

# LED INSTALLATION GUIDE



**WARNING: Risk of electrical shock.** Turn power OFF before inspection, installation or removal.

**WARNING: Check polarity.** All connections must be positive-to-positive, negative-to-negative. Reverse polarity connections may damage the LEDs and will void the manufacturer's product warranty.

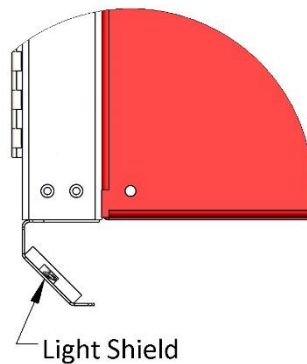
Install Power Supply and LEDs per the included manufacturer's installation guide. Only use with power supply provided by Moduline Cabinets.

Lighting quality is affected by environmental factors, such as: wall color, ambient light, cabinet color, countertop material, etc. Therefore, to obtain the best lighting *for your space* it may be necessary to evaluate the LEDs in different positions **before adhering them**. Below are methods we commonly use.

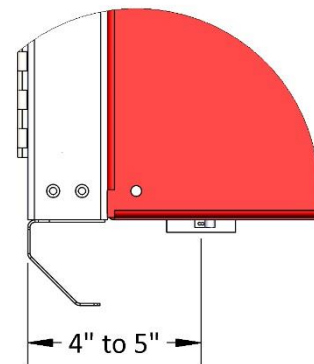
## Suggested Mounting

Method #1: LEDs mounted on the back of the light shields may reduce glare.

Method #2: LEDs mounted on bottom of the cabinet for more direct lighting of the work area. We suggest locating them 4"-5" from the front of the cabinet.



Method #1

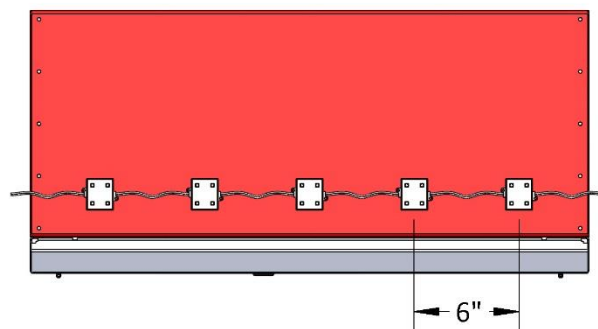


Method #2

## LED Spacing

LED modules come pre-wired and are spaced 6" apart.

**Warning:** Do not connect more than 60 LED modules (approx. 30') to a single power supply.





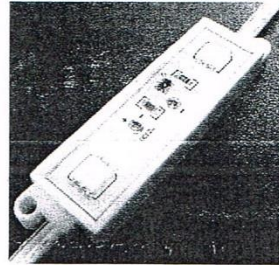
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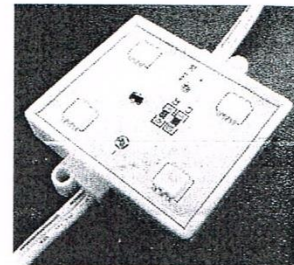
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# Installation Guide

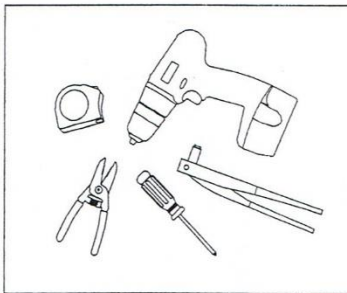
ILT-PC-1X2 & ILT-PC-2X2



ILT-PC-1X2-W "Summit"

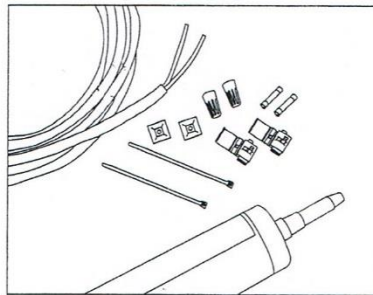


ILT-PC-2X2-W "Summit"



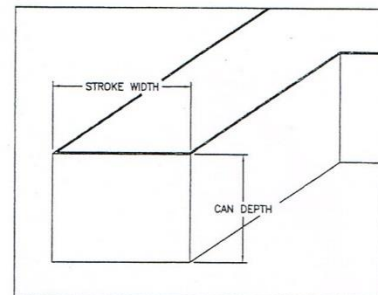
## 1. Tools Required:

Measuring tape, wire strippers, drill, screwdriver & pop-rivet gun



## 2. Supplies Required:

UL approved 18 AWG supply wire, nuts, IDC connectors, (optional) butt connectors, strain relief & zip-tie and silicone



## 2. Layout:

Noting Can depth, stroke width and face material, use layout guidelines and power supply guidelines to determine spacing and amount of LEDs required. (guidelines are intended to provide only an approximation of ILT's sign module required for your sign)

## Layout Density Guidelines

Module Type	Letter Height	LED Color	Stroke Width	Can Depth	Lineal Density	Standard Face	Translucent Vinyl	Perforated Vinyl	Max Coverage Per Row
	<i>inches</i>		<i>inches</i>	<i>inches</i>	<i>modules / ft</i>	<i>inches on center</i>	<i>inches on center</i>	<i>inches on center</i>	<i>inches</i>
ILT-PC-1X2-W	6"-24"	White	0-6	5	2	5	5	4.5	6
ILT-PC-1X2-R	6"-24"	Red	0-6	5	2	5	5	4.5	6
ILT-PC-2X2-W	12" & up	White	6"-8.5"	5 & up	2	5	5	4.5	6" - 8.5"
ILT-PC-2X2-R	12" & up	Red	6"-8.5"	5 & up	2	5	5	4.5	6" - 8.5"

## Power Supply Guidelines

PART #	Description (12V Operating Voltage)	Wattage / Module	LED's/ Modules & (Modules/Foot)	Color Peak Wavelength (nm)	Beam Angel	Feet/Box (Modules/Box)	Luminous Flux/Foot	Qty 60 watt power supply
<b>Summit Series</b>								
ILT-PC-1X2-W	Summit White SMD LED Module	0.5	2 (2)	White (6500)	140	25' (50)	101	120 modules
ILT-PC-1X2-R	Summit Red SMD LED Module	0.5	2 (2)	Red (631)	140	25' (50)	36	120 modules
ILT-PC-2X2-W	Summit White SMD LED Module	0.96	4 (2)	White (6500)	140	25' (50)	160	60 modules
ILT-PC-2X2-R	Summit Red SMD LED Module	0.96	4 (2)	Red (631)	140	25' (50)	72	60 modules



Suitable for Wet, Damp and Dry locations

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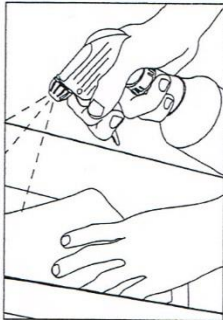
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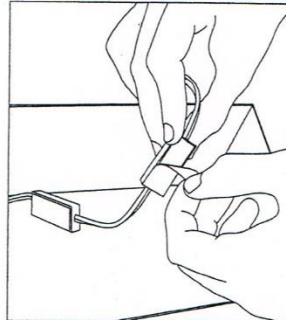
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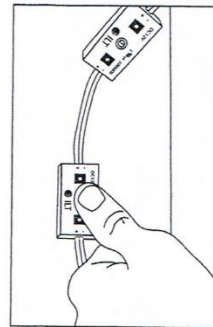
ILT-PC-1X2 & ILT-PC-2X2



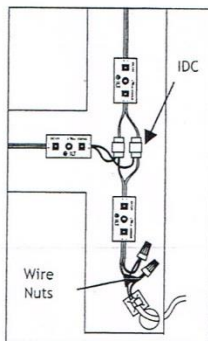
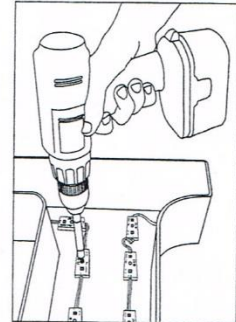
**4. Clean Channel Letter:** Clean inside the letter with rubbing alcohol and allow to dry.



**5. Peel and Stick:** Using predetermined layout and LED placement from step 3, remove tape backing and stick modules into place. Ensure modules are firmly attached.

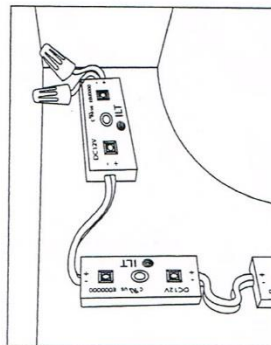


**6. Fasteners:** If desired, modules can be secured with #4 counter sink sheet metal screws or 3/16" aluminum rivets. **Note:** If fasteners are used, insert from the top of the module ONLY.

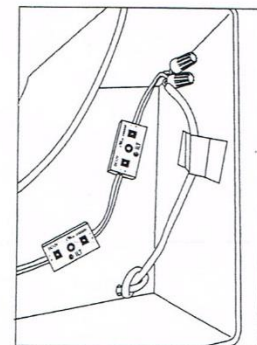


**7. Connections:** Modules may be connected in series or parallel with wire nuts, IDC connectors or butt splice connectors.

**Warning!**  
**Check Polarity:**  
All connections must be positive to positive, negative to negative. Reverse polarity connections may damage the LEDs and will void the product warranty.



**8. Cap all Unused Wires:** The strand of modules should not be looped to create a closed circuit.



**9. Connect Power Supply to First Module on String:** See Power Supply Installation Guide for more information regarding power supply installation. **Note: for use only with Class 2 power source**

## Troubleshooting:

Entire sign or leg does not light after complete installation.	Check connection from power supply lead to first module. Make sure polarity of connections made at the power supply lead and any jumper wire is correct. Power supply outputs should be connected positive to positive, negative to negative
Still does not light.	Check output voltage of power supply using a voltmeter. The output voltage should be 12.0VDC $\pm$ 0.5VDC. If there is no output voltage, have a licensed electrician check input voltage. Make sure power supply is connected correctly and getting primary power. If power supply is connected properly and getting primary power and there is still no output voltage, try a different power supply.
Still does not light.	If power supply is getting primary power and the modules don't light, there may be a short in the secondary wiring. Check all connections and cap all loose wires.
The beginning of a leg lights, but the entire leg does not light or lights intermittently.	The primary cause of a portion of a modules leg not lighting or lighting intermittently is a bad connection or reverse polarity connection between the modules that light and the modules that don't light. Check this connection.
Modules are dim.	Ensure maximum number of feet has not been exceeded (see Power Supply Capacity Chart). Check secondary voltage. If voltage is below 11.5VDC, power supply leg may be overloaded.
One module does not light, but all others in the leg light.	Module are designed so if one module fails, it will not cause the entire sign or leg to go out. If one module does not light, but all others in the leg do, replace this module with a new one.

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# InternationalLight TECHNOLOGIES

10 Technology Drive Peabody, MA 01960  
978-818-6180, fax 978-818-6181  
www.intl-lighttech.com

## ILT-PSU-60-12

Constant voltage LED driver
Total power: 60W
Input voltage: 100~240Vac
Number of outputs: One
UL8750 and UL879
IP67 design for dry, damp and wet location
3 year warranty

ELECTRICAL SPECIFICATIONS:		ENVIRONMENTAL SPECIFICATIONS:	
Input voltage range:	100~240Vac $\pm$ 10%	Operating temperature:	-20 to 70°C
Frequency:	50/60Hz	Storage temperature:	-30 to 90°C
Power factor:	>0.9 @full load, 120V	Humidity:	10% to 90%
Inrush current:	30A @240V	MTBF:	60,000 hours at 30°C ambient (~50°C Case temp)
Max input current:	0.7A @100V	Maximum case Temperature	70°C
THD:	<20%		
Protection:	Short circuit, over current and over temperature		
Withstand voltage	I/P – O/P 2k Vac		

PRODUCT SPECIFICATIONS:							
Model Number	Max output power	Output Current	Output Voltage	Efficiency	Remote mounting distance (#18 AWG)	LPS	
						US	Canada
ILT-PSU-60-12	60W	0 - 5A	12V	82%	9 ft	√	√

SAFETY AND EMC COMPLIANCE:	
UL/cUL	E332029
UL/cUL	UL8750, UL879 (SAM's)
FCC, 47CFR Part 15	
EN61000-3-2	

WIRE SPECIFICATIONS:	
Input:	8", UL 1569 #18AWG (Black and White)
Output:	8", UL 1316 #18AWG for (Red and blue)

PHYSICAL DIMENSIONS:	
Length (L):	8.5"
Width (W):	1.65"
Height (H):	1.15"
Mounting (M):	7.95"
Weight:	0.30 kg

