

20W ALL IN ONE SOLAR LED STREET LIGHT SPECIFICATION





INTRODUCTION

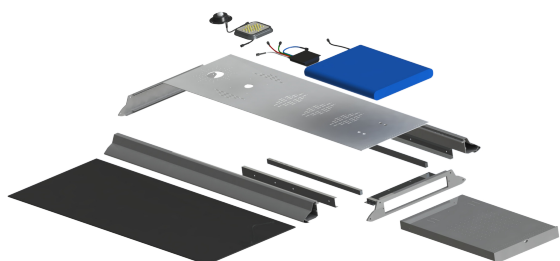
Integrated solar led street light is a new kind of solar led street light for the road lighting. Its solar panel, LED lamp, controller, battery are all integrated inside the lamp then it is very easy for the installation. In addition, there is a brightness sensor on the lamp. If the brightness is enough, the solar panel can absorb the solar energy for battery charging, while if the brightness is not enough, the LED lamp will be on automatically and the battery will supply the energy to the lamp for area illumination. What's more, the lamp can be customized with motion sensor or time control mode. Its brightness standard can be adjusted by movement or time schedule. It has solved the problem of complex installation and expensive transportation compared with traditional solar LED street light.

PRODUCT SPECIFICATION:

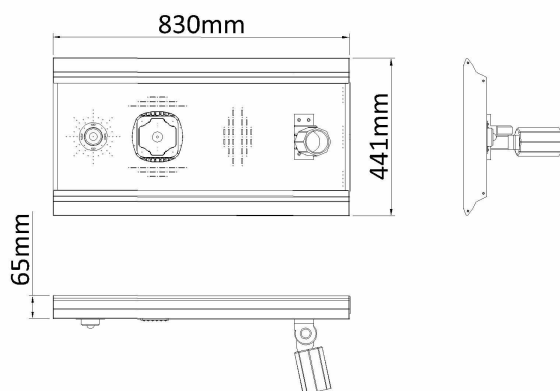
20W All-in-One Solar LED Street Light Parameter

Model No.	DEL-DN1-20W	
LED Watt(W)	20	
LED Chip	LM80 Nichia 3030	
Solar Panel(W)	50	
Lithium Battery(WH)	230	
Beam Angle(°)	140*70	
Color Temperature(K)	2700-6500	
Typical Luminous Flux(LM)	3000	
Lighting Mode	Pole(≤ 8m)	PIR Sensor/Time Control
	Pole(> 8m)	Time Control
Charging Time(Hours)	6	
Min. Working Time(Hours)	Full Bright	11
	Dim Mode	44
Product Size(MM)	830*441*65	
Net Weight(KG)	14.5	
Package Size(MM)	1002*540*160	
Gross Weight(KG)	18	
Height Advice(M)	5-6	
Distance Advice(M)	15-20	
Working Temperature(C)	-20~65	
20" Container(pcs)	342	
40" HQ Container(pcs)	807	

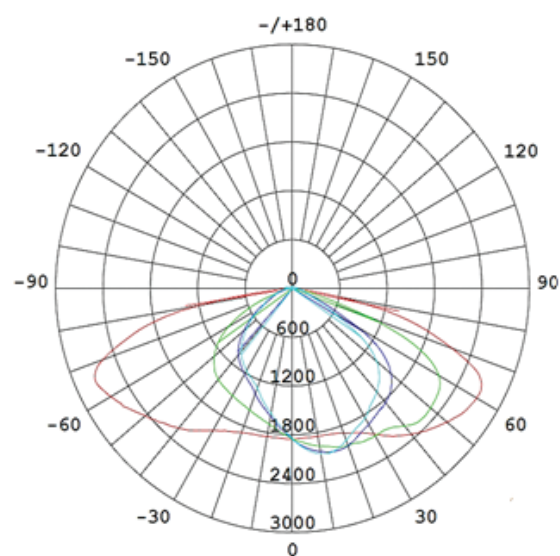
PRODUCT STRUCTURE:



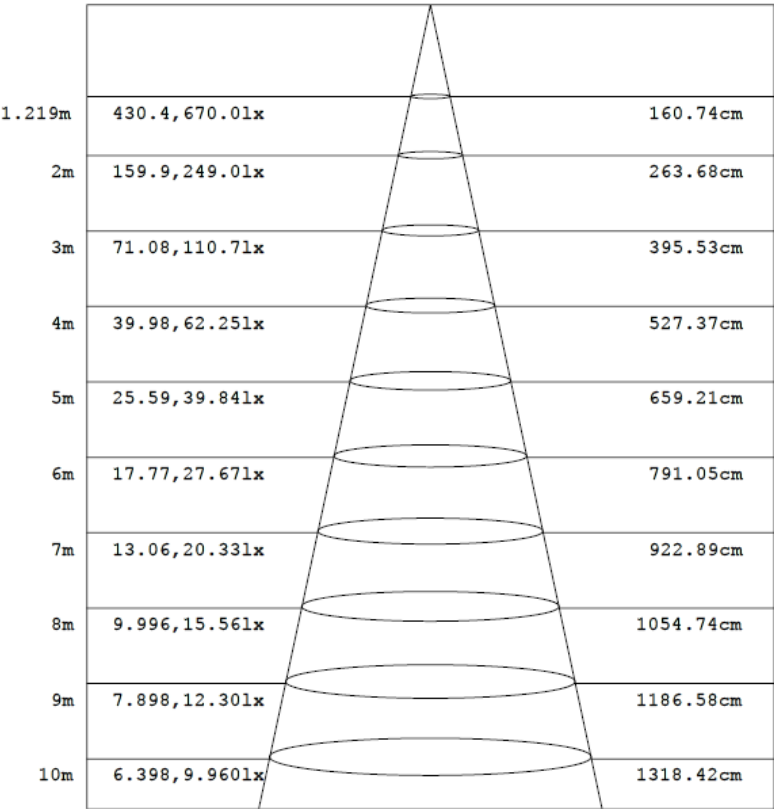
PRODUCT SIZE:



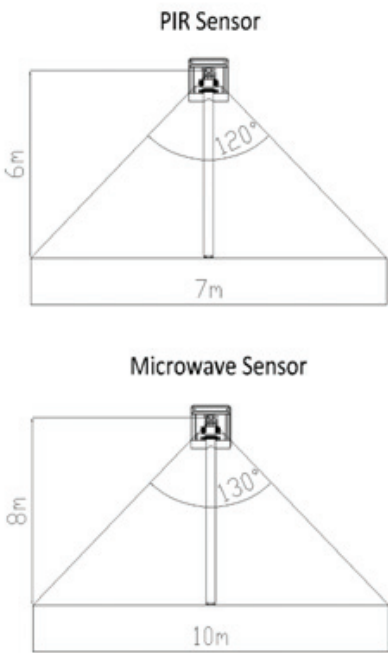
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM:



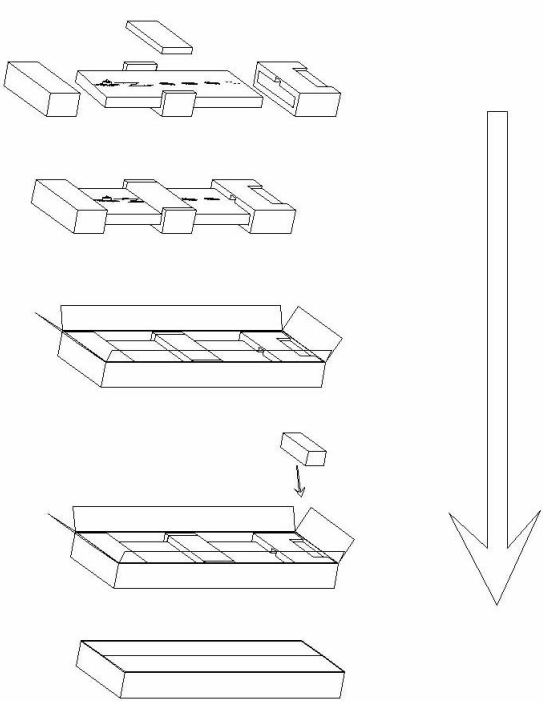
LUMINOUS LUX DIAGRAM



MOTION SENSOR DETECTION:



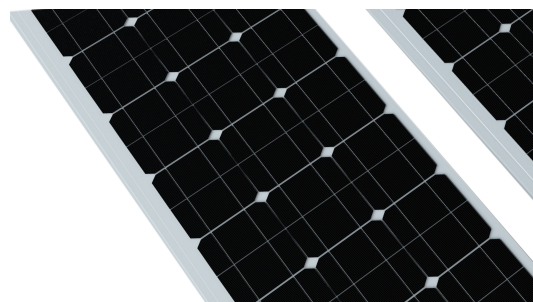
PACKAGE INFORMATION:



Item	Pack	Weight	20" Container	40" Container
DEL-DN1-20W	1002mm*540mm*160mm	14.5kg	342pcs	807pcs

SOLAR PANEL

- Quality solar cells with high solar energy conversion up to 24%
- Mono-crystalline silicon solar cells
- Transparent low-iron tempered glass and anodized aluminum frame to ensure modules working in extreme outdoor environment
- Lifespan up to 25 years (90% power output for 10 years, and 80% power output for 25 years)



Model Name	DEL-MPV-50W
Pm(W)	50
Number of cell(pcs)	18
Cell Dimension (mm)	125*125
Max System Voltage(V)	1000
Vm(V)	18.2
Im(A)	2.74
Voc(V)	22.2
Isc(A)	2.94
Module Size(mm)	390*780
Module Net Weight(kg)	3
Maximum system voltage (V)	1000
Temperature coefficients of Isc (%)	+0.1%/°C
Temperature coefficients of Voc (%)	-0.38%/°C
Temperature coefficients of Pm (%)	-0.47%/°C
Temperature coefficients of Im (%)	+0.1%/°C
Temperature coefficients of Vm (%)	-0.38%/°C
Temperature Range	-40°C---85°C
Surface Maximum Load Capacity	60m/s (200kg/sq.m)
Junction Box Type	PPO, black
Connectors and Cables Type	2*2.5mm ²
Length of Cables (mm)	450
Cell Efficiency (%)	≥19.18%
Output tolerance (%)	± 3%
Glass	High transmissivity low-iron 3.2 mm toughened glass
Frame (Material, Corners, etc.)	Anodized Aluminum Alloy
Standard Test Conditions	AM1.5 100MW/cm2 25°C
Warranty	10 years for the whole product, 90% power for 10years, 80% power for 25 years
FF (%)	≥73.3%

LED

- DEL LED waterproof modular is a classical road lighting solution to customers for all kinds of road. The excellent heat radiation and LED platform ensure long lifetime and reliability
- LM80 Nichia LED inside for low light decay
- Up to 70% energy saving with full compliance to road lighting safety standards compared to HPS & MH
- Professional 3030 LED Street Light Lens for wider and brighter lighting
- Waterproof and replaceable LED modular for easy maintenance



Data Set	Case Temperature ([TS])	Ambient Temperature ([TS])	Drive Current [IF]	Lumen Maintenance at 10,000 hours	Chromaticity Shift ($\Delta u'v'$) at 10,000 hours	TM-21 Projection L70(10K)
1	55°C	>50°C	100 mA	98.1%	0.0014	> 60600 hours
2	55°C	>50°C	150 mA	98.3%	0.0017	> 60400 hours
3	55°C	>50°C	200 mA	98.2%	0.0020	> 60500 hours
4	85°C	>80°C	100 mA	96.4%	0.0014	> 60600 hours
5	85°C	>80°C	150 mA	96.3%	0.0020	> 60400 hours
6	85°C	>80°C	200 mA	93.9%	0.0035	> 55900 hours
7	105°C	>100°C	100 mA	92.3%	0.0019	> 60600 hours
8	105°C	>100°C	150 mA	93.4%	0.0027	> 60400 hours
9	105°C	>100°C	200 mA	90.7%	0.0034	> 42800 hours

BATTERY

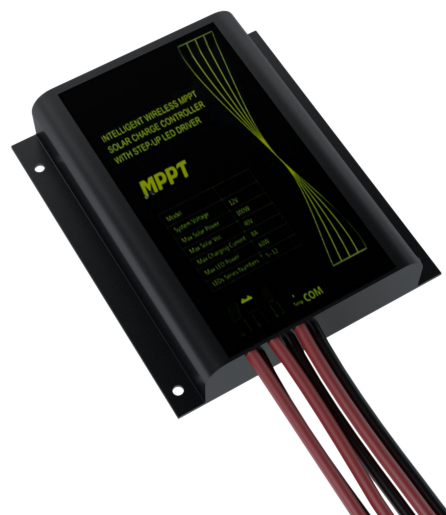
- Lithium battery
- In-ground solution and on-pole solution are available.
- Completely maintenance-free
- Long service life
- Environmental & Non-pollution
- Safety & Reliability



NO.	Item	General Parameter		Remark
1	Rated Capacity	Typical Minimum	20Ah 18.6Ah	Standard Charge and Discharge
2	Normal Voltage	12.8V		Operation Voltage
4	Charging End Voltage	14.6V		
5	Charge Mode	CC,CV		
6	Charging Current	0.5C		Charging Current
7	Charging Cut-off Current	0.02C		/
8	Charging Time	6-7 hours		/
9	Over-Charge Voltage Protection(Cell)	3.9±0.025V		/
10	Discharging Current	5A		/
11	Maximum Continuous Discharge Current	7A		/
12	Over-Discharge Voltage Protection(Cell)	2.3±0.08V		
13	Over-Current Discharge Protection	20±5A		
14	Short Circuit Protection	With Protection		
15	Short Circuit Protection Release	Cut Off Load		
16	Battery Dimension	Length(L) Max(mm)		60±25%R.H. at the shipment state
17		Width(W) Max(mm)		
18		Height(H) Max(mm)		
19	Weight	6.0kg		
20	Operation Temperature Range	Charge: 0~45℃		60±25%R.H.Bare Cell
21		Discharge: -10~60℃		
22	Storage Temperature Range	1 Month: -20~45℃		60±25%R.H. at the shipment state
23		3 Month: -20~45℃		
24		1 Year: -20~20℃		
25	Cycle Life	1. Charge:0.2c to 14.6V 2.Constant voltage to 0.02c Rest time : 10 min 3. Discharge: 0.2c to 8.0V 4. Rest Time between Charge and Discharge: 10min 5. Temperature:25±5℃		Higher than 70% of the Initial Ca- pacities of the Cells above 1000 times

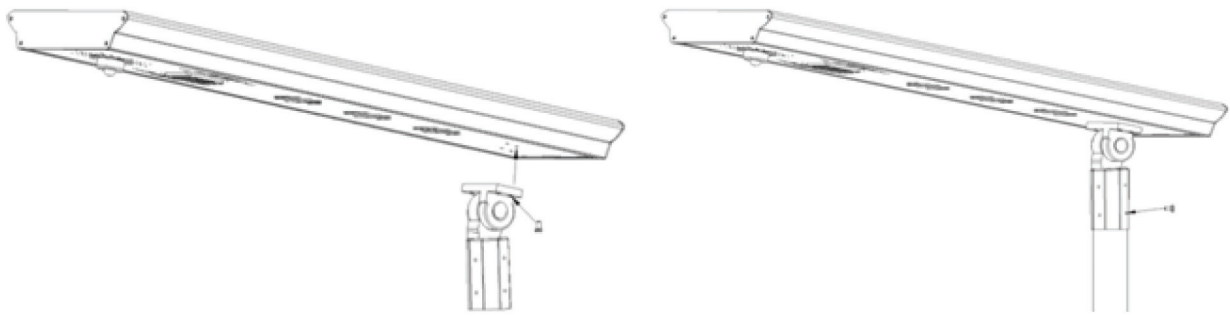
CONTROLLER

- Three types advanced controller provide three optimal solar solutions with different function and cost.
- Features
- IP67 Water proof protection
- PWM charging mode with high charging efficiency
- Protection for over charge, over discharge, over load and anti-reverse connection



Model No.	DEL-MPPT-10A
Rated Load Current	10A
System Voltage	12V/24V AUTO
Output voltage range	15V~60V
Circuit conversion efficiency	≤95%
MPPT tracking efficiency	>99%
Charging voltage limit	15.5V; ×2/24V
Overvoltage protection	17.0V; ×2/24V
Charging Below 0 °C	Yes
Charging Methods	7.5V~15.5V; ×2/24V(14.6V by default)
Overcharge Voltage	7.5V~15.5V; ×2/24V(13.6V by default)
Overcharge recovery voltage	7.5V~15.5V; ×2/24V(12.6V by default)
Over-discharge recovery voltage	7.5V~15.5V; ×2/24V(11.0V by default)
Output Current Range	70-4200mA(900mA by default)
Output current accuracy	±3% or ±30 mA
Light control voltage	5V~15V; ×2/24V(10.0V by default)
Light control on time delay	1~50min
Light control off time delay	1min
Operating temperature	-40℃ ~+60℃;
Inside over-temperature protection	70℃ to 85 °C: progressively decreases power; over 85 °C: shuts down charging or the load.
Protection functions	1) IP68 waterproof and dustproof; 2) solar panel and battery reverse-connection protection; 3) inside overheat protection; 4) solar panel overvoltage and short-circuit protection; 5) overcharge and over-discharge protection; 6) nighttime reverse-charging protection; 7) solar panel TVS protection; 8) load short-circuit and open-circuit protection;

INSTALLATION GUIDE:



Use 4 screws each to fix the support on the lamp and fix the lamp on the pole.

OPERATION METHOD:

When you press on the switch bottom, the lamp will start to work. That is all. It is easy to operate without any other operation.

INSTALLATION INSTRUCTION:

- Integrated solar led street light cannot work without sunshine charging, please select the suitable product model according to the local sunshine radiation and the annual total radiation.
- Integrated solar led street light adopts the long life Lithium battery for storing energy, charging temperature at day time is between: $0^{\circ}\text{C}\sim+65^{\circ}\text{C}$, when temperature goes lower than 0°C , the control system will stop automatically to protect the battery, and it will revive to charge the battery while temperature goes higher than 0°C . Discharging temperature at night is between: $-20^{\circ}\text{C}\sim+65^{\circ}\text{C}$, any ambient beyond will bring damage to the battery. Please confirm your local extreme temperature is suitable for above while selecting the street light.
- Battery of the “integrated solar led street light” can be stored for 6 months long after full charged, and please examine, charge it periodically after long time transportation to prevent damage.
- While installed in Northern Hemisphere, please make sure the surface of the solar panel to be facing the South to collect maximum sunshine radiation, while installed in Southern Hemisphere, please make sure the surface of the solar panel to be facing the North to collect maximum sunshine radiation. At the same time please keep it away from any shadow of house, trees etc.
- Keep cleaning the surface of the integrated solar led street light with normal detergent to get maximum power generation, clean the dust or tree leaves or any grease.

CAUTIONS:

1. If you do not use the lamp for a long time, please does not leave the switch bottom on in case of low battery.
2. Without the guidance of trained technical staff, please do not open the product yourself.
3. Please avoid trees, building and other blocks for the installation application.
4. When installing or transporting it, please try to avoid collision and handle with care.