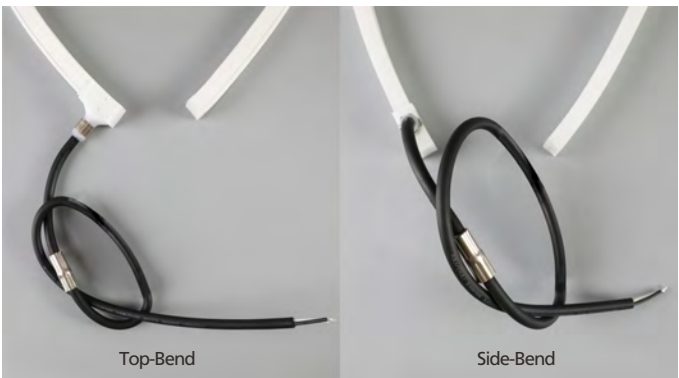
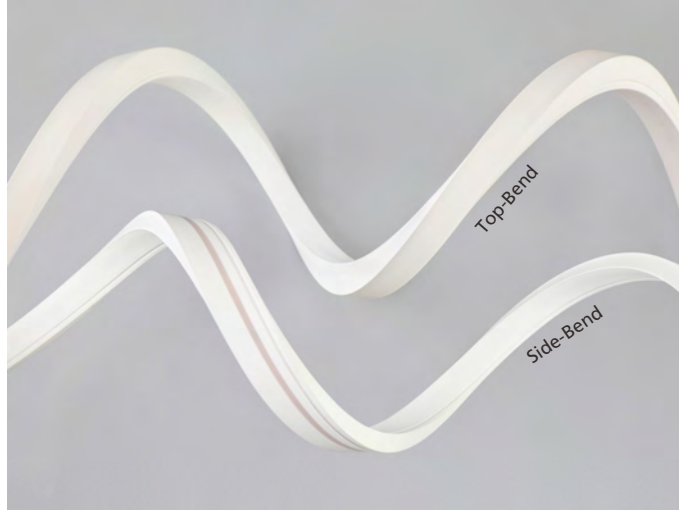


# IP68 Series RGBW

Swimming Pool + Underwater  
 Top-Bend or Side-Bend



# FNS-SP Neon LED Strip

## Features

The FNS-SP-DRGBW Series is a DMX Controlled RGBW Flexible Neon LED Strip safe for underwater and immersible applications. This Series of flexible neon LED strip is available at 4.92 Watts per Foot, with a side bend or a top bend. The FNS-SP-DRGBW utilizes many features of premium waterproof designs, such as ultra-thin coating layer on PCBA, underwater dedicated wire with anti-wicking ferrule, thickened wire pressing copper ring, watertight sealing of hydraulic end cap, high forces-withstand structure, and IP68 connector; all of course with IP68 waterproofing (up to 9.84ft) Compact and sturdy structural design with IK08 impact resistance and dust-proof matte finishing coating. The FNS-SP is engineered with superior silicone material that has high weather resistance (UV, yellowing, heat, and cold resistance), and excellent chemical stability (chlorine, ozone, acid, and alkali resistance).

DMX Controlled. 50,000h LED lifespan, 3 years warranty. UL listed including UL676.

## Application

Ideal for decorative lighting in swimming pools, landscaped pools, vertical waterfalls, splash pads, water parks, car washes, modern showers, and fountains.



# FNS-SP LED Strip

## Technical Information

### General Parameters

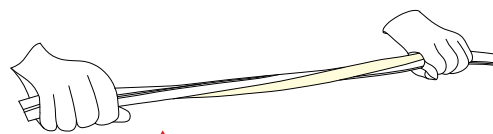
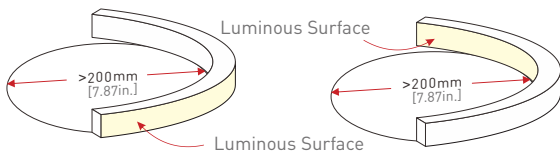
Product No.	Style	Dimension	Max. Run Length	Increment (L1)	LED QTY	LED Type	IP&IK Rating	Operating Ambient	Lifespan	Warranty
FNS-SP-T-xxK-CU-24	Top-Bend	W0.63XH0.63in	16.4ft. (factory made only)	4.92" (factory made only)	36LED /ft.	Samsung	IP68 [Wet] (Max.3M underwater) & IK08	Ta: -20~45°C [-4~113°F]	36,000h (L70@ Tc≤ 149°F, Tc is the temp of LED pin)	3 years (The warranty is void if the anti-wicking ferrule removes)
FNS-SP-S-xxK-CU-24	Side-Bend	W0.45XH0.79in			29LED /ft.					

### Photoelectric Parameters

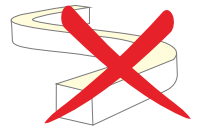
Product No.	Style	Power (±10%)	Operating Voltage	Finished Product CCT/ Wavelength	CRI80 4000K		CRI90 4000K		Beam Angle
					Luminous Flux±10%	Light Efficiency	Luminous Flux±10%	Light Efficiency	
FNS-SP-T-xxK-CU-24	Top-Bend	4.92W/ft.	24VDC	R:620-630nm G:515-530nm B:460-470nm W:2700-6500K	n/a	n/a	130lm/ft.	30lm/W	120°
FNS-SP-S-xxK-CU-24	Side-Bend				n/a	n/a	70lm/ft.	16lm/W	

## Bending Capability

### Top-Bend

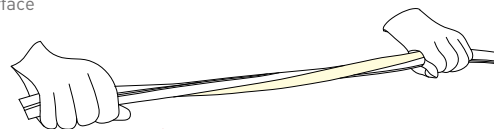
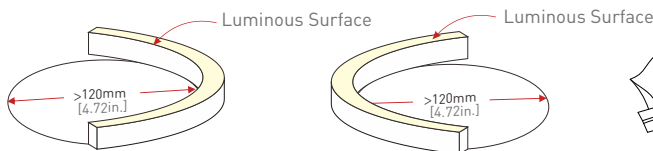


⚠ Max. twist angle is 360° per meter



Can't be side-bend

### Side-Bend



⚠ Max. twist angle is 360° per meter



Can't be top-bend

# FNS-SP LED Strip

## Ordering Information

Ordering Example: FNS-SP-T-DRGBW-CU-24

FNS-SP								
Part No.	Flexibility		Color Temp		Length		Voltage	
FNS-SP	T	Top Bend	DRGBW	DMX Controlled RGBW	CU	Custom Length	24	24VDC
	S	Side Bend						

## Accessories

**AL-FNS-SP-SPF-DRGBW** Side Power Feed, 11.8" lead cable with heat impressed front and end cap

**AL-FNS-SP-BPF-DRGBW** Bottom Power Feed, 11.8" lead cable with heat impressed front and end cap

Top Bend



Side Bend



**AL-FNS-SP-MCLIPS** Surface Mount fixed by clip and screw (Top Bend only)

**AL-FNS-SP-MBRKT** U-Shaped mounting brackets with screws (quantity 2; rec. 1 per 39")



**AL-FNS-SP-TPLSCH** Polycarbonate channel with screws (37" Section"), Top Bend

**AL-FNS-SP-SPLSCH** Polycarbonate channel with screws (37" Section"), Side Bend

\* DMX Control System Will Be Quoted Based Off Of Project Size


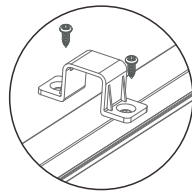
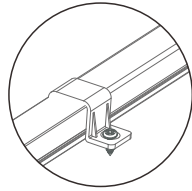
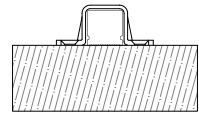

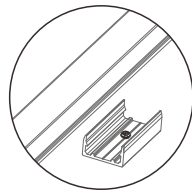
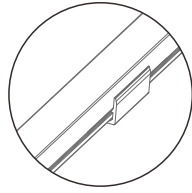
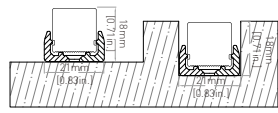

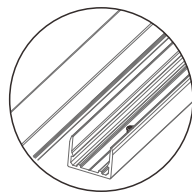
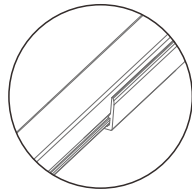
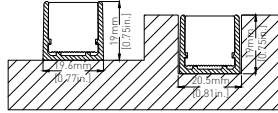


## Recommended Power Supplies *(Dimmable with 0-10v, ELV, MLV, TRIAC)*

Item Number	Description	Max/Min Load	Input Voltage	Output Voltage	Dimmable	Dimensions
PS-TSLC-UNV-24V-30WDHV2	30W	30W / 3W	100-277V AC	24V DC	Yes*	6.49"L x 3.6"W x 1.02"H
PS-TSLC-UNV-24V-60WDHV2	60W	60W / 6W	100-277V AC	24V DC	Yes*	7.4"L x 3.6"W x 1.02"H
PS-TSLC-UNV-24V-96WDHV2	96W	96W / 9.6W	100-277V AC	24V DC	Yes*	8.66"L x 3.6"W x 1.61"H
PS-TSLC-UNV-24V-288WDHV2	288W (3 x 96W)	288W / 28.8W	100-277V AC	24V DC	Yes*	11.85"L x 4.25"W x 1.8"H


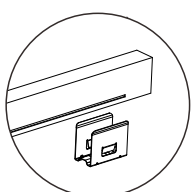
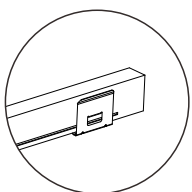
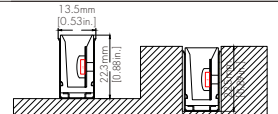

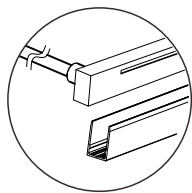
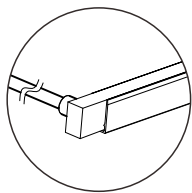
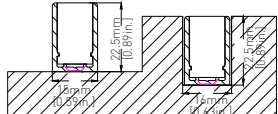
# LED Neon Strip

## Installation (Top-Bend )

<p>Fixed by clip and screw</p> 			 <p>Surface Mounting</p>
<p>Fixed by bracket and screw</p> 			<p>Groove size is shown as below</p>  <p>Surface Mounting Flush Mounting</p>
<p>Fixed by PC profile and screw</p> 			<p>Groove size is shown as below</p>  <p>Surface Mounting Flush Mounting</p>

Note: The FNS-SP also supports flush mounting into groove by gluing process.

## Installation (Side-Bend)

<p>Fixed by bracket and screw</p> 			<p>Groove size is shown as below</p>  <p>Surface Mounting Flush Mounting</p>
<p>Fixed by PC profile and screw</p> 			<p>Groove size is shown as below</p>  <p>Surface Mounting Flush Mounting</p>

Note: The FNS-SP also supports flush mounting into groove by gluing process.

# LED Neon Strip

## Reliability

Test Items	Reference Standards	Test Condition & Methods	Result
Waterproof test	IEC60598-1:2014 /IEC60529:2013: (IPX8)	Immerse the neon strip in the water immersion pressure testing machine with 0.05Mpa atmosphere (equivalent to 5M water depth) for 168h	Pass
Impact resistance test	IEC62262/ IEC60068-2-75 :(IK08:5J)	A 500g steel ball from 1M height freely falling on the top and bottom side of neon strip for 5 times	Pass
Salt Spray Test	IEC60068-2-11	Chamber Temp.= $35\pm 2^{\circ}\text{C}$ , solution concentration= $(50\pm 5)\text{g/L}$ , salt spray settlement= $(1.5\pm 0.5)\text{mL}/(80\text{m}^2\cdot\text{h})$ , solution pH=6.5-7.2, test for 168h.	Pass
Chlorine Water immersion test	TSLC standard	Chlorine water, 10mg/L, Ta= $23^{\circ}\text{C}$ , immersion for 168h	Pass
Weak base immersion test	TSLC standard	Nas Saturated solution, Ta= $23^{\circ}\text{C}$ , immersion for 72h	Pass
Strong base immersion test	TSLC standard	NaClO Solution, 100000mg/L, Ta= $23^{\circ}\text{C}$ , RH=50%, immersion for 168h (Effective ingredients of 84 disinfectant solution)	Pass
Strong base immersion test	TSLC standard	Ca(CLO) <sub>2</sub> Solution, 100000mg/L, Ta= $23^{\circ}\text{C}$ , RH=50%, immersion for 168h (Effective ingredients of bleach powder)	Pass
Ozone aging	TSLC standard	50pphm, Ta= $23^{\circ}\text{C}$ , RH=50%, aging for 168h	Pass
High temperature high humidity test	TSLC standard	Light up the neon strip in the oven with Temp.= $85^{\circ}\text{C}$ &RH=80% for 168h	Pass
Temperature rise test	TSLC standard	Light up the neon strip with 24V&25.4VDC and measure the temperature of all components at Ta= $25^{\circ}\text{C}$ & $45^{\circ}\text{C}$	Pass
Bending test	TSLC standard	Bend the neon strip around the $\varnothing\phi=200\text{mm}$ cylinder for 50/100 times	Pass
Twist test	TSLC standard	Twist the neon strip 0- $360^{\circ}$ forward and backward for 500 times	Pass