

INVO AOS Pro+

Integrated solar street light

The AOS Pro+ is an advanced solar street light system with all components integrated into a single unit. It features independently tiltable solar panels and LED modules, optimising solar energy capture and road illumination. Designed for simple installation and operation, this unit is an efficient solution for area lighting.



- > All in one solar light (easy installation)
- > Adheres to DARK SKY requirements for light pollution
- > Philips Luxeon HE Plus high efficiency chips
- > Made with high pressure die-cast low-copper aluminum reaching IP66 protection class
- > Iron Phosphate Lithium LiFePo4 battery
- > A life cycle of over 5000 Cycles @ 50% DOD
- > Over 10 years battery lifetime
- > Batteries are equipped with electronic circuit boards for a higher protection
- > Grade A Solar cells up to 25.5% additional efficiency



Example of
AOS Pro+ 40



**Parks &
Gardens**



Campsites



Places



Pedestrians



Pathways



**Main &
small roads**

CERTIFICATIONS

IEC / TUV / EMC / LM-80 test standards / IK8 / IP68 / CE / ULOR / UKCA

*Procure Direct offers a 5 Year Limited Warranty for the AOS Pro+ 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. Battery warranty is 3 years

LED MODULES & OPTICS

Made with high pressure die-cast low-copper aluminum reaching IP66 protection class. Our LED module is equipped with PHILIPS LUXEON HE PLUS high efficiency chips delivering an impressive 196 lumens per watt efficacy.

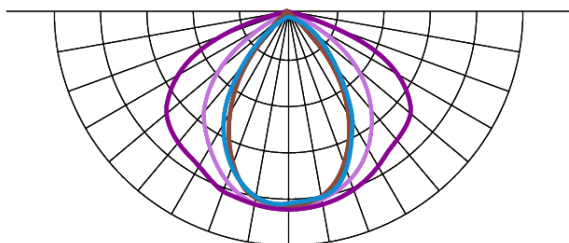
Furthermore, the luminaire adheres to DARK SKY requirements for light pollution, ensuring minimal upward lighting at just 0.31%.



LIGHT DISTRIBUTION CURVES

Optic | TYPE 2

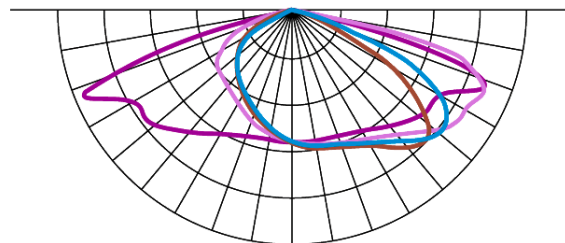
Average beam angle: 50% | 91.2 DEG



CO - 180,129.4	C60 - 240,72.7
C30 - 210,96.3	C90 - 270,66.4

Optic | TYPE 3

Average beam angle: 50% | 116.7 DEG



CO - 180,154.7	C60 - 240,98.2
C30 - 210,115.6	C90 - 270,98.4

MPPT CONTROLLER

Our waterproof connectors, are designed with performance & reliability in mind offering up to 98% charging efficiency.



BATTERY LIFEPO4

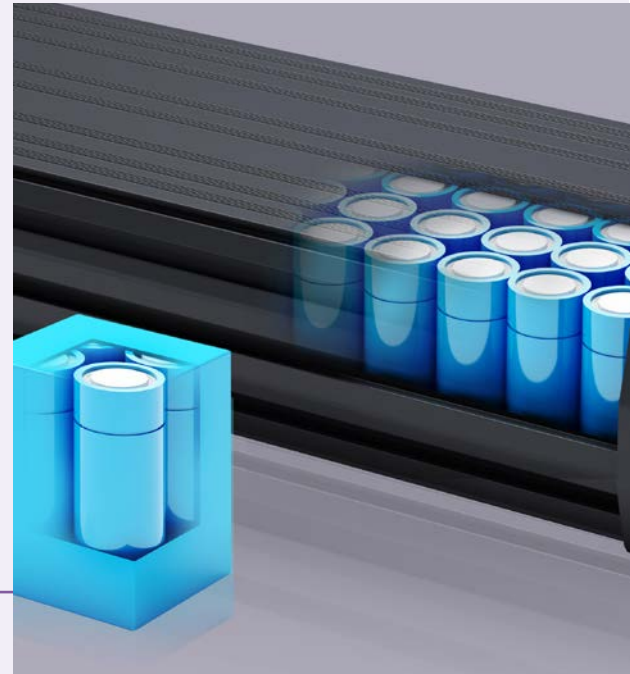
+ OVER 10 YEARS LIFETIME

The AOS Pro+ is equipped with Iron Phosphate Lithium LiFePo4 battery. This technology is proved to be the best chemical technology for solar application on the market. With a life cycle of over 5000 cycles @ 50% DOD, the battery enjoys a lifetime of over 10 years.

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.



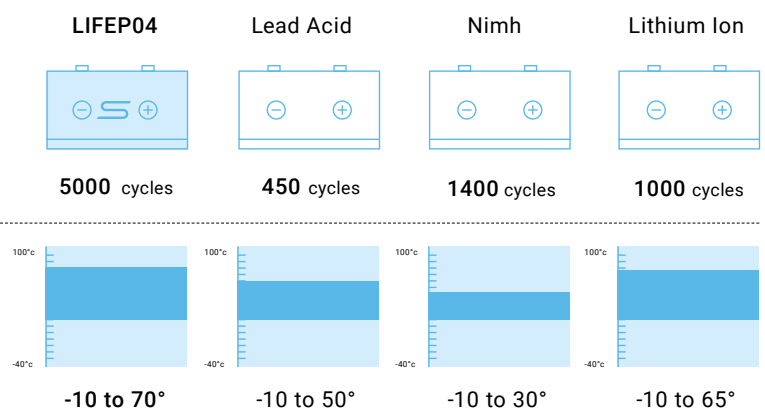
BMS ELECTRONIC PROTECTION BATTERY MANAGEMENT SYSTEM

Our batteries are equipped with electronic circuit boards for a higher protection. Protecting against:

- Over & under current - overload
- Over & under voltage - over & under charge
- Temperature management

COMPARISON OF DIFFERENT BATTERY TECHNOLOGIES

Lifetime & cycles at 50% DOD



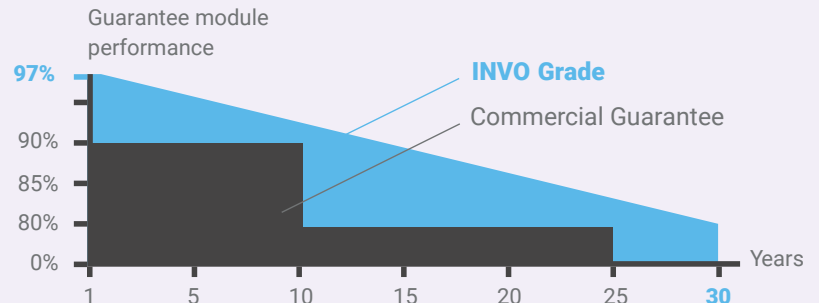
Minimum & Maximum temperature range for optimal charging during the day

SOLAR PANEL

High efficiency TOPCON mono-crystalline Solar panels. Carefully selected Grade A Solar cells. Up to 25.5% increased efficiency.

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

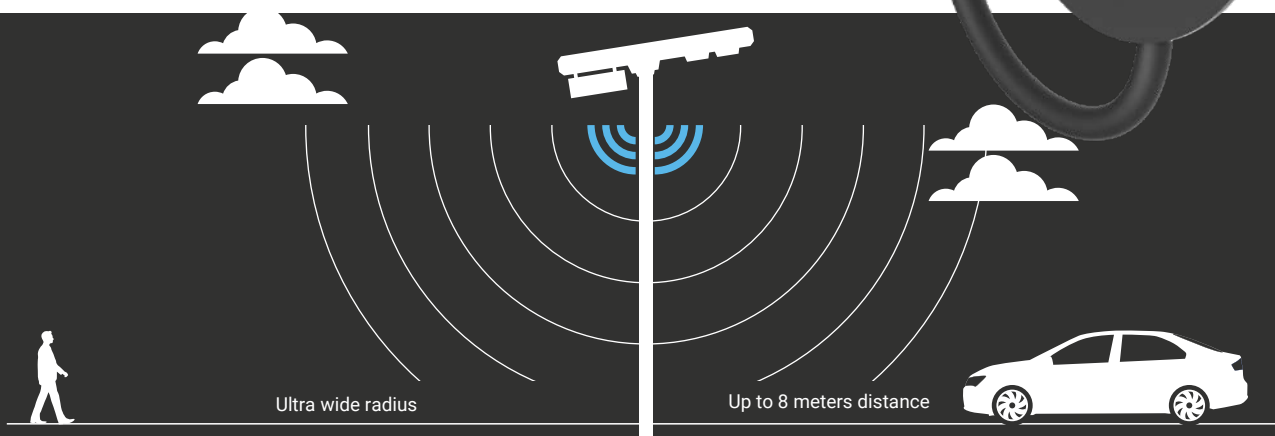
OUR PV PERFORMANCE GUARANTEE



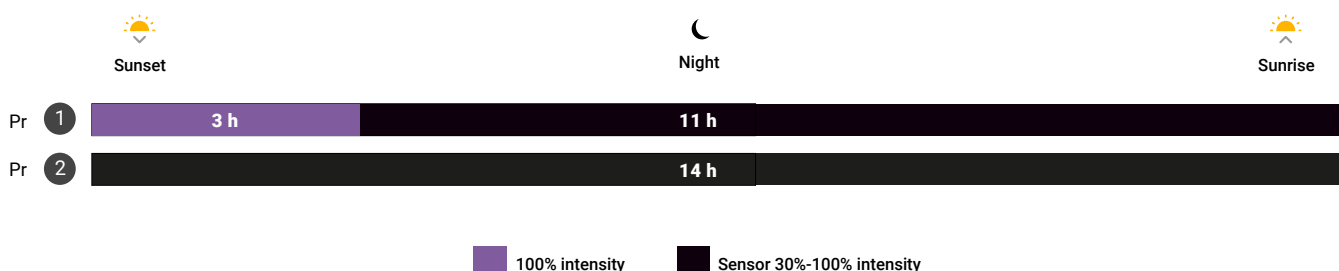
MICROWAVE SENSOR

DETECT NEARBY OBJECTS AND MEASURE THEIR DISTANCE

INVO luminaires are equipped with microwave detectors that use the Doppler effect, just like car radars, to detect nearby objects and measure their distance. The sensor emits a high-frequency wave that reflects off objects, allowing for precise analysis.



OPERATION MODE & LIGHTING SCHEDULE



SPECIFICATIONS



AOS Pro+ 20

AOS Pro+ 40

AOS Pro+ 60

AOS Pro+ 80

AOS Pro+ 100

LIGHTING

Nominal Flux	3,920 Lumens	7,840 Lumens	11,760 Lumens	15,680 Lumens	19,600 Lumens
Nominal Power	20 watts	40 watts	60 watts	80 watts	100 watts
Efficiency	196 Lumens/Watts				
Chips LED	PHILIPS Luxeon 30-30				
LED Lifetime	Over 100,000 Hrs – LM80				
Optics & CCT	TII-S / 2300 to 6500K				
Light Height	From 3 to 4 metres	From 4 to 5 metres	From 5 to 7 metres	From 5 to 7 metres	From 6 to 8 metres

BATTERY

Technology	Lithium Iron Phosphate LIFEP04				
Capacity	553 Wh	307 Wh	538 Wh	655 Wh	655 Wh
Autonomy	> 24 hours at full charge - 4 Rainy Days back up				
Charging Time	5/6 Hours				
Lifespan	Over 5,000 CYCLES @ 50% DOD over 10y lifetime				
Working Temp	-10°C to 70 °C (optional -40°C TO 85 °C)				

ENERGY

Solar Panel	60W / 18V	72W / 18V	105W / 18V	105W / 18V	140W / 18V
Cell Type	TOPCON Monocrystalline Panel Grade A 25 years				
Certificate	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	76mm to 89mm				
Material	Aluminium & Stainless steel				

Dimensions

Product	910 x 398 x343	1,103 x 398 x343	1,571 x 398 x343	1,571 x 398 x 384	1,571 x 398 x 384
Carton Size	980 x 460 x 260	1,165 x 460 x 260	1,630 x 460 x 260	1,630 x 460 x 260	1,630 x 460 x 260
Net weight	11.5 KG	17.5 KG	19.3 KG	20.5 KG	20.5 KG

For more information, or to book your FREE audit,
call us on 01522 538212, email enquiries@involighting.co.uk
or visit us at www.involighting.co.uk