

# Product Specification

## DC Flexible LED Strip

### 2835 8LEDs/unit Series

2835 Top LED 8mm FPC 160LEDs/M

WW-FLS102T28XW160X-24(WCP)-XR-S-CV-HE  
&  
WW-FLS102T28XW160X-24(WCP)-XR-S-CV-HE-EP



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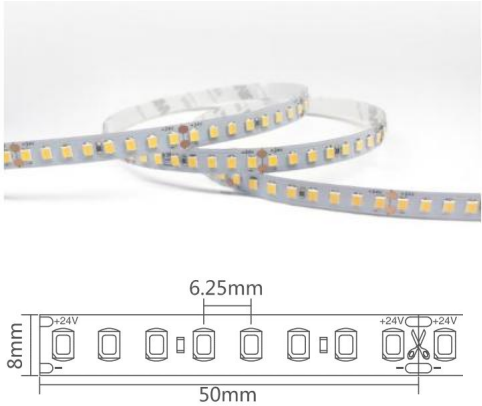
Fax : (852) 3152 3039












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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: Φ60mm</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>F 65</b>	 <b>R 67</b>	 <b>RW 67</b>	 <b>RM 67</b>
	Naked Strip	Silicone Dropping	Silicone Tube	Silicone Extrusion	Silicone Extrusion	Silicone Extrusion
	5 Years Warranty	3 Years Warranty	5 Years Warranty	5 Years Warranty	5 Years Warranty	5 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-FLS102T28XW160X-24(WCP)-XR-S-CV-HE

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
E 20	WW-FLS102T28XW160B-24(WCP)-HR-S-CV-HE	80	82	96	12.00	13.20	Warm White	2500K	/	1620	DC 24V
							Warm White	2700K	2650-2770K	1680	
							Warm White	3000K	2960-3110K	1730	
							Natural White	4000K	3840-4080K	1780	
							Standard White	6000K	/	1770	
	WW-FLS102T28XW160B-24(WCP)-UR-S-CV-HE	90	90	100	12.00	13.20	Warm White	2500K	/	1320	DC 24V
							Warm White	2700K	2650-2770K	1360	
							Warm White	3000K	2960-3110K	1440	
							Natural White	4000K	3840-4080K	1520	
							Standard White	6000K	/	1520	
F 65	WW-FLS102T28XW160F-24(WCP)-HR-S-CV-HE	80	82	96	12.00	13.20	Warm White	2500K	/	1550	DC 24V
							Warm White	2700K	2650-2770K	1610	
							Warm White	3000K	2960-3110K	1660	
							Natural White	4000K	3840-4080K	1700	
							Standard White	6000K	/	1690	
	WW-FLS102T28XW160F-24(WCP)-UR-S-CV-HE	90	90	100	12.00	13.20	Warm White	2500K	/	1260	DC 24V
							Warm White	2700K	2650-2770K	1300	
							Warm White	3000K	2960-3110K	1380	
							Natural White	4000K	3840-4080K	1450	
							Standard White	6000K	/	1450	
S 54	WW-FLS102T28XW160S-24(WCP)-HR-S-CV-HE	80	82	96	12.00	13.20	Warm White	2500K	/	1525	DC 24V
							Warm White	2700K	2650-2770K	1530	
							Warm White	3000K	2960-3110K	1575	
							Natural White	4000K	3840-4080K	1495	
							Standard White	6000K	/	1400	
	WW-FLS102T28XW160S-24(WCP)-UR-S-CV-HE	90	90	100	12.00	13.20	Warm White	2500K	/	1280	DC 24V
							Warm White	2700K	2650-2770K	1265	
							Warm White	3000K	2960-3110K	1310	
							Natural White	4000K	3840-4080K	1368	
							Standard White	6000K	/	1262	
R 67	WW-FLS102T28XW160R-24(WCP)-HR-S-CV-HE	80	82	96	12.00	13.20	Warm White	2500K	/	1530	DC 24V
							Warm White	2700K	2650-2770K	1590	
							Warm White	3000K	2960-3110K	1640	
							Natural White	4000K	3840-4080K	1690	
							Standard White	6000K	/	1680	
	WW-FLS102T28XW160R-24(WCP)-UR-S-CV-HE	90	90	100	12.00	13.20	Warm White	2500K	/	1250	DC 24V
							Warm White	2700K	2650-2770K	1290	
							Warm White	3000K	2960-3110K	1360	
							Natural White	4000K	3840-4080K	1440	
							Standard White	6000K	/	1440	
RW 67	WW-FLS102T28XW160R-24(WCP)-HR-S-W-CV-HE	80	82	96	12.00	13.20	Warm White	2500K	/	1530	DC 24V
							Warm White	2700K	2650-2770K	1590	
							Warm White	3000K	2960-3110K	1640	
							Natural White	4000K	3840-4080K	1690	
							Standard White	6000K	/	1680	
	WW-FLS102T28XW160R-24(WCP)-UR-S-W-CV-HE	90	90	100	12.00	13.20	Warm White	2500K	/	1250	DC 24V
							Warm White	2700K	2650-2770K	1290	
							Warm White	3000K	2960-3110K	1360	
							Natural White	4000K	3840-4080K	1440	
							Standard White	6000K	/	1440	
RM 67	WW-FLS102T28XW160R-24(WCP)-HR-S-M-CV-HE	80	82	96	12.00	13.20	Warm White	2500K	/	1445	DC 24V
							Warm White	2700K	2650-2770K	1495	
							Warm White	3000K	2960-3110K	1540	
							Natural White	4000K	3840-4080K	1585	
							Standard White	6000K	/	1575	
	WW-FLS102T28XW160R-24(WCP)-UR-S-M-CV-HE	90	90	100	12.00	13.20	Warm White	2500K	/	1175	DC 24V
							Warm White	2700K	2650-2770K	1210	
							Warm White	3000K	2960-3110K	1280	
							Natural White	4000K	3840-4080K	1355	
							Standard White	6000K	/	1355	

## 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-FLS102T28XW160X-24(WCP)-XR-S-CV-HE-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
B 20	WW-FLS102T28XW160B-24(WCP)-HR-S-CV-HE-EP	80	82	96	13.09	14.40	Warm White	2500K	1746	133	E	DC 24V
							Warm White	2700K	1833	140	D	
							Warm White	3000K	1854	142	D	
							Natural White	4000K	1962	150	D	
							Standard White	6000K	1951	149	D	
	WW-FLS102T28XW160B-24(WCP)-UR-S-CV-HE-EP	90	90	100	13.09	14.40	Warm White	2500K	1412	108	F	DC 24V
							Warm White	2700K	1488	114	E	
							Warm White	3000K	1563	119	E	
							Natural White	4000K	1628	124	E	
							Standard White	6000K	1649	126	E	
F 65	WW-FLS102T28XW160F-24(WCP)-HR-S-CV-HE-EP	80	82	96	13.09	14.40	Warm White	2500K	1671	128	E	DC 24V
							Warm White	2700K	1757	134	E	
							Warm White	3000K	1779	136	D	
							Natural White	4000K	1876	143	D	
							Standard White	6000K	1865	142	D	
	WW-FLS102T28XW160F-24(WCP)-UR-S-CV-HE-EP	90	90	100	13.09	14.40	Warm White	2500K	1348	103	F	DC 24V
							Warm White	2700K	1423	109	F	
							Warm White	3000K	1498	114	E	
							Natural White	4000K	1552	118	E	
							Standard White	6000K	1574	120	E	
R 67	WW-FLS102T28XW160R-24(WCP)-HR-S-CV-HE-EP	80	82	96	13.09	14.40	Warm White	2500K	1649	126	E	DC 24V
							Warm White	2700K	1746	133	E	
							Warm White	3000K	1768	135	E	
							Natural White	4000K	1854	142	D	
							Standard White	6000K	1843	141	D	
	WW-FLS102T28XW160R-24(WCP)-UR-S-CV-HE-EP	90	90	100	13.09	14.40	Warm White	2500K	1337	102	F	DC 24V
							Warm White	2700K	1401	107	F	
							Warm White	3000K	1488	114	E	
							Natural White	4000K	1552	118	E	
							Standard White	6000K	1563	119	E	

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".

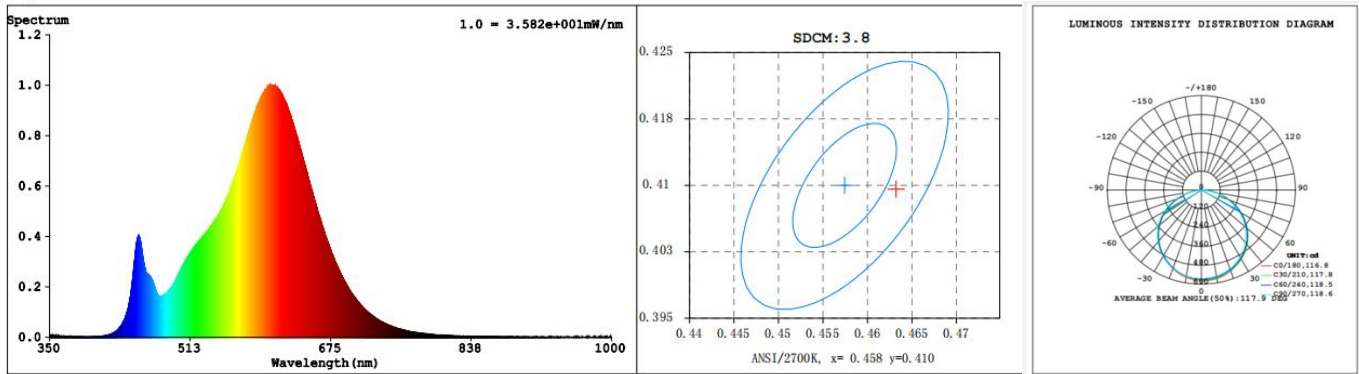
Test condition of above technical data:

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

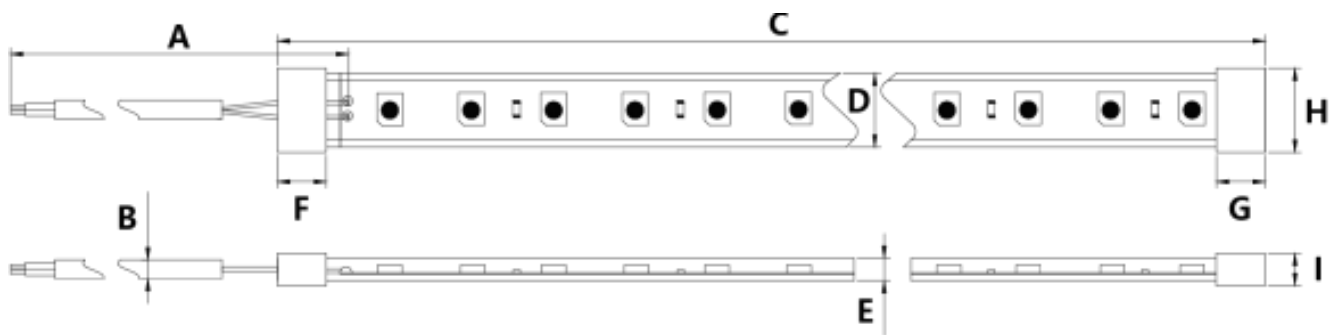
ErP Note:

- 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

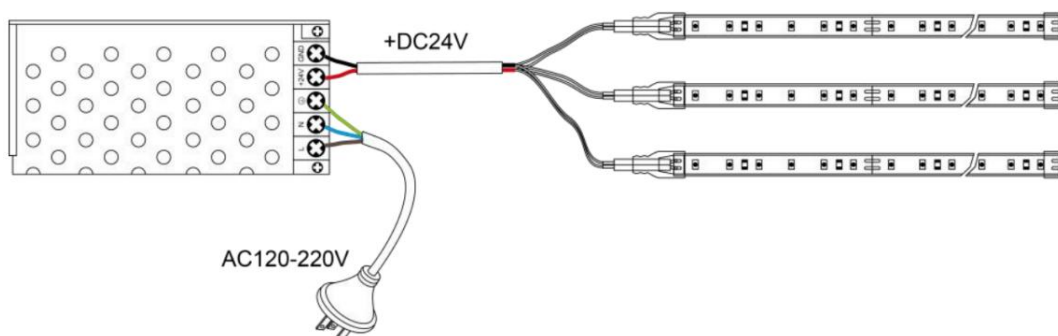


IP Grade	A Cable Length	B cable diameter	C Strip length	D Strip width	E Strip thickness	F Front cap length	G End cap length	H Cap width	I Cap thickness
20	300±10mm	Φ4.0±0.2mm	5000±50mm	8±0.5mm	1.2±0.5mm	/	/	/	/
	11.81±0.39in	0.16±0.01in	196.85±1.97in	0.32±0.02in	0.047±0.02in	/	/	/	/
54	300±10mm	Φ4.0±0.2mm	5000±50mm	8±0.5mm	2.3±0.5mm	/	/	/	/
	11.81±0.39in	0.16±0.01in	196.85±1.97in	0.32±0.02in	0.091±0.02in	/	/	/	/
65	300±10mm	Φ4.0±0.2mm	5020±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±0.01in	197.64±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
67	300±10mm	Φ5.8±0.2mm	5020±50mm	10±0.5mm	5±0.5mm	30±0.5mm	11±0.5mm	12±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
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
RM 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









**Remarks:**

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

## Circuit Diagram



## Standard Accessories

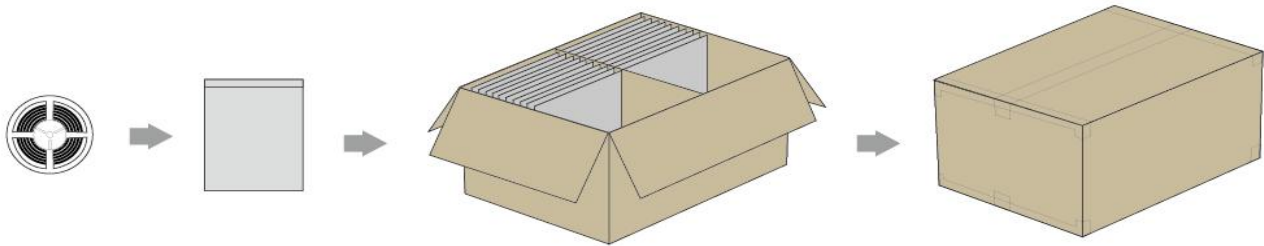
IP Level	Category	Description	Picture	Part No.	Application
B 20	/	/	/	/	/
	/	/	/	/	/
S 54	/	/	/	/	/
	/	/	/	/	/
F 65	Connection Accessories	Front cap+End cap+Cable		WW-FLS102F-CW (10mm)	8mm Type F
	Installation Accessories	Installation Buckle+Screws		WW-FLS102JJA-MC	Waterproof strip
R 67	Connection Accessories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



**Optional Accessories**

IP Level	Category	Description	Picture	Part No.	Density
<b>B 20</b>	Strip to wire Connector	2PIN Strip to wire Connector		WW-F2B-P0W20-08	≤160LEDs/M
	Strip to strip Connector	2PIN Strip to strip Connector		WW-F2B-POP20-08	≤160LEDs/M
<b>S 54</b>	/	/	/	/	/
	/	/	/	/	/
<b>F 65</b>	/	/	/	/	/
	/	/	/	/	/
<b>R 67</b>	/	/	/	/	/
	/	/	/	/	/
<b>RW 67</b>	/	/	/	/	/
	/	/	/	/	/
<b>RM 67</b>	/	/	/	/	/
	/	/	/	/	/

## 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>E 20</b>	250*270*0.14mm	/	/	440*400 *260mm	60	4.2KG ±10%	8.53 KG ±10%	0.05m <sup>3</sup>
	9.84*10.63*0.0056 in	/	/	17.32*15.748 *10.236 in	60	9.26 Lbs ±10%	18.8Lbs ±10%	1.62ft <sup>3</sup>
<b>S 54</b>	250*270*0.14mm	/	/	440*400*260mm	60	9.9KG ±10%	15.29KG ±10%	0.05m <sup>3</sup>
	9.84*10.63*0.0056 in	/	/	17.32*15.748*10.236in	60	21.78Lbs ±10%	33.64 Lbs ±10%	1.62ft <sup>3</sup>
<b>F 65</b>	250*270*0.14mm	/	/	440*400 *260mm	40	7.25KG ±10%	10.13KG ±10%	0.05m <sup>3</sup>
	9.84*10.63*0.0056 in	/	/	17.32*15.75 *10.24 in	40	15.95Lbs ±10%	22.29Lbs ±10%	1.62ft <sup>3</sup>
<b>R 67</b>	270*300*0.14mm	/	/	520*370*300mm	36	10.71 KG ±10%	15.7 KG ±10%	0.06m <sup>3</sup>
	10.63*11.81*0.0056 in	/	/	20.5*14.6*11.81in	36	23.61 Lbs ±10%	34.61 Lbs ±10%	2.04ft <sup>3</sup>
<b>RW 67</b>	270*300*0.14mm	/	/	520*370*300mm	36	10.71KG ±10%	15.71KG ±10%	0.06m <sup>3</sup>
	10.63*11.81*0.0056 in	/	/	20.47*14.57*11.81in	36	23.61Lbs ±10%	34.63Lbs ±10%	2.04ft <sup>3</sup>
<b>RM 67</b>	270*300*0.14mm	/	/	520*370 *300mm	36	6.3KG ±10%	11.73KG ±10%	0.06m <sup>3</sup>
	10.63*11.81*0.0056 in	/	/	20.47*14.57 *11.81in	36	13.89 Lbs ±10%	25.86Lbs ±10%	2.04ft <sup>3</sup>


### 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.**