

# INVO PD-PL-007 Solar Post Top

The INVO PD-PL-007 Solar Post-Top's sleek design is the perfect solution for Urban lighting. It meets a wide range of application needs from pathways, parks to shopping precincts to carparks. Engineered to perform like conventional post top lighting, the INVO Solar Post -Tops feature high-performing LEDs powered by Solar energy.

## LIGHTING

<b>Nominal flux</b>	2,744 Lumens
<b>Nominal Power</b>	14 Watts
<b>Efficiency</b>	196 Lumens / Watts
<b>Chips LED</b>	Philips Luxeon 30-30
<b>LED Lifetime</b>	Over 50,000 hours LM80
<b>Optics &amp; CCT</b>	T V / 2300 to 6500K
<b>Light Height</b>	3-5 meters

## BATTERY

<b>Technology</b>	Lithium Fer Phosphate LIFEP04 - 26650
<b>Capacity</b>	256 Wh
<b>Autonomy</b>	Over 24 hours at full charge - 4 rainy days back up
<b>Charging Time</b>	6-7 hours
<b>Lifespan</b>	Over 3000 Cycles @ 80% DOD over 10 years lifetime
<b>Working Temp</b>	-10°C to 70°C (Optional -40°C to 70°C)

## ENERGY

<b>Solar Panel</b>	33 Watts / 18V
<b>Cells Type</b>	Monocrystalline Panel Grade A 25 years
<b>Certificates</b>	IEC 61215 - IEC 61730 I and II - IEC 60904

## ELECTRONIC

<b>Controller</b>	MPPT Smart Controller
<b>Sensor</b>	Microwave 360° Motion Sensor
<b>Cabling</b>	Waterproof Connector, Plug and Play
<b>Protection</b>	Battery Management System (BMS)

## MECHANICAL

<b>Pole Mounting Ø</b>	76mm
<b>Material</b>	Aluminium and Inox

## DIMENSIONS

<b>Product</b>	450(D) x 570(H)
<b>Carton Size</b>	525 x 525 x 650
<b>Net Weight</b>	7.8kg
<b>Gross Weight</b>	8.5kg
<b>Qty / Ctn 20"/40"</b>	120/264



## CERTIFICATIONS

IEC / TUV / EMC / LM-79- 08 and LM-80 test standards / IK8 / IP65 / CE / ULOR

\*Procure Direct offers a 5 Year Limited Warranty for the Post Top-Series luminaire shall be free from defects in material and workmanship for up to five (5) years from date of shipment. This limited warranty covers all components when installed and operated according to PD instructions. Fixture suitable for ambient temperature from -10° to 50°. PV Panels: 20 year performance warranty. Controller & Batteries: 5 years

# LUMINAIRE HOUSING & LEDS

2744 LUMENS - 2300 TO 6500 K

High pressure die-cast low-copper aluminium. **Protection class (IP66)**. We use a high-quality Polyester Powder Coating from **AKZO NOBEL**. This powder coating provides an excellent salt and humidity resistance as well as ultra violet resistance for colour retention for this product.

Our Luminaire is equipped with **PHILIPS LUXEON HE PLUS** High efficiency Chips offering **196 Lumens per Watt efficacy**.

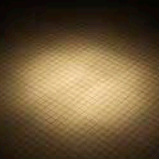
Our luminaire also complies with the **DARK SKY** requirement for light pollution with an **Upward lighting of 0.71%**.



## DIFFERENT OPTICS\*

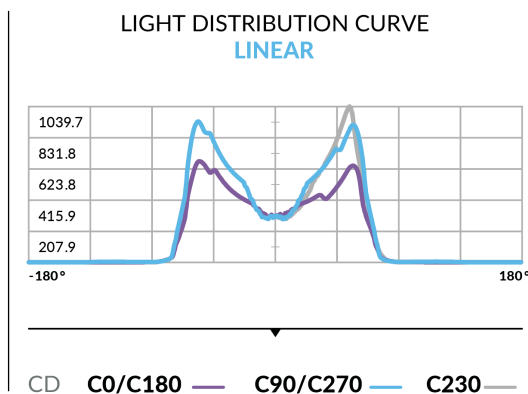
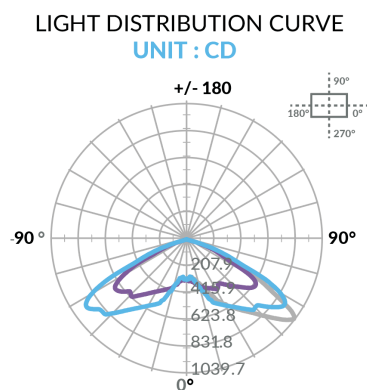
Our different optics will allow you to optimise the lighting results of your projects

### LIGHT DISTRIBUTION



SYMMETRICAL

## LIGHT DISTRIBUTION CURVES

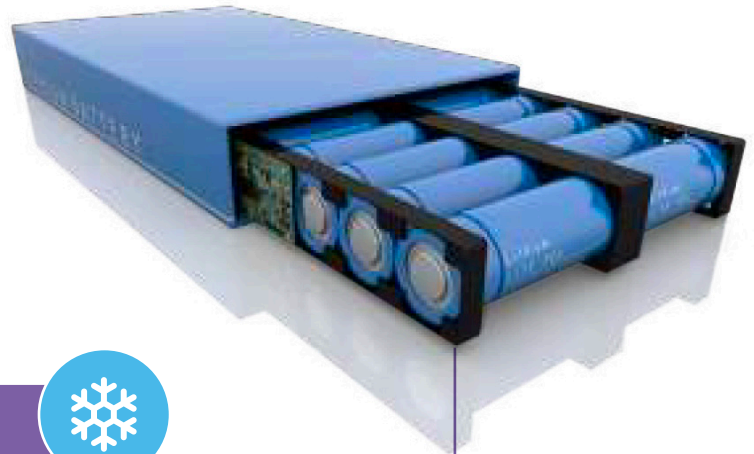


# BATTERY LIFEPO4

## + OVER 10 YEARS LIFETIME

The POST-TOP Series is equipped with Iron Phosphate Lithium LiFePo4 battery. This technology is proved to be **the best chemical technology for solar applications on the market**.

With a cycle life of over 3000 Cycles @ 80% DOD, **the battery has over 10 years lifetime**.



### EXTREME TEMPERATURE

#### -10 °C TO 70 °C (-40 °C OPTIONAL)



Most suppliers offer a standard Lithium LiFePo4 batteries with a working temperature range from -10°C TO 70 °C. However, upon request we can offer a new Special LIFEPO4 battery, with working range of -40 °C. to 70 °C.

## BMS ELECTRONIC PROTECTION BATTERY MANAGEMENT SYSTEM

Our batteries are equipped with **electronic circuit boards for a higher protection**, ensuring battery function optimisation no matter what the situation.



The BMS Protects against :

- OVER/UNDER CURRENT
- OVERLOAD
- OVER/UNDER VOLTAGE
- OVER/UNDER CHARGE
- TEMPERATURE MANAGEMENT

### COMPARISONS OF DIFFERENT BATTERY TECHNOLOGIES

#### LIFETIME & CYCLES AT 80% DOD\*

Comparisons of different battery technologies



Lead Acid  
200



NimH  
700



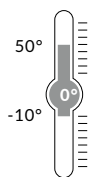
Lithium ION  
800



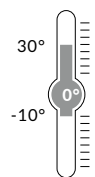
Lithium LifePO4  
3 000

#### CHARGING TEMPERATURE RANGE WITHOUT CAPACITY LOSS

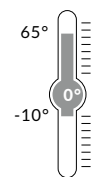
Minimum & Maximum temperature range for Optimal charging during the day



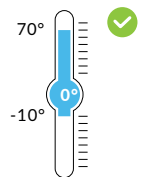
Lead Acid



NimH



Lithium ION



Lithium LifePO4

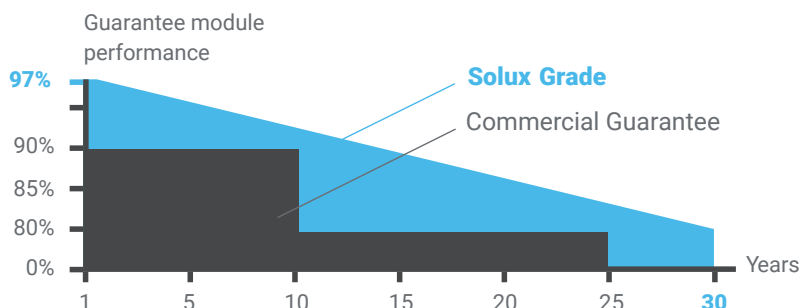
## SOLAR PANEL

### 33 WATTS

We use a high efficiency 33 watt mono-crystalline Solar panel to power our luminaire. With carefully selected Grade A Solar cells. Up to 20.4% efficiency, all protected by self-cleaning tempered glass at 30 degrees of inclination.

Its Anodized aluminium alloy frame gives it a modern and elegant design as well as perfect resistance to corrosion. They are also equipped with fully waterproof Plug and Play connectors.

## OUR PV PERFORMANCE GUARANTEE



## CONTROLLER MPPT



## WATERPROOF CONNECTORS "PLUG & PLAY"

All our components are assembled **seamless and easy to access**. Our products are designed with performance and reliability and therefore use highly reliability MPPT technology controllers, offering the best charging efficiency on the market – up to 98%.

## FEATURES

**Minimal stand-by power consumption**

**Current consumption  $\leq 10\text{mA}$**

**Intelligent battery management**

3 phases of charging :

- Charge MPPTT
- Constant voltage
- Floating voltage

**Intelligent LED driver**

Auto detecting of dusk and dawn for automatic operation, 7 lighting programs configuration.

**Anti black-out**

Load adjust according to battery capacity assuring all night long lighting in any weather conditions.

**The controller also acts against:**

- Overload
- Overcurrent
- Overtemperature
- Overvoltage / Overload
- Overdischarge

## REMOTE CONTROL MONITORING

In order to facilitate all maintenance operations and above all to diagnose any possible problem, without having to intervene mechanically on the luminaire, **INVO PD-PL-007 luminaire is equipped with a wireless diagnostic system via a remote control.**



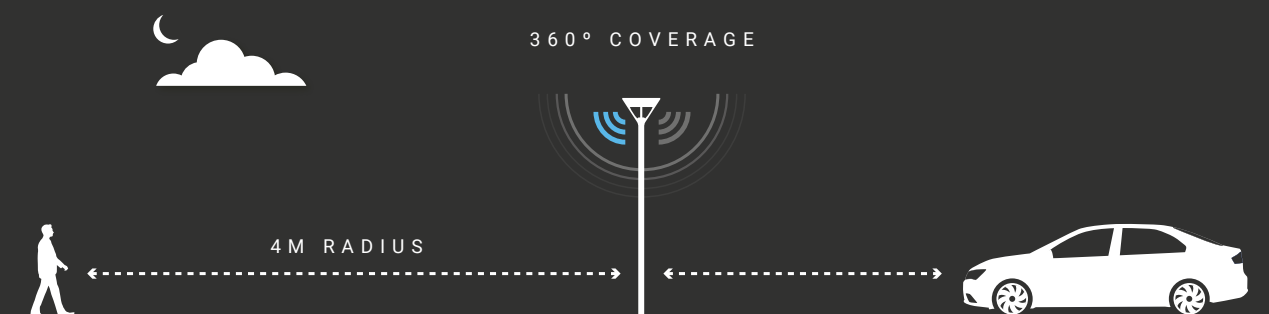
**With a simple click it is possible to have real-time information such as:**

- Automatic diagnosis in case of malfunction
- State of charge and battery history
- Real Time load and solar panel energy production history
- Age of the product and installation
- Temperature and its history

# MOTION SENSOR

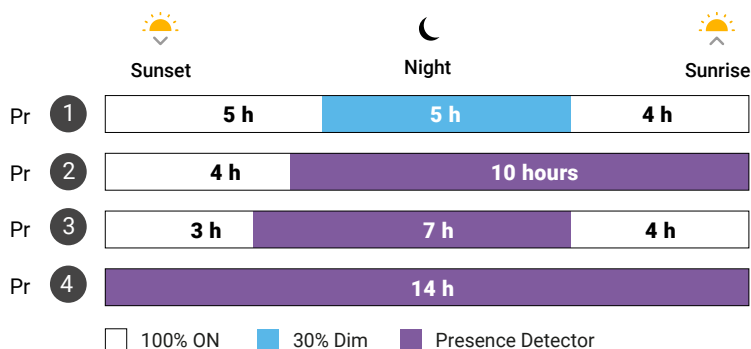
## MICROWAVE

Our INVO PD-PL-007 solar post top comes with a microwave motion sensor that detect pedestrians, cyclists and vehicles. The light level increases as they pass to ensure safety and security while respecting the environment.



## OPERATION MODE & LIGHTING SCHEDULE

In addition to automatic switching on and off, you have the possibility of choosing among **different modular operating modes** according to the needs of the project.



## EASY INSTALLATION

### NO CABLING, NO TRENCHING

No cabling or trenching is required, therefore a FAST & easy to install solution, where light is needed. If there are restrictions on digging up and moving power, just install a column, secure the post top and power on (where mains powered street lights take weeks to install, our solar solutions take just hours or days.)



For more information, or to book your FREE audit, call us on 01522 538212, email [info@procuredirect.co.uk](mailto:info@procuredirect.co.uk) or visit us at [www.procuredirect.co.uk](http://www.procuredirect.co.uk)