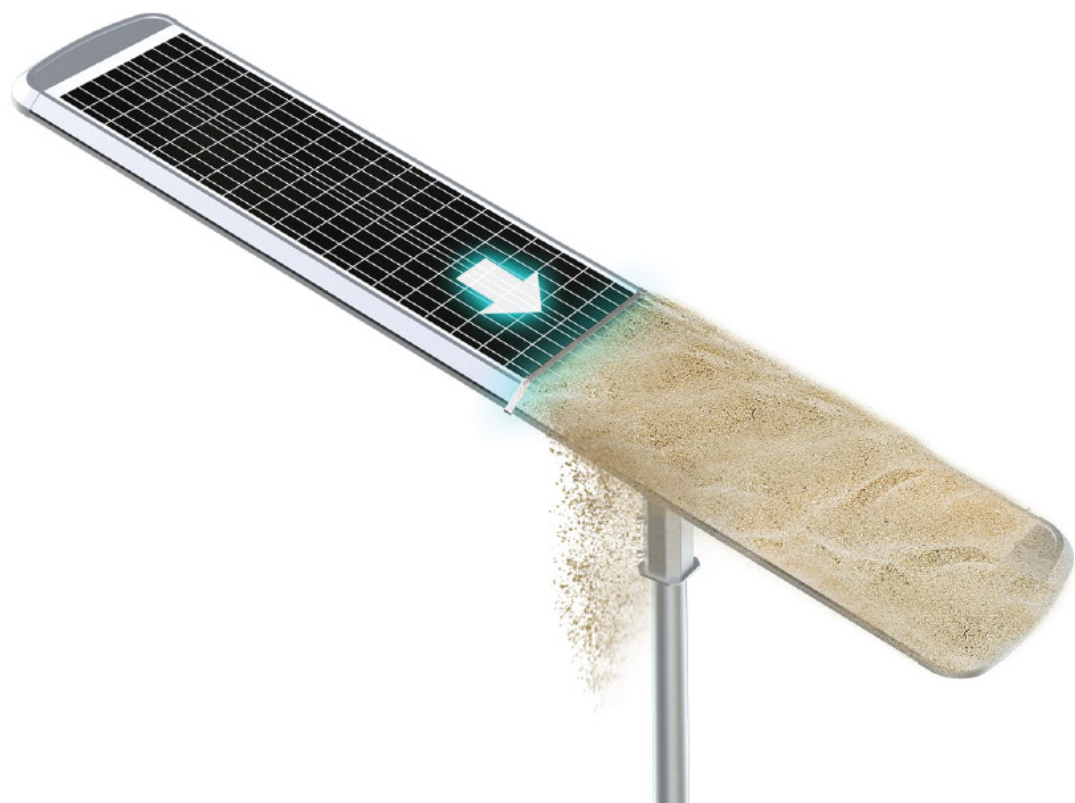




SPECTRUM SOLAR STREET LIGHT

Smart City Solar Pole with a built-in
Cleaning System



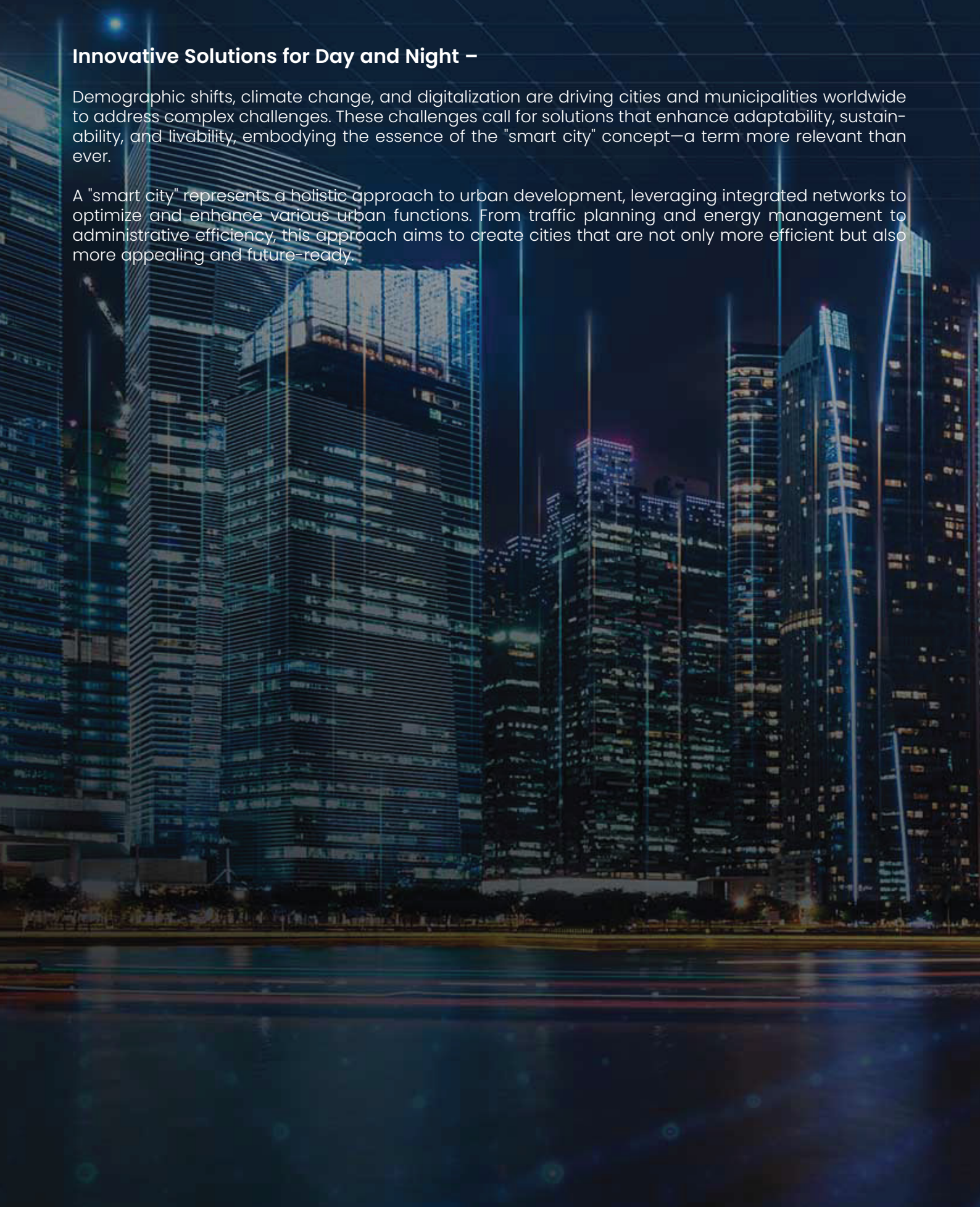
SMART CITY



Innovative Solutions for Day and Night –

Demographic shifts, climate change, and digitalization are driving cities and municipalities worldwide to address complex challenges. These challenges call for solutions that enhance adaptability, sustainability, and livability, embodying the essence of the "smart city" concept—a term more relevant than ever.

A "smart city" represents a holistic approach to urban development, leveraging integrated networks to optimize and enhance various urban functions. From traffic planning and energy management to administrative efficiency, this approach aims to create cities that are not only more efficient but also more appealing and future-ready.





SELF CLEANING SYSTEM



Solar panels play a crucial role in solar street lighting systems, particularly in the GCC region, where dust and dirt accumulation presents a significant challenge. In such conditions, dirt buildup can reduce electricity output by up to 50%. To address this issue, BLF has designed a solar street light with an auto-matic cleaning function, delivering a completely new and improved experience to many customers.

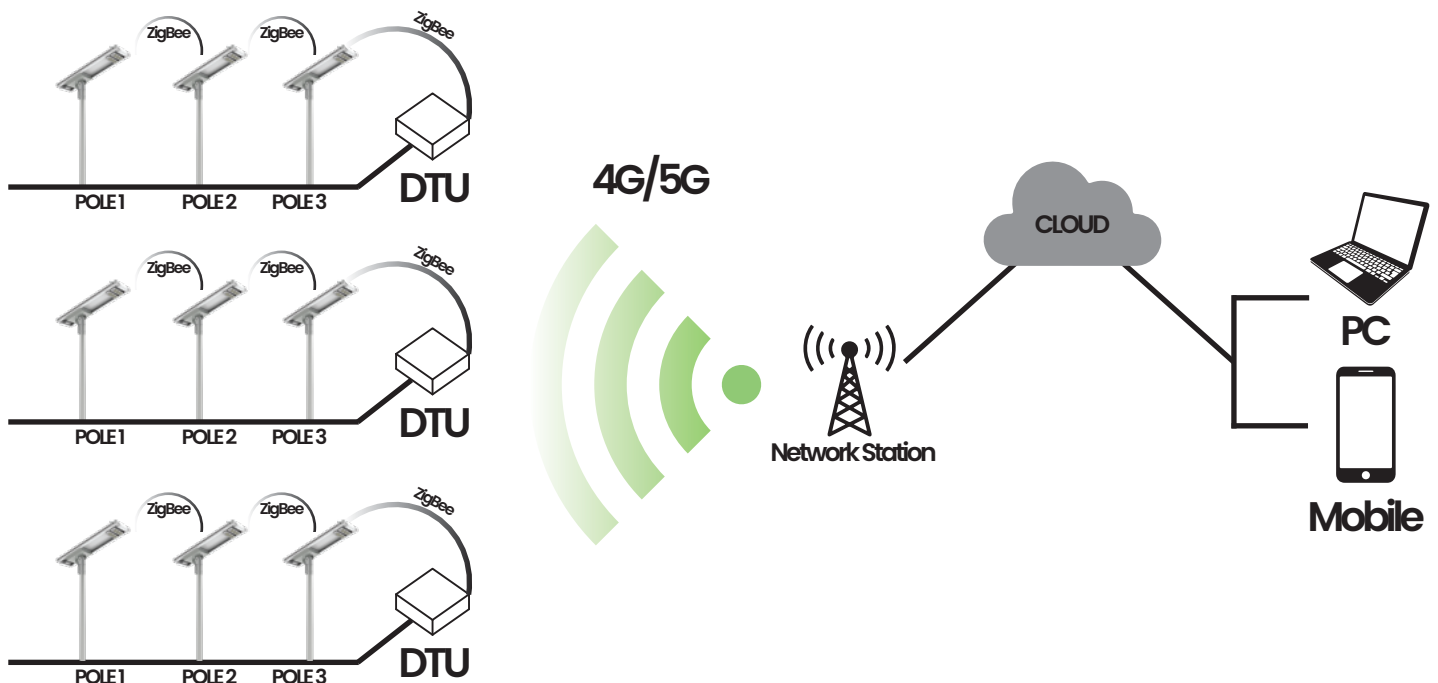
The SPECTRUM STREET LIGHT auto-cleaning system is a lightweight and innovative solution powered by small, efficient electric motors. Specifically designed to withstand the harsh and dusty conditions of the GCC, it can be programmed for regular or on-demand cleanings, ensuring consistent electricity production and maintaining optimal performance.



IoT-Enabled Solar Street Lighting System



Our IoT-enabled solar street lighting system integrates advanced technology with solar energy, offering efficient, sustainable, and easily manageable solutions for smart cities. Each solar light features a Remote Terminal Unit (RTU) for independent operation, while a centralized Data Terminal Unit (DTU) can manage up to 150 lights within a 6 km radius. The system uses ZigBee wireless communication to connect each light to the DTU, ensuring seamless data transfer, and is supported by 4G or 5G networks for cloud connectivity.



Key Features:

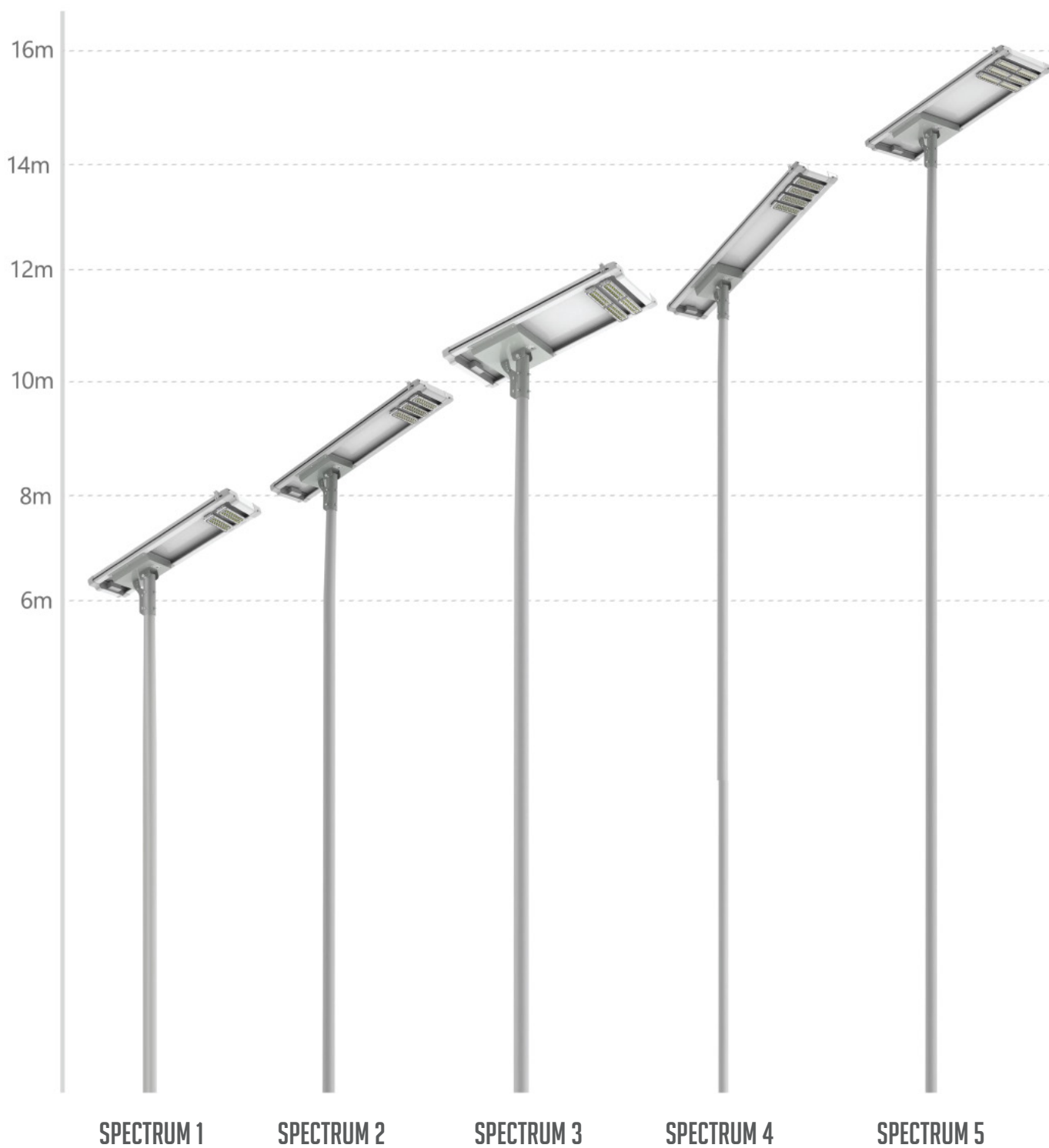
- Energy Efficiency: Adjusts light intensity based on environmental conditions.
- Real-Time Monitoring: Tracks performance, energy use, and battery status.
- Maintenance Alerts: Automated notifications for quick issue resolution.
- Remote Diagnostics: Troubleshoot and resolve issues remotely.
- Sustainable: Solar-powered, reducing grid dependence.

AREAS OF APPLICATION

URBAN & RESIDENTIAL STREETS
RAILWAYS & METRO STATIONS
BIKES & PEDESTRIAN AREAS
ROADS & MOTORWAYS
PARKING AREAS
HIGHWAYS
BRIDGES

Products Benefits & Features

- Modular design: 45W, 55W, 70W, 90W, 115W options
- Excellent outlook, robust and durable design
- Automated self-cleaning with motorized brush
- Fully autonomous and energy-efficient operation
- High-efficiency LED modules: up to 220 lm/W
- Adjustable LED module angles (0° to +40°)
- Long lifespan: 100,000 hours for LED modules
- High-efficiency solar panel (>24%)
- Easy installation with minimal maintenance
- High-capacity lithium battery pack
- Controller Indicator to monitor charging and operational status
- Remote smart monitoring via web platform



Product Datasheet

Product Range

	SPECTRUM 1	SPECTRUM 2	SPECTRUM 3	SPECTRUM 4	SPECTRUM 5
Nominal Wattage (W)	45W	55W	70W	90W	115W
Lumen Output (lm)	9000-10000lm	10000-12000lm	13000-15000lm	18000-20000lm	20000-25000lm

*Values are subject to ±5% tolerance.

Mechanical Specifications

Recommended Pole Height	6-8m	8-10m	10-12m	12-14m	14-16m
Net Weight (Kg)	24Kg	30Kg	35Kg	36Kg	45Kg
Product Dimension (mm)	1327x416x87mm	1694x416x87mm	1327x634x87mm	2061x416x87mm	1489x623x87mm

Physical

Body material	High Pressure Die-cast Aluminum Powder Coated
Housing color	Light Grey (Default) / Other colors (available on request)
Screws	Stainless steel 316 marine grade
Mounting type	Adjustable vertical pole-mounted Ø60 to 76mm

LED Lighting

Lens material	PMMA (UV-resistant Polycarbonate)
Optics	70x140°
LED Chip	High Efficient LED Chip type 5050
Efficiency (lm/W)	220 lm/W
CCT (K)	3000-6000K (can be customized)
CRI	Ra> 70 (Default) / Ra>80 (available on request)
Lifespan L80 at 25°	>100,000 h
Operating Method	Motion Sensor (Compatible with Poles up to 6 Meters in Height) / IoT System with a coverage radius of up to 6 kilometers / Time Schedule

Solar Panel

Power of PV module	100W	130W	150W	180W	200W
Technology	Monocrystalline silicon, efficiency > 24%				
Voltage (V)	25.6Vdc				
Lifespan L80	>25 years				

Battery Storage

Battery Capacity (can be customized)	640WH	825WH	825WH	1280WH	1715WH
Type	Lithium LiFePO4, High temperature				
Voltage (V)	3.2Vdc				
Lighting Time in rainy day (Autonomy)	>3 days				
Lifespan	6000 Cycles (>10 years)				

Product Datasheet

Charging Controller

Lifespan	>12 years
Working Mode	MPPT
Control Mode	Auto On/Off(Activated by Sunlight),Auto Intelligent(Brightness adjustable based on battery voltage),Time Mode,Remote Control

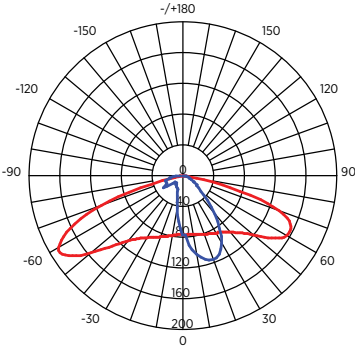
Environment

Working Ambient Temperature (Charging/Discharging)	-15°C to +75°C
IP rating	IP65
IK rating	IK08 (Housing) , IK09 (Diffuser)

Solar Panel Autocleaning function

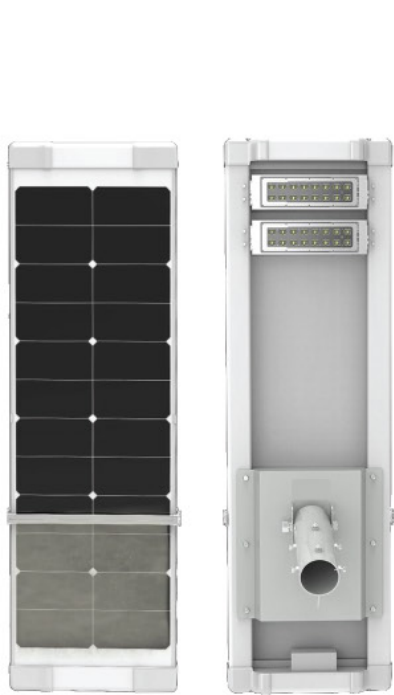
Automatic Dust and Snow Removal on Solar Panel Using a Motorized Brush
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Optic



Mounting type





SPECTRUM 1



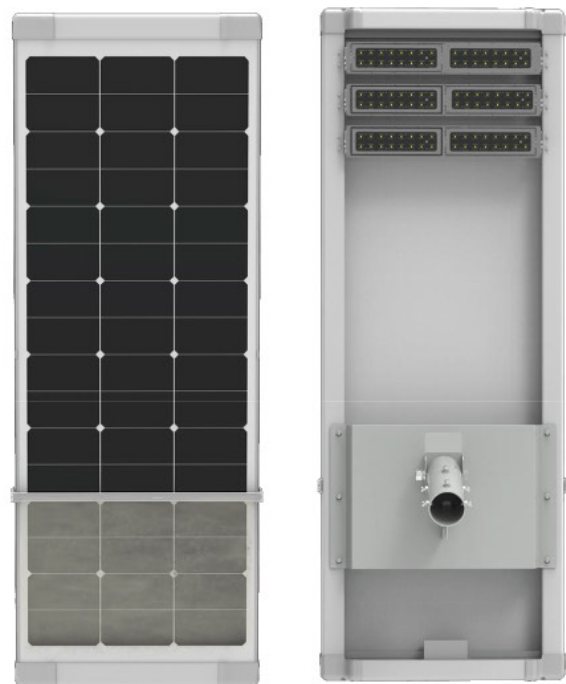
SPECTRUM 2



SPECTRUM 3



SPECTRUM 4



SPECTRUM 5