

24V Silicone Neon Flex Installation

EQUIPMENT NEEDED



Neutral cure silicone glue



NT cutter



Soldering iron



Solder



Syringe

HANDLING & INSTALLING

- Lengths of Neon Flex longer than 5m typically require 2 people to avoid twisting or stretching the Neon Flex.
- Powering the Neon Flex whilst tightly coiled will cause a heat build-up and reduce its lifespan.
- Never expose the Neon Flex internals to moisture of any kind.
- Ensure the Neon Flex is installed by a qualified electrician.
- Ensure all wiring is in accordance with national and local electrical regulations.
- Ensure power is disconnected during installation.
- Never cut the Neon Flex whilst it is powered on.
- Never allow lengths of Neon Flex longer than 5m to hang freely (unsupported) to avoid damaging the internal FPC.
- Ensure you cut exactly on the cutting line otherwise you will damage the circuit you cut through.
- Seal connectors and end caps with a **neutral cure silicone glue**.
- Correctly connect positive and negative to the power supply.
- Never exceed the maximum Neon Flex lengths of 15m for single and 30m for dual power feeds.
- Ensure you unroll the Neon Flex from the reel by rolling the reel on a smooth surface, or by mounting the reel over an axle to aid in unwinding the Neon Flex without twisting it.
- Never place the Neon Flex onto rough surfaces as the silicone jacket may scratch.
- Never bend the Neon Flex beyond the certified minimum bending diameter.
- Never bend the Neon Flex up or down if it has a vertical FPC.
- Never bend the Neon Flex left or right if it has a horizontal FPC.
- Never stretch the Neon Flex as this will cause the internal FPC to snap.
- Never strike, twist, puncture or pierce the Neon Flex or subject it to continuous flexing.
- Ensure you use at least an AWG 18 power cable to avoid voltage drop on the wire.
- You can compensate for voltage drop on long power cables by using a Mean Well ELG model 'A' power supply and increasing the output voltage.

OPERATING GUIDELINES

- Powering the Neon Flex for longer than 8 hours per day will reduce the lifespan of the product.
- Never exceed the published maximum input power.
- Ensure all wiring is in accordance with national and local electrical regulations.
- Do not operate the Neon Flex in temperatures below -20°C or exceeding 45°C.

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CUTTING THE NEON FLEX

- LUMUL 24V Silicone Neon Flex is designed to be cut every 5cm. Cutting marks are visible on the side of the Neon Flex by a laser etched pair of scissors.
- For 10x25 Neon Flex, holding it on its side on a stable cutting table, use a sharp utility knife (an NT cutter works best) to carefully cut the silicone jacket. Cut up to the internal copper FPC, being careful to cut straight and square.
- For 13x14 Neon Flex, holding it upright, use a sharp utility knife (an NT cutter works best) to carefully cut the silicone jacket. Cut up to the internal copper FPC, being careful to cut straight and square.
- Locate the cutting mark on the copper FPC and being careful not to cut through any LED chip, cut through the FPC and remaining silicone jacket.
- Aim to cut exactly on the cutting mark / internal cutting line on the FPC. Missing this mark and cutting through the circuit will damage that 5cm circuit.
- **Tip:** Cut a cutting unit more than you need, then cut back slowly

POWER CONNECTION : SILICONE POWER CONNECTOR



- For a weather-proof seal ensure the cable used is round and fits snugly in the silicone power connector.
- Identify the back side of the Neon Flex – this is the side where the FPC has no electrical components or LEDs.
- With a sharp NT cutter or utility knife remove a small section of neon jacket from the back side of the Neon Flex to expose the rear of the FPC making the two copper power tracks visible. Be careful not to cut the copper tracks.
- Using the tip of a sharp blade remove any clear plastic film covering the copper power tracks.
- Using a soldering iron tin the copper solder points on the FPC, avoid overheating the FPC.
- Using a soldering iron tin the wire ends of the cable.
- Pull the cable through the silicone power connector.
- Solder the cable wires to the FPC being careful to solder the positive wire to the positive terminal and the negative wire to the negative terminal.
- Ensure the wires are securely soldered to the FPC.
- Connect the other end of the cable to a 24V constant voltage power supply to test the connection.
- Fill the silicone power connector with liberal amounts of neutral cure silicone glue. You must fill all voids to ensure a solid, secure and water-tight connection.
- **Tip:** Too much silicone glue is better than too little. You will most likely underestimate the amount of silicone glue needed.
- Pull the silicone power connector over the Neon Flex.
- Ensure there is a good seal of neutral cure silicone glue between the silicone power connector and the Neon Flex, as well as between the silicone power connector and the cable.
- **Tip:** Use a syringe filled with silicone glue to squirt glue into the sides of the connector to fill hollow areas.
- Firmly press the connector to the Neon Flex for a good seal.
- Wipe off any excess silicone using a lint-free cloth / Wet Wipes.
- Allow the silicone glue to cure for at least 4 hours before continuing.
- Once the silicone has cured, connect a 24V constant voltage power supply and test the connection.

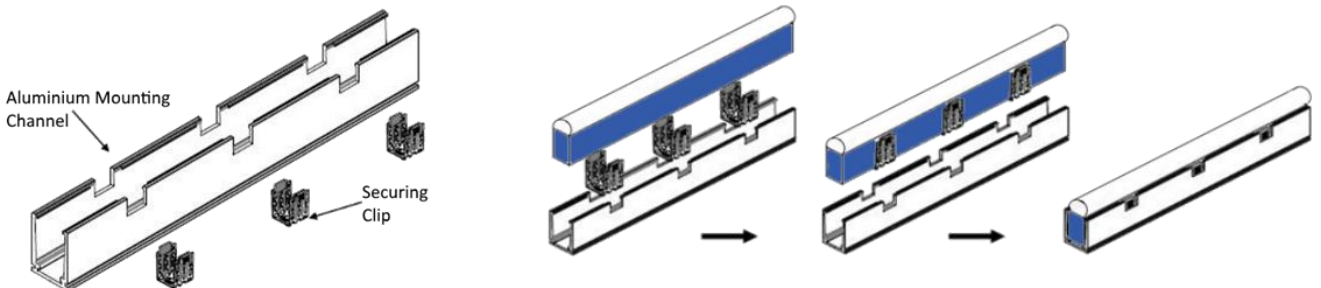
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FITTING A SILICONE END CAP



- Fill the silicone end cap with liberal amounts of neutral cure silicone glue.
- Pull the silicone end cap into place.
- Ensure there is a good seal of silicone glue between the silicone end cap and the Neon Flex.
- **Tip:** Use a small syringe filled with silicone glue to squirt silicone glue into the sides of the end cap and to fill hollow areas.
- Firmly press the end cap to the Neon Flex for a good seal.
- Wipe off any excess silicone using a lint-free cloth / Wet Wipes.

MOUNTING THE SILICONE NEON FLEX



- LUMUL Silicone Neon Flex is designed to be mounted in the LUMUL aluminium mounting channel.
- The mounting channel contains removable stainless-steel securing clips which clamp the Neon Flex securely with spiked teeth.
- LUMUL aluminium mounting channels are available in lengths of 3.5cm (with one securing clip), 1m (with 5 securing clips) and 2m (with 9 securing clips).
- Mount the aluminium channel on to the installation surface using the screws provided or suitable substitutes. Ensure the screw heads are not too large and sit flush against the channel bottom.
- Align the Silicone Neon Flex with the aluminium channel into which it will be mounted.
- **Tip:** To help place the securing clip accurately on the Neon Flex, with the securing clip in the aluminium channel, lightly press the Silicone Neon Flex into the channel at the next / first clip to be secured and holding both the Neon Flex and the clip, remove the clip ensuring it remains in contact with the Neon Flex.
- Clamp the securing clip around the Silicone Neon Flex before pressing it back into the aluminium channel. It will click into place.
- If your installation needs a firmer grip from the securing clips, using a small screwdriver to press the securing clip teeth into a 90° angle.
- **Tip:** For an even more secure mounting spread liberal silicone glue into the channel before placing the Silicone Neon Flex in the channel. This will make the Silicone Neon Flex much more difficult to remove, requiring careful removal to avoid pulling it on the vertical axis and damaging the internal flexible strip.



POWER SUPPLY SIZING & SELECTION : 10*25MM

- LUMUL 24V Silicone Neon Flex requires a **constant voltage** power supply.
- LUMUL recommends using Mean Well power supplies due to their market-leading quality, reliability and price.
- Always ensure the power supply is sized correctly or you risk damaging the power supply. Size the power supply 20% larger than required so as never to overload or overwork the power supply.
- LUMUL 24V Silicone Neon Flex is polarity sensitive. Ensure the positive and negative wires on the Neon Flex are properly connected to the positive and negative terminals of the power supply.
- Each meter of LUMUL 24V 10x25 Silicone Neon Flex is rated at 10W.
- Power can be supplied to each end of the Neon Flex to enable longer lengths of Neon Flex to be run:
 - 0-15m of LUMUL 24V Silicone Neon Flex : power from one end.
 - 15m-30m of LUMUL 24V Silicone Neon Flex : power from both ends.
- When powering from both ends ensure sufficient power is available at each end to supply enough voltage to the middle of the length of Neon Flex to avoid voltage drop and overloading one of the drivers.
- Never** install power supplies in parallel to double the available power unless they are designed to support this.
- If mounting your power supply more than 5m from your LUMUL 24V Silicone Neon Flex, consider purchasing the IP65 Mean Well ELG-A range. Using the potentiometer increase the output voltage to compensate for the **voltage drop** on the wire.
- If you require **dimming** of your single colour LUMUL 24V Silicone Neon Flex consider the IP67 Mean Well ELG-B range which supports 0-10V, 10V PWM and resistance dimming input with a PWM output.
- To calculate the minimum wattage of power supply required: **Wattage = (Neon Flex meters) * 13**

Power supplied from one end only			
Neon Length	Min Driver	Mean Well Drivers	
		IP20 LRS	IP67 ELG
1m	13W	LRS-35-24	ELG-75-24
2m	26W	LRS-35-24	ELG-75-24
3m	39W	LRS-50-24	ELG-75-24
4m	52W	LRS-75-24	ELG-75-24
5m	65W	LRS-75-24	ELG-75-24
6m	78W	LRS-100-24	ELG-100-24
7m	91W	LRS-100-24	ELG-100-24
8m	104W	LRS-100-24	ELG-100-24
9m	117W	LRS-150-24	ELG-150-24
10m	130W	LRS-150-24	ELG-150-24
11m	143W	LRS-150-24	ELG-150-24
12m	156W	LRS-200-24	ELG-200-24
13m	169W	LRS-200-24	ELG-200-24
14m	182W	LRS-200-24	ELG-200-24
15m	195W	LRS-200-24	ELG-200-24

Power supplied from both ends			
Neon Length	Min Driver	Mean Well Drivers	
		IP20 LRS	IP67 ELG
16m	208W	2 x LRS-150-24	2 x ELG-150-24
17m	221W	2 x LRS-150-24	2 x ELG-150-24
18m	234W	2 x LRS-150-24	2 x ELG-150-24
19m	247W	2 x LRS-150-24	2 x ELG-150-24
20m	260W	2 x LRS-150-24	2 x ELG-150-24
21m	273W	2 x LRS-150-24	2 x ELG-150-24
22m	286W	2 x LRS-150-24	2 x ELG-150-24
23m	299W	2 x LRS-150-24	2 x ELG-150-24
24m	312W	2 x LRS-200-24	2 x ELG-200-24
25m	325W	2 x LRS-200-24	2 x ELG-200-24
26m	338W	2 x LRS-200-24	2 x ELG-200-24
27m	351W	2 x LRS-200-24	2 x ELG-200-24
28m	364W	2 x LRS-200-24	2 x ELG-200-24
29m	377W	2 x LRS-200-24	2 x ELG-200-24
30m	390W	2 x LRS-200-24	2 x ELG-200-24



POWER SUPPLY SIZING & SELECTION : 13*14MM

- LUMUL 24V Silicone Neon Flex requires a **constant voltage** power supply.
- LUMUL recommends using Mean Well power supplies due to their market-leading quality, reliability and price.
- Always ensure the power supply is sized correctly or you risk damaging the power supply. Size the power supply 20% larger than required so as never to overload or overwork the power supply.
- LUMUL 24V Silicone Neon Flex is polarity sensitive. Ensure the positive and negative wires on the Neon Flex are properly connected to the positive and negative terminals of the power supply.
- Each meter of LUMUL 24V 13x14 Silicone Neon Flex is rated at 8W.
- Power can be supplied to each end of the Neon Flex to enable longer lengths of Neon Flex to be run:
 - 0-15m of LUMUL 24V Silicone Neon Flex : power from one end.
 - 15m-30m of LUMUL 24V Silicone Neon Flex : power from both ends.
- When powering from both ends ensure sufficient power is available at each end to supply enough voltage to the middle of the length of Neon Flex to avoid voltage drop and overloading one of the drivers.
- Never** install power supplies in parallel to double the available power unless they are designed to support this.
- If mounting your power supply more than 5m from your LUMUL 24V Silicone Neon Flex, consider purchasing the IP65 Mean Well ELG-A range. Using the potentiometer increase the output voltage to compensate for the **voltage drop** on the wire.
- If you require **dimming** of your single colour LUMUL 24V Silicone Neon Flex consider the IP67 Mean Well ELG-B range which supports 0-10V, 10V PWM and resistance dimming input with a PWM output.
- To calculate the minimum wattage of power supply required: **Wattage = (Neon Flex meters) * 10**

Power supplied from one end only			
Neon Length	Min Driver	Mean Well Drivers	
		IP20 LRS	IP67 ELG
1m	10W	LRS-35-24	ELG-75-24
2m	20W	LRS-35-24	ELG-75-24
3m	30W	LRS-35-24	ELG-75-24
4m	40W	LRS-50-24	ELG-75-24
5m	50W	LRS-50-24	ELG-75-24
6m	60W	LRS-75-24	ELG-75-24
7m	70W	LRS-75-24	ELG-75-24
8m	80W	LRS-100-24	ELG-100-24
9m	90W	LRS-100-24	ELG-100-24
10m	100W	LRS-100-24	ELG-100-24
11m	110W	LRS-150-24	ELG-150-24
12m	120W	LRS-150-24	ELG-150-24
13m	130W	LRS-150-24	ELG-150-24
14m	140W	LRS-150-24	ELG-150-24
15m	150W	LRS-150-24	ELG-150-24

Power supplied from both ends			
Neon Length	Min Driver	Mean Well Drivers	
		IP20 LRS	IP67 ELG
16m	160W	2 x LRS-100-24	2 x ELG-100-24
17m	170W	2 x LRS-100-24	2 x ELG-100-24
18m	180W	2 x LRS-100-24	2 x ELG-100-24
19m	190W	2 x LRS-100-24	2 x ELG-100-24
20m	200W	2 x LRS-100-24	2 x ELG-100-24
21m	210W	2 x LRS-150-24	2 x ELG-150-24
22m	220W	2 x LRS-150-24	2 x ELG-150-24
23m	230W	2 x LRS-150-24	2 x ELG-150-24
24m	240W	2 x LRS-150-24	2 x ELG-150-24
25m	250W	2 x LRS-150-24	2 x ELG-150-24
26m	260W	2 x LRS-150-24	2 x ELG-150-24
27m	270W	2 x LRS-150-24	2 x ELG-150-24
28m	280W	2 x LRS-150-24	2 x ELG-150-24
29m	290W	2 x LRS-150-24	2 x ELG-150-24
30m	300W	2 x LRS-150-24	2 x ELG-150-24