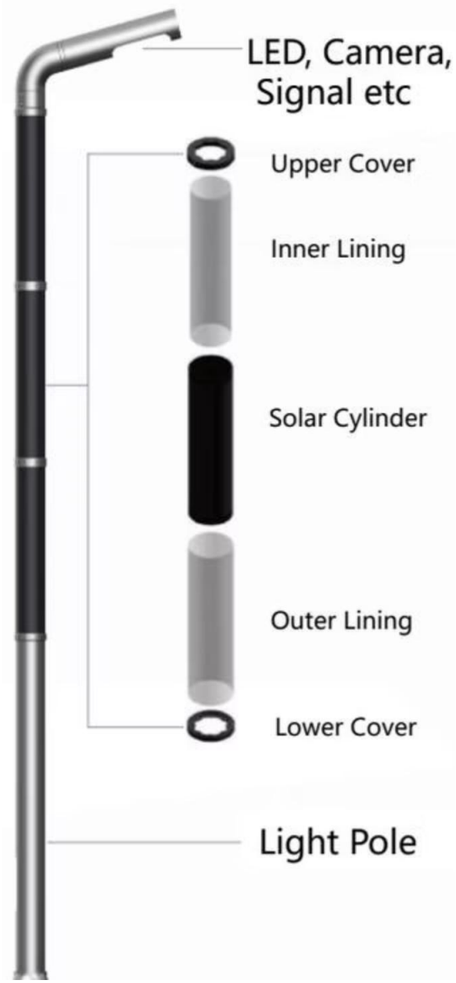
SolPol™

Solar Wrapped Poles for a Brighter, Greener Future

Cylindrical Solar Lamp

A revolutionary solar lighting solution that integrates seamlessly into urban environments — no external cables, no maintenance, and full smart connectivity for the cities of tomorrow. Designed and engineered in Germany.



Product Architecture

The Cylindrical Solar Lamp is engineered with precision-layered components that work in harmony to deliver reliable, off-grid illumination and smart functionality.

1

LED, Camera, Signal

Top-mounted smart module supporting lighting, surveillance cameras, and 5G/IoT signal acquisition and transmission.

2

Upper & Lower Covers

Protective end caps that seal the assembly, providing structural integrity and weatherproofing at both terminations.

3

Solar Cylinder

The core energy-generating element — a flexible monocrystalline solar module wrapped cylindrically for 360° light capture.

4

Inner & Outer Lining

Dual-layer lining system that protects the solar cylinder, manages thermal performance, and maintains structural form.

5

Light Pole

The integrated mounting pole that houses all components, treated with metal powder electrostatic spraying for durability.

Key Advantages at a Glance

The Cylindrical Solar Lamp delivers a comprehensive set of benefits that make it the superior choice over conventional grid-connected street lighting.

No External Cable

Eliminates the need for underground electrical infrastructure — lower cost, less manpower, and easy installation.

Smart Usage

Combines lamp, camera, and signal acquisition & transmission in a single integrated pole unit.

All-Weather Stability

More sensitive to light, continues working during rain, and performs even under partial shading conditions.

High Efficiency

Starts earlier, finishes later. 360° sunlight capture with shingling technology fills more cells for maximum output.

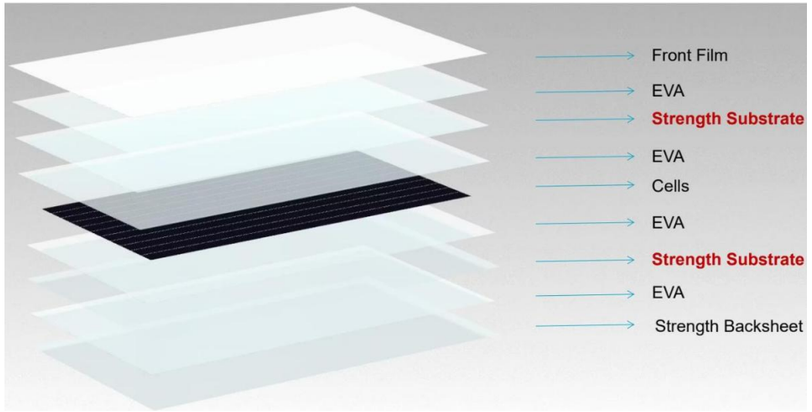
Maintenance Free

Strong wind resistance, no dust or snow attachment — designed to operate without intervention in harsh environments.

Blending with the surroundings

Minimal footprint, best appearance, no drop risk — integrates perfectly with any urban or suburban environment.

PV Module Construction



Layer-by-Layer Strength

The photovoltaic module is built with a multi-layer sandwich construction engineered for both maximum energy conversion and long-term durability.

01

Front Film

Protective outer surface layer

02

EVA Encapsulant

Bonding and sealing layers

03

Strength Substrate

Dual structural reinforcement layers

04

Solar Cells

Monocrystalline silicon cell array

05

Strength Backsheet

Rear protective and structural layer

Application Modes

The Cylindrical Solar Lamp supports multiple deployment configurations, from street lighting to 24-hour camera surveillance, all powered independently off-grid.

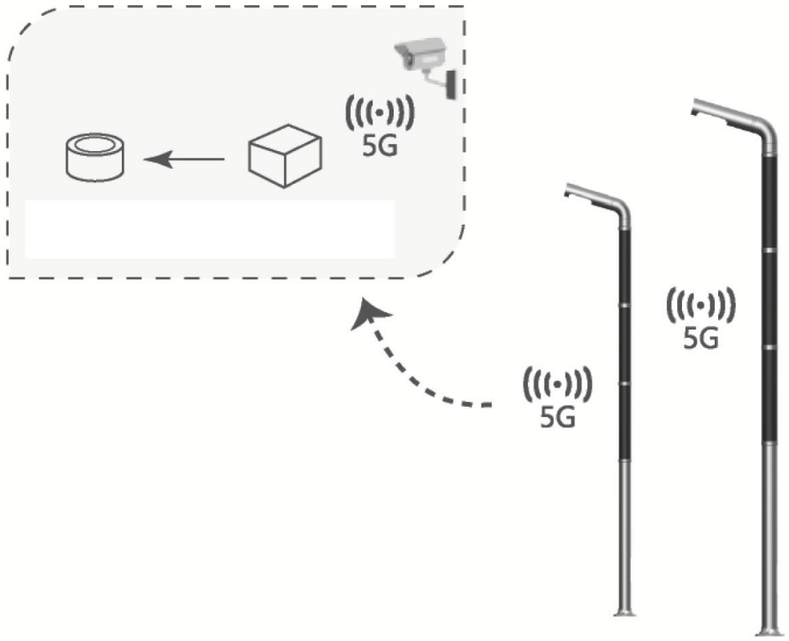
💡 Lamp Application

Power	30W	60W	100W
Working Time	12 hrs	12 hrs	12 hrs
Energy Required	360 Wh	720 Wh	1000 Wh
Solar Module	600 Wh Cylindrical		
Modules Needed	1	2	3
Duration	2 to 3 days autonomy		

📷 Camera Application

Power	5W	8W
Working Time	24 hrs	24 hrs
Energy Required	120 Wh	192 Wh
Solar Module	400 Wh Cylindrical	
Modules Needed	1	1

ⓘ Supports off-grid network for independent signal transportation — no external power or data cables required.



The solar lamp can combine the lamp together with a camera. The lamp operates during evening hours while the camera works all day. Data captured through the camera is transmitted independently, enabling continuous monitoring without any grid connection.

Product Configurations

Five distinct pole configurations allow the Cylindrical Solar Lamp to be tailored to any application — from simple street lighting to full smart city deployments with wind sensing, cameras, and multi-function arms.

Standard Lamp

Simple straight lamp head — ideal for basic street and pathway illumination.

L-Shaped Lamp

Lamp head on a horizontal arm for extended reach over roadways and intersections.

Wind Sensor + Lamp

Wind vane and anemometer on top with a side-arm lamp — for environmental monitoring zones.

Wind Sensor + Camera

Wind sensing combined with a camera unit — for surveillance and weather data collection.

Full Smart Pole

Wind sensor, lamp, and camera all integrated — the complete smart city solution in one pole.

Technical Specifications

Different variants cover a wide range of lighting requirements, from 30W residential paths to 100W arterial roads, all sharing the same robust platform.

MODEL			
Module type/s	AP-LA-P30 AP-LB-P30	AP-LA-P60 AP-LB-P60	AP-LB-P100
LED Lighting	Up to 30 W	Up to 60 W	Up to 100 W
Battery	12.8 V/40 AH (At least 3 nights 8h/night)	12V/90 AH (At least 3 nights 8h/night)	24V/60 AH (At least 3 nights 8h/night)
	Customized Available		
Color Temperature (LED Working Life)	3.000 K–5.700 K (>50.000 h)		
Controller	MPPT technology		
Surface Treatment	Metal powder electrostatic spraying (plastic spraying)		
Protection class	≥IP65		
Working Temperature	-40 °C~ + 85°C		

PARAMETERS	
Cell type	Monocrystalline silicon
Power	150 W
Isc	5.42 A
Voc	37.1 V
Imp	5.07 A
Vmp	30.5 V

STRUCTURAL	
Size	226*226*1.500 mm
Diameter	r 226mm, r 135mm
Structure	Protective Shell + Flexible Solar Module
Weight	15 kg
Color	Black
Operation Temp	-40 °C~ +85 °C
Operation Humidity	0 %~ 80 %

Why Choose SolPol Solar?

The Cylindrical Solar Lamp represents the next generation of urban infrastructure — combining clean energy, smart technology, and elegant design into a single, maintenance-free pole.

Zero Grid Dependency

100% solar powered — no cables, no electricity bills, no carbon footprint from operation.

Smart City Ready

5G, camera, and IoT integration built in — ready for the demands of modern urban management.

Fast ROI

Investment recovery in as little as 3 years, with decades of maintenance-free operation ahead.

Proven & Scalable

Deployed across multiple cities with customizable configurations for any scale of project.