AF Series Specification

AFS2020



E-mail:colors@colorsled.com

Version：A00

www.colorsled.com

【Features】



2700 K | 3000 K | 4000 K | G | B | R G B | R G B W | D M X | DMX | DMX

Light source: Adopting dedicated and outdoor-specific LED, stronger reliability for outdoor application; Finished product ANSI SDCM≤5;

· **Structure**: New anti-tension structure, Integrated anti-tension silicone extrusion process, against internal stress and external tension;
Double-layer circuit conductive, double power supply guarantee, broken boards without power cut;

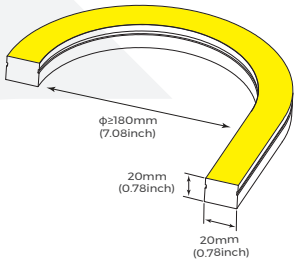
· **DMX Chip model and pixel count**: white light/ RGB/RGBW: UCS512H4LB,12 Pixels/m;

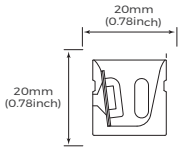
· **Product applications**: outdoor illumination, architectural facade lighting; IP67

· **Working/storage temperature(White/monochromatic light)**: Ta: -40~60°C / 0～60°C

Symphony working/storage temperature(DMX/RGB/RGBW): Ta: -40~50°C / 0°C～60°C

· White with 7 years warranty or working life =84000H,whichever comes first;RGB/RGBW/RGBM/RGBWM/White(DMX) with warranty 5 years or working life=60000H,whichever comes first.





【Basic Parameters】

Model	CCT/Color	Color range	CRI	Input voltage (V)	Rated current (A/m)	Rated power (w/m)	Maximum power (w/m)	Lumens (LM/m)	Standard Length	Cutting Unit
AFS2020L- 9XX24 CSW025CCXXXX -GV10-ENP-ESD	2700 K 3000 K 4000 K	2600-2830K 2920-3170K 3770-4220K	>90	24V	0.21 (0.07A/ft)	5 (1.53W/ft)	5.5 (2.75W/ft)	305(93/ft) 315(96/ft) 350(107/ft)	15000mm (49.2ft)	16LED / 50mm
AFS2020- 9XX24 CSW025CCXXXX -GV10-ENP-ESD	2700 K 3000 K 4000 K	2600-2830K 2920-3170K 3770-4220K	>90	24V	0.42 (0.13A/ft)	10 (3.05W/ft)	11 (3.35W/ft)	574(175/ft) 619(189/ft) 734(224/ft)	10000mm (32.8ft)	16LED / 50mm
AFS2020- 0X24 CSW025CCXXXX -GV10-ENP-ESD	G B	515-525nm 450-460nm	/	/	24V	0.42 (0.12A/ft)	10 (3.05W/ft)	11 (3.35W/ft)	/	10000mm (32.8ft)	16LED / 50mm
AFS2020- 0RGB24 CSW025CCXXXX -CV10-ENP-ESD	RGB R G B	620-625nm 515-520nm 455-460nm	/	/	24V	0.5 (0.15A/ft)	12 (3.65W/ft)	13.2 (4.02W/ft)	/	5000mm (16.4ft)	6LED /50mm
AFS2020- 0RGBXW24 CSW025CCXXXX -GV10-ENP-ESD	R G B W R G B W R G B W	W~2700K RGB+(2550-2800K) W~3000K RGB+(2800-3200K) W~4000K RGB+(3900-4350K)	/	24V	0.5 (0.15A/ft)	12 (3.65W/ft)	13.2 (4.02W/ft)	123(38/ft) 141(43/ft) 137(42/ft)	5000mm (16.4ft)	7LED / 83.3mm

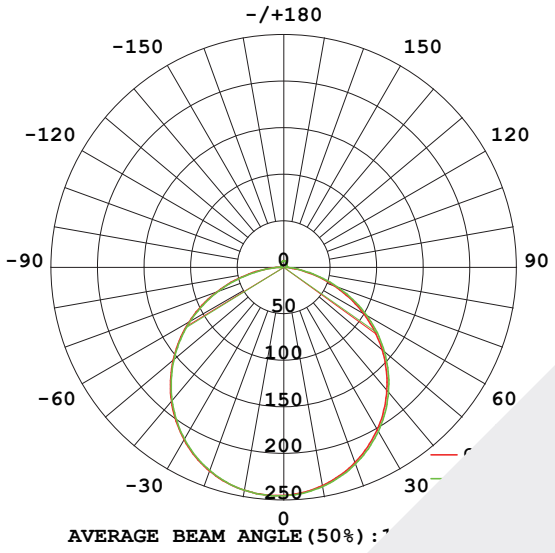
【Basic Parameters】

Model	CCT/Color	Color range	CRI	Input voltage (V)	Rated current (A/m)	Rated power (w/m)	Maximum power (w/m)	Lumens (LM/m)	Standard Length	Cutting Unit
AFS2020- 9XWM24 CDW025CCXXXX -GV10-ENP-ESD (DMX512-White)	2700K 3000K 4000K	2550-2800K 2800-3200K 3900-4350K	>90	24V	0.56 (0.17A/ft)	13.5 (4.12W/ft)	14.8 (4.51W/ft)	442(135/ft) 570(174/ft) 595(181/ft)	5000mm (16.4ft)	7LED/83.3mm DMX-IC:(UCS512H4LB) 12Pixels/m
AFS2020- 9XWM24 CDW025CCXXXX -GV10-ENP-ESD (DMX512-White)	2700K 3000K 4000K	2550-2800K 2800-3200K 3900-4350K	>90	24V	0.42 (0.13A/ft)	10 (3.05W/ft)	11 (3.35W/ft)	320(98/ft) 420(128/ft) 440(134/ft)	10000mm (32.8ft)	7LED/83.3mm DMX-IC:(UCS512H4LB) 12Pixels/m
AFS2020- 0RGBM24 CSW025CCXXXX -GV10-ENP-ESD (DMX512-RGB)	DMX	R 620-625nm G 515-520nm B 455-460nm	/	>90	24V	0.6 (0.18/ft)	13.5 (4.12W/ft)	14.8 (4.51W/ft)	/	5000mm (16.4ft)	7LED/83.3mm DMX-IC:(UCS512H4LB) 12Pixels/m
AFS2020- 0RGBM24 CSW025CCXXXX -GV10-ENP-ESD (DMX512-RGB)	DMX	R 620-625nm G 515-520nm B 455-460nm	/	>90	24V	0.38 (0.11/ft)	9 (2.74W/ft)	9.9 (3W/ft)	/	10000mm (32.8ft)	7LED/83.3mm DMX-IC:(UCS512H4LB) 12Pixels/m
AFS2020-0RGBXWM 24CDW025CCXXXX -GV10-ENP-ESD (DMX512-RGBW)	DMX	W~2700K W~3000K W~4000K	RGB+(2550-2800K) RGB+(2800-3250K) RGB+(3900-4350K)	>90	24V	0.69 (0.21A/ft)	16.5 (5.03W/ft)	18.1 (5.52W/ft)	123(38/ft) 141(43/ft) 137(42/ft)	5000mm (16.4ft)	7LED/83.3mm DMX-IC:(UCS512H4LB) 12Pixels/m
AFS2020-0RGBXWM 24CDW025CCXXXX -GV10-ENP-ESD (DMX512-RGBW)	DMX	W~2700K W~3000K W~4000K	RGB+(2550-2800K) RGB+(2800-3250K) RGB+(3900-4350K)	>90	24V	0.38 (0.11/ft)	9 (2.74W/ft)	9.9 (3W/ft)	67(20/ft) 77(23/ft) 74(22/ft)	10000mm (32.8ft)	7LED/83.3mm DMX-IC:(UCS512H4LB) 12Pixels/m
AFS2020- 9XX48 CSW025CCXXXX -GV10-ENP-ESD	2700K 3000K 4000K	2600-2830K 2920-3170K 3770-4220K	>90	48V	0.21 (0.06A/ft)	10 (3.05W/ft)	11 (3.35W/ft)	499(152/ft) 549(167/ft) 602(184/ft)	20000mm (65.6ft)	32LED /100mm

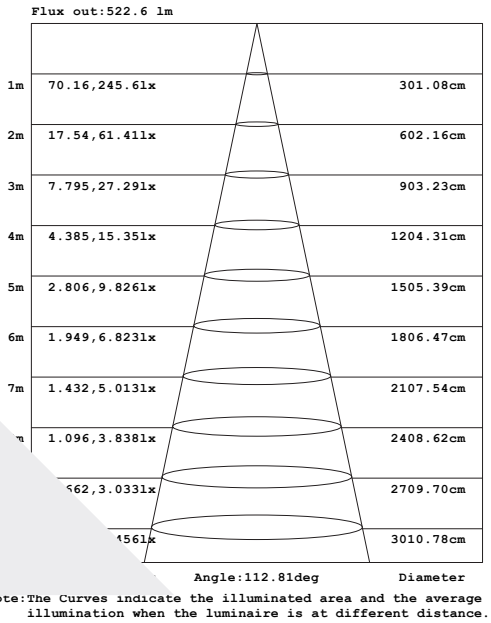
Note:

1. The above parameters are tested based on 1m/3.28ft standard products;
2. The luminous flux is allowed to have an error range of ±15%;
3. The above parameters are typical values;

【Light Distribution】



Light distri

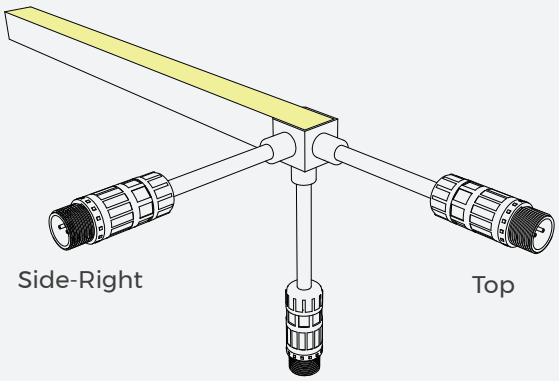


Effective average illuminance

Note: The above data is based o erature. If you need other models of IES files, ple

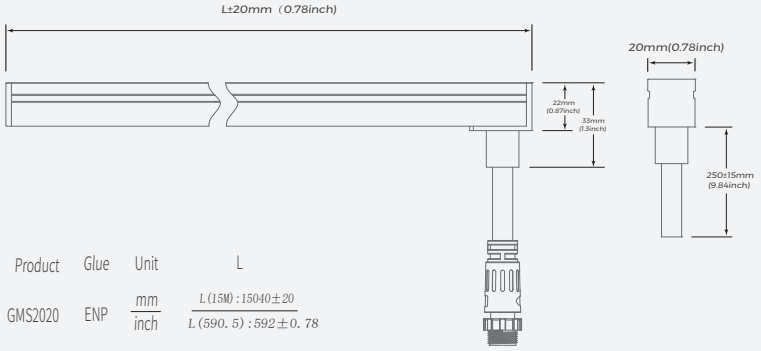
【Product mechanical parameters】

· IP67 molded end cap (ENP)



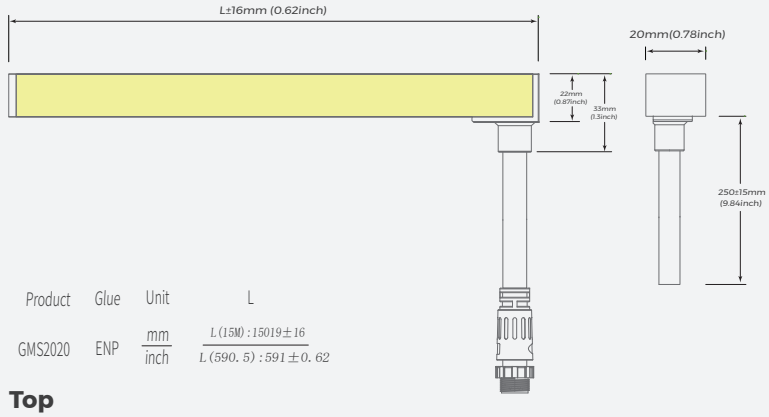
(about 2 cm dark)

· Bottom



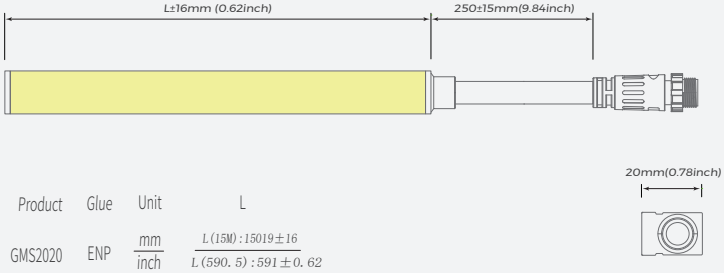
Product	Glue	Unit	L
GMS2020	ENP	mm / inch	L(15M):15040±20 / L(590.5):592±0.78

· Side-Right



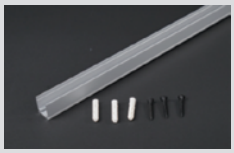
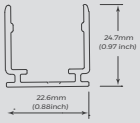
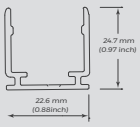
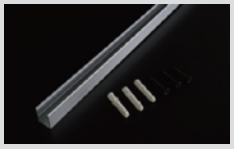
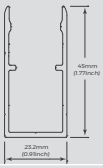
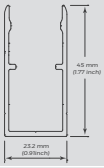
Product	Glue	Unit	L
GMS2020	ENP	mm / inch	L(15M):15019±16 / L(590.5):591±0.62

· Top

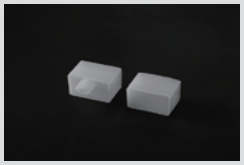
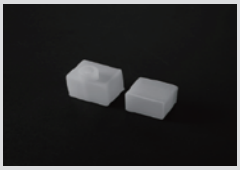


Product	Glue	Unit	L
GMS2020	ENP	mm / inch	L(15M):15019±16 / L(590.5):591±0.62

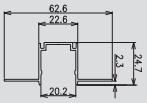
【Accessory information】

Name	describe	Accessories Picture	Section size	Order model	quantity /case (PCS)	net weight (kg)	Per box net weight (kg)	Gross weight (kg)	Box Size (mm)	Remark
Aluminium carrier	Flat mounting aluminum groove			AS-GMS/T2020A-1000	32	0.25	8.192	10.142	1180*135*130	Size: L1000*W22.6* H24.7mm with screw
Aluminum clip	Flat mounting clip			AS-GMS/T2020A-25	640	0.006	5.12	5.42	250*250*150	Size: L25*W22.6* H24.7mm with screw
Aluminium carrier	Aluminum groove with reserved wire outlet			AS-GMS/T2020A1-1000	16	0.495	8.016	9.966	1180*135*130	Size: L1000*W23.2* H45mm with screw
Aluminum clip	clip with reserved wire outlet			AS-GMS/T2020A1-25	360	0.0117	4.932	5.232	250*250*150	Size: L25*W23.2* H45mm with screw
glue	588G Acid glue		/	AS-PG-0002	150	0.014	2.1	2.4	250*250*150	10ml/pcs
Wire	2P DC wire (Male)		/	AS-FC-0009 (0.25M) AS-FC-0010(0.5M) AS-FC-0011(2M)	200 200 50	0.0193 0.031 0.1012	3.86 6.2 5.06	4.16 6.5 5.36	250*250*150	suitable for monochromatic led strip Wire lengths are optional: 0.25M/0.5M/2M
Wire	2P DC wire (Female)		/	AS-FC-00012 (0.25M) AS-FC-0013(0.5M) AS-FC-0014(2M)	200 200 50	0.0212 0.0329 0.1031	4.24 6.58 5.155	4.54 6.88 5.48	250*250*150	suitable for monochromatic led strip Wire lengths are optional: 0.25M/0.5M/2M
Wire	2P T-Connection Wire		/	AS-FC-0027	20	0.0652	1.304	1.604	250*250*150	suitable for monochromatic led strip Wire length 150mm
Wire	4P DC wire (Male)		/	AS-FC-0015 (0.25M) AS-FC-0016(0.5M) AS-FC-0017(2M)	200 200 50	0.0196 0.0316 0.1036	3.92 6.32 5.18	4.22 6.62 5.48	250*250*150	suitable for RGB led strip Wire lengths are optional: 0.25M/0.5M/2M

【Accessory information】

Name	describe	Accessories Picture	Section size	Order model	quantity /case (PCS)	net weight (kg)	Per box net weight (kg)	Gross weight (kg)	Box Size (mm)	Remark
Wire	4P DC wire (Female)		/	AS-FC-0018 (0.25M) AS-FC-0019(0.5M) AS-FC-0020(2M)	200 200 50	0.0215 0.0354 0.1188	4.3 7.08 5.94	4.6 7.38 6.24	250*250*150	suitable for RGB led strip Wire lengths are optional: 0.25M/0.5M/2M
Wire	4P T-Connection Wire		/	AS-FC-0028	20	0.0675	1.35	1.65	250*250*150	suitable for RGB led strip Wire length 150mm
Wire	5P DC wire (Male)		/	AS-FC-0021 (0.25M) AS-FC-0022(0.5M) AS-FC-0023(2M)	200 200 50	0.0196 0.0316 0.1036	3.92 6.32 5.18	4.22 6.62 5.48	250*250*150	suitable for RGBW/DMX led strip Wire lengths are optional: 0.25M/0.5M/2M
Wire	5P DC wire (Female)		/	AS-FC-0024 (0.25M) AS-FC-0025(0.5M) AS-FC-0026(2M)	200 200 50	0.0215 0.0354 0.1188	4.3 7.08 5.94	4.6 7.38 6.24	250*250*150	suitable for RGBW/DMX led strip Wire lengths are optional: 0.25M/0.5M/2M
Wire	5P T-Connection Wire		/	AS-FC-0029	20	0.0694	1.388	1.688	250*250*150	suitable for RGBW led strip Wire length 150mm
Wire	5P T-Connection Wire		/	AS-FC-0030	20	0.0698	1.396	1.696	250*250*150	suitable for DMX led strip Wire length 150mm
Plug	Silicone Plug Set. Includes plug and plug end (Top)		/	AS-GMS2020GH0-EC	200	0.0048	0.976	1.276	250*250*150	/
Plug	Silicone Plug Set. Includes plug and plug end (Side)		/	AS-GMS2020GS0-EC	200	0.0055	1.114	1.414	250*250*150	/

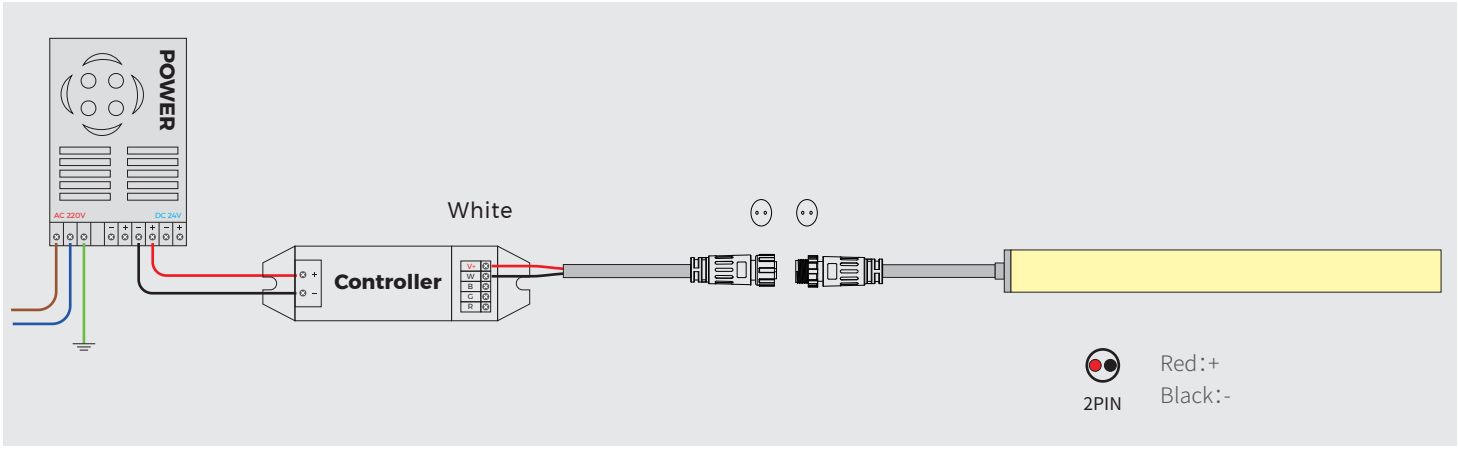
【Accessory information】

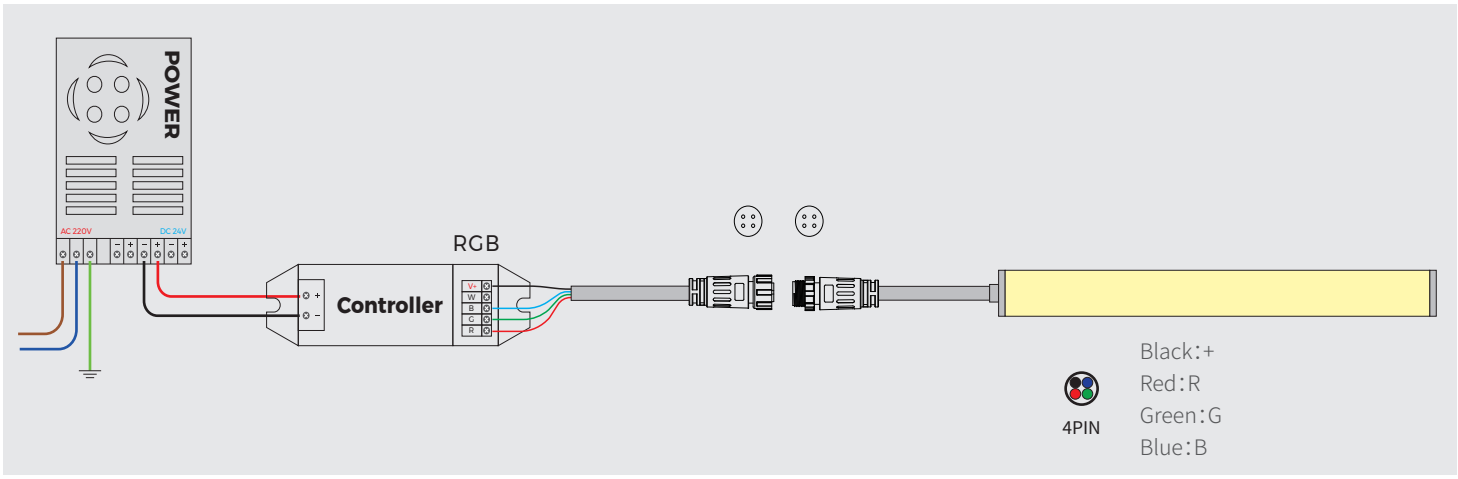
Name	describe	Accessories Picture	Section size	Order model	quantity /case (PCS)	net weight (kg)	Per box net weight (kg)	Gross weight (kg)	Box Size (mm)	Remark
Aluminium carrier	Recessed Shaped Slot			AS-AFS(T)2020A5-1000	9	0.26	2.34	4.29	1180*135*130	Size: L1000*W62.6* H24.7mm with screw
Aluminium carrier	Stylable installation Groove			AS-AFS(T)2020M-1000	40	0.25	10	11.95	1180*135*130	Size: L1000*W22.6* H24.7mm with screw

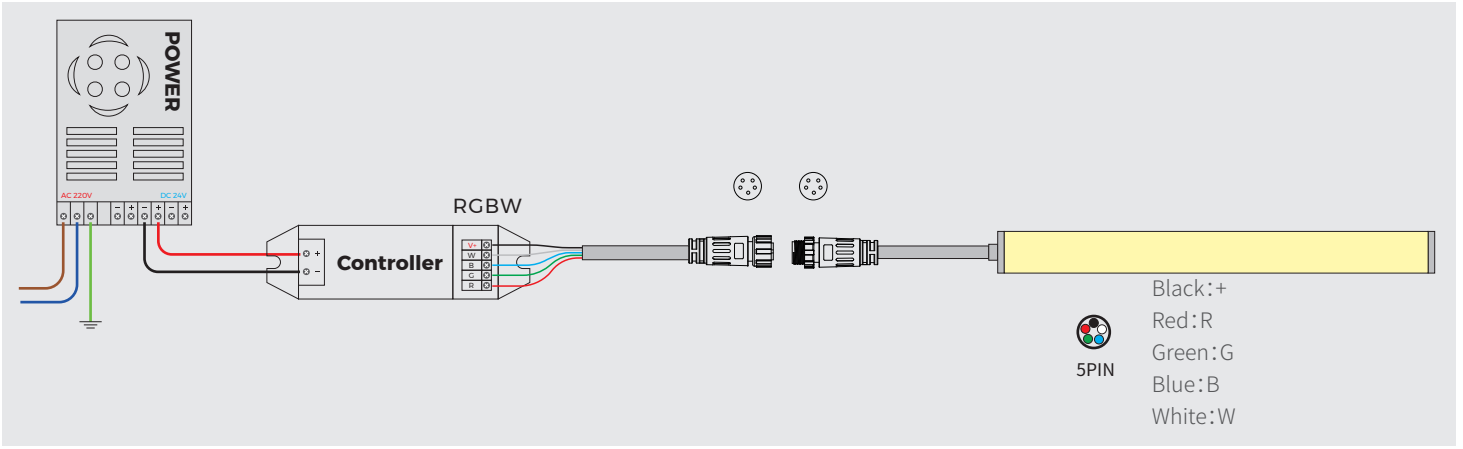
【Product control system solutions】

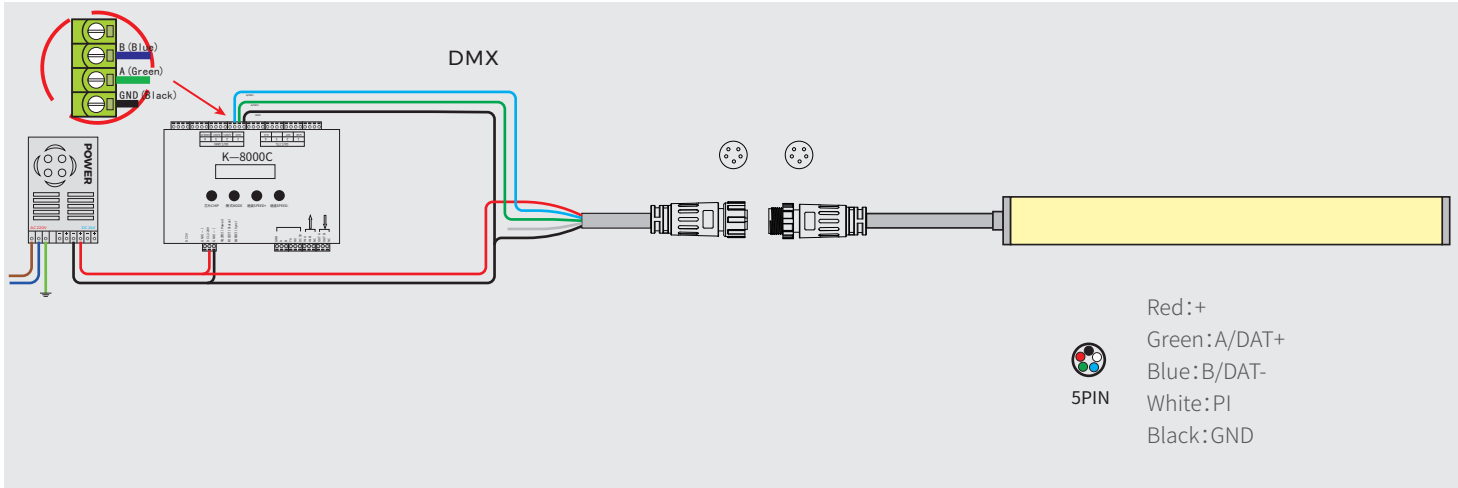
Product Picture	Product Name	Product Model	specification	Applicable product
	Monochrome remote	R6-1	output signal：RF Working voltage：3VDC(CR2032) Remote control distance：30m Working temperature:Ta:0-30 ℃~0+55 ℃	Monochrome light strip (Use with CR1-GBA)
	Monotone light controller	CR1-GBA	Input voltage：DC12-48V Output current：15A@12V/24V,10A@36V/48V Output Power：Max 180W@12V/Max 360W @24V/Max 360W@36V/Max 480W@48V Working temperature：-30℃—+55℃	Monochrome light strip (Use with R6-1)
	RGB/RGBW remote control	R8-1	output signal：RF Working voltage：3VDC(CR2032) Remote control distance：30m Working temperature:Ta:0-30 ℃~0+55 ℃	RGB/RGBW light strip (Use with CR3-GBA)
	RGB controller	CR3-GBA	Input voltage：DC12-48V Output current：18A Output Power：Max 216W@12V/Max 432W @24V/Max 648W@36V/Max 864W@48V Working temperature：-30℃—+55℃	RGB light strip (Use with R8-1)
	RGBW controller	CR4-GBA	Input voltage：DC12-48V Output current：20A Output Power：Max 240W@12V/Max 480W@24V Max 720W@36V/Max 960W@48V Working temperature：-30 ℃~+55 ℃	RGBW light strip (Use with R8-1)
	Symphony Controller	K-8000C	Power supply：DC 5V-24V input Power consumption：5W Working temperature：Ta:0-20 ℃~0+85 ℃	DMX/SPI magic lights with universal

【Product Wiring Schematic】





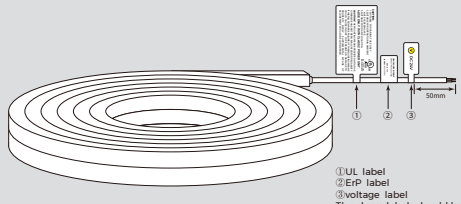




【Packaging Solutions】

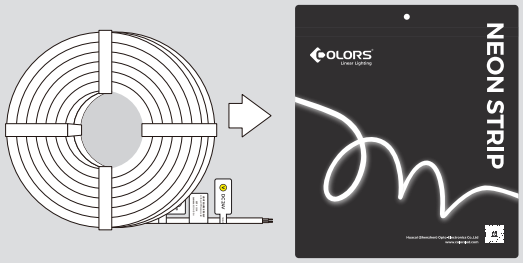
· standard packaging

1

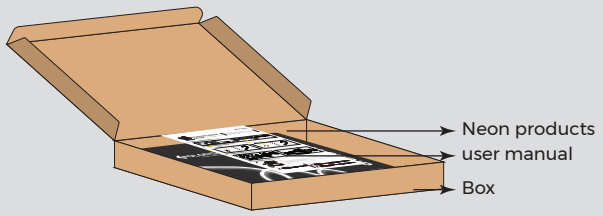


①UL label
②ErP label
③voltage label
The above labels should be used according to the actual situation.

2



3



4



Electrostatic bag label



ErP Electrostatic bag label

* Note the English version of the ESD bag label. Note the UL label template and no UL label template



5



6



Product information label



Carton label

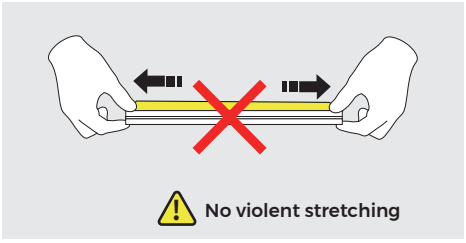


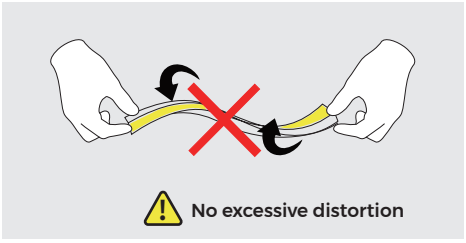
Product Model	Product Size	Quantity of product/Box	Quantity of product/ Cartoon box	Product N.W. (Kg/PCS)	Per Box N.W. (Kg)	G.W. (Kg)	Cartoon box Size (m)
AFS2020- XXX24CSW025CCXXXX -GV10-ENP-ESD	L10000*20*20mm	10M*1*3	30M	4.5	13.5	15	0.48*0.48*0.23
AFS2020L- XXX24CSW025CCXXXX -GV10-ENP-ESD	L15000*20*20mm	15M*1*3	45M	6.8	20.4	21.9	0.48*0.48*0.23
AFS2020- 0X24CSW025CCXXXX -GV10-ENP-ESD	L10000*20*20mm	10M*1*3	30M	4.5	13.5	15	0.48*0.48*0.23
AFS2020- XXX48CSW025CCXXXX -GV10-ENP-ESD	L20000*20*20mm	20M*1*3	60M	9	27	29	0.625*0.625*0.23
AFS2020- 0RGB24CSW025CCXXXX -GV10-ENP-ESD	L5000*20*20mm	5M*1*4	20M	2.2	8.78	11.3	0.41*0.41*0.26
AFS2020- 0RGBXW24CSW025CCXXXX -GV10-ENP-ESD	L5000*20*20mm	5M*1*4	20M	2.2	8.78	11.3	0.41*0.41*0.26
AFS2020- 9XWM24CDW025CCXXXX -GV10-ENP-ESD	L5000*20*20mm	5M*1*4	20M	2.2	8.78	11.3	0.41*0.41*0.26
AFS2020- 0RGBM24CDW025CCXXXX -GV10-ENP-ESD	L5000*20*20mm	5M*1*4	20M	2.2	8.78	11.3	0.41*0.41*0.26
AFS2020- 0RGBXWM24CDW025CCXXXX -GV10-ENP-ESD	L5000*20*20mm	5M*1*4	20M	2.2	8.78	11.3	0.41*0.41*0.26

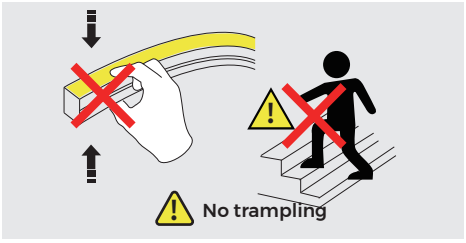
【Reliability test】

test item	Classification	Reference	Test method or condition	Results
Safety test	Mechanical strength	IEC 60598-1；IEC 60598-2-21	The hammer spring Impact energy 0.7J	P
	IP	IEC 60598-1；IEC 60598-2-21	IP67	P
	Winding Test	IEC 60598-1；IEC 60598-2-21	ϕ150mm cylinder, 60N pull, winding 10 times at (-25°C ±2°C), and 10 times after(-15°C±2°C, 16h).	P
	Cold Bend Test	IEC 60598-1；IEC 60598-2-21	wound on mandrel, low-temperature (-15°C±2°C, 16h), around the mandrel for two turns	P
	Cold Impact test	IEC 60598-1；IEC 60598-2-21	Low-temperature (-15°C±5°C, 16h), hammer falls from a height of 100mm.	P
	Insulation Resistance	IEC 60598-1；IEC 60598-2-21	≦ 2MΩ	P
	Electrical strength	IEC 60598-1；IEC 60598-2-21	500V	P
Mechanical reliability testing	Bending test	Colors	Each 200mm，bending up and down 100 times	P
	Bending test	Colors	Each 200mm, bending left and right 100 times	P
	Torsion test	Colors	Twist clockwise 2 times and then release, repeat 3000 times	P
	Disassembly and assembly test	Colors	Repeat disassembly and assembly, 10 times	P
Environment Reliability testing	High temperature storing test	IEC 60068-2-2	80°C, 168h	P
	Low temperature storing test	IEC 60068-2-1	'-40°C, 168h	P
	High temperature and Humidity impact	IEC 60068-2-78	60°C, 85%RH	P
	Salt Spray test	IEC 60068-2-11	5% salt solution concentration, 24h	P
	IK	IEC 62262	5 times of impact on each exposed surface	P
	Lifetime aging test	Colors	35°C, 6000h	P
	switch test	Colors	10s On, 10s Off, 10000 times	P

【Precautions】







· Please use an isolated power supply to drive the LED light bar, and the ripple of the constant voltage source is less than 5%. Do not use resistance-capacitance step-down, non-isolated power supplies to drive the LED light bar.

· In actual applications, the power supply should reserve a margin of 20% (it is recommended to use only 80% of the power) to ensure sufficient voltage to drive the product.

· Please operate carefully, do not touch the AC power terminal when the power is on to prevent electric shock.

· Pay attention to the positive and negative poles of the power cord, and do not connect it wrongly. Whether the voltage of the power supply and the product are the same, so as to avoid damage to the product.

· During the installation process, please avoid scratching, twisting and irregular bending of the product, otherwise it may cause irreparable damage to the product.

· In order to ensure the life and reliability of the light strip, please do not bend it in an arc with a radius of less than 90mm. A too small bending radius will damage the product itself.

· If the actual application length exceeds the specified use length, it will cause the lamp belt to overload and heat, and the brightness is uneven.

· In order to prevent your eyes from being hurt, try to avoid staring at the light-emitting surface of the light bar for a long time.

· Non-professionals are prohibited from installing, disassembling and repairing the product.

· It is strictly forbidden to use any acidic or alkaline adhesives to fix products (including but not limited to glass glue, etc.).

· IP67 protection products are not suitable for swimming pool underwater.

· Products of different sizes and specifications under the same color temperature value due to structural differences, the final color of the product is slightly deviated, and it must be confirmed before use.

· When the IP67 protection product is installed and applied, the waterproof level needs to be downgraded after self-processing and cutting.

· Please use professional cutting tools when cutting.

· Due to the characteristics of the silicone material, it is normal for the color of the colloid to change slightly after the neon product is used for a long time.

. It is strictly forbidden to use 502/705 and other adhesives that are prone to chemical reactions with silica gel during construction and installation. It is recommended to use silicone sealant for bonding.

. Long-term storage and the remaining products after cutting and use must be sealed to avoid exposure to organic environments such as aldehydes/benzenes.

. When the product is installed and used, it is recommended that the product as a whole be in the same environmental conditions to avoid inconsistent color changes of the product colloid due to differences in product exposure and environmental conditions.

. Due to the characteristics of silicone products with a certain degree of flexibility coupled with the structural design characteristics of the principle of side-bending products to the use of the process in the reverse direction (light-emitting surface or the direction of the bottom surface) bending will be slightly bulging (does not affect the light-emitting effect and installation) is a normal phenomenon can be rest assured that the use of the product.