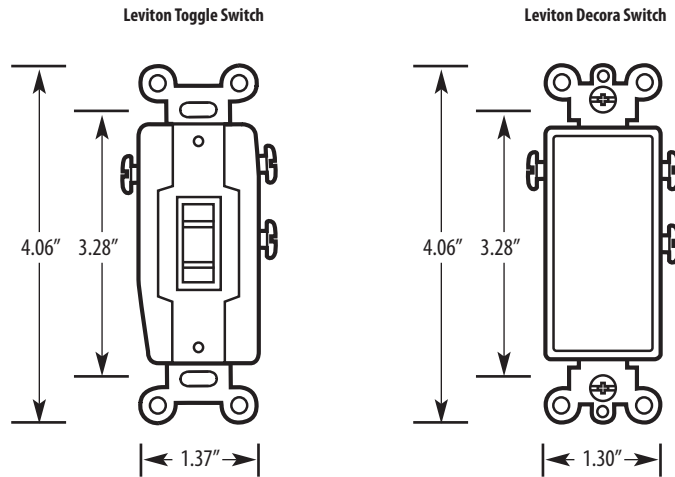
- **Heavy duty momentary switches**
- **Decora** and **Toggle** styles available
- **Switch** is a SPDT center OFF 3 wire rocker
- **Direct** wire to lighting controller
- **Switch colors** include white or ivory
- **Durable switch plates** in brushed aluminum, stainless steel, white, or ivory for Decora switches
- **Switch plates** are available in screw or screwless for Decora
- **Toggle** switches accept standard switch plates
- **Hardware** is included for mounting
- **Mounts** in a standard single gang box
- **Specification** grade device
- **UL** listed



# Heavy Duty Switch Stations

Heavy Duty Momentary  
Switch Stations

## Physical



## Specifications

### Physical:

- Decora® style manufactured by Leviton
- Toggle switch manufactured by Leviton, Hubbell, or Pass & Semour
- Mounts in a standard 1 gang switch box
- Standard switch plate sizes
- Mounting screws provided
- Available in ivory or white

### Electrical:

- 120/277 VAC
- 15 or 20 Amp

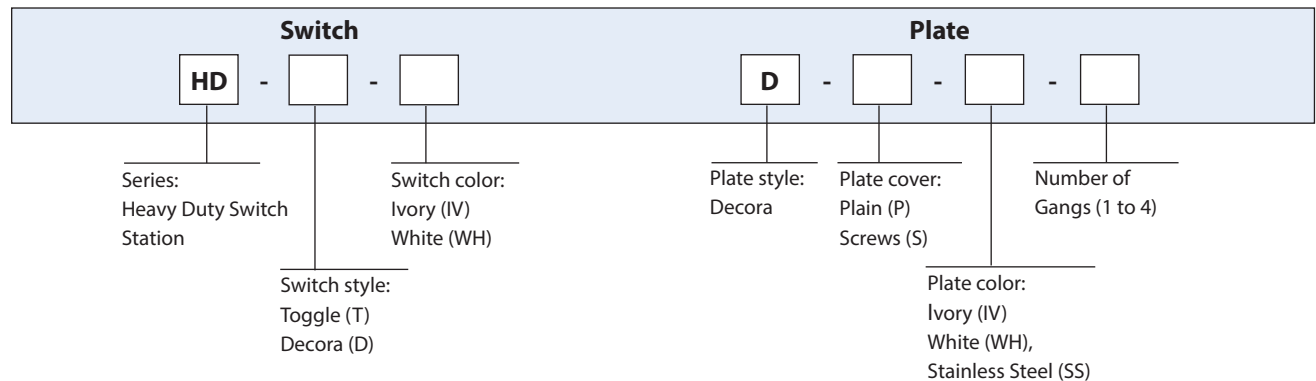
### Operating Environment:

- Location: Interior space
- Operating Temp.: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL
- CSA

## Ordering





# Key Switch Stations

Standard Low Voltage  
Switches & Plates

- Secure switching and control
- Made in the USA
- Momentary or maintained switches
- 1 to 8 switch configurations
- Status LEDs available for each switch
- Mounts in a standard electrical switch box
- Engraved switch identification available
- Custom configurations available



## Overview

Key switch stations provide an extra level of security that limits lighting control access to only those with the appropriate key. Switch stations have a high quality 5 tumbler key switch and an optional status LED. Key switches are prewired and ready to install in any standard switch box. Switch plates are available in brushed aluminum, stainless steel, white, or created to your custom requirements.

## Features

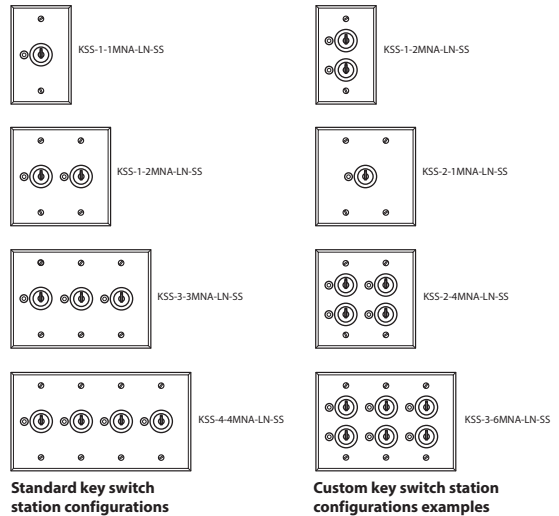
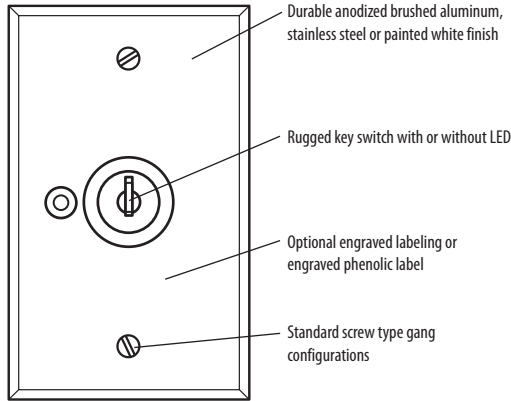
- **Switches** are heavy duty momentary or maintained
- **Made in the USA**
- **Secure** 5-tumbler high quality switches
- **Direct** wire to lighting controller
- **Switch stations** handle up to 8 switches on a 4 gang plate
- **Status LEDs** are optional for each switch
- **Durable switch plates** in brushed aluminum, stainless steel, white, or custom configurations
- **Hardware** is included for mounting and wiring
- **Mounts** in a standard switch box
- **Wires** are installed for easy termination
- **Optional engraving** for switch identification
- **Custom** configurations available
- **Program** each button to control any relay(s), group(s) or preset(s)



# Key Switch Stations

## Standard Low Voltage Switches & Plates

### Physical



### Specifications

#### Physical:

- Mounts in a standard switch box
- Standard switch plate sizes
- Mounting screws provided
- Switch: 0.87" diameter stainless steel
- Engraving up to 10 characters is available on phenolic labels or directly on plate surface
- Available in brushed aluminum, white, or stainless steel
- Status LED available with or without current limiting

#### Switches:

- Momentary SPDT
- Maintained SPDT (on-off-on) key removable in "ON" or "OFF" position (Version A)
- Maintained SPDT (on-off-on) key removable in "OFF" position (Version B)

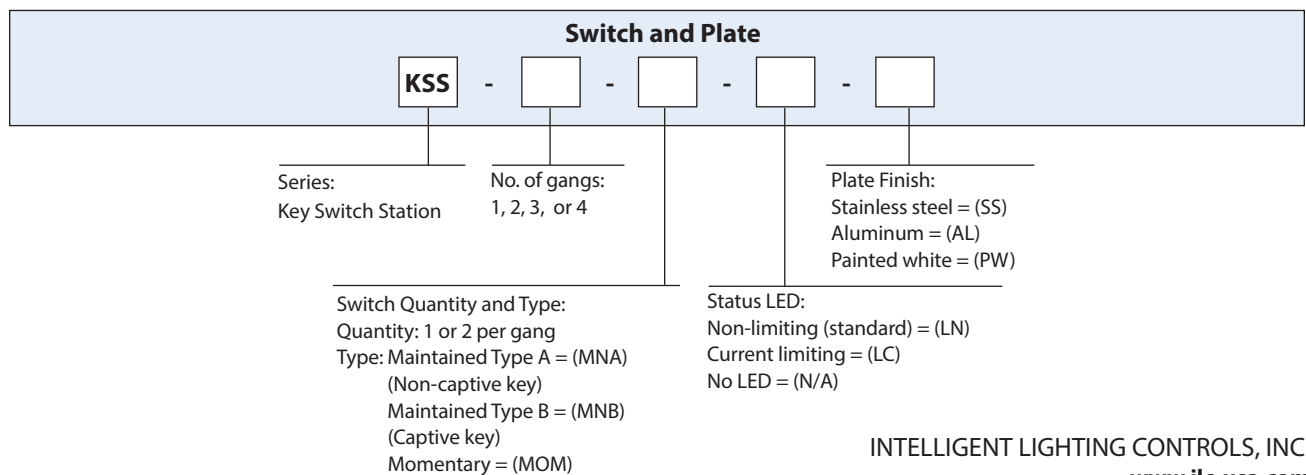
#### Electrical:

- Switch: 10 Amps @ 28 VDC or 125 VAC
- LED non-current limited: for LightLEEDer, LightMaster, or Apprentice II panels with internal limiting
- LED current limited: 30 VAC/VDC

#### Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 60° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Ordering

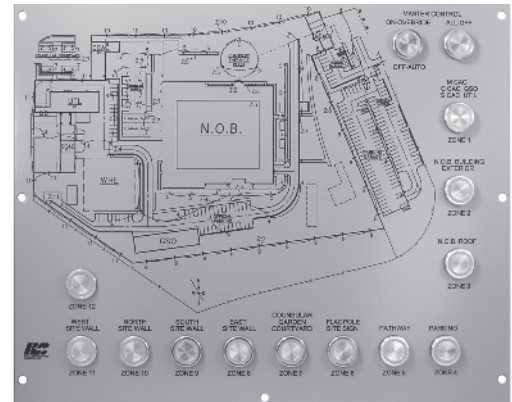






# Custom Switch Stations and Graphic Switch Stations

- Custom switch plates manufactured to your needs
- Made in the USA
- Graphics and text can be printed, engraved, or anodized
- Designed for standard or custom enclosures
- Can incorporate any type of switch
- Virtually limitless color options
- Manufactured from any material desired



## Overview

ILC has been designing custom switch stations for over 30 years to complement our lighting control systems. We can design switch plates from small single gang control stations, to large facility floor plan layouts on a slanted enclosure. The design options for materials, switches, status LEDs, graphics, and mounting are virtually limitless. Switch stations can be designed with a hinged locking door that allows for status viewing but limits access only to those with the key.

## Features

### General Information:

- **Made** in the USA
- **Custom** designed to your needs
- **Commercial** quality switches and materials

### Materials:

- Stainless Steel
- Aluminum
- Steel

### Enclosures:

- Standard gang electrical box
- Standard or custom
- Flush or surface wall mount
- Slanted desk top
- Hinge locking door with visible switches

### Enclosures:

- Straight-line sanded
- Natural
- Anodized Aluminum in various colors
- Painted in virtually any color
- Printed with virtually any graphic

### Switches:

- Momentary or maintained
- New Fashion Plate (NFP) switch
- LightSync data line switch
- Piezo touch switches with or without LED status ring
- Industrial rotary switch
- Push-button
- Key switch

### Status LED Indicators:

- Colors: Red, green, yellow, blue, white
- Integrated into the switch

### Labeling:

- Printed
- Engraved
- Laser etched
- Silkscreen
- Phenolic labels

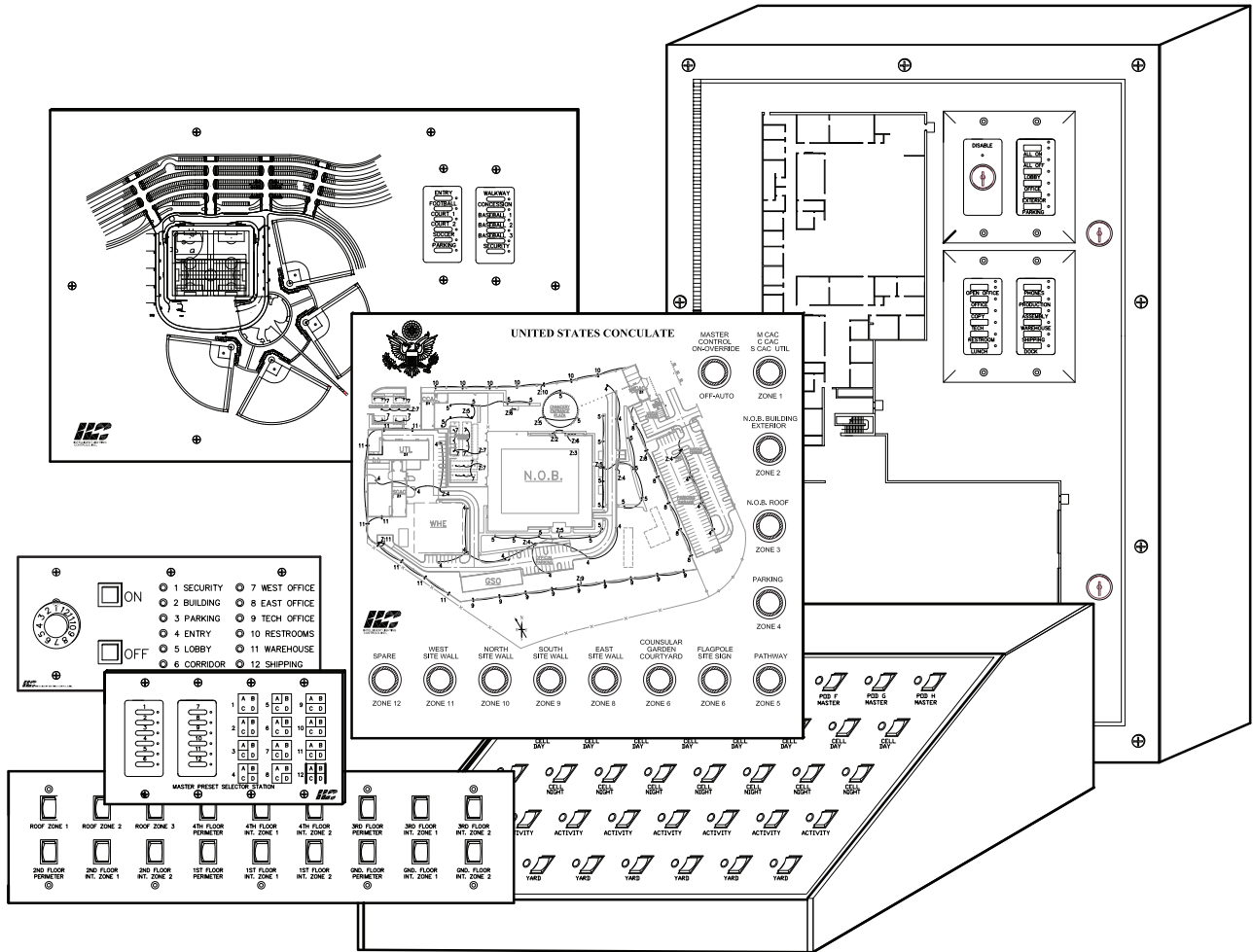
### Operating Environment:

- Designed to your requirements

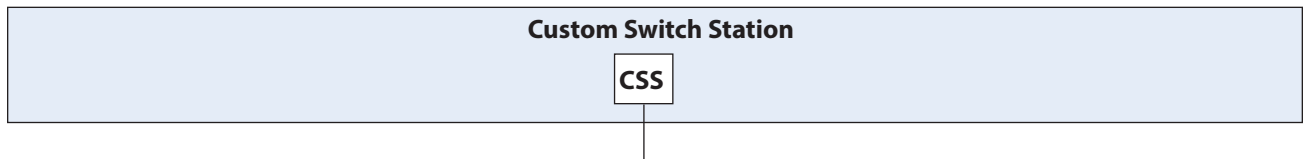


# Custom Switch Stations and Graphic Switch Stations

## Physical



## Ordering



Series:  
 Custom Switch Station  
 (Contact ILC with your requirements)



# Hinged Locking Door Switch Station

- Locking switch door with enclosure
- Made in the USA
- See-through front panel for 2 to 8 gang
- High quality lock
- Available in 4 sizes
- Custom configurations available



## Overview

The hinged locking door switch station provides a secure enclosure for your switch stations by limits access to those who possess the key. Each station allows for installation of LightSync data line switches along with any other low-voltage switch that fits in a standard electrical switch box. Custom switch configurations are also available, designed by ILC for your specific project. Switch stations are provided in a 1, 2-, 4-, or 8-gang configuration.

## Features

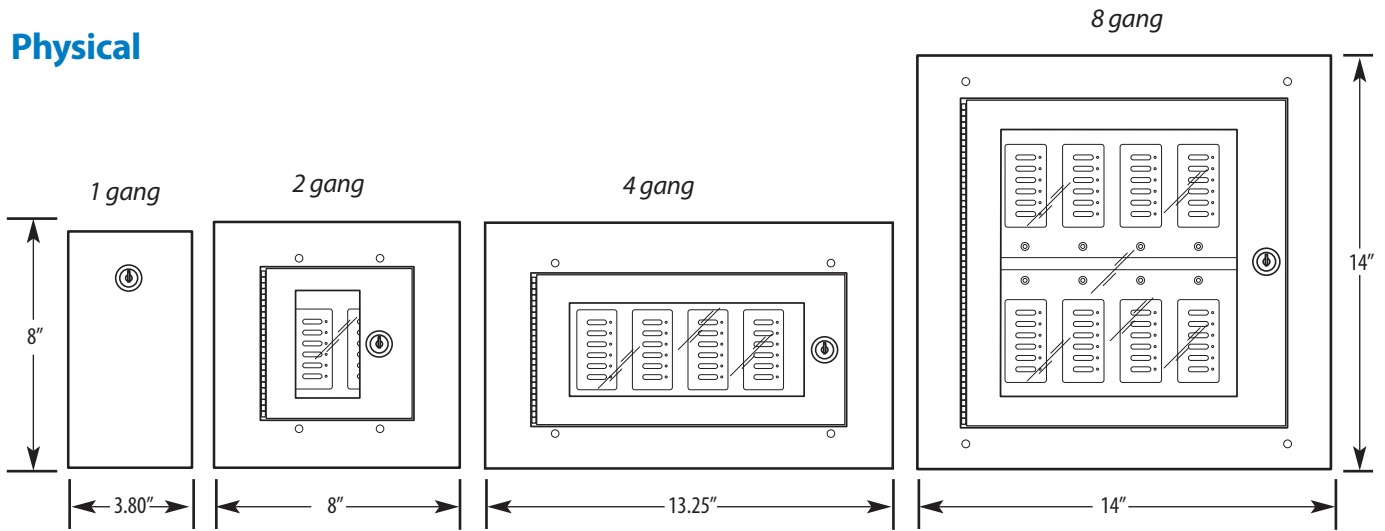
### General Information:

- **Made in the USA**
- **Locking** cover limits access to switch stations
- **Access** limited to those who have a key
- **See-through** door for most models allows viewing of status LEDs
- **Flush-mount** ring for clean installation
- **Accepts** standard switch plates
- **Painted** ANSI 61 gray
- **Mounting** holes provided for the enclosure
- **Grounding** provided in enclosure
- **Custom** switch plates available for any switch



# Hinged Locking Door Switch Station

## Physical



## Specifications

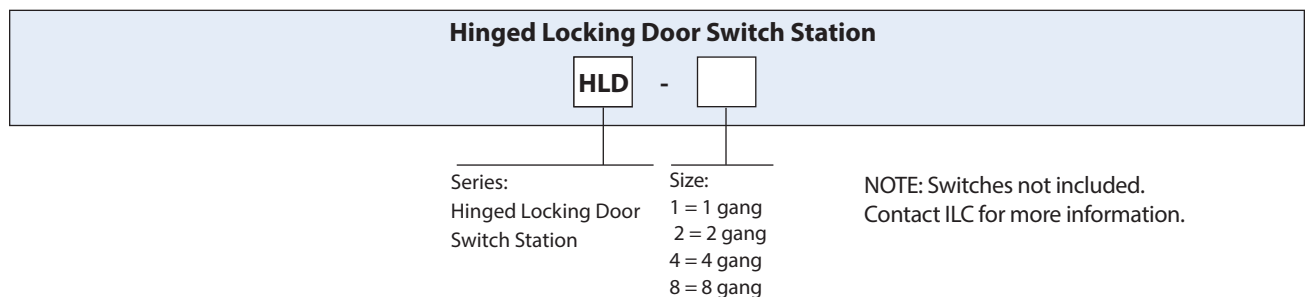
### Physical:

- 1 Gang 7.69" x 3.80" x 1.05" cover only
- 2 Gang: 8" x 8" mud ring with a 6" x 6" x 4" enclosure
- 4 Gang: 8" x 13.25" mud ring with a 6" x 12" x 4" enclosure
- 8 Gang: 14" x 14" mud ring with a 12" x 12" x 4" enclosure
- Clear Plexiglas® provided in 2 - 8 gang enclosure cover
- Steel construction
- Painted ANSI 61 gray

### Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 60° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

## Ordering



# Section 12: Specialty and Obsolete Products

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- Current Limiting Subpanel
- DuraTouch
- 2R Relays

- TR Relays
- TR Relay Accessories







# Current Limiting Subpanel

Current Limiting for Track Lighting

- Limit current on track lighting circuits
- All products Made in the USA
- Available in 12 or 21 circuits
- Limit current from .5 to 16 Amps
- Circuit label for each breaker
- High quality Eaton breakers



## Overview

The ILC Current Limiting Subpanel gives you the ability to limit current on track lighting circuits. This gives you the ability to control the calculated load to comply with energy codes like California's Title 24 that limit the VA (wattage). This subpanel is designed to be installed between the lighting branch circuit breaker and the track lighting. These panels are custom configured with 1 to 21 breakers ranging from .5 to 16 Amps.

## Features

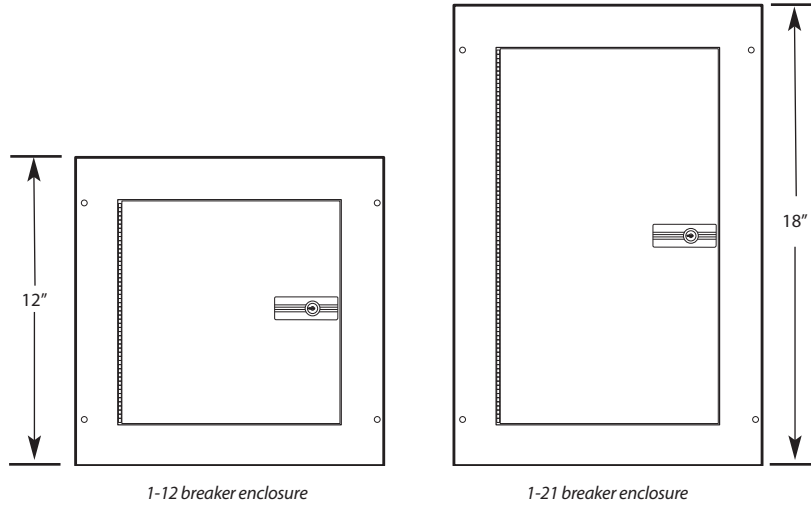
- **Made in the USA**
- **Limit current** on track lighting circuits
- **Available** in 12 or 21 circuit panels
- **Custom built** with breakers ranging from .5 to 16 Amps
- **Labels provided** for each breaker
- **Slam-latch** with lock
- **State indicator** located on each breaker
- **Complies** with California's Title 24 watts/foot requirements
- **Factory assembled**, ready to install
- **Easy resetting breakers**
- **Enclosure doors** are available in flush or surface mount



# Current Limiting Subpanel

Current Limiting for Track Lighting

## Physical



## Specifications

### Physical:

- Provided with pre-drilled mounting holes
- 1-12 breaker enclosure 12" x 12" x 4"
- 1-21 breaker enclosure 12" x 18" x 4"
- 16-gauge steel NEMA-1 enclosure
- Locking slam latch

### Electrical:

- 120 or 277 VAC
- Circuit breakers: .5, 1-8, 10, 13, 15, and 16 Amps

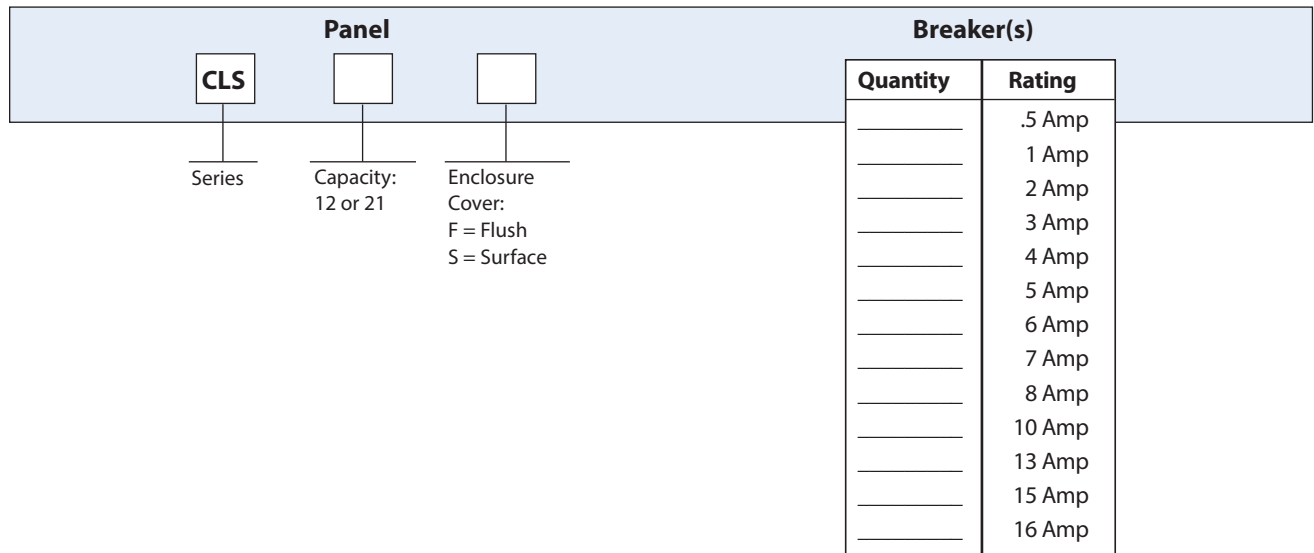
### Operating Environment:

- Location: Interior space
- Operating Temp: 0° to 50° C
- Humidity: 10% - 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL 508
- CSA 22.2
- IEC 898
- IEC 60947-2

## Ordering



INTELLIGENT LIGHTING CONTROLS, INC.

[www.ilc-usa.com](http://www.ilc-usa.com)

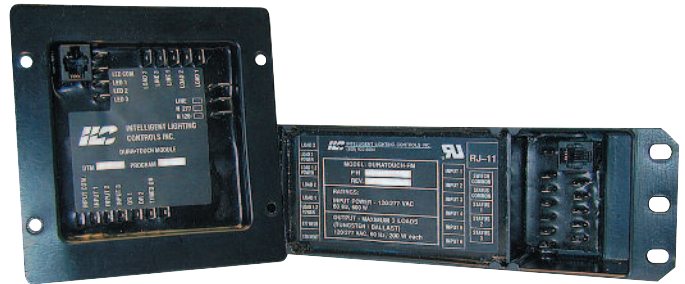




# DURA Touch

Self-Contained Programmable Lighting Controller

- Self-contained programmable lighting controller
- Made in the USA
- Programmable switching sequence
- Solid state zero cross switching
- Controls up to 3-120 or 277VAC loads
- Vandal resistant touch switch and security plates available



## Overview

The DuraTouch provides a flexible and cost-effective lighting controller that is ideal for hospitals, prisons, and single room applications. Each unit can be custom programmed to your needs. This module provides 3 switch inputs, 1 timed-on input, 2 override inputs, 3 zero-cross outputs, and low voltage status outputs for each load. Each output is designed to control 120 or 277VAC loads up to 200 watts per output with 1 load isolated. Modules are available in a 4-11/16" junction box mount and a chase mount designed for fluorescent fixtures. With the addition of a piezo solid state switch, this unit is ideal for harsh areas, and for protecting against vandalism..

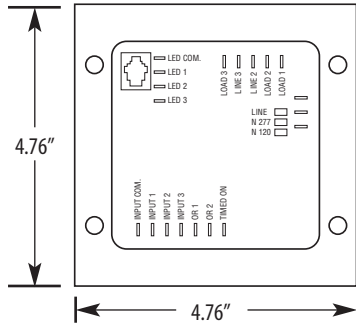
## Features

### General Information:

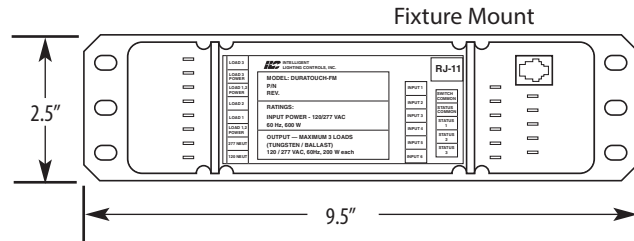
- **Made in the USA**
- **Self contained** lighting controller
- **Packaged** in a junction or fixture mount
- **Programmable** switch sequence control
- **Power-up** setting sets load to desired state upon power-up
- **Solid state** zero-cross outputs
- **Controls** up to 3-120 or 277VAC loads
- **Inputs** can handle momentary or maintained closures
- **Status output** provided for each output
- **Memory** stores programming up to 10 years without power
- **Programmed** at the factory or in the field
- **Touch-switch** available for security and harsh areas
- **Security** plates available for prison applications



## Physical



Junction Box Mount



Fixture Mount

## Specifications

### Physical:

- Junction box mount: 4.76" x 4.76" x 1.50"
- Fixture mount: 9.50" x 2.50" x 1.50"
- .250 push-on high voltage connections
- .187 push-on low voltage connections
- RJ11 programming jack
- Clearly marked connections

### Electrical:

- 120 or 277VAC
- 1 to 3 outputs
- 200 watts per channel
- Maximum Inrush: 4 amps for 1 cycle, 2 minutes between cycle

### Operating Environment:

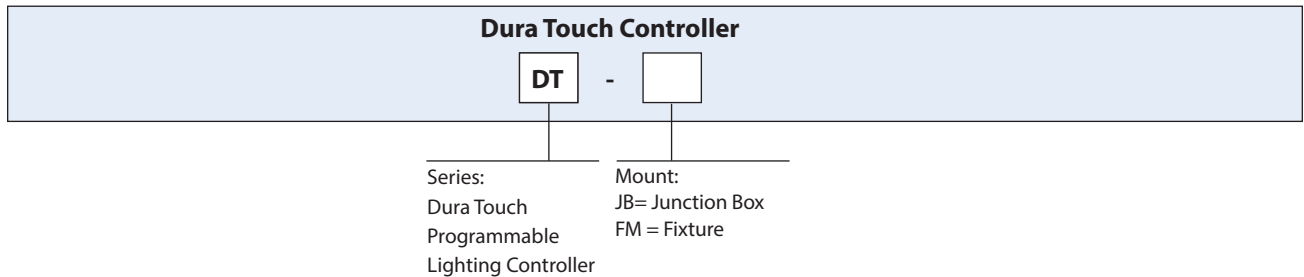
- Location: Interior Space
- Operating Temp: 0° to 50° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

### Certifications and Approvals:

- UL

**See Switch Stations for security plates and switches.**

## Ordering





# 2R Relays

Latching Relays

- Single moving contact design
- Made in the USA
- Rated 20 Amps @ 120, 277 and 347VAC
- SCCR rated to 18,000 Symmetrical Amps
- Latching contacts
- Easy mounting with push-on connectors
- Isolated status feedback



## Overview

2R series relays are designed to be the longest lasting, most reliable relays available. By incorporating a unique single moving contact, both endurance and reliability are significantly enhanced. These relays have been tested to handle 200,000 full load cycles and 1,000,000 no load cycles. They have two high quality nickel-silver contacts that can handle today's high-inrush loads. Relays are available with or without status contacts and are available with various interface connectors.

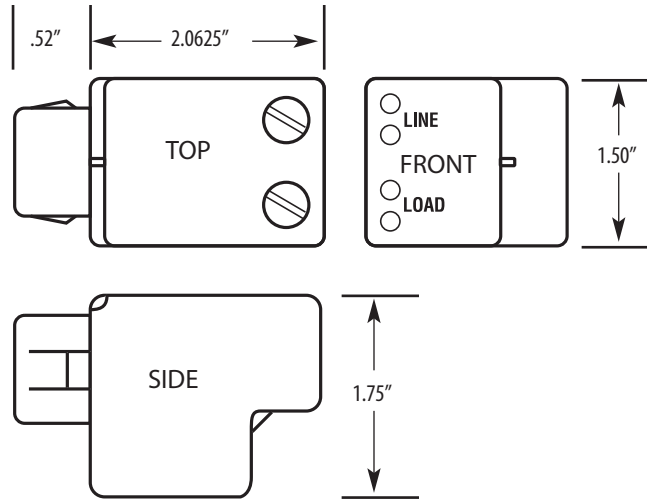
## Features

### General Information:

- **Made in the USA**
- **UL and CUL listed**
- **Relay contacts** consist of 2 nickel-silver contacts designed for high currents
- **Latching relay** holds position without the presence of power, saving energy
- **Mounts** in standard 1/2" knockout
- **Operates** in any position
- **Terminals** consist of 2 line and 2 load connections
- **Screw-actuated wire clamps** for use with 10 to 14 AWG solid or stranded copper wire
- **Status contacts** for isolated true relay feedback or pilots
- **200,000 full load cycles** independently tested



### Physical



### Specifications

#### Physical:

- 1.5" Wide x 1.75" High x 2.6" Long
- Mounts in standard 1/2" knock-out
- Handles up to a 10 AWG wire
- Clearly marked connection designations

#### Low Voltage Control:

- 18-30 VAC rectified, 12-24 VDC filtered
- 175-350mA
- Momentary duty rating
- 17 milliseconds minimum activation time
- 50 to 60 Ω coil resistance
- 1A @ 30 VDC/VAC status contacts

#### Electrical:

- 120, 277 or 347 VAC
- 20 Amp ballast loads
- 20 Amp resistive loads
- 1 Hp @ 120VAC motor loads
- 18,000 Symmetrical Amps SCCR

#### Connectors:

- C= Molex MTA push-on connector
- EZ= .157 push-on spade connector
- P= plain wire

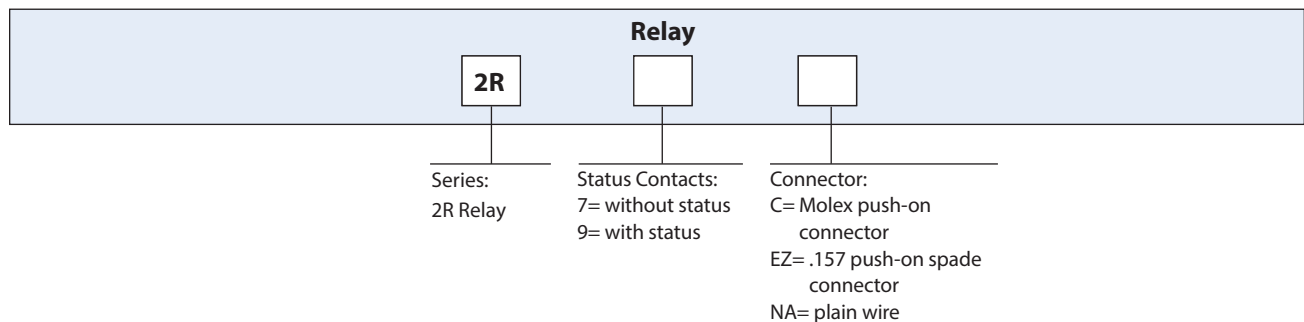
#### Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 60° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

#### Certifications:

- UL and CUL listed
- FCC

### Ordering

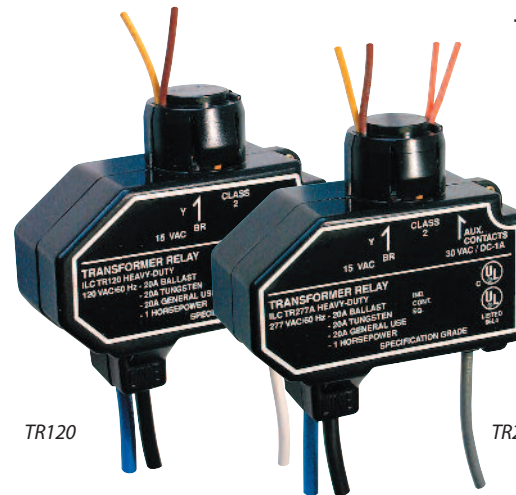




# TR Relays

Self-Powered  
Transformer Relay

- Magnetically latching relay
- Made in the USA
- Unique patented built-in class 2 transformer
- Rated for 20 Amps @120 or 277VAC
- Available with isolated status contacts
- Retro-fit type optional relay



TR120

TR277 with status contacts

## Overview

The ILC TR relay provides a unique solution for remote control and panel mount control applications. Because each relay has its own internal power supply, it can be mounted virtually anywhere without additional transformers or power supplies. By incorporating a unique single moving dual contact design, both endurance and reliability are significantly enhanced. TR relays are magnetically latched, requiring only a momentary rectified pulse to open or close the contacts. Isolated pilot contacts are available for indication of relay status at the switch stations. Available TR-Retro relays automatically turn on upon power-up and require a momentary closure to turn the relay on and off.

## Features

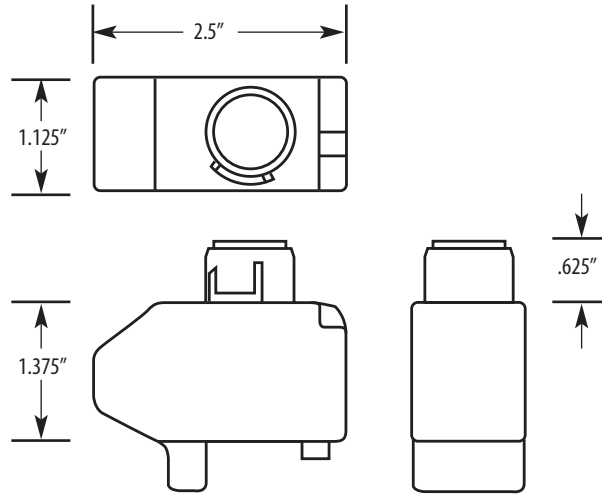
- **Magnetically held** relay maintains position without the presence of power, saving energy
- **Made in the USA**
- **Suitable** for controlling all lighting loads
- **SPST** maintained contacts
- **Single moving** contact design
- **Status contacts** available for signaling relay state
- **Relay contacts** consists of 2 nickel-silver contacts designed for high current loads
- **Termination** leads for line, load, neutral, and control connections
- **Mounts** in any standard 1/2" knockout
- **Operates** in any position
- **Endurance** tested independently to 1,000,000 cycles
- **Retrofit relays** can be used with existing HV switches and go to the ON state upon power-up



# TR Relays

Self-Powered  
Transformer Relay

## Physical



## Specifications

### Physical:

- 1.125" Wide x 1.375" High x 2.5" Long
- Mounts in standard 1/2" knockout
- Termination wires for high and low voltage connections
- Clearly marked connection designations

### Low Voltage:

- Momentary positive or negative rectification for control (TR-Retro momentary dry contact 3 wire control)
- Momentary duty rating
- 50 milliseconds minimum activation time
- 50 to 55 Ω coil resistance
- 1A @ 30 VDC/VAC status contacts

### Electrical:

- 120 or 277VAC
- 20 Amp ballast loads
- 20 Amp tungsten loads
- 20 Amp general loads
- 1 Hp @120VAC motor loads

### Operating Environment:

- Location: Interior Space
- Operating Temp.: 0° to 60° C
- Humidity: 10% to 90% Non-condensing
- Atmosphere: Non-explosive/corrosive
- Vibration: Stationary

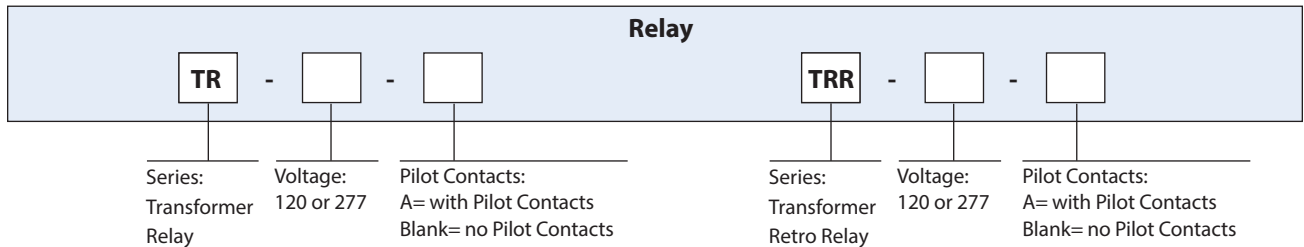
### Certifications:

- UL
- CUL
- FCC

### Warranty:

- 3 years

## Ordering





# Transformer (TR) Relay

Accessories Quick View

Detailed cut-sheets of these LightMaster accessories are available at [www.ilc-usa.com](http://www.ilc-usa.com).

**Interface Module (IFM):** Provides necessary isolation of interconnected transformer relays for "Master Control" of TRs. Each unit can control 1 - 6 TR relays and 1 input for "On or Off" control.

**Order:** IFM

**Contact Interface Module (CIF):** This module converts a maintained switch closure into a pulsed output to control relays through an IFM.

**Order:** CIF

**Standard Switch Adapter (SSA):** The SSA is a device composed of half wave rectifiers for interfacing a single TR using any SPDT momentary switch.

**Order:** SSA

**Pilot Light Power Supply (PLPS):** The ILC Pilot Light Transformer is designed to energize pilot lights through the auxiliary contacts of the TR relays.

**Order:** PLPS-\_\_\_ (120 or 277VAC)

**Positive Control Switch (PCS):** Provides a standard NFP momentary SPDT switch with an SSA for controlling TR relays directly.

**Order:** Contact ILC's website for ordering information

**Master Control Switch (MCS):** Provides a standard NFP momentary SPDT switch for a master switch interfacing an IFM.

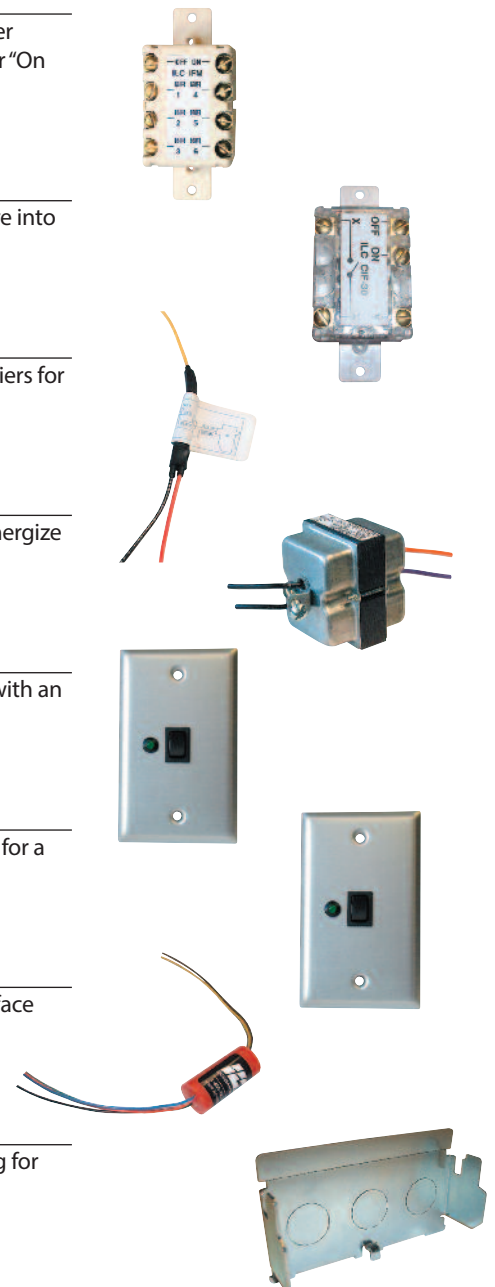
**Order:** Contact ILC's website for ordering information

**Switch Interface Device (SID):** The switch interface device provides a simple interface between a transformer relay and virtually any type of switch.

**Order:** SID

**Transformer Relay Bracket (TRB-2):** Provides a high voltage divider and mounting for 1, 2 or 3 transformer relays in a 4 11/16" square electrical box.

**Order:** TRB-2







# NOTES

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