

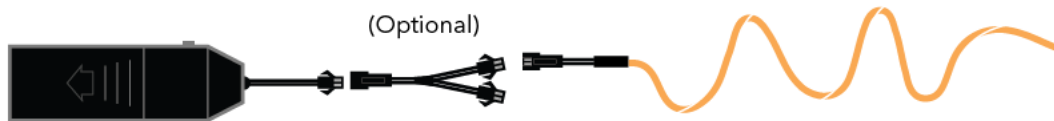
SPEC SHEET :: ELLUMIGLOW EL WIRE

EL Wire is a unique wire that illuminates 360 degrees around its surface. Ellumiglow EL Wire contains high grade copper and silver core wire, and high-grade Electroluminescent Phosphor imported from Germany. When a specific voltage and frequency are applied, it excites the phosphor particles inside and illuminates the wire evenly throughout its surface. The thick core wire (0.7mm) allows the EL Wire to shine brighter than most, allows it to keep its shape yet still allows for great flexibility. The minimum bending diameter of EL Wire is 10mm, but back and forth bending should be limited as much as possible. It's wide range of operating voltage and frequency allow many different driving conditions in order to illuminate the wire.

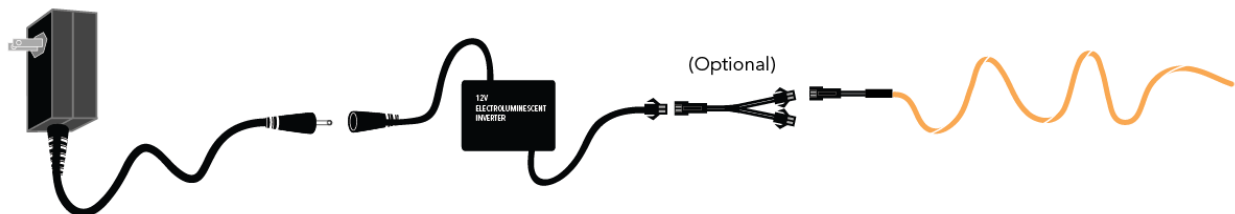
Size	SKU	Color	Voltage	Frequency	Lifespan	RATING																			
2.6mm DIA	EOE001	Vibrant Blue	70-150VAC	400-5000Hz	4-6k Hours	IP20																			
2.6mm DIA	EOE002	Magnetic Green	70-150VAC	400-5000Hz	4-6k Hours	IP20																			
2.6mm DIA	EOE003	Fiendish Red	70-150VAC	400-5000Hz	4-6k Hours	IP20																			
2.6mm DIA	EOE004	Lavender White	70-150VAC	400-5000Hz	4-6k Hours	IP20																			
2.6mm DIA	EOE005	Citron Yellow	70-150VAC	400-5000Hz </tr <tr> <td>2.6mm DIA</td> <td>EOE006</td> <td>Bawdy Blue</td> <td>70-150VAC</td> <td>400-5000Hz</td> <td>4-6k Hours</td> <td>IP20</td> </tr> <tr> <td>2.6mm DIA</td> <td>EOE007</td> <td>Brilliant Pink</td> <td>70-150VAC</td> <td>400-5000Hz</td> <td>4-6k Hours</td> <td>IP20</td> </tr> <tr> <td>2.6mm DIA</td> <td>EOE008</td> <td>Charged Orange</td> <td>70-150VAC</td> <td>400-5000Hz</td> <td>4-6k Hours</td> <td>IP20</td> </tr>	2.6mm DIA	EOE006	Bawdy Blue	70-150VAC	400-5000Hz	4-6k Hours	IP20	2.6mm DIA	EOE007	Brilliant Pink	70-150VAC	400-5000Hz	4-6k Hours	IP20	2.6mm DIA	EOE008	Charged Orange	70-150VAC	400-5000Hz	4-6k Hours	IP20
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WIRING DIAGRAM:

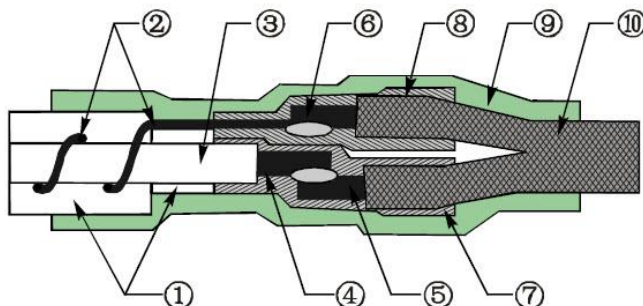
BATTERY OPERATION



PLUG-IN OPERATION



CONNECTION DIAGRAM



- EL WIRE COMPOSITION**
1. EL Wire Jacketing
 2. Angel Hair Wires (2pcs - 1st Conductor)
 3. Powder Coated Phosphor
 4. Copper Core Wire (2nd Conductor)
- PHYSICAL WIRED CONNECTION**
- 5-6. Bare Wires Soldered To Each Conductor
 7. Heat Shrink Tubing
 8. Wire Jacketing
 9. Outer Heat Shrink Tubing
 10. Outer Wire Jacketing

CURRENT (mA/meter)

Voltage (VAC) :: Fre. (Hz)	1000	1500	2000
50	1.88	3.16	4.58
80	3.38	5.97	8.13
110	4.85	7.74	11.11

CAPACITANCE (nF/meter, calculated)

Voltage (VAC) :: Fre. (Hz)	1000	1500	2000
50	6.80	6.75	6.70
80	6.85	6.80	6.75
110	6.90	6.85	6.80

POWER (mW/meter)

Voltage (VAC) :: Fre. (Hz)	1000	1500	2000
50	94	158	230
80	270	478	650
110	533	851	1223

OPERATING LIFETIME (Hours)

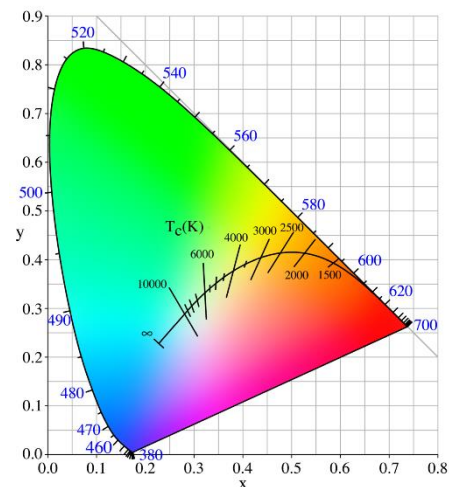
Voltage (VAC) :: Fre. (Hz)	1000	1500	2000
50	6000	5000	4000
80	4500	4000	3500
110	4000	3500	3000

CHROMATOGRAM

COLOR	Brilliant Pink	Pistol Purple	Bawdy Blue	Magnetic Green	Lucky Green	Vibrant Blue	Charged Orange	Lavender White	Fiendish Red
X	0.5308	0.2938	0.1183	0.2142	0.1289	0.1616	0.5308	0.2535	0.6543
Y	0.2751	0.1567	0.2873	0.6067	0.4383	0.3575	0.4811	0.2879	0.3398
Peak Value of Wavelength (nm)	608	463	496	511	506	502	585	467	624

ADDITIONAL PARAMETERS

Brightness	5cd/m ² ~ 150cd/m ²
Operating Voltage	30-150VAC
Operating Frequency	400-5000Hz
Operating Temperature	-10°C ~ +60°C
Storage Temperature	+5°C ~ +35°C
Storage Humidity	<30%
Bending Diameter	>8mm
Twisting Angle	<30°
Pull Force	1.2Kg



BEST PRACTICES

While EL Wire has been known to be used for costuming, cosplay, stage performances and much more. Its relatively fragile nature means caution should be used when planning costume and moving applications up front. Many costuming issues can be avoided by understanding the nature of the product to avoid common mistakes.

BENDING

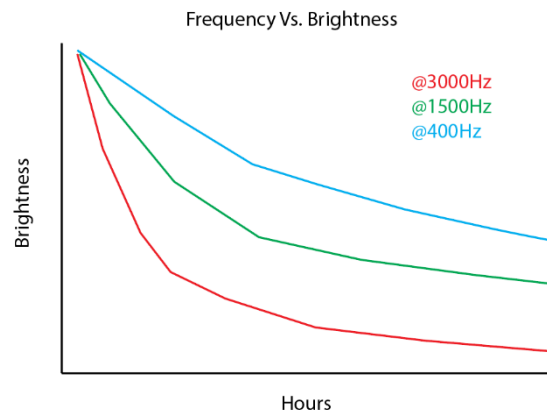
EL Wire is very flexible, but it is also delicate. Too many back and forth bends in any one spot will make the tiny angel hair wires located in the wire to break and cause your wire to short out. When using in costuming applications, we recommend keeping the EL Wire free from knees and elbows. This will keep your EL Wire lasting far longer and minimize your frustration.

POWER

EL Wire can be powered by either battery pack or inverter that plugs into a wall outlet. Each inverter or battery is rated for a specific range, like 15-30ft of EL Wire. Make sure when ordering your EL Wire that you get an appropriate inverter that falls within your EL Wire length. EL Wire inverters or battery packs don't care if it uses multiple wires or a single strand, however keep in mind the TOTAL length of wire (combined) is what you should select your battery pack for. For example, one 20ft section of EL Wire requires the same battery pack as twenty 1ft sections of EL Wire. We offer a multitude of splitters so many strands of EL Wire can be combined to one battery pack or inverter.

DRIVING CONDITIONS

EL Wire can be powered by a balance of both voltage and frequency. Raising either the voltage or frequency can increase the overall brightness of the wire. Decreasing either will also decrease the brightness. For best results, it is recommended to drive EL Wire at less than 2000Hz for longest lasting results. Driving at an optimal frequency of 400Hz will yield in the least degradation over the lifespan of the product. Conversely, driving the EL Wire at higher frequencies, while it will yield in higher brightness output, will also degrade the phosphor more quickly.



FAQ

- What is EL Wire?**
 EL Wire is a thin copper wire wrapped in the element Phosphor. There are two electrodes in the wire; a thicker copper core wire, and two tiny little angle hair wires. These essentially created a positive and negative, similar to other electronics. When a high voltage and frequency are applied to the EL Wire, it creates a beautiful glow. EL Wire is flexible, efficient and all kinds of fun. It requires an inverter to operate, which operates on a frequency between 400-2000Hz. This tends to be in our audible range, so depending on the battery or inverter you are using, you may hear a high-pitched frequency when operating.
- Does EL Wire Need An Inverter?**
 Yes. All Electroluminescent material needs an inverter to operate. The inverter sends a specific voltage and frequency throughout the panel which excites the phosphor particles inside the wire creating the beautiful glow.
- Can EL Wire Be Cut?**
 Yes, EL Wire can be cut at any point along the line and will continue to glow to the point where it is cut. We recommend to cut at a 30° angle and immediately after cutting to apply an end cap to the wire. This will keep debris and moisture out of the wire and keep it lasting time after time.

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- **My EL Wire Stopped Working, What Can I Do?**
There are two common ways that the EL Wire stops working; The first is the angle hair wires at the end of the wire get pinched together and short out the wire. This is by far the most common issue. The good news is it's a simple fix. Simply cut off the end of the wire (typically ¼" - ½" off the end of the wire does the trick. Remember to put a dab of glue or end cap back on the wire to keep any moisture out!
The second most common way EL Wire stops working is because the connection area (where the black wiring meets the EL Wire) becomes disconnected and stops working. A common way to tell if this is the culprit is to turn on your battery pack, and gently squeeze the black heat shrink tubing where the connection is and roll back and forth between your fingers. If you see intermittent flashing, then you need to redo your connection. For information on how to connect EL Wire, visit our YouTube channel at <https://www.youtube.com/user/Ellumiglow>
 - **Can EL Wire Customized?**
Yes, We offer custom EL Wire for many different applications. If you have a project in mind, please feel free to contact us and we will be happy to help. We offer both custom cutting and connecting services as well as custom EL Wire profiles.
 - **Do You Make Custom EL Wire Inverters?**
Yes, for any custom inquiries or bulk purchases, please contact us via phone or email.
 - **How Can I Get EL Wire Brighter?**
EL Wire does have a brightness threshold which is limited by the Electroluminescent phosphors used. This brightness is usually measured in candela per meter, and typically reaches its maximum brightness around 100-150cd/m. If you are looking for a brighter illuminated wire, we recommend checking out Laser Wire® brand cable. It has a virtually unlimited brightness but typically ranges in brightness from 500-1500cd/m.