SolarWrap Introduction

SolarWrap Integrated Solar Pole Systems from Auroras's are our most advanced and innovative solar module for various pole-mounted PV applications. SolarWrap's patented design, manufactured to high-quality standards, can meet decorative and high-end applications, especially for the area and garden lighting without compromising aesthetics. SolarWrap is the outcome of our constant R&D in Solar Lighting, equipped with highly efficient solar modules in a hexagonal aluminum die-cast structure for maximum performance, strength, and durability in many challenging applications. The innovation can be integrated into any pole shape and dimensions, making the SolarWrap Integrated Solar Pole almost universal. The detachable and lightweight design helps in easy installation for a complete maintenance-free life.

The complete solar pole only includes two functional components including vertical solar modules and solar light head which can be connected to each other directly by MC4 connectors. The battery and solar controller are built inside of the light fixture. The powers of solar light heads are from 20W to 120W to meet most requirements of projects. The vertical solar-led street light pole is a premium and advanced product. It is designed especially for these projects concerning a lot on aesthetical appearance with high luminous flux, durable quality system, and long time use without any maintenance.

It could be widely used for outdoor monitors, traffic lights, signal centers etc. It is also an ideal solution to retrofit the traditional street lights whose lighting bulbs are metal-halide. It only needs to attach the SolarWrap vertical solar module to existing poles without setting new poles. This provides a brand new possibility to save energy by solar power for traditional street lights with minimum cost.

First Successful Case in the world

Philippines 2019 south asian games was a remembered as a very significant game. We are so proud that there were more than 240 complete set of dual heads solar led street lights installed long the road of the stadium park. There were more than 41 competiors who bidded this philippines national project. Because of the unique design, SolarWrap vertical solar street light were selected as the major solar lighting products for the main road of the sport park.

Comparison

Silicon Solar Panel

Advantages:

* Cost is very much lower than CIGS.
* Lifetime is long up to 20 years
* Practical efficiency is more than 19.5%
* Strong structure support, aluminium profile

Disadvantages:

* Heavy weight
* Not so good look as CIGS

VS

CIGS Solar Panel

Advantages:

* Light weight
* Shining finish with full glass cover.

Disadvantages:

* Cost is very high
* Lifetime is short, only 4 ~ 6 years
* Practical efficiency is less than 13%
* Efficiency drops fast by 30% with 4 months

Key Feature

Universal Application

SolarWrap can be used in any type of poles and designs without dismantling them makes the application. Poles can be sourced separately, the detachable design with adjustable spacing brackets helps the mounting easy in every pole.

360° Full Day Charging

6 slim solar panels are fixed tightly on a hexagon frame. so it ensures 50% of solar panel will face to sunshine at any time of the day.

Modular Installation

This solar cylinder module is based on modular design concept for easy installation and disassembly. It can be quickly and easily mounted on any suitable pole.

Strong Wind Resistance

The cylindrical design reduces the wind resistance area, and each module is directly fastened to the pole by 12 screws for better wind resistance. It can stand well against even 10 grade typhoon.

Never Snow Covering

Solar cylinder modular mounted in vertical, it is not easy to be covered by snow as regular solar panel. Ensure enough power can be generated even in very snowy climate. Never worry black out.

Easy to Clean

Less dust will fall on surface than regular solar panel. Worker can clean it easily standing on ground with a long handle brush. no need lift. higher work efficiency and less maintenance cost.

Design Aesthetics

The relatively large size of solar panels on the pole top has made the solar lighting not an option for the areas where the design aesthetics and decorative lighting applications are used. SolarWrap module systems is the real answer which is compact and fully integrates on the pole and available in custom colors to match the design of the pole.

EXPO 2020 DUBAI UAE

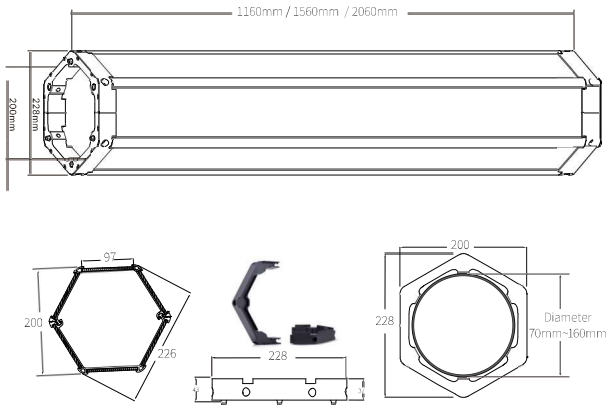
SolarWrap

VERTICAL SOLAR POLE

Showcasing real solutions to the world's biggest challenges.

Designed by Mr.Auroras, the vertical solar lighting pole is a great innovation for outdoor lighting. It is a revolutionary design with an aesthetic appearance and high stability of lighting performance. The concept of vertical solar lighting pole is delivered to every corner of the world globally with the impact of Expo Dubai.

Specification



Item number	Q100	Q140	Q200
Dimension	228*200*1160mm	228*200*1560mm	228*200*2060mm
Pmax	100W	140W	200W
Vmp & Imp	18V 5.56A / 36V 2.78A	36V 3.88A	36V 5.56A
Cell type	MONO made in Taiwan		
Solar cell efficiency	22.50%		
Cable & Connector	Universal MC4 with 0.6 meter 2.5mm²		
Structure material	aluminum alloy with powder coated >20 years lifetime		
Operating temp.	-20℃ ~ +70℃		
PV Lifetime	>20 years		
N.W / G.W	15.50kg / 17.80kg	20.70kg / 22.80kg	28.80kg / 29.80kg
Max pole diameter	155mm		
Warranty	5 years		

Design Aesthetics

It adopted streamlined design concept with better wind resistant performance and appearance. Designed specially for premium quality projects requests.

Green Energy

100% pure energy from sun. No bill for electricity anymore. No pollution. Endless power from nature.

High Luminous Output

Adopted 64pcs of led chips philips SMD5050 as light source ,driven by less rated input current, It reaches high lumens luminous output up to 160lm/watt.

Programmable

Smart MPPT solar controller built-in, Even after the products are installed, the lighting scheme can be reconfigured or adjusted

Helios

Hermes

Thor

Long Lifetime

Using superb quality battery with long lifetime. deep cycles. Working well in low and high temperatures at -20℃~+65℃. Maintenance free for years without extra cost.

Quality lithium battery with long lifetime and mppt solar controller are built inside of light, Only need to be connected to solar panel via MC4 connectors and turn on

Compact Sturcture

The pioneer model on market based on "PLUG and PLAY" idea. Patents in utility & appearance registered

Patented Design

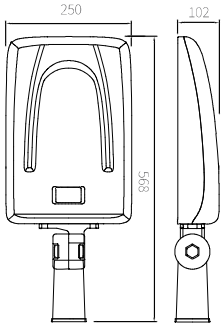
Long Autonomy

Up to 12 hours solar light head can work with 100% power continuously. Using energy saving modes, Autonomy can reach to 3~4 days max without charging.

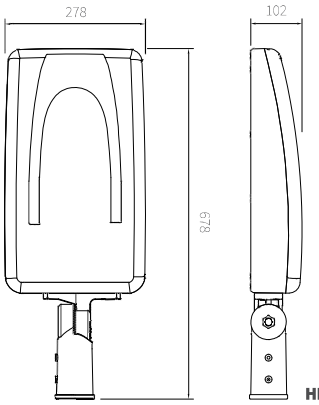
Specification

Item number	HELIOS-T3	HELIOS-T5	HERMES-T6	HERMES-T8	THOR-T10	THOR-T12
Luminous Flux	4,800lm	6,800lm	8,800lm	12,800lm	14,800lm	16,800lm
Rated Power	30W	50W	60W	80W	100W	120W
CRI	>79					
LED Type	Lumileds SMD3030 72pcs		Lumileds SMD5050 64pcs		Lumileds SMD5050 64pcs	
CCT Range	3000K / 4000K / 5000K / 6000K					
Beam Angle	Type I / II / III / III optics optional from LEDil					
Battery Capacity	307WH 12.8V	460WH 12.8V	538WH 12.8V	768WH 25.6V	921WH 25.6V	1075WH 25.6V
Battery Type	Brand new LifePO4 32700 6000mA 3.2V					
Battery Lifetime	D.O.D 50% 4000 cycles					
Charge Time	4 hours					
Discharge Time	>24 hours					
Advancded Control System	Hybrid type Solar + 220V backup / Zigbee 2G/4G Wireless Control					
Regular Solar Panel	80W 18V	100W 18V	120W 36V	160W 36V	200W 36V	260W 36V
Vertical Solar Module	140W 18V	280W 36V	340W 36V	400W 36V	540W 36V	600W 36V
Cable & Connector	2.5mm 0.6 meters with MC4 connectors					
Working Temp.	-20 °C ~ 75 °C					
Control Method	Automatic dusk to dawn / Time Control / Manual ON-OFF					
Default Lighting modes	6 hours 100% + 6 hours 50%, 12 hours operation					
Fixture Size	HELIOS : 568*250*102mm		HERMES : 678*278*102mm		THOR : 800*310*116mm	
Fixture materials	Aluminium Die Casting					
Fixture color	Gray RAL7005					
N.W/Light	9.60kg	10.60kg	14.30kg	15.40kg	13.50kg	19..60kg
G.W/Light	10.30kg	11.20kg	15.30kg	16.40kg	20.40kg	21.80kg
IP Rate	IP67					
Warranty	3 years					
Certificates	CB CE ROHS IP67 LM79 LM80 FCC					

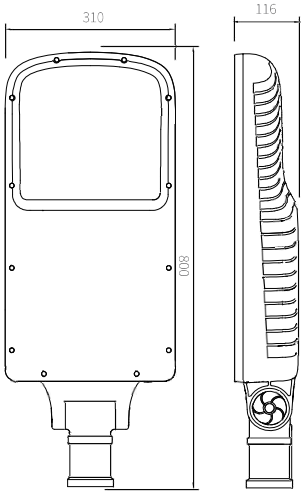
Fixture Drawing



HELIOS

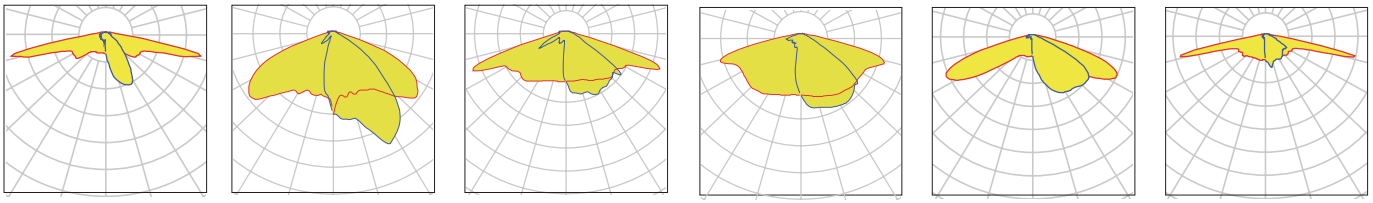


HERMES



THOR

LED Optics Optional



T2-L
IESNA Type II
(long)

T2-S
IESNA Type II
(short)

T3
IESNA Type III
(medium)

T3B
IESNA Type III
(medium min backlight)

T3-M
IESNA Type III
(medium)

T3-L
IESNA Type III
(long)

MPPT Charge Controller

Model number	MES60（for T3 &T5）	DM80（for T6 & T8)	DM120（for T10）	DM160（for T12）
System voltage	12V	12V	24V	24V
Output current range	50~3000mA	50~5600mA	50mA～4200mA	50mA～5600mA
Max. power of regular solar panel	130W/18V	200W/18V	260W/36W	400W/36W
Max. power of vertical solar module	400W/18V	500W/18V	600W/18V	800W/18V
MPPT tracking efficiency	98%			
Load output voltage	<60V	<35V	<60V	<60V
Max load power	60W	80W	120W	160W
Overcharge voltage	14.6V	14.6V	29.2V	29.2V
Overcharge recovery voltage	13.5V	13.5V	27V	27V
Over-discharge voltage	11.0V	11.0V	22.0V	22.0V
Over-discharge recovery voltage	12.4V	12.4V	24.8V	24.8V
Light control voltage	7V			
Operating temperature	-35 °C ~ 65 °C			
Net weight	380g	400g	400g	510g
Dimension(mm)	80*82*22.6mm	114*88.3*24.5mm	114*88.3*24.5mm	155*114.4*34mm
IP rate	IP68			
Warranty	3 Years			

Quality LifePO4 Lithium Battery Pack

Main Features

- Lithium Iron Phosphate (LiFePO4) Battery
- Safest lithium chemistry with high energy density
- Built-in automatic protections
- Efficient & long-lasting up to 4000+ cycles DOD 50%
- >2000 cycles @0.2C, Charge/Discharge at 100% DODInternal cell balancing
- Wide temperature range: -20℃ ~ 70℃
- Maintenance free after installation
- Cost effective

Battery Spec	12V-24AH	12V-36AH	12V-42AH	24V-36AH	24V-42AH	12V-24AH
Battery cell type	LiFePO4 6000mA 3.2V 32700					
Nominal Capacity	12.8V 24AH (307WH)	12.8V 36AH (460WH)	12.8V 42AH (768WH)	25.6V 30AH (768WH)	25.6V 36AH (921WH)	25.6V 42AH (1075WH)
Quantity per pack	16 pieces	24 pieces	28 pieces	40 pieces	48 pieces	56 pieces
Array Mode	4P4S	6P4S	7P4S	5P8S	6P8S	7P8S
Dimension (L*W*H)	140*240*75mm	210*240*75mm	210*240*75mm	210*240*75mm	210*240*75mm	210*240*75mm
Charge mode	C.C + C.V					
Charge Cut-off voltage	14.6±0.05V	14.6±0.05V	29.2±0.05V	29.2±0.05V	29.2±0.05V	29.2±0.05V
Discharge Cut-off Voltage	11±0.05V	11±0.05V	22±0.05V	22±0.05V	22±0.05V	22±0.05V
Storage Temperature	5℃～35℃					
Operating Temperature	-20℃～65℃					
Lifetime (D.OD. 50%)	4,000 cycles D.O.D 50%					
Warranty	3 Years					

Zigbee System

Gateway (4G Sim Card inside)

Zigbee Module + Solar Controller

The zigbee control system is an integrated smart control system, the light control module is composed of two parts as solar controller and the signal module, These two parts are connected via the RS485 interface as the light control part. it communicates with the gateway with the Zigbee signal.

Comparison of Zigbee & 2G

Zigbee:

The bottom layer uses free wireless frequency communication, and the bottom layer data is transmitted to the Internet through a centralized gateway, so that one gateway can manage multiple street lights.

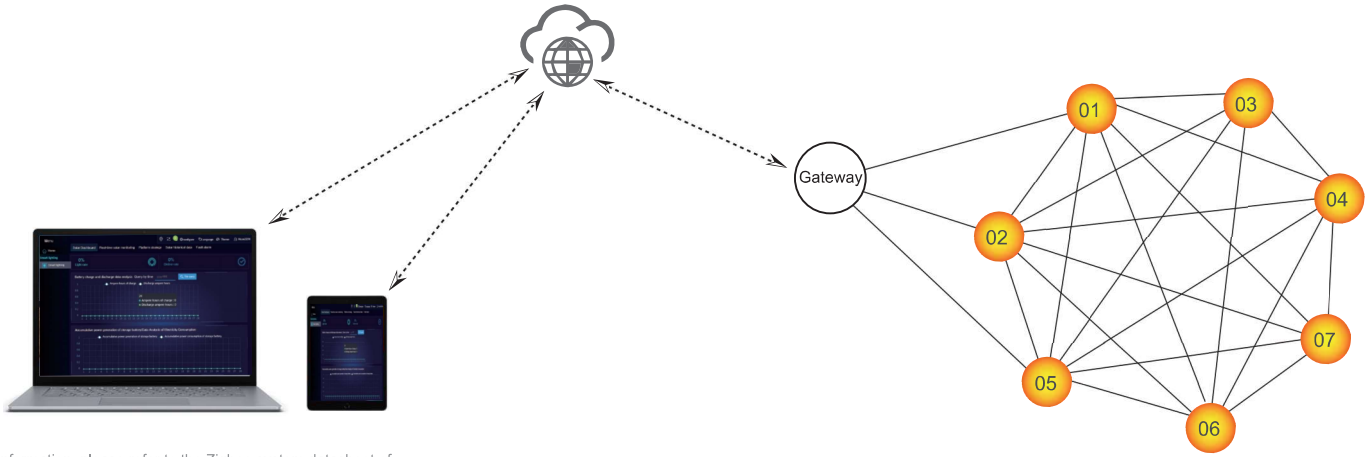
Advantages: when mass street lamps are used, the communication fee is relatively low.

2G/4G/GPRS/NB-IOT

The direct connection scheme is adopted, and there is no centralized manager, and the signal transmission is carried out through the base station of the mobile operator.

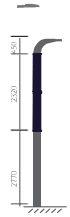
Advantages: The signal reliability and safety are relatively high, the construction is relatively simple, and there is no need to install a concentrator.

Disadvantages: The communication module and communication fees are relatively high.



More information, please refer to the Zigbee system datasheet of

Popular Models

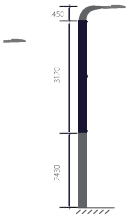


30W

Order code	S03020005
Solar light head	HELIOS AI-U30W
LED power	30W
Luminous flux(lm)	>4,800lm
Power of solar module	200W
Vertical solar module	Q100 2pcs
LifePO4 battery	12.8V 307WH
Charge controller	MPPT
Pole height	5 meters
Warranty	5 years

30W*2

Order code	D03040007
Solar light head	HELIOS U30W * 2
LED power	30W X 2
Luminous flux(lm)	>4,800lm
Power of solar module	280W
Vertical solar module	Q100 4pcs
LifePO4 battery	12.8V 307WH * 2
Charge controller	MPPT
Pole height	7 meters
Warranty	5 years

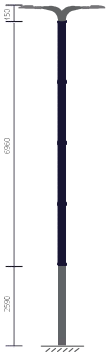


60W

Order code	S06028006
Solar light head	HERMES T6
LED power	80W
Luminous flux(lm)	>8,800lm
Power of solar module	280W
Vertical solar module	Q140 2pcs
LifePO4 battery	12.8V 538WH
Charge controller	MPPT
Pole height	6 meters
Warranty	5 years

80W

Order code	S08042008
Solar light head	HERMES T8
LED power	80W
Luminous flux(lm)	>12,800lm
Power of solar module	400W
Vertical solar module	Q100 4pcs
LifePO4 battery	25.6V 768WH
Charge controller	MPPT
Pole height	8 meters
Warranty	5 years



80W*2

Order code	D08084012
Solar light head	HERMES T8
LED power	80W X 2
Luminous flux(lm)	>12,800lm * 2
Power of solar module	840W
Vertical solar module	Q140 6pcs
LifePO4 battery	25.6V 768WH * 2
Charge controller	MPPT
Pole height	12 meters
Warranty	5 years

100W

Order code	S10056010
Solar light head	THOR T10
LED power	100W
Luminous flux(lm)	>14,800lm
Power of solar module	280W
Vertical solar module	Q140 4pcs
LifePO4 battery	25.6V 921WH
Charge controller	MPPT
Pole height	10 meters
Warranty	5 years