

INVO PD-PL-005 Solar Post Top

The INVO PD-PL-005 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

Nominal flux	3,920 Lumens
Nominal Power	20 Watts
Efficiency	196 Lumens / Watts
Chips LED	Philips Luxeon 30-30
LED Lifetime	Over 50,000 hours LM80
Optics & CCT	T V / 2300 to 6500K
Light Height	3-5 meters

BATTERY

Technology	Lithium Fer Phosphate LIFEP04 - 26650
Capacity	320 Wh
Autonomy	Over 24 hours at full charge - 4 rainy days back up
Charging Time	6-7 hours
Lifespan	Over 3000 Cycles @ 80% DOD over 10 years lifetime
Working Temp	-10°C to 70°C (Optional -40°C to 70°C)

ENERGY

Solar Panel	45 Watts / 18V
Cells Type	Monocrystalline Panel Grade A 25 years
Certificates	IEC 61215 - IEC 61730 I and II - IEC 60904

ELECTRONIC

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

MECHANICAL

Pole Mounting Ø	76mm
Material	Aluminium and Inox

DIMENSIONS

Product	609(D) x 264(H)
Carton Size	670 x 670 x 340
Net Weight	10.1kg
Gross Weight	13kg
Qty / Ctn 20"/40"	144/306



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

3920 LUMENS - 2300 TO 6500 K

IP66

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%**.



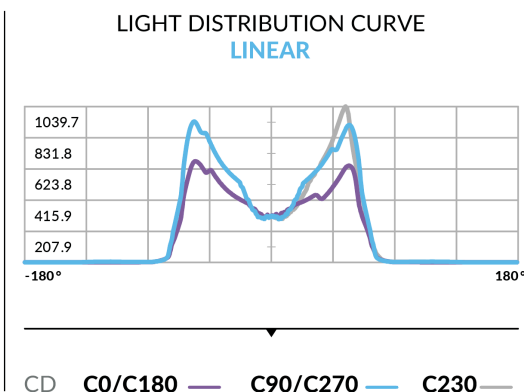
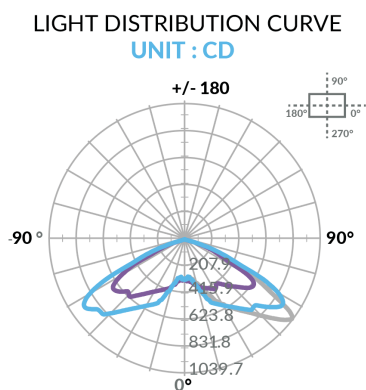
DIFFERENT OPTICS*

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

LIGHT DISTRIBUTION

SYMMETRICAL

LIGHT DISTRIBUTION CURVES

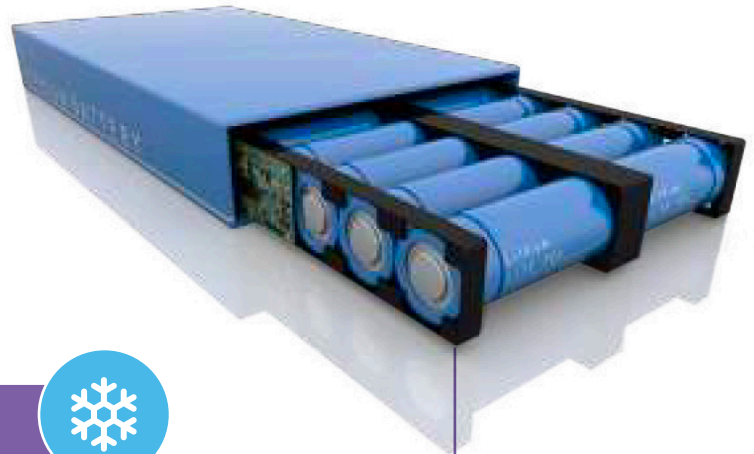


BATTERY LIFEPO4

+ 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



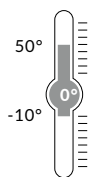
Lithium ION
800



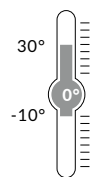
Lithium LifePO4
3 000

CHARGING TEMPERATURE RANGE WITHOUT CAPACITY LOSS

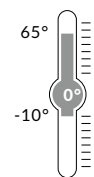
Minimum & Maximum temperature range for Optimal charging during the day



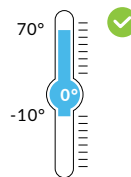
Lead Acid



NimH



Lithium ION



Lithium LifePO4

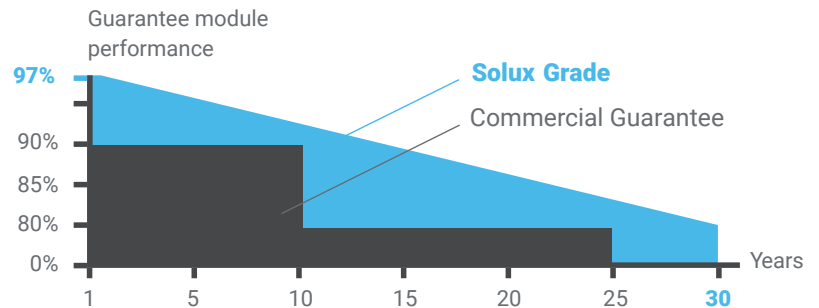
SOLAR PANEL

45 WATTS

We use a high efficiency 45 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-005 luminaire is equipped with a wireless diagnostic system via a remote control.**



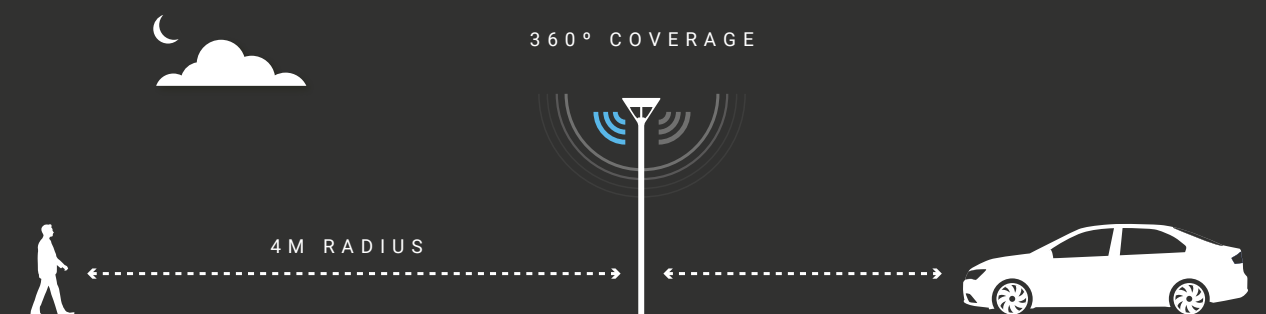
With a simple click it is possible to have real-time information such as:

- 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

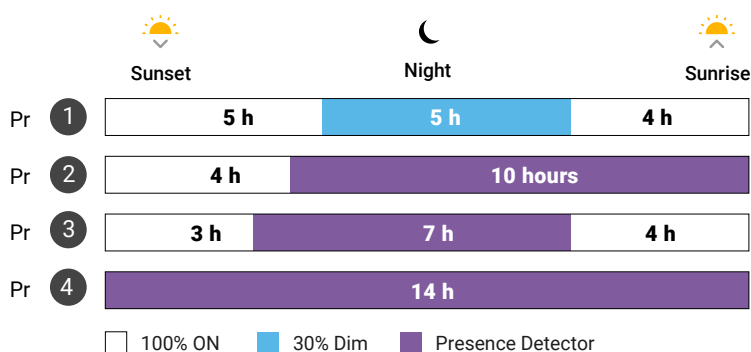
MICROWAVE

Our INVO PD-PL-005 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 or visit us at www.procuredirect.co.uk