

# Product Specification

## DC Flexible LED Strip

### 2835 6LEDs/unit Series

2835 Top LED 8mm FPC 060LEDs/M

WW-FLS102T23XW060X-24(WCP)-XR

&

WW-FLS102T23XW060X-24(WCP)-XR-EP



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









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<p><b>Product Features</b></p> <ul style="list-style-type: none"> <li>• High quality FPC, authentic 3M tape;</li> <li>• Self-encapsulated design 2835 LED;</li> <li>• Light source lifetime:50K hours(L70);</li> <li>• Meet (EU)2019/2020 ErP regulations.</li> <li>• Min. Bending Diameter: <math>\Phi 60\text{mm}</math></li> <li>• Max. length(M): 5M</li> </ul>	
<p><b>Technology info</b></p> <ul style="list-style-type: none"> <li>• Lighting Technology: LED</li> <li>• DLS or NDLS: NDLS</li> <li>• MLS or NMLS: NMLS</li> </ul>	<p><b>Certification Standards</b></p> <ul style="list-style-type: none"> <li>• EN55015:2019</li> <li>• EN61547:2009</li> <li>• EN60598-1:2015</li> <li>• EN60598-2-20:2015</li> <li>• EN62493:2015</li> <li>• EN62471:2008</li> </ul>

<b>Non-ErP Waterproof Type</b>	 <b>B 20</b>	 <b>S 54</b>	 <b>K 54/65</b>	 <b>F 65</b>	 <b>R 67</b>	 <b>RW 67</b>	 <b>C 68</b>	 <b>E 67</b>	 <b>D 54</b>
	Naked Strip	Silicone Dropping	Silicone Extrusion	Silicone Tube	Silicone Extrusion	Silicone Extrusion	PU Dropping +PVC Extrusion	PVC Extrusion	PU Dropping
	5 Years Warranty	3 Years Warranty	5 Years Warranty	5 Years Warranty	5 Years Warranty	5 Years Warranty	1 Years Warranty	2 Years Warranty	2 Years Warranty

<b>ErP Waterproof Type</b>	 <b>B 20</b>	 <b>F 65</b>	 <b>R 67</b>
	Naked Strip	Silicone Tube	Silicone Extrusion
	5 Years Warranty	5 Years Warranty	5 Years Warranty

WW-FLS102T23XW060X-24(WCP)-XR

Parameters for non-Erp

IP Grade	Model NO.	CRI (Ra)	Rf	Rg	Typical Power (W/M)	Max. Power (W/M)	Color	LED Color Temp.(K) Wavelength(nm)*	3SDCM LED Color Temp.(K) Wavelength(nm)**	Typ. Luminous Flux LM/M(39.37in)	Rated voltage
B 20	WW-FLS102T23XW060B-24(WCP)-HR	80	82	96	4.72	5.19	Warm White	2500K	/	435	DC 24V
							Warm White	2700K	2700K	490	
							Warm White	3000K	3000K	510	
							Natural White	4000K	4000K	530	
							Standard White	6000K	/	530	
	WW-FLS102T23XW060B-24(WCP)-UR	90	90	100	4.72	5.19	Warm White	2700K	2700K	404	DC 24V
							Warm White	3000K	3000K	436	
							Natural White	4000K	4000K	464	
							Standard White	6000K	/	476	
							Warm White	2500K	/	409	
S 54	WW-FLS102T23XW060S-24(WCP)-HR	80	82	96	4.72	5.19	Warm White	2700K	2700K	405	DC 24V
							Warm White	3000K	3000K	419	
							Natural White	4000K	4000K	412	
							Standard White	6000K	/	382	
							Warm White	2500K	/	409	
	WW-FLS102T23XW060S-24(WCP)-UR	90	90	100	4.72	5.19	Warm White	2700K	2700K	335	DC 24V
							Warm White	3000K	3000K	346	
							Natural White	4000K	4000K	378	
							Warm White	2700K	2700K	383	
							Warm White	2700K	2700K	387	
E 67	WW-FLS102T23XW060E-24(WCP)-HR	80	82	96	4.72	5.19	Warm White	3000K	3000K	400	DC 24V
							Natural White	4000K	4000K	431	
							Standard White	6000K	/	426	
							Warm White	2700K	2700K	302	
							Warm White	3000K	3000K	315	
	WW-FLS102T23XW060E-24(WCP)-UR	90	90	100	4.72	5.19	Natural White	4000K	4000K	353	DC 24V
							Warm White	2700K	2700K	346	
							Warm White	3000K	3000K	365	
							Natural White	4000K	4000K	403	
							Warm White	2500K	/	413	
K 54	WW-FLS102T23XW060K-24(WCP)-HR	80	82	96	4.72	5.19	Warm White	2700K	2700K	423	DC 24V
							Warm White	3000K	3000K	437	
							Natural White	4000K	4000K	466	
							Standard White	6000K	/	466	
							Warm White	2700K	2700K	346	
	WW-FLS102T23XW060K-24(WCP)-UR	90	90	100	4.72	5.19	Warm White	3000K	3000K	365	DC 24V
							Natural White	4000K	4000K	403	
							Warm White	2500K	/	446	
							Warm White	2700K	2700K	465	
							Warm White	3000K	3000K	485	
F 65	WW-FLS102T23XW060F-24(WCP)-HR	80	82	96	4.72	5.19	Natural White	4000K	4000K	505	DC 24V
							Standard White	6000K	/	505	
							Warm White	2700K	2700K	380	
							Warm White	3000K	3000K	410	
							Natural White	4000K	4000K	430	
	WW-FLS102T23XW060F-24(WCP)-UR	90	90	100	4.72	5.19	Standard White	6000K	/	430	DC 24V
							Warm White	2500K	/	423	
							Warm White	2700K	2700K	455	
							Warm White	3000K	3000K	475	
							Natural White	4000K	4000K	485	
R 67	WW-FLS102T23XW060R-24(WCP)-HR	80	82	96	4.72	5.19	Standard White	6000K	/	485	DC 24V
							Warm White	2700K	2700K	380	
							Warm White	3000K	3000K	400	
							Natural White	4000K	4000K	435	
							Standard White	6000K	/	435	
	WW-FLS102T23XW060R-24(WCP)-UR	90	90	100	4.72	5.19	Warm White	2500K	/	423	DC 24V
							Warm White	2700K	2700K	455	
							Warm White	3000K	3000K	475	
							Natural White	4000K	4000K	485	
							Standard White	6000K	/	485	

RW 67	WW-FLS102T23XW060R-24(WCP)-HR-W	80	82	96	4.72	5.19	Warm White	2500K	/	405	DC 24V
							Warm White	2700K	2700K	409	
							Warm White	3000K	3000K	423	
							Natural White	4000K	4000K	451	
							Standard White	6000K	/	446	
	WW-FLS102T23XW060R-24(WCP)-UR-W	90	90	100	4.72	5.19	Warm White	2700K	2700K	356	DC 24V
							Warm White	3000K	3000K	357	
							Natural White	4000K	4000K	386	
C 68	WW-FLS102T23XW060C-24(WCP)-HR	80	82	96	4.72	5.19	Warm White	2500K	/	383	DC 24V
							Warm White	2700K	2700K	383	
							Warm White	3000K	3000K	386	
							Natural White	4000K	4000K	377	
		WW-FLS102T23XW060C-24(WCP)-UR	90	90	100	4.72	5.19	Warm White	2700K	2700K	317
Warm White								3000K	3000K	334	
Natural White								4000K	4000K	340	
D 54	WW-FLS102T23XW060D-24(WCP)-HR	80	82	96	4.72	5.19	Warm White	2500K	/	418	DC 24V
							Warm White	2700K	2700K	423	
							Warm White	3000K	3000K	419	
							Natural White	4000K	4000K	397	
		WW-FLS102T23XW060D-24(WCP)-UR	90	90	100	4.72	5.19	Warm White	2700K	2700K	346
Warm White								3000K	3000K	365	
Natural White								4000K	4000K	374	

Remarks:

- \*The above color temperature is the color temperature of LED source.
- \*\*Indicates SDCM<3 model is available, part number will add the suffix "-3S".
- The typ. Luminous flux tolerance range is  $\pm 10\%$  (subject to the manufacturer's instrument test).

Test condition of above technical data:

- Surrounding temperature: 26°C.
- Test while turning on.

WW-FLS102T23XW060X-24(WCP)-XR-EP

Parameters for Erp

IP Grade	Model NO.	CRI (Ra)	Rf	Rg	Typical Power (W/M)	Max. Power (W/M)	Color	LED Color Temp.(K) Wavelength(nm)*	Luminous Flux LM/M(39.37')	Lumen/watt	Energy Efficiency class	Rated voltage
E 20	WW-FLS102T23XW060B-24(WCP)-HR-EP	80	82	96	4.76	5.24	Warm White	2700K	533	112	E	DC 24V
							Warm White	3000K	554	116	E	
							Natural White	4000K	578	121	E	
							Standard White	6000K	578	121	E	
	WW-FLS102T23XW060B-24(WCP)-UR-EP	90	90	100	4.76	5.24	Warm White	2700K	442	93	F	DC 24V
							Warm White	3000K	476	100	F	
							Natural White	4000K	509	107	F	
							Standard White	6000K	522	110	F	
F 65	WW-FLS102T23XW060F-24(WCP)-HR-EP	80	82	96	4.76	5.24	Warm White	2700K	509	107	F	DC 24V
							Warm White	3000K	533	112	E	
							Natural White	4000K	554	116	E	
							Standard White	6000K	554	116	E	
	WW-FLS102T23XW060F-24(WCP)-UR-EP	90	90	100	4.76	5.24	Warm White	2700K	418	88	F	DC 24V
							Warm White	3000K	453	95	F	
							Natural White	4000K	476	100	F	
							Standard White	6000K	476	100	F	
R 67	WW-FLS102T23XW060R-24(WCP)-HR-EP	80	82	96	4.76	5.24	Warm White	2700K	498	105	F	DC 24V
							Warm White	3000K	522	110	F	
							Natural White	4000K	533	112	E	
							Standard White	6000K	533	112	E	
	WW-FLS102T23XW060R-24(WCP)-UR-EP	90	90	100	4.76	5.24	Warm White	2700K	418	88	F	DC 24V
							Warm White	3000K	442	93	F	
							Natural White	4000K	476	100	F	
							Standard White	6000K	487	102	F	

Remarks:

- \*The above color temperature is the color temperature of LED source.
- While SDCM<3 model is available, part number will add the suffix "-3S".

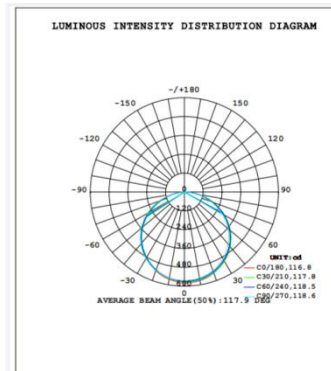
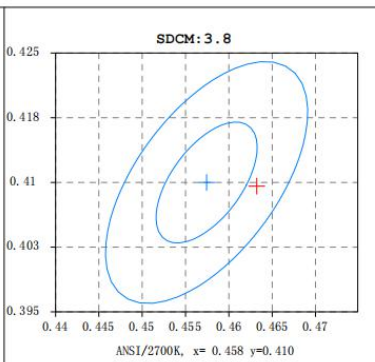
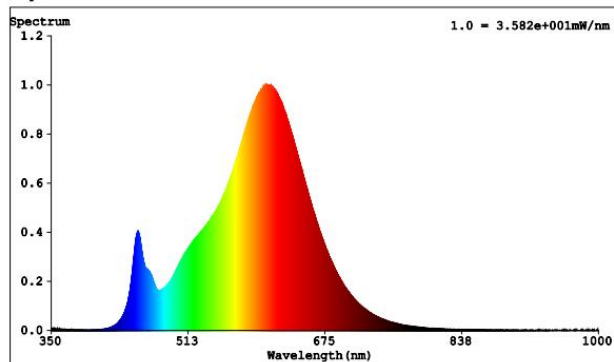
Test condition of above technical data:

- Surrounding temperature: 26 °C.
- Test after 10 mins turned on.

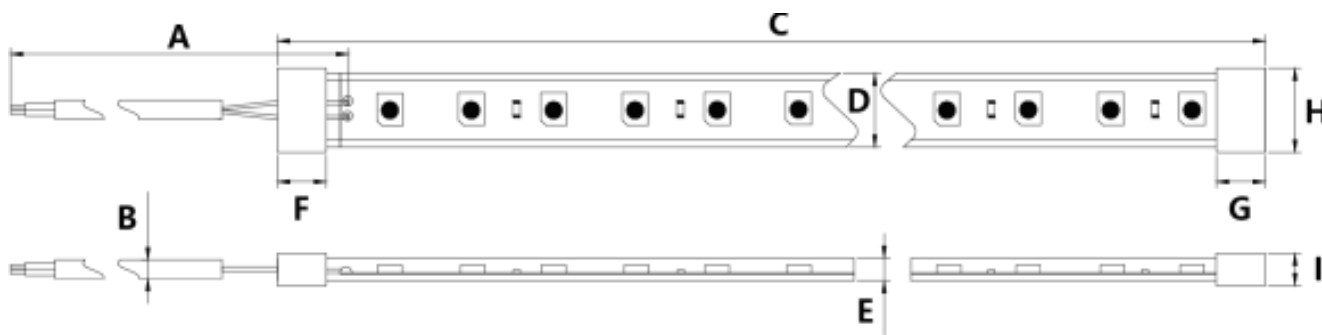
ErP Note:

- According to the new ErP 2019/2020 regulation for each 0.5m or nearest 0.5m strip, the following requirements must be met:
- Measured power ≤ Pon +5% ;
- Measured lumen ≥Useful luminous flux -10%;
- Measured CRI ≥ Declared CRI-2
- The above technical data, including typical power are based on the test of 0.5m.

Optical Test Diagram



## Dimension Drawing

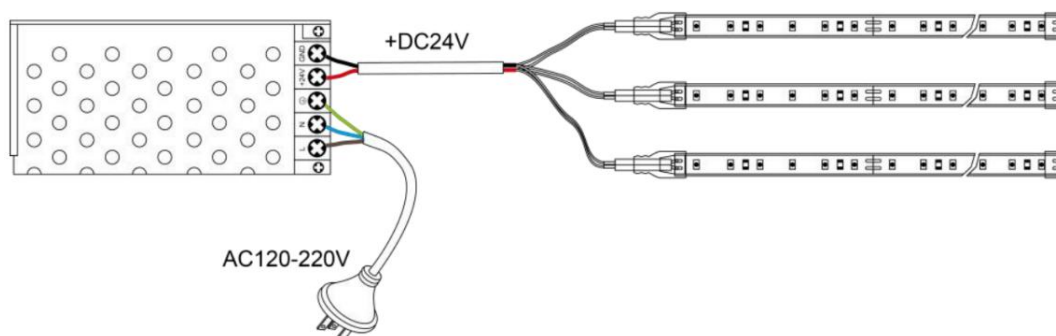


IP Grade	A Cable Length	B cable diameter	C Strip length	D Strip width	E Strip thickness	F Front cap length	G End cap length	H Cap width	I Cap thickness
B 20	300±10mm	Φ4.0±0.2mm	5000±50mm	8±0.5mm	1.2±0.5mm	/	/	/	/
	11.81±0.39in	0.16±0.01in	196.85±1.97in	0.32±0.02in	0.047±0.02in	/	/	/	/
D 54	300±10mm	Φ4.0±0.2mm	5000±50mm	8±0.5mm	2.6±0.5mm	/	/	/	/
	11.81±0.39in	0.16±0.01in	196.85±1.97in	0.32±0.02in	0.102±0.02in	/	/	/	/
S 54	300±10mm	Φ4.0±0.2mm	5000±50mm	8±0.2mm	2.3±0.5mm	/	/	/	/
	11.81±0.39in	0.16±0.01in	196.85±1.97in	0.32±0.008in	0.091±0.02in	/	/	/	/
K 54	300±10mm	Φ4.0±0.2mm	5020±50mm	9.2±0.2mm	4±0.2mm	/	/	/	/
	11.81±0.39in	0.16±0.01in	197.64±1.97in	0.32±0.008in	0.16±0.01in	/	/	/	/
F 65	300±10mm	Φ4.0±0.5mm	5000±50mm	10±0.5mm	4.0±0.5mm	22.5±0.5mm	10±0.5mm	12.5±0.5mm	6.0±0.5mm
	11.81±0.39in	0.16±0.02in	196.85±1.97in	0.39±0.02in	0.16±0.02in	0.89±0.02in	0.39±0.02in	0.49±0.02in	0.24±0.02in
E 67	300±10mm	Φ4.0±0.2mm	5020±50mm	10.5±0.5mm	5.5±0.5mm	27.5±0.5mm	12.5±0.5mm	13.5±0.5mm	7.5±0.5mm
	11.81±0.39in	0.16±0.01in	197.64±1.97in	0.41±0.02in	0.22±0.02in	1.08±0.02in	0.49±0.02in	0.53±0.02in	0.30±0.02in
R 67	300±10mm	Φ5±0.5mm	5000±50mm	10±0.25mm	5±0.25mm	30±2mm	11±0.5mm	12±0.5mm	7.0±0.5mm
	11.81±0.39in	0.235±0.02 in	196.85±1.97in	0.39±0.01in	0.20±0.01in	1.18±0.08in	0.43±0.02in	0.47±0.02in	0.28±0.02in
RW 67	300±10mm	Φ5.8±0.2mm	5020±50mm	10±0.5mm	5±0.5mm	30±0.5mm	11±0.5mm	12.0±0.5mm	7.0±0.5mm
	11.81±0.39in	0.23±0.008 in	197.64±1.97in	0.39±0.02in	0.20±0.02in	1.18±0.02in	0.43±0.02in	0.47±0.02in	0.28±0.02in
C 68	300±10mm	Φ4.0±0.2mm	5020±50mm	11.5±0.5mm	4.5±0.5mm	27.5±0.5mm	12.5±0.5mm	13.5±0.5mm	7.5±0.5mm
	11.81±0.39in	0.16±0.008in	197.64±1.97in	0.45±0.02in	0.18±0.02in	1.08±0.02in	0.49±0.02in	0.53±0.02in	0.30±0.02in












### Remarks:

- If you need further information, please contact our sales manager.

## Circuit Diagram
























## Standard Accessories

IP Level	Category	Description	Picture	Part No.	Application
E 20	/	/	/	/	/
	/	/	/	/	/
D 54	/	/	/	/	/
	/	/	/	/	/
S 54	/	/	/	/	/
	/	/	/	/	/
K 54/65	/	/	/	/	/
	Installation Accessories	Installation Buckle+Screws		WW-FLS102JJA-MC	Waterproof strip
F 65	Connection Accessories	Front cap+End cap+Cable		WW-FLS102F-CW (10mm)	8mm Type F
	Installation Accessories	Installation Buckle+Screws		WW-FLS102JJA-MC	Waterproof strip
E 67	Connection Accessories	Front cap+End cap+Cable		WW-FLS102E-CW (10mm)	8mm Type E
	Installation Accessories	Installation Buckle+Screws		WW-FLS102JJA-MC	Waterproof strip
R 67	Connection Accessories	Front cap+End cap+Cable		WW-FLS102F-CW (10mm)	8mm Type R
	Installation Accessories	Installation Buckle+Screws		WW-FLS102JJA-MC	Waterproof strip
RW 67	Connection Accessories	Front cap+End cap+Cable		WW-FLS102F-CW (10mm)	8mm Type RW
	Installation Accessories	Installation Buckle+Screws		WW-FLS102JJA-MC	Waterproof strip
C 68	Connection Accessories	Front cap+End cap+Cable		WW-FLS102F-CW (10mm)	8mm Type C
	Installation Accessories	Installation Buckle+Screws		WW-FLS102JJA-MC	Waterproof strip

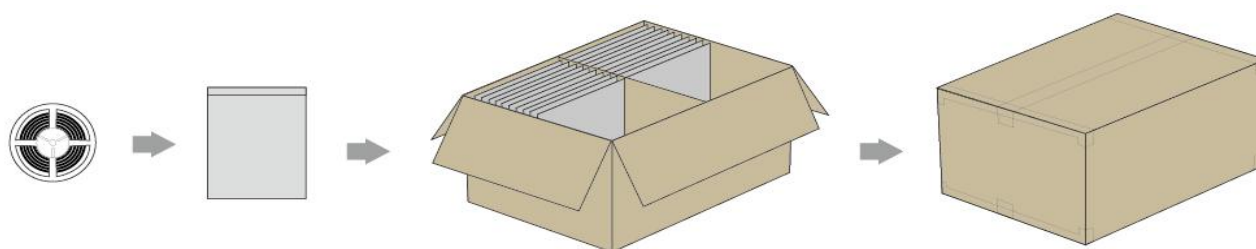


## Standard Accessories

IP Level	Category	Description	Picture	Part No.	Density
20	Strip to wire Connector	2PIN Strip to wire Connector		WW-FLS102B-FS2 (8mm)	≤120LEDs/M
	Strip to wire Connector	2PIN Strip to wire Connector		WW-MLB-00SE2XB-08	≤120LEDs/M
	Strip to wire Connector	2PIN Strip to wire Connector		WW-F2B-PWP2T-08	≤120LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		WW-FLS102B-DD2(8MM)	≤120LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		FLS102B-2FD2(8mm)	≤120LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		WW-MLB-00SE2BB-08	≤120LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		WW-F2B-POP2T-08	≤120LEDs/M
54	Quick Connector	2PIN Connector		WW-FLS102D-2DD2(8MM)	≤120LEDs/M
	Quick Connector	2PIN Transparent Connector		WW-MLB-00DJ2BB-08	≤120LEDs/M
	Strip to wire Connector	2PIN Transparent Strip to wire Connector		WW-MLB-00SE2XB-08	≤120LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		WW-FLS102D-FD2(8MM)	≤120LEDs/M
54	Quick Connector	2PIN Connector		WW-FLS102D-2DD2(8mm)	≤120LEDs/M
	Quick Connector	2PIN Transparent Connector		WW-MLB-00DJ2BB-08	≤120LEDs/M
	Strip to wire Connector	2PIN Transparent Strip to wire Connector		WW-MLB-00SE2XB-08	≤120LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		WW-FLS102D-FD2(8mm)	≤120LEDs/M
54/65	Quick Connector	2PIN Transparent Connector		WW-MLB-00DJ2BB-8K	≤120LEDs/M
	Strip to wire Connector	2PIN Transparent Strip to wire Connector		WW-MLB-00DJ2XB-8K	≤120LEDs/M
65	/	/	/	/	/
67	/	/	/	/	/
67	Strip to wire Connector	2PIN Strip to wire Connector		WW-F2R-SW02T-08-300(22)	≤120LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		WW-F2R-SOP2T-08	≤120LEDs/M

IP Level	Category	Description	Picture	Part No.	Density
RW 67	Strip to wire Connector	2PIN Strip to wire Connector		WW-F2R-SW02T-08-300(22)	≤120LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		WW-F2R-SOP2T-08	≤120LEDs/M
68	/	/	/	/	/

## Packaging Diagram













## Packaging information

















Ingress protection rating	Bag size	Inner carton		Outer carton		N.W	G.W	Outer carton volume
		Size	Reel/ctn	Size	Reel/ctn			
B 20	250*270*0.14mm	/	/	440*400 *260mm	60	4.2KG ±10%	9.59 KG ±10%	0.04576 m3
	9.84*10.63*0.0056 in	/	/	17.32*15.748 *10.236 in	60	9.25 Lbs ±10%	21.14Lbs ±10%	1.616 ft3
D 54	250*270*0.14mm	/	/	440*400 *260mm	60	8.76KG ±10%	13.33KG ±10%	0.04576 m3
	9.84*10.63*0.0056 in	/	/	17.32*15.748 *10.236 in	60	19.27 Lbs ±10%	29.326Lbs ±10%	1.616 ft3
S 54	250*270*0.14mm	/	/	440*400 *260mm	60	9.6KG ±10%	10.89KG ±10%	0.04576 m3
	9.84*10.63*0.0056 in	/	/	17.32*15.748 *10.236 in	60	21.16Lbs ±10%	24.01 Lbs ±10%	1.616 ft3
K 54/65	250*270*0.14MM	/	/	440*400*260mm	50	9.648KG ±10%	17.62KG ±10%	0.0458m3
	9.54*10.63*0.0056in	/	/	17.32*15.75*10.24in	50	21.27Lbs ±10%	38.85Lbs ±10%	1.62ft3
F 65	250*270*0.14mm	/	/	440*400 *260mm	40	9.92KG ±10%	13.67KG ±10%	0.04576 m3
	9.84*10.63*0.0056 in	/	/	17.32*15.748 *10.236 in	40	21.87Lbs ±10%	30.13Lbs ±10%	1.616 ft3
E 67	270*300*0.14MM	/	/	520*370 *300mm	36	8.28KG ±10%	13.57KG ±10%	0.0578m3
	10.63*11.81*0.0056 in	/	/	20.5*14.57 *11.81 in	36	18.216Lbs ±10%	29.85Lbs ±10%	2.04ft3
R 67	270*300*0.14MM	/	/	L520*W370*H300mm	36	6.3KG ±10%	11.73KG ±10%	0.0578m3
	10.63*11.81*0.0056 in	/	/	20.5*14.6*11.81in	36	13.89 Lbs ±10%	25.86Lbs ±10%	2.04ft3
RW 67	270*300*0.14MM	/	/	L520*W370*H300mm	36	6.925KG ±10%	15.49 KG ±10%	0.0578m3
	10.63*11.81*0.0056 in	/	/	20.5*14.6*11.81in	36	15.267 Lbs ±10%	34.15 Lbs ±10%	2.04ft3
C 68	270*300*0.14MM	/	/	L520*W370*H300mm	36	11.52KG ±10%	15.73KG ±10%	0.0578m3
	10.63*11.81*0.0056 in	/	/	20.5*14.6*11.81in	36	25.344Lbs ±10%	34.61Lbs ±10%	2.04ft3


### Remarks :


- Please contact our sales manager for customized package (color box, blister etc.)


 **Cautions**

IP20	IP54	IP65	IP67	IP68
				
Do not press the surface of LED	Pay attention to high temperature environment	Do not use in strong water waves environment	Resist strong water waves impact	Can apply to underwater do not deeper than 1m
				
Pay attention to damp-proof and dustproof	Do not apply to rainy environment	Can be applied to rainy environment	Do not apply to underwater environment for a long time	No direct sunlight

							
Do not tie a knot	Do not winding	Do not twist	Do not cut when it is working	Recommended the continuous working time do not exceed 12 hours daily	-20°C~+45°C (-4°F~+113°F)	0°C~+60°C (32°F~+140°F)	Operated by professionals
							
Pay attention to the application environment	IP Level will change after cutting	Do not pull and crash	Connected to power supply every 5 meters	Power supply must be connected to ground(GND)	The minimum bending diameter > 60mm	Power supply retain > 20%	Note the positive and negative poles

 For cutting LED strip operation, it is necessary to use the standard accessories provided by Dilux (e.g. DC wire, end-cap, front-cap, adhesive, etc.), and according to the correct cutting and connecting method for the installation.

 For avoiding LED get vulcanized, LED strip should be installed in the environment where does not has oil and corrosive substances. Such as these substances which contain Sulphur, Bromine, Iodine and Chlorine. Some other chemical elements which will cause Aromatic hydrocarbons releasing(such as: methylbenzene, xylene, methyl acetoacetate Ethyl acetate etc.),The environment in which includes strong acid and strong base.

 During the warranty period, only defective products are acceptable to be replaced by the factory. Factory is not responsible for other expenses because of replacement, such as transportation fee, installation fee, etc..

**\*\* If you do not follow the above "Cautions" to operate and result in damaging the product, the factory will not accept maintenance and return. \*\***  
**\*\*The right of final interpretation is owned by Dilux.**