

**LED Neon Flex™** Series

# Connection

Courtesy of Firefly Lighting, Neo-Neon's distributor of Neon Flex in QLD, NT, Australia.



## LED Neon Flex™ Series

### Connection and Accessories

www.neo-neon.com

## LED NEON FLEX LARGE SIZE INSTALLATION INFO SHEET



### THE MOST VERSATILE AND SIMPLE LIGHTING SYSTEM YOU WILL EVER USE

LED Neon Flex is a green friendly safe low voltage DIY easy to install lineal long life lighting system that can be simply bent and cut to whatever your design requires for both indoors and out!

Perfect for lighting ceiling coves, floor coves, feature walls, back lighting Perspex or glass, outlining buildings & awnings, step lighting, Bars, Pubs, Restaurants, Homes, Hotels, Night Clubs, Casinos, Film and Stage sets, Music Festivals, Concerts, signs and of course a great replacement for traditional neon!

Available in the colours of red, green, yellow, blue, orange, pink, warm white, and cool white.

Also available in a RGB Colour Changing - Log on to [www.neo-neon.com](http://www.neo-neon.com) for RGB info sheet.



## LET'S GET STARTED STEP 1 - PLAN YOUR JOB

Good pre-planning of your LED Neon Flex job at the start, makes for a very easy job down the track. The next couple of pages will help guide you through each step, this info sheet will also help you with what transformers, cables and LED Neon Flex accessories you will need. So lets get started! There are many reference photos and ideas available on our web site [www.neo-neon.com](http://www.neo-neon.com)



LED NEON FLEX CROSS SECTION



LED NEON FLEX SIDE VIEW MEASUREMENT



## STEP 2 - PICK THE RIGHT TRANSFORMER FOR YOUR JOB

240 VOLT POWER

LED Driver 240 volt to 24 volt DC Transformer



All mains voltage work should only be done by a qualified electrician



Do not run more led neon than recommended as it will shorten the life of the led and may damage the transformer.

led neon flex runs on a safe extra low voltage of 24 volt dc led drivers are specially made transformers converting 240 volts ac to a clean constant 24 volt dc, the constant power protects the led giving the led neon a much longer life. there are different types of led drivers depending on the application and lengths of led neon. any 24 volt dc led driver will run the led neon flex. please see below table which one will suit your job the best. we also have ip67 (weatherproof) led drivers available. led driver transformer details and downloadable pdf's for each model available at [www.neo-neon.com](http://www.neo-neon.com)



Do not run more than 15 meters of low volt cable from the transformer to the LED Neon due to voltage drop out.

LED NEON FLEX

MAX LENGTH IN ONE CONTINUOUS RUN

TOTAL LED NEON FLEX METERAGE OFF ONE TRANSFORMER CIRCUIT

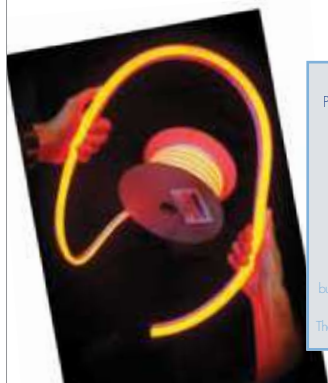
## PICK THE SWITCHING POWER SUPPLY TO SUIT YOUR JOB

led Neon Colour Large Size 24 Volt Dc	Max Length Of One Continuous Piece	24 Volt Dc 30 Watt Transformer  Total Length You Can Run	24 Volt Dc 60 Watt Transformer  Total Length You Can Run	24 Volt Dc 100 Watt Transformer  Total Length You Can Run	24 Volt Dc 150 Watt Transformer  Total Length You Can Run	LED NEON FLEX WATTS PER METER
WARM WHITE	20 METERS	4.2 METERS	8.5 METERS	11.4 METERS	14.2 METERS	6.3W
COOL WHITE	20 METERS	4.2 METERS	8.5 METERS	11.4 METERS	14.2 METERS	6.3W
RED	20 METERS	5.6 METERS	11.4 METERS	19 METERS	/	4.7W
PINK	20 METERS	4.2 METERS	8.5 METERS	14.2 METERS	20 METERS	6.3W
GREEN	20 METERS	4.2 METERS	8.5 METERS	14.2 METERS	20 METERS	6.3W
YELLOW	20 METERS	5.6 METERS	11.4 METERS	19 METERS	/	4.7W
ORANGE	20 METERS	5.6 METERS	11.4 METERS	19 METERS	/	4.7W
BLUE	20 METERS	4.2 METERS	8.5 METERS	14.2 METERS	20 METERS	6.3W

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#### STEP 3 - PREPARE THE LED NEON

Prepare the LED Neon Flex by starting to unroll the LED from the roll, the LED Neon Flex is sold by the meter or in 50 meters rolls.



LED Neon Flex is a hardy product but it's not a toy.  
**TAKE DUE CARE**

The LED Neon it may look and feel like a normal garden hose, but remember it is full of small wires and technical circuitry, take due care. Do not bend backwards and forwards for example. The LED Neon gains full strength when it is laid into the aluminum channel.

#### STEP 4 CUTTING THE LED NEON

Only cut the LED Neon Flex on cutting marks (small lines printed on LED). Use sharp electricians scissors, Stanley knife or similar to cleanly cut LED Neon.



CUTTING LINES

The cut needs to be straight and clean. Trim any wires hanging out flush to the PVC with sharp side cutters or scissors.

LED NEON FLEX LARGE SIZE 24 VOLT DC	
WARM WHITE	76.2mm
COOL WHITE	76.2mm
RED	101.6mm
PINK	76.2mm
GREEN	76.2mm
YELLOW	101.6mm
ORANGE	101.6mm
BLUE	76.2mm

#### STEP 5 TRIM CABLES

Don't forget to trim any loose wires hanging out, flush to the PVC with sharp side cutters or scissors.



**POLARITY IS  
IMPORTANT  
WITH LED**

#### STEP 6 - WORK OUT YOUR LED NEON FLEX CABLE OPTIONS AND CONFIGURATIONS

Please note polarity is important with LED, please see the below diagrams.

Use cables and plugs supplied by Firefly or if you are making up your own runs of cable you will require two core low voltage cable to run from the LED Driver to the LED Neon Flex.

Do not run more than 15 meters of low volt cable from the transformer to the LED Neon due to voltage drop out.

Use only thick low voltage cable as supplied by Firefly Lighting or the highest quality low voltage garden lighting cable to prevent voltage drop out.

#### LED NEON FLEX INTERNAL CABLE CONFIGURATIONS

Note the cables in the LED Neon run down one side of the LED Neon.

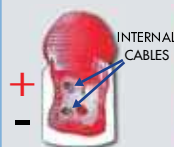
This helps to keep polarity during installation there are plugs for what ever side of the LED Neon you wish to power up.

Note: You only need to connect one end of the LED Neon to power



LED  
NEON FLEX

#### LED NEON FLEX CROSS SECTION



LED NEON FLEX PLUG  
CROSS SECTION

#### LED NEON FLEX CABLE COLOUR CODING BASICS



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#### LED NEON FLEX CABLE OPTIONS

##### POWER PLUG CABLE

Cable with one LED Neon Flex connector plug.



##### JUMPER CABLE

Cable with one LED Neon Flex connector plug at each end so you can use these cables to 'daisy chain' LED Neon Flex or you can cut these leads up and use as power plugs.



##### LED NEON FLEX AC/DC CONVERTERS

This cable you can connect directly to the LED Neon Flex and run the LEDoff 24 volt AC.



##### DAISY CHAINING LED NEON FLEX

You can 'daisy chain' the LED Neon if required by using Firefly LED Neon flex jumper cables available in 1 meter lengths.

Note: Please check table on page 2 for the max continuous run of your colour of LED Neon, as you can only run that amount in the 'daisy chain' style.



##### EXTERIOR ENVIRONMENTS

**TAKE CARE THAT ALL POWER CONNECTORS & END CAPS ARE WATER TIGHT.**

Important things to remember in exterior harsh environments like exteriors of buildings, bridges etc is to ensure that all connections are water tight.

All power plug connections and end caps should be sealed with Selley's All Clear then covered with clear LED Neon heat shrink to keep out any moisture.

The LED Neon has an air gap that runs through the tube, if moisture gets in it will cause the circuitry to rust, then the LED will fail.

HEAT GUN

HEAT SHRINK

LED NEON FLEX

ALL CLEAR SILICONE

#### STEP 7 - POWERING UP THE LED NEON FLEX

##### OPTION #1 POWER PLUG CONNECTION

You need a LED Neon power plug with cable and joining pins (Barbed one end).

- 1 Carefully push barbed pins into the LED Neon internal wires with pliers.
- 2 Quickly heat the plug end up with a heat gun to make it soft.
- 3 Then push the plug onto the pins and LED Neon. Push tightly to make a good connection.
- 4 Connect the LED neon to 24 volt DC power to see if you have made a good connection by lighting up the LED.
- 5 Silicone join if used outdoors.
- 6 Quickly heat the plug end up with a heat gun to make it soft.

HEAT GUN

HEAT SHRINK

LED NEON FLEX

ALL CLEAR SILICONE

Note: Put the Silicone on the LED Neon rather than the plug as this will stop silicone being squeezed down the centre of the LED Neon Flex.



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#### POWERING UP THE LED NEON FLEX

##### OPTION #2 QUICK CONNECTOR OPTION

You need a 'LED Neon quick connector', LED Neon End Cap and Heat Shrink.

LED NEON FLEX QUICK CONNECTOR



- 1 Carefully push the 'Quick Connector' barbed pins into the LED Neon Flex internal wires.



- 2 Connect LED Neon 'Quick Connector' cables to 24 volt DC to check connection by lighting up LED.



- 3  Then silicone the end of LED Neon Flex if used outdoors.



- 4 Push on LED Neon Flex End Cap, best to heat end cap first to make it easier to push on.

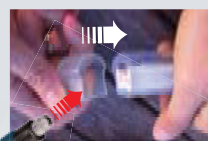


- 5 Then use heat gun to seal heat shrink around the joint.

#### STEP 8-SEALING THE END OF THE LED NEON FLEX



- 1 Simply cut the LED Neon cleanly on the printed lines at the end of your run.

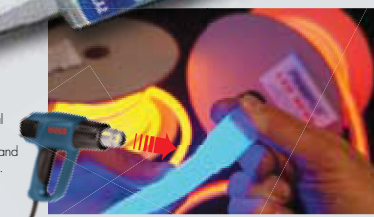


- 2 Push the LED Neon cap onto the end of the LED Neon, you can quickly heat up the end cap with the heat.

- 3 If used outdoors silicone the around the top edge of the LED Neon Flex prior to installing the end cap



- 4 Then seal with the heat shrink and heat gun.



#### JOINING AND REPAIRING SECTIONS LED NEON FLEX

Joining the LED Neon Flex is easy, just grab a joining kit which contains a joining pin (barbed both sides) and a section of clear heat shrink. You can even join colours!



- 1 Simply cut the two sections of LED Neon cleanly on the printed lines on the LED.

- 2 Carefully push the barbed pins into the first section of LED Neon Flex.



- 3 Then push the next section of LED Neon onto the pin until both sections are joined.

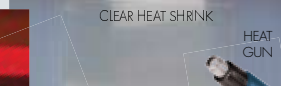


- 4 Power up to check connection.



- 5 If used outdoors silicone the around the top edge of the LED Neon Flex.

- 6 Then use heat gun to seal heat shrink around the joint.



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#### STEP 9 - ATTACHING THE LED NEON FLEX BY INSTALLING THE LED TRACK

2 METER SECTION OF LED NEON FLEX ALUMINIUM CHANNEL

The LED Neon Flex can be installed on all kinds of surfaces wood, plastic, steel and concrete according to your job or design.

You attach the LED Neon Flex with specially designed aluminium channel. The LED Neon Channel comes in 2 meter and 5 cm sections. Use the 2 meter sections for long linear applications and use the smaller sections for jobs requiring curves and bends.

Note: The LED Neon Flex has a flat base, so in applications like ceiling coves you will not need the aluminium channel as the Neon Flex will just sit in cove.

TRACK EASILY CUT TO SIZE WITH A HACKSAW

TRACK HAS PRE-DRILLED HOLES

LONG LINEAL APPLICATION

DO NOT PUNCTURE LED NEON FLEX WITH STAPLES, NAILS, SCREWS OR ANY OTHER SHARP POINTED MATERIAL. THIS WILL VOID WARRANTY

USE ALUMINIUM CHANNEL CLIP SECTIONS FOR BENDS & CURVES

PRE-DRILL LED HOLES TO SCREW CLIPS DOWN

Check There Are No Protruding Or Sharp Sections Of The Screw Or Bolt In The Base Of The Track. Make Sure That All The Screws Are Screwed Flush To The Bottom Of The Track. Any Foreign Objects Pushing Into The Base Of The Led Neon Flex Will Cause The Product To Fail By Breaking The Internal Wires. This Will Void Warranty.

#### STEP 10 - INSTALLING THE LED NEON FLEX TO TRACK

Once the aluminum track is in place start to install the LED Neon Flex.

DO NOT HAMMER THE PRODUCT INTO THE TRACK

DON'T PUSH THE LED NEON IN TO THE TRACK FROM BOTH DIRECTIONS, THIS WILL CAUSE LUMPS IN THE LED.

CAREFULLY PUSH THE LED NEON INTO THE TRACK STARTING FROM ONE END.

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#### HIGH RISE BUILDING INSTALLATION NOTE

Note: If you are doing long vertical runs for example up a high rise building please see additional information on Firefly's website [www.neo-neon.com](http://www.neo-neon.com) and download the 'Installing long vertical runs of LED Neon Flex' PDF



#### BRIDGES INSTALLATION NOTE

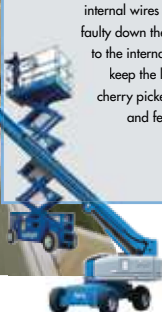
Note: If you are installing the product upside down for example under a bridge please download the 'Installing LED Neon Flex upside down' PDF.



Hot climate important note:  
in hot climates keep led neon out of direct sunlight prior to installation as the product will get to soft thus making it easy to damage product during installation.

this also prevents pre-expansion.  
simply cover product with a sheet of cardboard or tarp during installation.

When installing from heights do not let long sections of the product hang, as the led neon will stretch from its own weight and broke the internal wires or become faulty down the track due to the internal damage. keep the led neon in cherry picker or swing and feed it out in sections as required.



## LED Neon-Flex



#### STEP 11 - TEST INSTALLATION

Finally check all sections, may have to wait until dark if a sunny day.

#### STEP 12 - SET UP TIMERS & ELECTRONIC SWITCHING IF REQUIRED

Set timers / electronic switches / CBUS / Dynalite etc to turn LED Neon Flex on and off.



Refer to Firefly's  
ARCHITECTURAL LIGHTING  
TIMER TIMES PDF for  
suggested switching times to  
program timers at  
[www.neo-neon.com](http://www.neo-neon.com)

#### STEP 13 SWITCH ON & ENJOY!



**LED Neon Flex™ Series**  
**Application**



Project location: Clayton Bay Hotel, Hiroshima, Japan



Project location: Bahrain formula one circuit, Bahrain



Project location: Club de la Camara, Guayaquil, Ecuador



LED Neon Flex™ Series

# Application



Project location: Gothenburg, Scandinavium Arena, Sweden



Project location: Regal Airport Hotel, Kowloon, Hong Kong



Project location: Perry's Cherry Diner, Wisconsin, USA

## LED Neon Flex™ Series Application

Courtesy of Firefly Lighting, Neo-Neon's distributor of Neon Flex in QLD, NT, Australia.

