

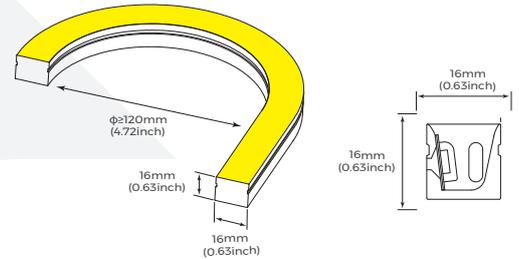
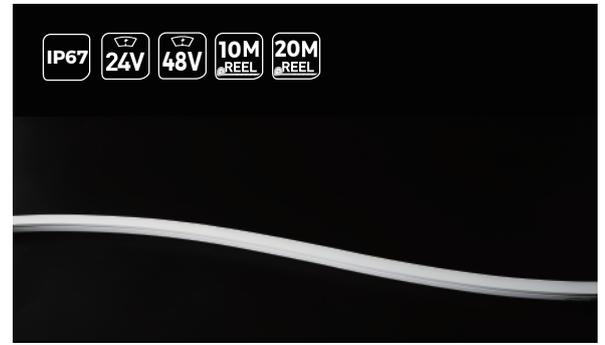
AF Series Specification

AFS1616



【Features】

- 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;
- 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.



Note: DMX-R≥80mm(3.15inch)

【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 | |
|---|-----------|-------------|------------------|-------------------|---------------------|--------------------|---------------------|---------------|---------------------|---|------------|
| AFS1616- 9XX24 CSW025CCXXXX -GV10-ENP-ESD | | 2600-2830K | >90 | 24V | 0.42 (0.13A/ft) | 10 (3.05W/ft) | 11 (3.35W/ft) | 553(168/ft) | 10000mm (32.8ft) | 16LED /50mm | |
| | | 2920-3170K | | | | | | 596(182/ft) | | | |
| | | 3770-4220K | | | | | | 685(209/ft) | | | |
| | | 6000-7000K | | | | | | 661(202/ft) | | | |
| AFS1616- 9XX48 CSW025CCXXXX -GV10-ENP-ESD | | 2600-2830K | >90 | 48V | 0.21 (0.06A/ft) | 10 (3.05W/ft) | 11 (3.35W/ft) | 494(151/ft) | 20000mm (65.6ft) | 32LED /100mm | |
| | | 2920-3170K | | | | | | 546(166/ft) | | | |
| | | 3770-4220K | | | | | | 602(184/ft) | | | |
| AFS1616- ORGB24 CSW025CCXXXX -CV10-ENP-ESD | | / | / | 24V | 0.5 (0.15A/ft) | 12 (3.65W/ft) | 13.2 (4.02W/ft) | / | 5000mm (16.4ft) | 6LED /50mm | |
| | | 620-625nm | | | | | | | | | |
| | | 515-520nm | | | | | | | | | |
| AFS1616- ORGBXW24 CSW025CCXXXX -GV10-ENP-ESD | | W~2700K | RGB+(2550-2800K) | 24V | 0.5 (0.15A/ft) | 12 (3.65W/ft) | 13.2 (4.02W/ft) | 120(37/ft) | 5000mm (16.4ft) | 7LED /83.3mm | |
| | | W~3000K | RGB+(2800-3200K) | | | | | / | | | 140(43/ft) |
| | | W~4000K | RGB+(3900-4350K) | | | | | / | | | 140(43/ft) |
| AFS1616- ORGBM24 CDW025CCXXXX -GV10-ENP-ESD (DMX512-RGB) | | / | / | 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 | |
| | | 620-625nm | | | | | | | | | |
| | | 515-520nm | | | | | | | | | |
| | | 455-460nm | | | | | | | | | |

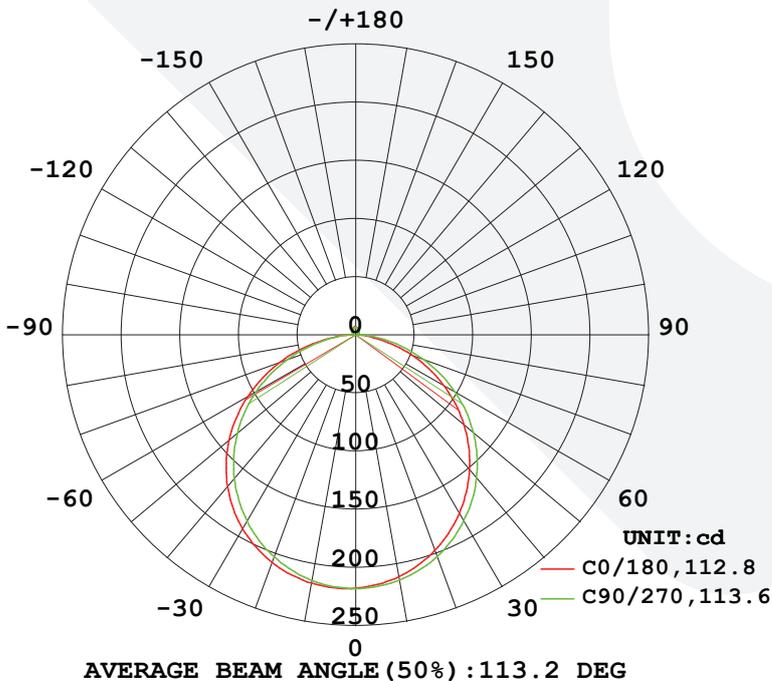
【Basic Parameters】

| 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 |
|---|-------------------------------|--|-----|-------------------|---------------------|--------------------|---------------------|---|---------------------|--|
| AFS1616-ORGBXWM24 CDW025CCXXXX -GV10-ENP-ESD (DMX512-RGBW) | 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) | 138(42/ft) 179(55/ft) 175(53/ft) | 5000mm (16.4ft) | 7LED/83.3mm DMX-IC:(UCS512H4LB) 12Pixels/m |
| AFS1616- 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) | 420(128/ft) 530(162/ft) 570(174/ft) | 5000mm (16.4ft) | 7LED/83.3mm DMX-IC:(UCS512H4LB) 12Pixels/m |
| AFS1616L- 9XX24 CSW025CCXXXX -GV10-ENP-ESD | 2700K 3000K 4000K | 2600-2830K 2920-3170K 3770-4220K | >90 | 24V | 0.21 (0.07A/ft) | 5 (1.53W/ft) | 5.5 (2.75W/ft) | 295(90/ft) 310(95/ft) 335(102/ft) | 15000mm (49.2ft) | 16LED /50mm |
| AFS1616- OX24 CSW025CCXXXX -GV10-ENP-ESD | 515-525nm 450-460nm | / | / | 24V | 0.42 (0.12A/ft) | 10 (3.05W/ft) | 11 (3.35W/ft) | / | 10000mm (32.8ft) | 16LED /50mm |

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 $\pm 15\%$;
3. The above parameters are typical values.

【Light Distribution】



Light distribution

Flux out: 465.4 lm

| Height | Eavg, Emax | Angle: 112.78deg | Diameter |
|--------|-----------------|------------------|-----------|
| 1m | 62.47, 218.31x | | 300.91cm |
| 2m | 15.62, 54.561x | | 601.81cm |
| 3m | 6.941, 24.251x | | 902.72cm |
| 4m | 3.904, 13.641x | | 1203.63cm |
| 5m | 2.499, 8.7301x | | 1504.54cm |
| 6m | 1.735, 6.0631x | | 1805.44cm |
| 7m | 1.275, 4.4541x | | 2106.35cm |
| 8m | 0.9761, 3.4101x | | 2407.26cm |
| 9m | 0.7712, 2.6941x | | 2708.17cm |
| 10m | 0.6247, 2.1831x | | 3009.07cm |

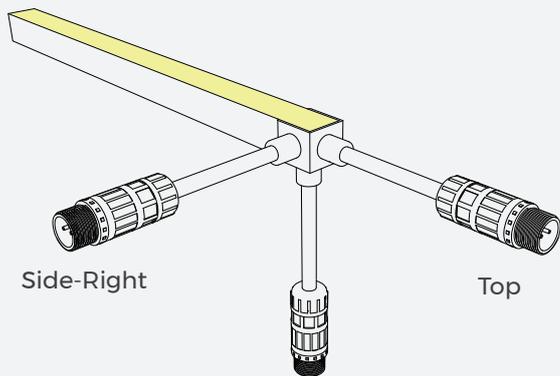
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

Effective average illuminance

Note: The above data is based on 24V monochrome 4000K color temperature. If you need other models of IES files, please consult with the sales staff.

[Product mechanical parameters]

• IP67 molded end cap (ENP)



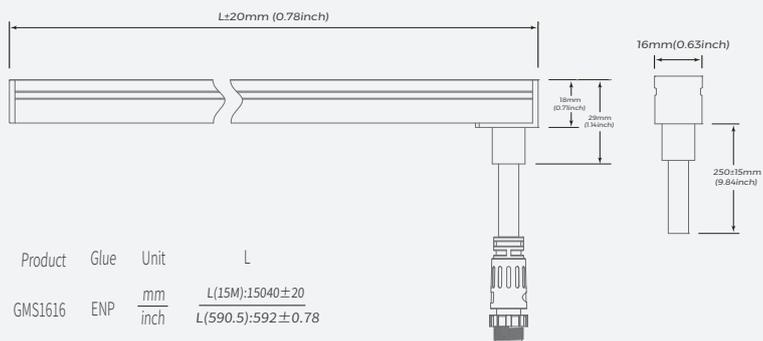
Side-Right

Top

Bottom

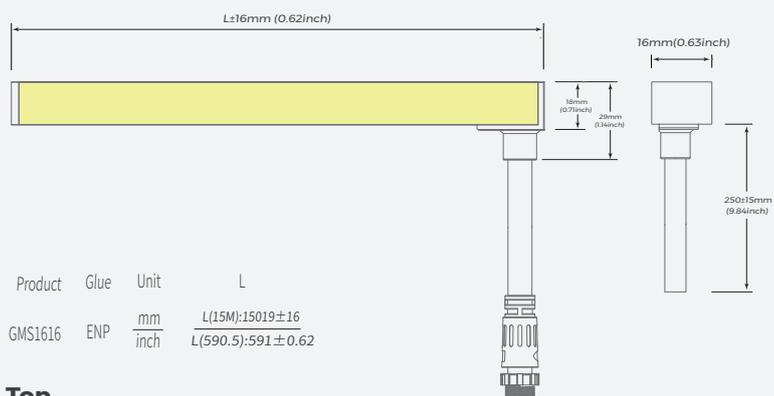
(about 2 cm dark)

• Bottom



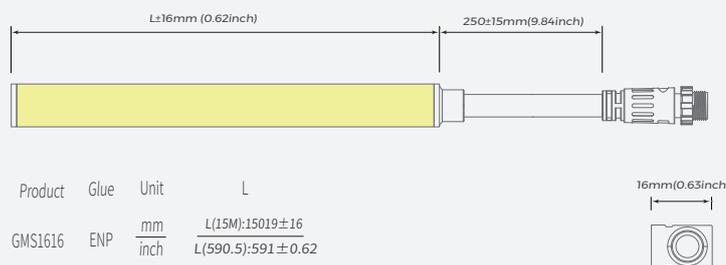
| Product | Glue | Unit | L |
|---------|------|-------------------|--|
| GMS1616 | ENP | $\frac{mm}{inch}$ | $L(15M):15040 \pm 20$ $L(590.5):592 \pm 0.78$ |

• Side-Right



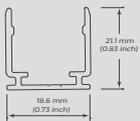
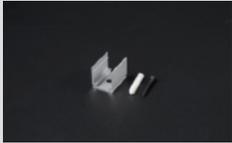
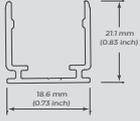
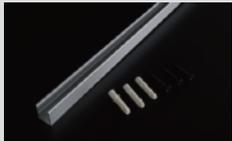
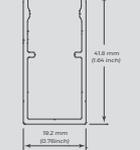
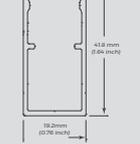
| Product | Glue | Unit | L |
|---------|------|-------------------|--|
| GMS1616 | ENP | $\frac{mm}{inch}$ | $L(15M):15019 \pm 16$ $L(590.5):591 \pm 0.62$ |

• Top



| Product | Glue | Unit | L |
|---------|------|-------------------|--|
| GMS1616 | ENP | $\frac{mm}{inch}$ | $L(15M):15019 \pm 16$ $L(590.5):591 \pm 0.62$ |

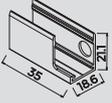
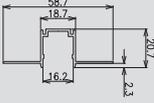
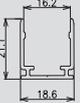
[Accessory information]

| 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/T1616A-1000 | 40 | 0.21 | 8.64 | 10.59 | 1180*135*130 | Size: L1000*W18.6* H21.1mm with screw |
| Aluminum clip | Flat mounting clip |  |  | AS-GMS/T1616A-25 | 720 | 0.005 | 5.04 | 5.34 | 250*250*150 | Size: L25*W18.6* H21.1mm with screw |
| Aluminium carrier | Aluminum groove with reserved wire outlet |  |  | AS-GMS/T1616A1-1000 | 20 | 0.44 | 8.92 | 10.87 | 1180*135*130 | Size: L1000*W19.2* H41.8mm with screw |
| Aluminum clip | clip with reserved wire outlet |  |  | AS-GMS/T1616A1-25 | 400 | 0.0106 | 5.04 | 5.34 | 250*250*150 | Size: L25*W19.2* H41.8mm 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-009 (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-0012 (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-GMS1616GH0-EC | 400 | 0.0025 | 1.034 | 1.334 | 250*250*150 | / |
| Plug | Silicone Plug Set. Includes plug and plug end (Side) |  | / | AS-GMS1616GS0-EC | 400 | 0.0037 | 1.488 | 1.788 | 250*250*150 | / |

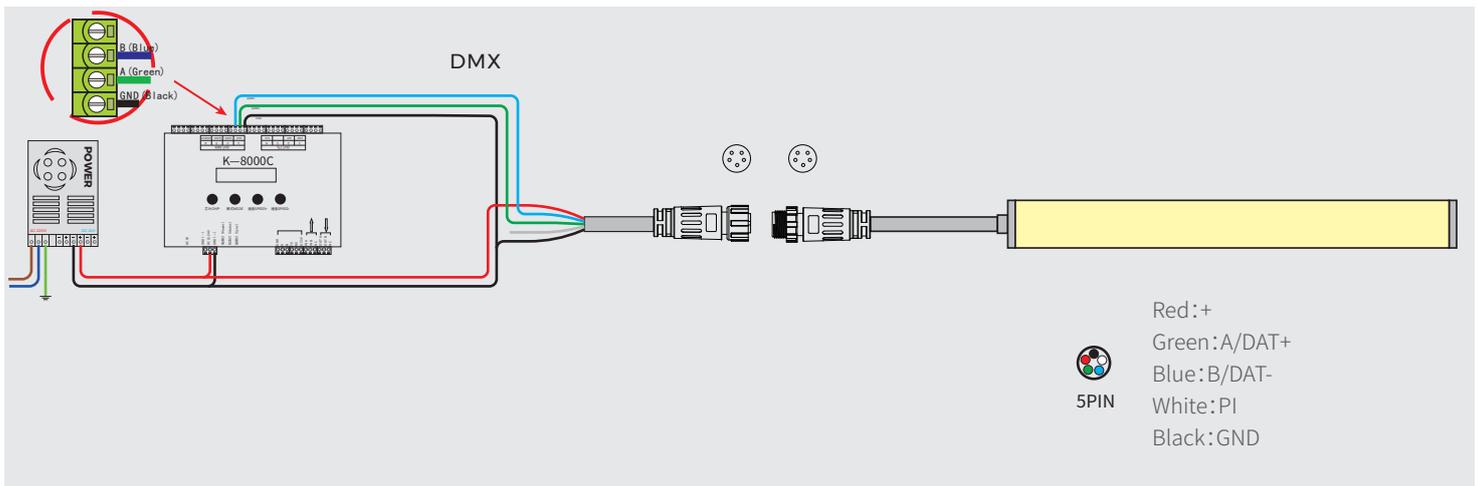
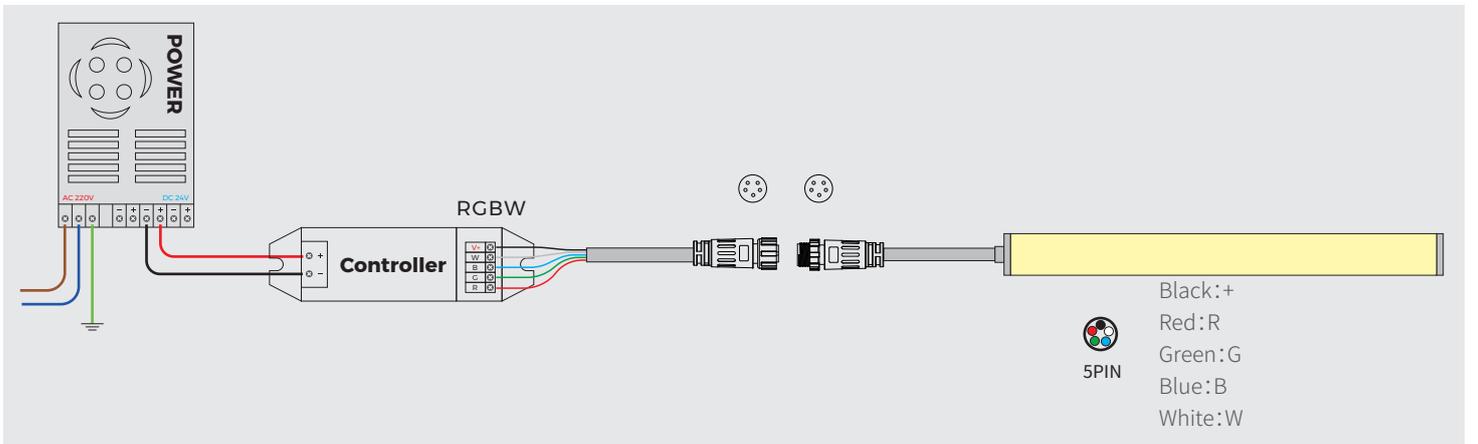
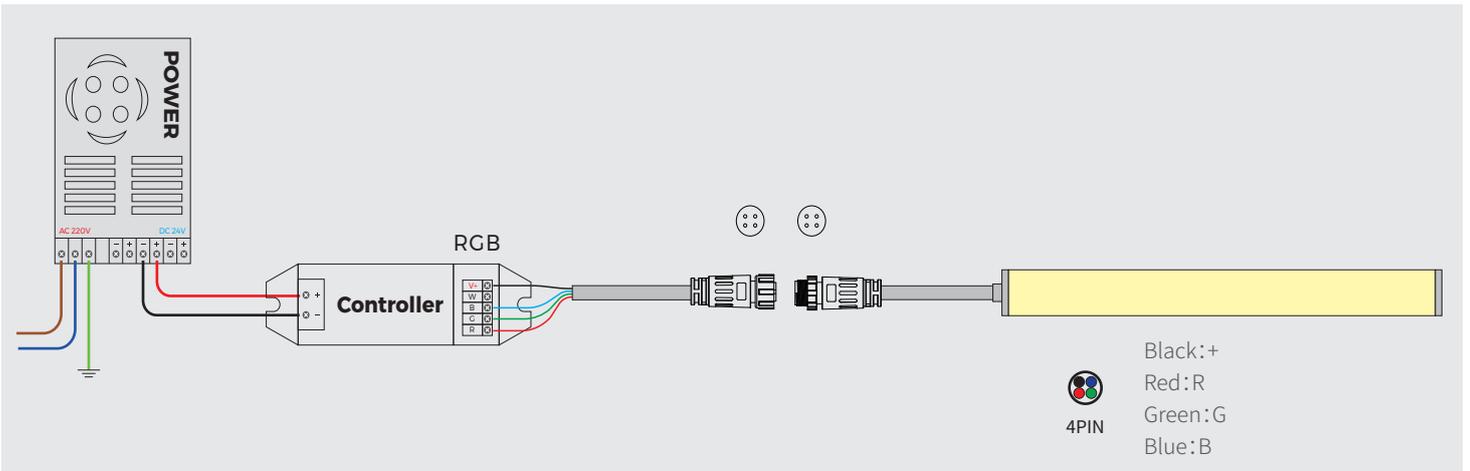
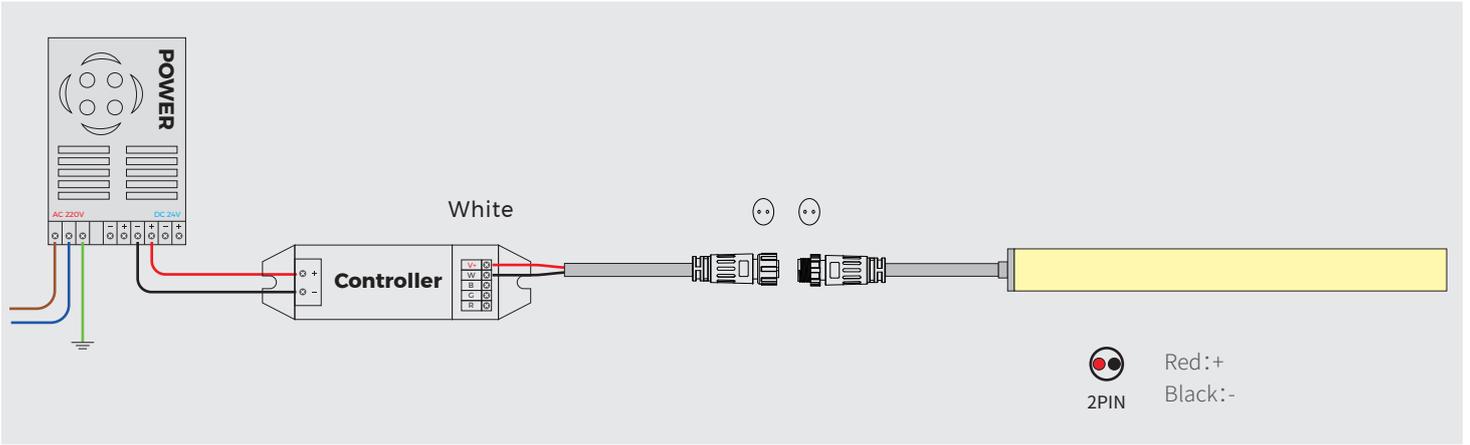
[Accessory information]

| 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 | Side opening card slot |  | / | AS-AFS(T)1616A4-1000 | 40 | 0.21 | 8.64 | 10.59 | 1180*135*130 | Size: L1000*W18.6* H21.1mm with screw |
| Aluminum clip | Side opening clip |  |  | AS-AFS(T)1616A4-35 | 240 | 0.007 | 1.76 | 2.06 | 250*250*150 | Size: L35*W18.6* H21.1mm with screw |
| Aluminium carrier | Recessed Shaped Slot |  |  | AS-AFS(T)1616A5-1000 | 12 | 0.26 | 3.12 | 5.07 | 1180*135*130 | Size: L1000*W58.7* H20.7mm with screw |
| Aluminium carrier | Stylable installation Groove |  |  | AS-AFS(T)1616M-1000 | 40 | 0.21 | 8.64 | 10.59 | 1180*135*130 | Size: L1000*W18.6* H21.1mm with screw |

[Product control system solutions]

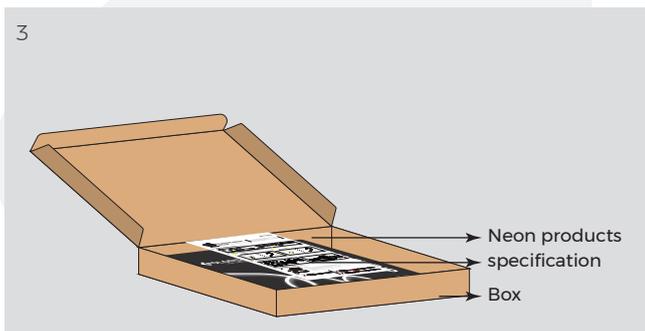
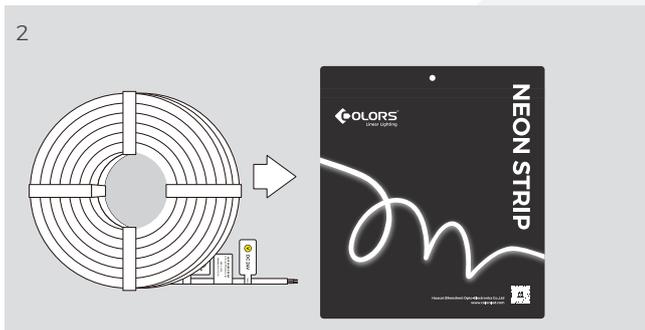
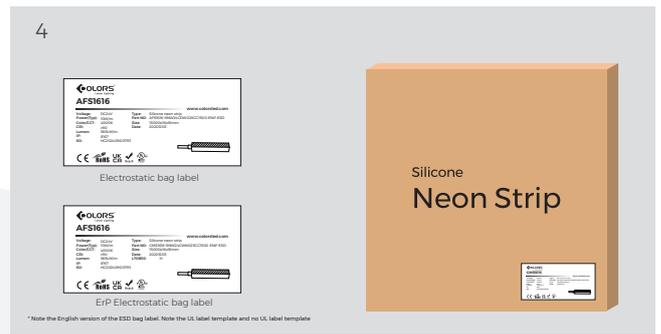
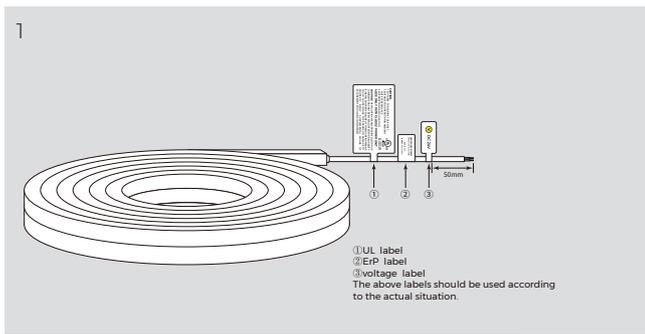
| Product Picture | Product Name | Product Model | specification | Applicable product |
|---|---------------------------|---------------|--|--|
|  | Monochrome remote | R6-1 | output signal: RF Working voltage: 3VDC(CR2032) Remote control distance: 30m Working temperature: Ta:0-30 C -0+55 C | Monochrome 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 C - +55 C | Monochrome light strip (Use with CR1-GBA) |
|  | RGB/RGBW remote control | R8-1 | output signal: RF Working voltage: 3VDC(CR2032) Remote control distance: 30m Working temperature: Ta:0-30 C -0+55 C | 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 C - +55 C | RGB light strip (Use with CK4-GBA) |
|  | 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 C - +55 C | RGBW light strip (Use with CK4-GBA) |
|  | Symphony Controller | K-8000C | Power supply: DC 5V-24V input Power consumption: 5W Working temperature: Ta:0-20 C -0+85 C | DMX/SPI magic lights with universal |

[Product Wiring Schematic]



[Packaging Solutions]

· standard packaging

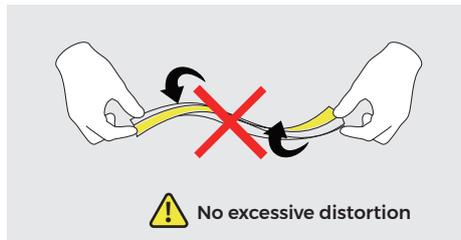
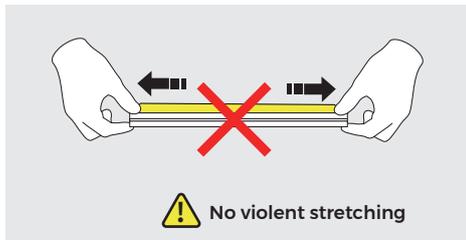


| Product Model | Product Size | Quantity of product/Box | Quantity of product/ Cartoon box | Product N.W. (Kg/PCS) | Per Box N.W. (Kg) | G.W. (Kg) | Cartoon box Size (m) |
|---|----------------|-------------------------|----------------------------------|-------------------------|---------------------|-------------|----------------------|
| AFS1616- XXX24CSW025CCXXX -GV10-ENP-ESD | L10000*16*16mm | 10M*1*4 | 40M | 3 | 12 | 13.5 | 0.41*0.41*0.26 |
| AFS1616L- XXX24CSW025CCXXX -GV10-ENP-ESD | L15000*16*16mm | 15M*1*3 | 45M | 4.5 | 13.5 | 15 | 0.48*0.48*0.23 |
| AFS1616- 0X24CSW025CCXXX -GV10-ENP-ESD | L10000*16*16mm | 10M*1*4 | 40M | 3 | 12 | 13.5 | 0.41*0.41*0.26 |
| AFS1616- XXX48CSW025CCXXX -GV10-ENP-ESD | L20000*16*16mm | 20M*1*3 | 60M | 6 | 18 | 19.5 | 0.48*0.48*0.23 |
| AFS1616- ORGB24CSW025CCXXX -GV10-ENP-ESD | L5000*16*16mm | 5M*3*4 | 60M | 1.5 | 18 | 20.2 | 0.41*0.41*0.26 |
| AFS1616- ORGBXW24CSW025CCXXX -GV10-ENP-ESD | L5000*16*16mm | 5M*3*4 | 60M | 1.5 | 18 | 20.2 | 0.41*0.41*0.26 |
| AFS1616- 9XWM24CSW025CCXXX -GV10-ENP-ESD | L5000*16*16mm | 5M*3*4 | 60M | 1.5 | 18 | 20.2 | 0.41*0.41*0.26 |
| AFS1616- ORGBM24CSW025CCXXX -GV10-ENP-ESD | L5000*16*16mm | 5M*3*4 | 60M | 1.5 | 18 | 20.2 | 0.41*0.41*0.26 |
| AFS1616- ORGBXWM24CSW025CCXXX -GV10-ENP-ESD | L5000*16*16mm | 5M*3*4 | 60M | 1.5 | 18 | 20.2 | 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 60mm/80mm (DMX) . 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.
- When using dimmer and dimming power supplies like Triac, etc, conduct compatibility tests on the product, dimmers and power supplies to ensure full compatibility. If any issues arise, contact COLORS for technical support.