



## LL-101 LL-101-01A Setup Guide

**i2Systems**  
ADVANCED LED LIGHTING

### WELCOME

Thank you for purchasing an i2Systems® LightLink™ LL-101. To get started, we recommend the following:

- Review the entire Setup Guide to learn the full power of the LightLink's capabilities.
- Although written for LL-101, this Setup Guide applies to both LL-101 and LL-101-01A LightLink products. Either product will control all dimmable i2Systems LED Marine/Transit Fixtures, including PRO Fixtures. The difference is how each handles the Power Cycle:
  - LL-101 will reset to the default intensity of 100%.
  - LL-101-01A will remember and return to the last Intensity stage prior to Power Cycle.
- Carefully follow the step-by-step instructions in the following pages to set up and wire your i2Systems Lightlink LL-101 device.

### CAUTION

Wiring with power on may result in personal injury. Damage to this product caused by wiring with power on voids warranty. Make all connections prior to applying power. Read all instructions prior to installation. To reduce the risk of fire, burns, or injury, use lights only in the manner intended by i2Systems. Should you have questions regarding your installation, please contact i2Systems before applying power. Product should be installed by a licensed electrician.



This device has been tested and found to comply with Part 15, Class B, of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

### PLEASE

- When installing or servicing the LightLink, be sure to disconnect the circuit prior to beginning work. Care must be provided when making connections.
- Proper safety equipment including eye protection should be worn, and proper safety precautions should be taken.
- Connect to a properly grounded branch circuit protected by a circuit breaker or fuse.
- Never wire directly to a battery or unprotected power source without proper circuit protection installed.
- Always use i2Systems and/or i2Systems recommended electrical components.
- Never leave exposed wiring without using a suitable wire nut or connector when making a connection to an electrical circuit.
- Never exceed the maximum voltage ratings. Failure to comply will damage the LightLink.
- For use on systems with voltages greater than the maximum rated voltage, use a safety agency approved, CE marked step down power supply to convert the higher voltage to a voltage within the specified operating range of the fixture.
- Dry / damp location only. Never submerge the LightLink module in any liquid or install where liquid will collect, pool, or puddle.
- Wiring must be rated for +105°C or higher. Minimum wire size is .82 mm2 (18 awg).

### Questions? Contact i2Systems:

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### POWER INPUT

PARAMETER	NOTES	MIN	TYP	MAX	UNITS
<b>Absolute Maximum Ratings</b>					
Input Voltage (DC)	Continuous	0		40	VdCInput
Input Current				50	mAdc
Operating Ambient Temperature		-20		50	°C
Storage Ambient Temperature		-20		70	°C
<b>Input Characteristics</b>					
Operating Input Voltage (DC)		9	12/24	36	Vdc
Input No Load Current			20		mAdc

#### Conditions:

TA = 25°C      Cooling: Convection  
Load = Maximum Load      Vin = 24Vdc

#### CONNECTIONS:

- DC Source: +DC to Vin (red) | DC Common to Common (black)

#### CIRCUIT PROTECTION

- In order to meet CE Requirements, install a fuse in series with Vin (Red)

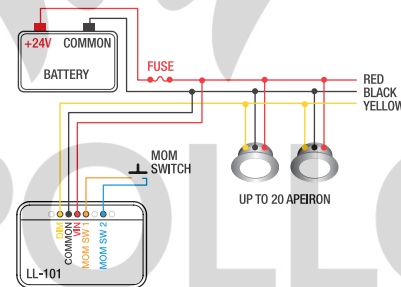
9-36 VDC  To Vin (red)

### CONTROL INPUT

#### Momentary Switch Dimming

**WIRING:** Connect a Normally Open (NO) Momentary (MOM) Switch or contact between positions MOM SW1 (orange) and MOM SW2 (blue).

**OPERATION:** Press and hold MOM switch to initiate dimming cycle. Dimming cycle continues to dim as long as switch is engaged, ranging from 100% to approximately 5% intensity holding 2 seconds at each position before dimming the opposite direction. Briefly press and release MOM switch for on/off operation. Non-linear dimming. **Example:**



### LIGHTLINK LL-101 OUTPUT

LightLink LL-101 provides simple dimming integration to select i2Systems products.

#### DEFINITION OF PINS:

##### DIM:

DIM (Yellow) output provides a control signal for use with dimmable i2Systems products.

##### COMMON:

COMMON (Black) provides a common reference to DIM (Yellow). Note that the LightLink LL-101 uses a common ground and thus only requires 1 control wire (DIM) to be run to each light provided the LightLink LL-101 shares a DC common with the light to be controlled.

### LIGHTLINK WIRING RECOMMENDATIONS

#### LightLink Placement:

i2Systems recommends installing LightLink products in close proximity to the i2Systems Fixtures connected to the LightLink output. The LightLink should be installed such that it is serviceable and accessible for system troubleshooting. Installing the LightLink LL-101 internal to the switch box that will house the Momentary Dimming Switch offers a solution to satisfy both requirements as listed above.

#### LightLink System Wiring:

i2Systems recommends stranded 18awg wire with a 105°C rating. To reduce the potential of interference from external devices, i2Systems recommends the following:

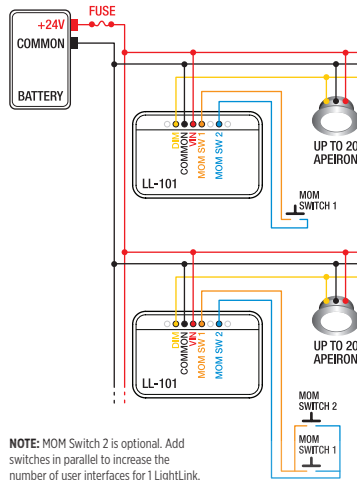
- All lighting related wiring (Dim, Vin, Common) and equipment (Lights, LightLink LL-101) shall be installed to a LL-101 vessel away from Alternating Current (AC) wiring and AC equipment wherever possible.
- Use of Shielded cable or the twisting of DIM, Vin, and Common together is recommended.
- Validate the integrity of all connections. Intermittent connections may induce flicker and/or other undesirable effects.

#### Powering LightLink:

i2Systems recommends powering the LightLink off of a non-switched power feed such that the LightLink remains powered under all lighting conditions. The use of the Momentary Switch will allow users to switch the lights on and off without ever interrupting the power to the lights or the LightLink. Switching the LightLink power on and off with the lighting load may result in undesirable visual effects including light flashing with power on and power off.

### INSTALLATION EXAMPLE:

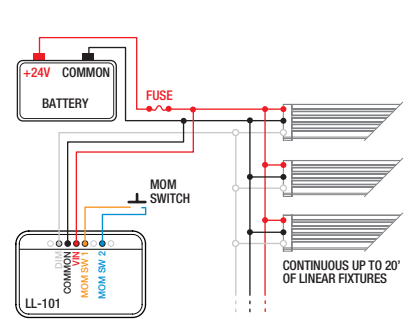
Apeiron Series, MOM Switch Dimming, 2 Zones



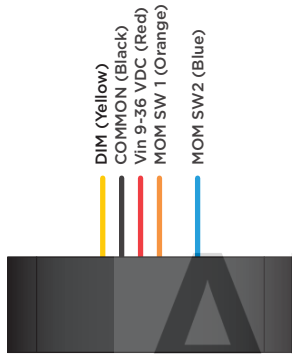
**NOTE:** MOM Switch 2 is optional. Add switches in parallel to increase the number of user interfaces for 1 LightLink.

### INSTALLATION EXAMPLE:

MOM Switch Dimming, 1 Zone

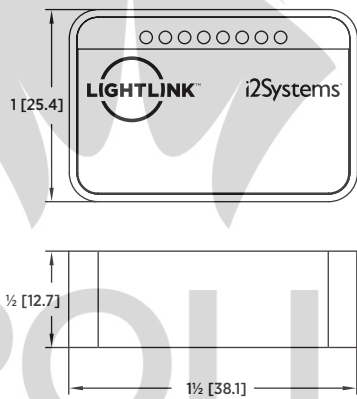


### SIDE VIEW



### DIMENSIONS

Inches [MM] - Drawing shown full size



### WARRANTY

i2Systems warrants that the product is free from defects in material or workmanship under normal operation. i2Systems standard warranty is 12 months from the date of shipment to the customer. Any replacement parts furnished at no cost to the customer in fulfillment of this warranty are warranted only for the unexpired portion of the original warranty. Any services or repair outside the scope of this limited warranty shall be at i2Systems rates and terms then in effect.

i2SYSTEMS WILL NOT BE LIABLE FOR ANY DAMAGE, LOSS, COST OR EXPENSE FOR BREACH OF WARRANTY EXCEPT AS DESCRIBED ABOVE. i2SYSTEMS LIABILITY SHALL BE LIMITED TO REPAIRING OR REPLACING DEFECTIVE PRODUCTS ONLY AND SHALL NOT BE LIABLE FOR COSTS ASSOCIATED WITH REPLACING DEFECTIVE PRODUCT.

Normal "Wear and Tear" as determined by i2Systems is NOT covered by this warranty. For units returned in warranty and determined to be customer responsibility, i2Systems customer service will notify the customer. i2Systems is not responsible for damages outside our control including, but not limited to, physical damage, modifications to the product, or improper packaging. If product to be repaired was purchased from a dealer, distributor, or reseller, the product must be returned to the seller.

Additional warranty and returns information is available at [i2Systems.com](http://i2Systems.com)

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