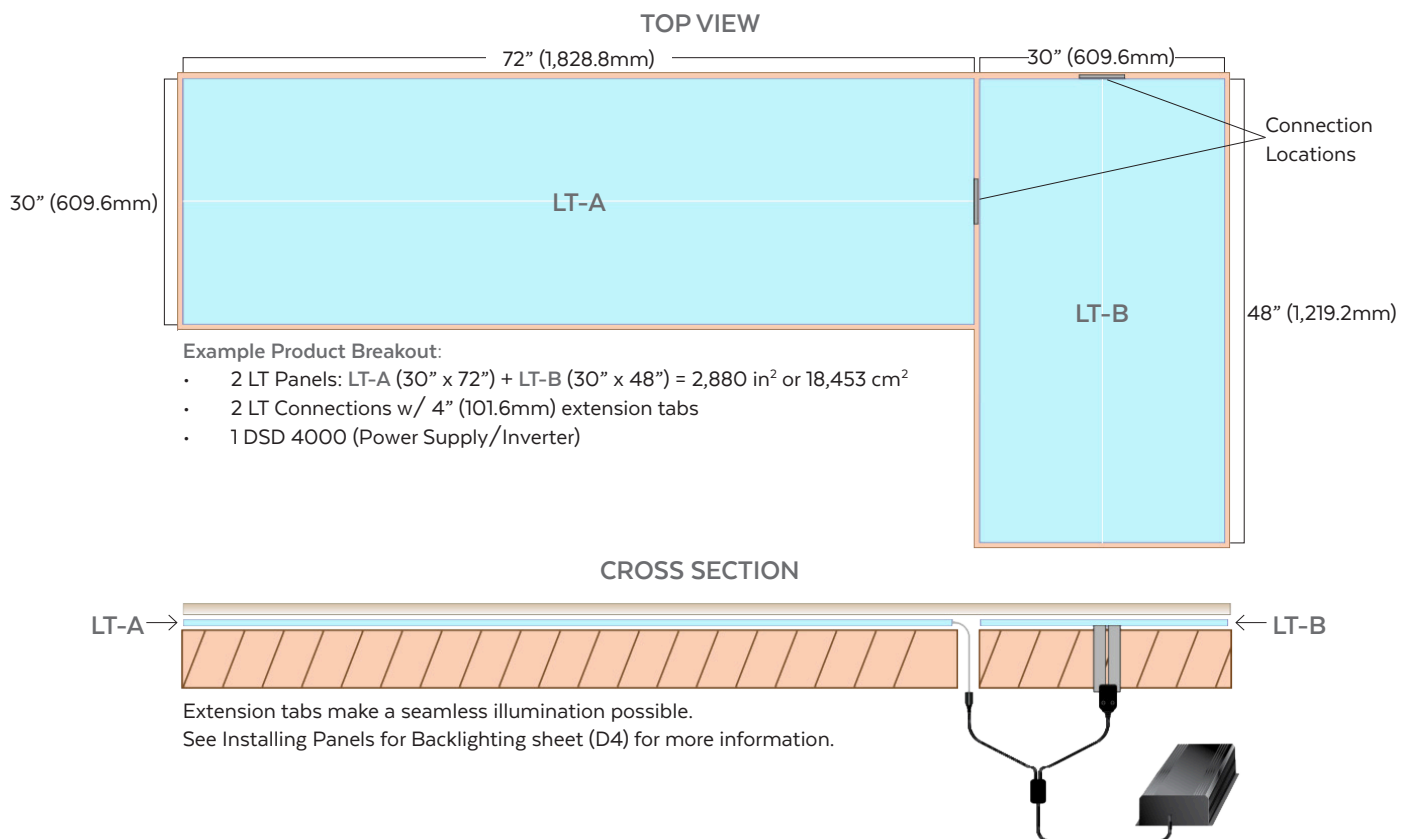


Backlighting Surfaces

Backlighting Materials: Top View

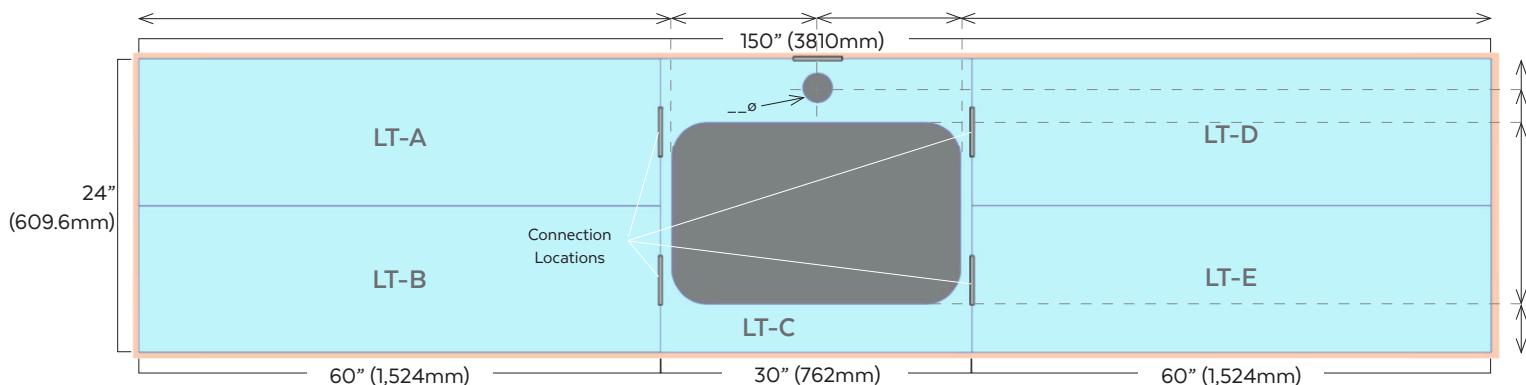
BASIC BAR, COUNTER TOP OR WALL

Any surface area can be evenly illuminated with a minimal number of panels and connections. A bar design resembling the one below would require only two Light Tape® panels and one power supply. The Light Tape® panel is placed directly on surface with double sided adhesive.



SURFACE WITH CUT OUTS

Light Tape® panels can be custom cut to any shape and placed side-by-side or overlapped to seamlessly illuminate any surface. For custom shapes, an AI file or template will need to be provided.



Light Tape® Safety & Handling

Safety:

- Never power on and leave Light Tape® in a coil. Unroll first before switching on.
- Always consult local electrical codes for wiring regulations and installation requirements.
- Light Tape® should be covered with a protective overlay if installed within direct reach of the general public.
- Always seal Light Tape® lamp with Edge Guard™ end seal tape when cut. Exterior rated Light Tape® must only be cut and sealed in factory.
- Do not make electrical connections when Light Tape® is turned on.
- Do not operate Light Tape® without protective insulating lamination due to risk of shock. Install in dry conditions. Do not cut or expose open ends to moisture.
- Smart Driver™ power supplies are equipped with overload and short circuit protection. If trip occurs during operation, please inspect Light Tape® for damage, and operating voltage is within correct range.
- Do not operate your Smart Driver™ outdoors unless in a suitably rated enclosure. Ensure installation in a dry environment.

Handling:

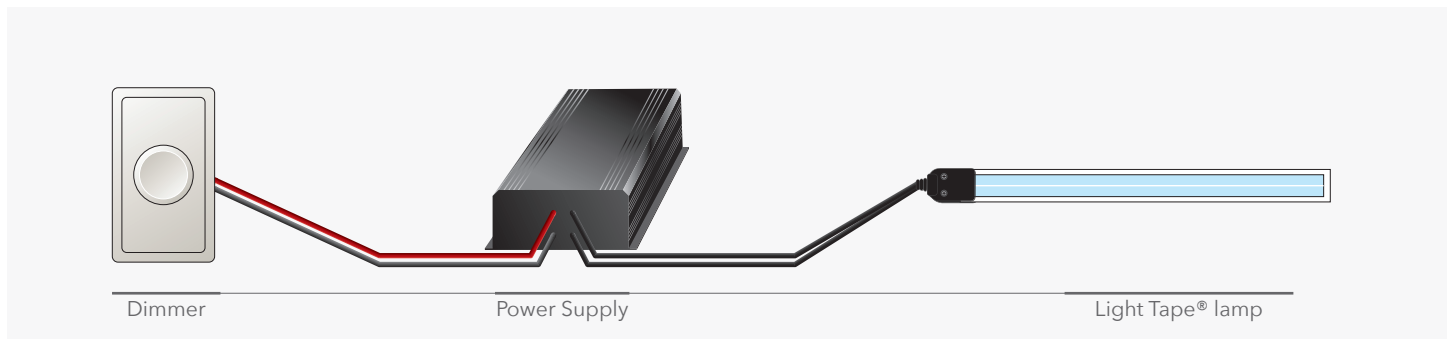
- Do not step on Light Tape® during installation. Keep Light Tape® off the floor or any rough surfaces during installation.
- Do not pull on the connector and/or Tab when installing or removing.
- Only install in dry conditions. Do not cut or expose open ends to moisture.
- Take care to not damage lamination when installing around sharp edges or corners. Avoid the use of any sharp objects to force lamp into tight areas.
- Avoid any hard creases. Do not fold, twist, rotate, or kink lamination excessively.
- Do not stretch, puncture, or hard crease Light Tape® in a tight radius, as this will destroy conductive layers causing black spots or failure.
- Do not operate lamp outdoors during peak daylight hours for extended periods as it may be damaged by UV rays.
- Do not thermoform or stretch Light Tape® over objects.
- When cleaning Light Tape® or Smart Driver™, do not use water or chemical cleaners.
- Do not staple or puncture through Light Tape® or the protective lamination. Take care around screw heads or other sharp protruding objects.

General Installation Guidelines:

- Follow all installation guidelines from Electro-LuminX. Please visit our website www.lighttape.com for additional information.
- Please read all instructions prior to installation. Contact your regions tech support with any questions.
- When unpacking, please review all contents on the packing list and immediately notify us of any missing or damaged items.
- There is a front and back of Light Tape®. The gray colored side with a white line down the middle is the back, and non-illuminating side.
- Do not mount using an epoxy, silicone, or other exothermic curing adhesives, as they may damage the conductive layers. We recommend 3M double sided tapes. Please contact us for additional information.
- If mounting near a wet area, please provide suitable protection from pooling water. Ensure there are no standing water conditions, and provisions for drainage are made.
- Light Tape® can be mounted outdoors, however should not be operated in direct sunlight. This will shorten the life of the lamp. Use a photo-cell to prevent the Light Tape® from operating in peak daylight hours.
- Always mount in extrusion or approved system for outdoor installations. It is important to allow for the thermal expansion coefficients of exterior surfaces. Both sides of Light Tape® must remain free to move with changing ambient temperatures.
- Do not mount Light Tape® or Smart Driver™ directly to resonant surfaces such as metal, as this may produce amplified harmonics. We recommend mounting to a cork, or foam layer completely covering the subsurface.
- Light Tape® is non-polar, each hemisphere requires its own lead from the power supply. Multiple Light Tape® pieces must be installed in parallel.
- The Smart Driver™ to be selected based on total load. One Smart Driver™ can light multiple Light Tape® pieces. Do not under load or over load the Smart Driver™
- Do not power up the Smart Driver™ without having the proper load applied.
- The Smart Driver™ should be set to 270V AC output. This will help maximize lifetime of the lamp.
- Always mount the Smart Driver™ vertically (with the fan facing up) if the model has a fan to allow proper air circulation.
- Always store electronics in dust free environments to ensure proper performance.

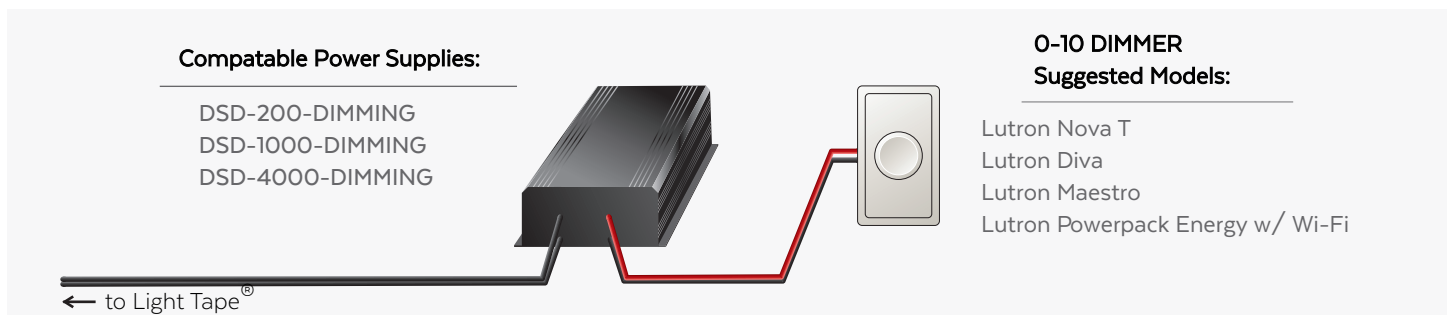
Remote Dimming With Light Tape®

Select models of the Digital Smart Driver™ can be controlled utilizing 0-10 dimming.

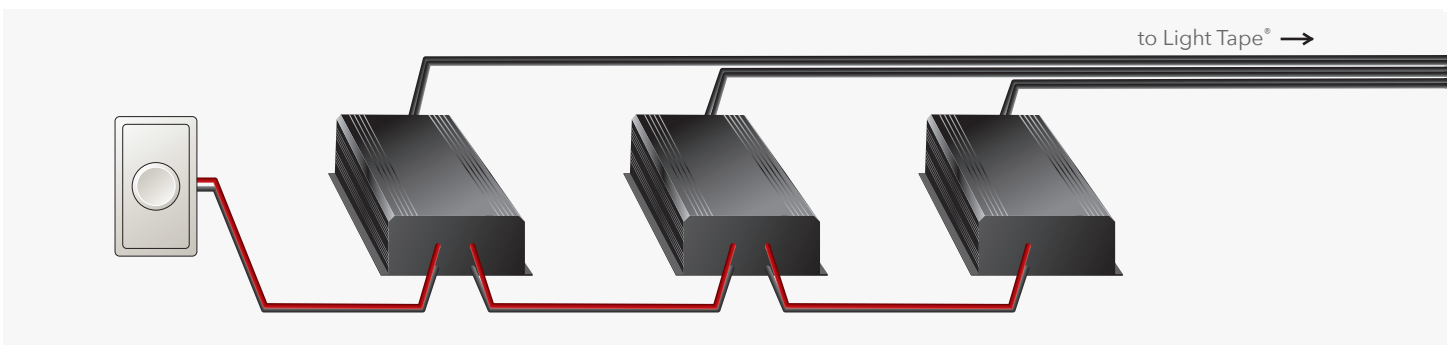


WHAT IS 0-10V DIMMING?

Used as an early fluorescent dimming system and still used today, 0-10V dimming has been adapted to become a reliable dimming control protocol. 0-10 V is one of the earliest and simplest electronic lighting control signaling systems; simply put, the control signal is a DC voltage that varies between zero and ten volts. The controlled lighting should scale its output so that at 10 V, the controlled light should be at 100% of its potential output, and at 0 V it should be at the lowest possible dimming level.



Control large group of Light Tape® on a single power supply

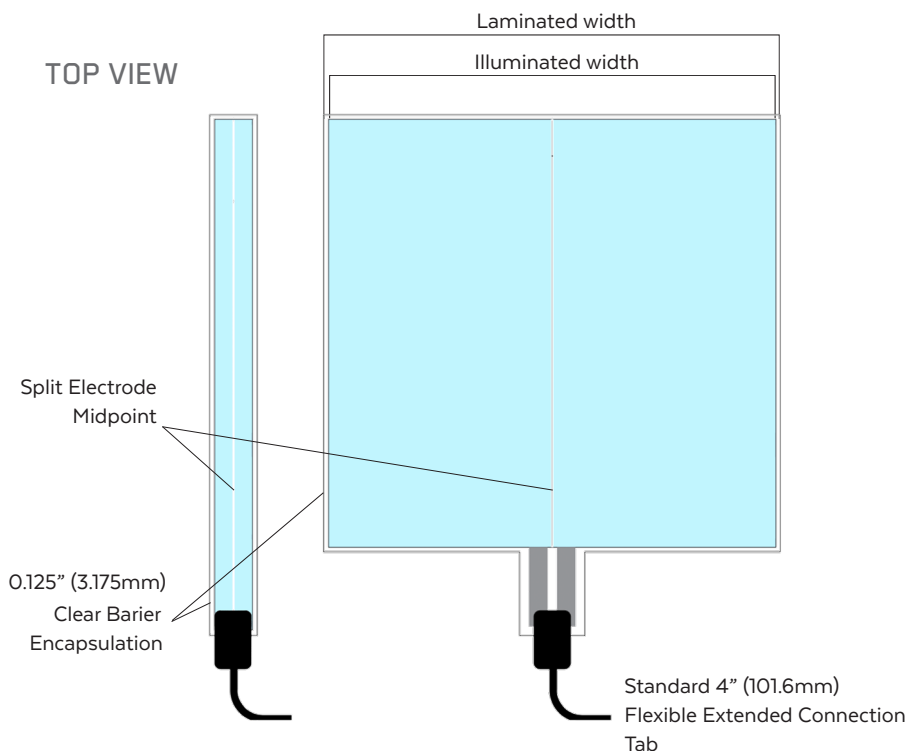


Adjust various power supplies with different Light Tape® lamp loads using the same dimming controller.

Light Tape® Standard Sizes

Item No.	Illuminated Width		Laminated Width (Interior)		Laminated Width (Exterior)	
LT-025	0.25"	6.35mm	0.5"	12.7mm	0.75"	19.05mm
LT-050	0.5"	12.7mm	0.75"	19.05mm	1"	25.4mm
LT-100	1"	25.4mm	1.25"	31.75mm	1.5"	38mm
LT-200	2"	50.8mm	2.25"	57.15mm	2.5"	63.5mm
LT-400	4"	101.6mm	4.25"	107.95mm	4.5"	114.3mm
LT-600	6"	152.4mm	6.25"	158.75mm	6.5"	165.1mm
LT-1200	12"	304.8mm	12.25"	311.15mm	12.5"	317.5mm
LT-3000	30"	762mm	30.25"	768.35mm	30.5"	774.7mm

Please note: Custom widths available to order



WHEN ORDERING, PLEASE SPECIFY:

- Installation location - Interior (INT) or Exterior (EXT)
- Desired illuminated color
- Illuminated width item number
- What length for each Light Tape® lamp? (min order length of 25 ft / 7.62m required)
- Total number of lamps required
- Power Input - AC or DC? What input voltage?
- Flexible extension connection tabs for backlighting applications are standard at 4" long. This allows connector to be hidden. Please advise if longer lengths are required.

ADDITIONAL INFORMATION:

- Custom widths are possible to fit any dimensions. Light Tape® can be tiled together with no seams or gaps in illumination.
- Power input location (please specify short or long side of lamp).
- A basic top or front view drawing with dimensions is helpful to our engineering team to estimate materials needed.
- We will suggest best electrical configurations for your project based on site layout.

NOTE: the split electrode midpoint (SEMP) is a critical element of Light Tape®'s engineering that runs centered through the entire length.

Indoor Installation Tips



1. Clean surface with isopropyl alcohol to remove all dust, oil and grease. Surface should be smooth and clean for strong adhesion.
2. Determine where you will make the electrical connection. It is important to consider the connector and cap lengths. The conductive electrodes can be located behind the Light Tape®. We recommend all electrical connections are made in a suitably rated junction box. Always consult local electrical codes for wiring regulations and installation requirements.
3. Mount in a manner that allows the LightTape® to be easily serviced (i.e. wall studs behind sheet rock wall). Do not step on Light Tape® during installation. Avoid hard creases. We recommend using our VibraMount™ adhesive as a backing when indoors. Place adhesive on wall, trim to size if needed, and remove liner.
4. Hide the connector. The conductive electrodes are essentially flat conductors. Be care not to rip the surrounding lamination around the lamp; lamination can be trimmed around the tabs if needed. Ensure a sufficient lamination border surrounding the connection tabs.
5. Be very careful when applying Light Tape®, make sure the coiled lamp is straight before you start to unroll. Once it has been applied, pulling Light Tape® off without care may damage the lamp.

Please note:

For larger panels, it is easier to unroll the Light Tape® into place. Begin with the connector end, make sure the leading edge is square, and slowly unroll the panel into position.

Remote Power Supply Installation

Sometimes, the power supply must be located far from the lamps. In this case, shielded conduit may be required to protect against high frequency and high voltage.

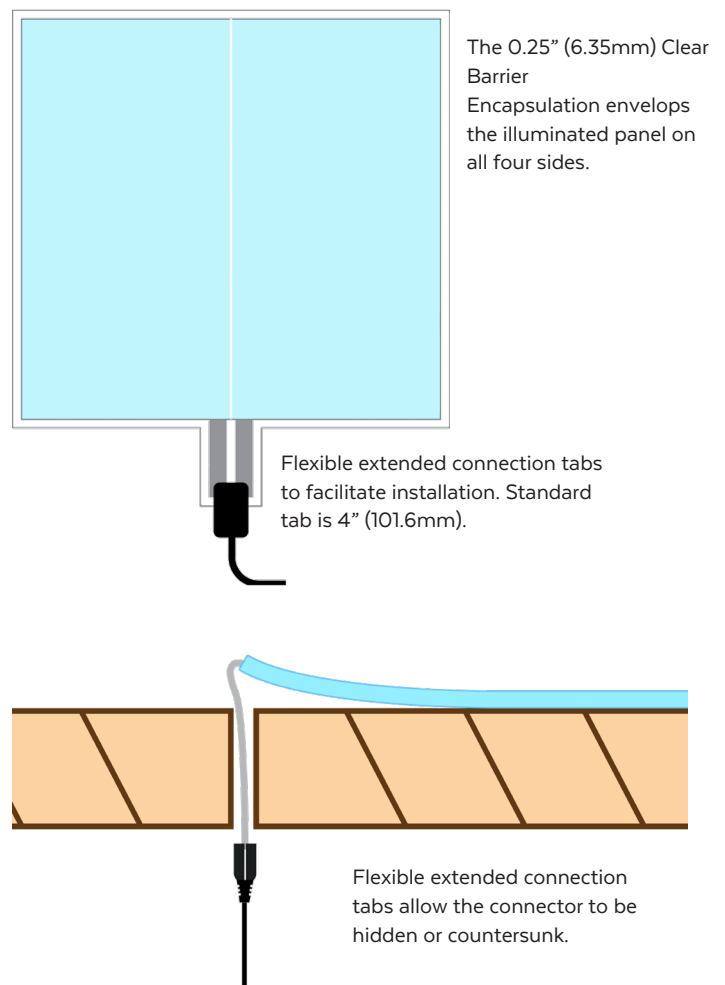
- A suitably rated enclosure is required to store power supply when located outdoors to ensure protection against the elements.
- 50 foot connection radius - it is possible to install the Light Tape® up to 50 feet (15.25m) from the Smart Driver™ Power Supply. Multiple connections are possible from one central location.
- Electrical Metallic Tubing (EMT) conduit is required to shield the high voltage and high frequency AC signals for remote installations. All wiring should be within a conduit and 600 volt rated.
- Always consult local electrical codes for wiring regulations and installation requirements.

Installing Panels for Backlighting

It is important to consider the following when installing large panels for backlighting

- Light Tape® panels utilized for backlighting are equipped with extension tabs. The tabs are designed to position the electrical connection under the mounting surface.
- Light Tape® panels do not have polarity (+ or -)
- Multiple panels, connected in parallel, can be powered by a single Smart Driver™ lighting ballast.
- Do not crease or hard fold Light Tape®, keep out of work area until ready to install. Ensure it is placed on a clean, smooth surface.
- Plan panel placement before adhering to surface with foam adhesive panels.
- Do not mount Light Tape® or Smart Driver™ directly to resonant surfaces such as metal, as this may produce amplified harmonics. Please note, audible harmonics will be minimised once Light Tape is secured and installation is complete.
- In many cases, very little adhesive is necessary to hold light tape® in position. Please note, LightTape® is designed for compressive loading only, tensional and shear loads must be avoided.

1. To test the backlighting layout, lay the Light Tape® panels on the surface of the substructure. Adjust the placement of the Light Tape® panels to make sure the entire surface area is covered and there are no seams. It is acceptable for the Light Tape® panels to overlap if necessary, to maintain light uniformity.
2. Once preliminary test layout is complete, identify the position of any clearance cutouts required to conceal the connector into the substructure. Then remove all Light Tape® panels prior to creating the cutout/s.
3. Remove release paper from one side of the foam adhesive and adhere into place on the subsurface.
4. Feed the connectors and leads through the cutouts and connect all leads in parallel to the Smart Driver™ power supply. The Light Tape® panels utilized for backlighting are equipped with flexible extension tabs to allow for concealed connections.
5. Peel off release paper from the other side of the foam adhesive.
6. Making sure to replicate preliminary layout, begin to mount the Light Tape® panels. Starting with connector end, unroll panel in a straight path being careful to avoid bumps or ridges, ensuring the Light Tape® is flat to the surface.
7. Once first panel is set in place, continue placing panels one by one until surface is covered, overlapping adjoining panels to cover entire surface area.
8. Test operation of the Light Tape® panels once all are installed and connected to corresponding power supplies prior to installation of the final backlit surface.



Technical Specifications

Light Tape® Physical Specifications

Thickness (varies depending on color)	0.010 to 0.020 inches / 0.254 to 0.305 millimeters
Protective Encapsulation Seal	1/8" (3.18mm) on each side (+/- 1/16 inch, +/-0.159 cm)
Light Tape® Illumination Width	0.25" to 30" / 6.25mm to 762mm
Illumination Coverage	Infinite, can be tiled without a break in light

EELC Smart Driver™ Power Supplies

AC Power Supply Input Voltage Range	90V - 260V AC
AC Power Supply Output Voltage (dimmmable)	0 - 350V AC
AC Power Supply Control	Dimming, 0 - 10V DC and DMX 512 Capable
AC Power Supply Output Cable	22AWG, 105°C, 600V, VW-1
DC Power Supply Input Voltage Range	3V - 24V DC (12V DC Standard)
DC Power Supply Output Voltage	260V AC
Light Tape® Operating Frequency	800Hz, ± 300Hz (Dependant on tuning)
Phase Angle	78° Leading Edge

Light Tape® System

Light Tape® Load	Capacitive Load
Light Tape® Power consumption	16W - 44W per m ² based on low to high brightness dimming (Average: .023W per in ² / 0.0035W per cm ²)
Light Tape® Power consumption (Per Linear Meter at 25.4 mm wide)	0.4W - 1.1W (Dependant on tuning)
Light Tape® Current Consumption*	0.19mA per in ² / 0.0296mA per cm ² 27.36mA per ft ² / 296mA per m ²

Light Tape® Performance

Rated Lifetime**	40,000+ hours
Rated Lifetime - Years**	20+ years
Average Brightness	125 cd/m ²
Brightness Range	0 - 200 cd/m ²
Uniformity	Completely Uniform, max ± 1 cd/m ² , independant of total surface area
Operating Temperature - Ambient	-22°F +122°F / -30°C +50°C
Heat Gain During Operation	Does not produce heat during operation
Compressive Strength - Ground Pressure	500psi + (more depending on mounting system)
Impact Strength - Izod (73F)	6.5 ft-lbs/in ²
Flexural Strength	700 > 15,000 cycles ASTM D2176
Flexibility - Bend Radius	Contours around 6mm ø curve
Punctureable	Will continue to illuminate even if punctured.
Maximum Processing Temperature	350°F / 177°C (depending on residence time)
Product Warranty***	3-5 year limited warranty for Light Tape Lamps, 1 Year warranty for power supplies

Health and Safety

Safety Features	Overload and short circuit protection. UL listed.
UL Certifications	File number E319670, 2006/95/EC
CE Certifications	EC-Attestation of conformity - No. 0704 63147 001
AS/NZS Certifications	Certificate of suitability - IEC 61347.2.13:2013, 61347.1:2016
Low Voltage Directive	Compliant
Environmental Compliance	ROHS and WEEE Directive
EMC Emissions Compliant	EN55015 (CISPR15) Radiated and Conducted Emission
Flame Resistance	UL 94VTM-O
International Protection Marking	IP67, EN60529

*Data recorded at average brightness, with AC Driver output of 250 Volts and 850 Hertz.

** based on 5 hr usage per day, average brightness, not operating when exposed to direct sunlight

*** Please refer to our Product Warranty Policy for additional details.

Digital Smart Driver™ AC Power Supply

Digital Smart Driver™ power supplies are specifically engineered to illuminate LightTape®.

Whether it is one piece or ten, it is possible to do it all with one Smart Driver™. There are a variety of models to choose from offering a variety of useful features. A Light Tape® representative will advise which model to use based on the total illuminated area, zones, and location.

FEATURES

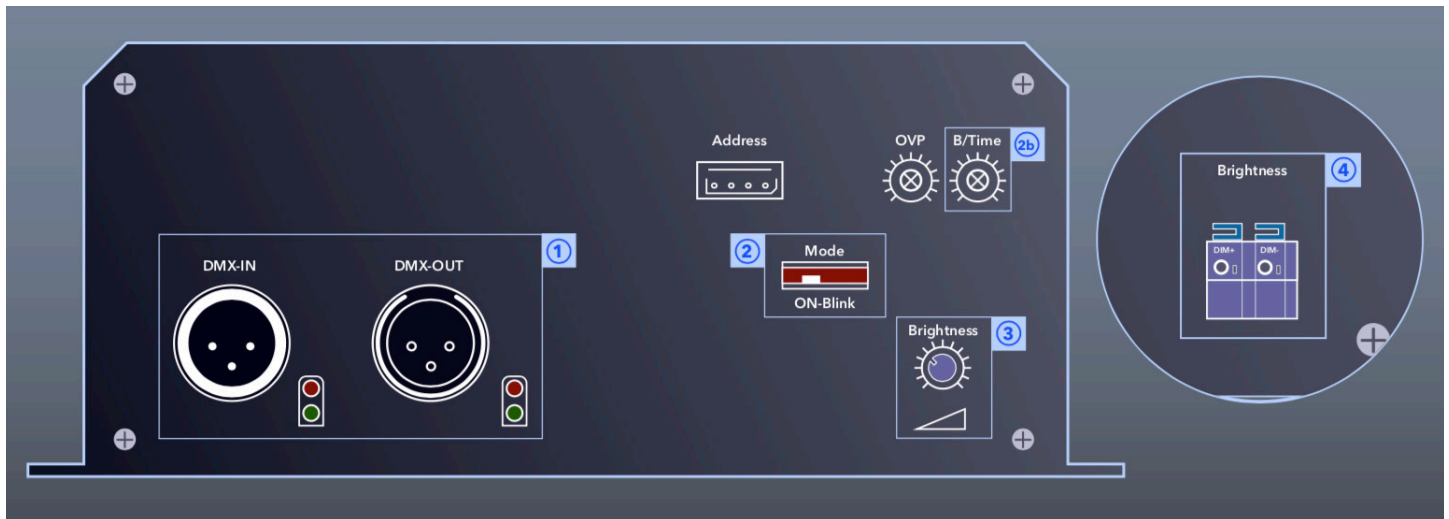
- Quiet
- Stylish compact design
- Rated Input Voltage 110 / 220 VAC
- Protection Class 1
- IP Degree 2x
- Worldwide voltage capacity
- Blink and Dimmer Switch
- Visual LED system status indicator
- Lightweight
- Short circuit and overload protection
- Convection Air Cooled
- CE, UL, CSA and AS/NZS compliant
- 0-10 dimming
- DMX 512 compatible



AC POWER SUPPLY RANGES AND OUTPUT

Model	Light Tape® Range		Input		Output
	Imperial	Metric	Amps	Watts	Max. Current, A
SD-8000	4000 - 8000 in ²	25,806 - 51,612 cm ²	3.50	420	3.8
DSD 200 0-10 DIMMING	1-200 in ²	6.5 - 1,290 cm ²	0.5 max	12	0.022
DSD 4000 DMX	200-4000 in ²	1,290 - 25,806 cm ²	1.7	204	2
DSD 2000 DMX	1000-2000 in ²	6,451 - 12,903 cm ²	2.8 max	68	0.91
DSD 1000 DMX	400-1000 in ²	2,580 cm ² - 6,451 cm ²	0.9	97	0.32
DSD 200 DMX	1-200 in ²	6.5 - 1,290 cm ²	0.5 max	12	0.022
DSD 2000	1000-2000 in ²	6,451 - 12,903 cm ²	2.8 max	68	0.91
DSD 1000	400-1000 in ²	2,580 cm ² - 6,451 cm ²	0.9	97	0.32
DSD 400	200-400 in ²	1,290 - 2,580 cm ²	0.7 max	17	0.11
DSD 200	1-200 in ²	6.5 - 1,290 cm ²	0.5 max	12	0.022

AC Power Supply Specifications



FEATURES

- DMX MODE** - 512 Supplies are fully DMX controllable, allowing for integration into complicated stage and light shows.
- BLINK MODE** - Allows for on/off pulse control with fine tuning knob.
- BRIGHTNESS CONTROL** - luminosity adjustment to appropriately match installation environment.
- O-10 DIMMING** - Optional function to remotely control Light Tape® brightness using standard 0-10v dimmers. Compatible with Lutron Dimmers.

Model	DMX	Blink Mode	Brightness control	0-10 Dimming
SD-8000		X	X	
DSD 200 0-10 DIMMING			X	X
DSD 4000 DMX	X	X	X	X
DSD 2000 DMX	X			X
DSD 1000 DMX	X			X
DSD 200 DMX	X			X
DSD 2000			X	
DSD 1000			X	X
DSD 400			X	
DSD 200			X	

AC POWER SUPPLY DIMENSIONS

Model	Length		Width		Height		Weight	
	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
SD-8000	9.875 in	250 mm	4.75 in	120 mm	2.25 in	57 mm	4.15 lb	2.2kg
DSD 200 0-10 DIMMING	6 in	155 mm	2.625 in	67.5 mm	1.5 in	40 mm	0.8 lb	363 g
DSD 4000 DMX	8.75 in	220 mm	7.25 in	185 mm	2.75 in	70 mm	4.85 lb	2.22 kg
DSD 1000 DMX	7.75 in	195 mm	3.375 in	85 mm	2 in	50 mm	3.9 lb	1.77 kg
DSD 2000 DMX	8.375 in	225 mm	3.375 in	85 mm	2 in	50 mm	4.3 lb	1.95 kg
DSD 200 DMX	6 in	155 mm	2.625 in	67.5 mm	1.5 in	40 mm	0.85 lb	386 g
DSD 2000	8.375 in	225 mm	3.375 in	85 mm	2 in	50 mm	3.65 lb	1.66 kg
DSD 1000	7.75 in	195 mm	3.375 in	85 mm	2 in	50 mm	2.7 lb	1.22 kg
DSD 400	6.625 in	165 mm	2.625 in	67.5 mm	1.5 in	40 mm	1.05 lb	476 g
DSD 200	4.438 in	113 mm	2.75 in	70 mm	1.625 in	41 mm	0.7 lb	318 g