

MAGSOL HIGH-MAST



MAGNITECH
LIGHTING INDUSTRIES

Solar High-Mast (2/4/6/8 heads)



40W

7,800
lumens

50W

9,500
lumens

70W

13,650
lumens

80W

14,800
lumens



Hello Performance!

The MagSol High-Mast is a powerful, off-grid lighting solution designed for large outdoor areas, public spaces, and infrastructure projects. Engineered for maximum reliability and efficiency, this system combines advanced solar technology with high-performance LED luminaires to deliver consistent illumination even in demanding environments.



Built with LiFePO4 batteries and an intelligent MPPT controller, the MaGSol High-Mast ensures long-lasting performance, fast charging, and up to 3 days of autonomy. With robust IP66 protection and a modular design that supports 2, 4, or 6 luminaires, it offers scalable lighting for roadways, highways, parking areas, and community spaces.

Fit-For-Purpose:

- Major roadways and intersections
- Public squares and open areas
- Industrial and mining sites
- Sports facilities
- Remote or off-grid locations
- Security Lighting
- Ports & logistics yards

	FIXED MAST	RING MAST
Diagram		
Description	This configuration utilizes a coplanar array where all solar panels are systematically arranged in a grid formation at the apex of the high mast.	This configuration features a circular arrangement where each solar panel is directly paired with a dedicated LED luminaire. The Ring Mast allows for the elevation and descent of the entire ring structure via a winch mechanism.
Configuration Options	A choice of four, six, or eight photovoltaic panels paired with four to eight corresponding LED luminaires. The design allows for the flexibility to dedicate one panel to power a communication and/or peripheral device.	A choice of two, four, or six photovoltaic panels paired with an equal number of corresponding LED luminaires. This unique design allows for optimal orientation for increased efficiency.



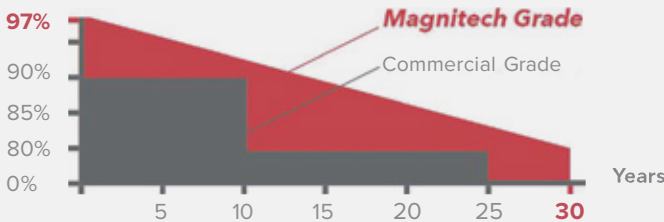
SOLAR PANEL UP TO 345 WATTS

High efficiency mono-crystalline Solar panels. Carefully selected Grade A Solar cells. Up to 23% efficiency. 5 Busbar cells for a better collected current capability. Modern design Anodised Aluminium Alloy Frame, corrosion resistant.



OUR PV PERFORMANCE GUARANTEE

Guarantee module performance



BATTERY LITHIUM LIFEPO4

The MagSol range is equipped with a Lithium Ion Phosphate (LifePo4) battery. This technology is proved to be the best chemical technology for solar applications on the market.

With a cycle life of over 4000 cycles @ 80% DOD, the battery enjoys over 10 years of life.

ELECTRONIC PROTECTION BATTERY MANAGEMENT SYSTEM (BMS)

The electronic algorithm protects the battery from operating outside its safe area. Monitoring its state, calculating secondary data, reporting that data, controlling its environment, authenticating it and / or balancing it.

The BMS offers **MULTI PROTECTION**:

- Over/Under Load
- Over Charge & Discharge
- Over/Under Current
- Temperature Management
- Over/Under Voltage

EASY MAINTENANCE & ANTI THEFT SCREWS

Easy and direct access to the battery casing for maintenance. The fixation is made with **anti theft screws**, which requires special tooling to unscrew.

Weight:

Dependent on configuration selected.

Autonomy:

Up to 3 days. Dependent on configuration selected.



CONTROLLER SMART MPPT

MagSol is equipped with a High Quality MPPT Controller, using top technology semiconductors.

FEATURES

High Transfer Efficiency:

Charging efficiency up to 98%

Minimal stand-by power consumption:

Current consumption \leq 10mA

Intelligent battery management - 3 Phases charging:

MPPT Charge / Constant Voltage / Floating Voltage

Intelligent LED driver:

Auto detecting of Dusk and Dawn for automatic operation. 7 Lighting program configurations.

Anti Black Out:

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



LUMINAIRE:

- Efficiency: Up to 195lm/w
- Housing Material: Marine Grade High pressure die cast aluminium
- IP Protection: IP66
- Impact Resistance: IK08 (Glass) ; IK10 (UV Stablised Polycarbonate)
- Colour Temperature: 2700k - 6000k. As per required specification

AVAILABLE INTEGRATION TECHNOLOGIES:

- Bluetooth
- 2G/3G/4G
- WiFi
- GPS
- PWM
- LoRa

OPERATION MODE

The photosensor will automatically switch on & off - from dusk to dawn.

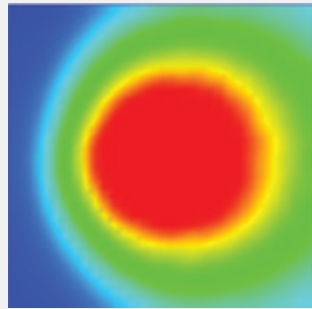
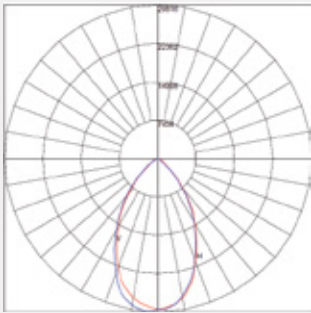
This technology gives you the option to choose from 2 different pre-programmed lighting profiles, pictured in the table below:

	SUNSET		MIDNIGHT		SUNRISE
PR 1	1 HR - 80%	4 HRS - 100%	4 HRS - 80%	2 HRS - 100%	
PR 2	1 HR - 80%	2 HRS - 100%	2 HRS - 70%	4 HRS - 50%	2 HRS - 100%

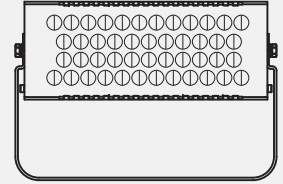
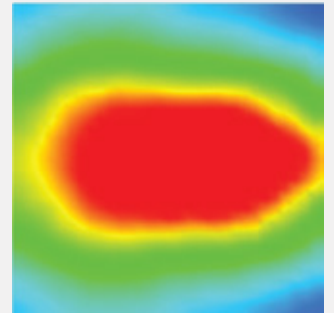
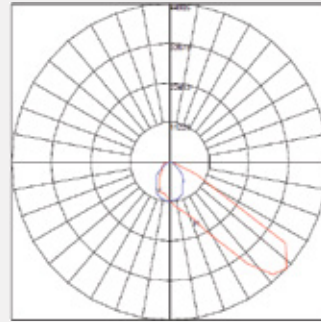


FLOODLIGHT LUMINAIRE CONFIGURATION

Configuration 1:

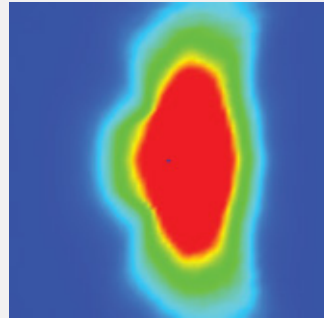
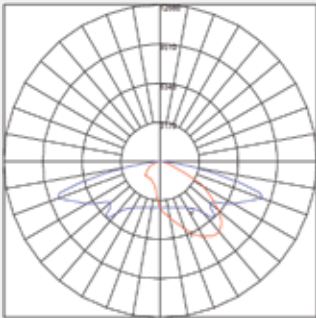


Configuration 2:

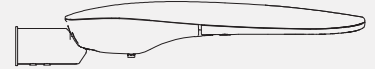
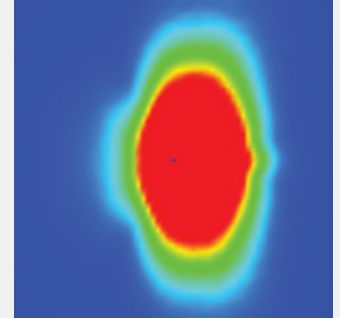
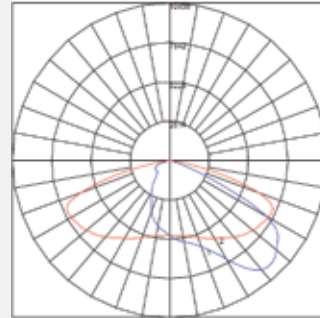


STREETLIGHT LUMINAIRE CONFIGURATION

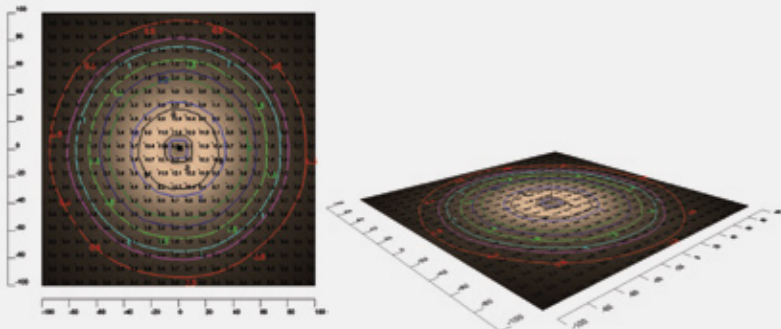
Configuration 1:



Configuration 2:



Rendered View Example:





PRODUCT CONFIGURATIONS

The MagSol High-Mast solution incorporates a unique configuration that allows all solar panels to be independently adjusted to their optimal orientation. This innovative design ensures consistently maximized energy capture, ultimately enhancing operational efficiency.

The MagSol High-Mast solutions are offered with either floodlight or streetlight luminaires.

FEATURE	MAGSOL HM 40	MAGSOL HM 50	MAGSOL HM 70	MAGSOL HM 80
LIGHTING				
Nominal Power	40 Watts	50 Watts	70 Watts	80 Watts
Luminous Flux Flux (lm)	UP TO 7,800	UP TO 9,500	UP TO 13,650	UP TO 14,800
Luminous Efficiency (lm/w)	UP TO 195	UP TO 190	UP TO 195	UP TO 185
STORAGE				
Technology	Lithium Iron Phosphate LifePo4			
Capacity	780 Wh / 60 Ah 12,8 V	780 Wh / 60 Ah 12,8 V	1366 Wh / 54 Ah 25,6 V	1366 Wh / 54 Ah 25,6 V
Autonomy	> 24 Hours at Full Charge, Up to 3 Rainy Days Back Up			
Charging Time	5-6 Hours			
Lifespan	Over 4000 Cycles @ 80% DOD Over 10-Year Lifetime			
Working Temperature	-10°C - 70°C			
Weight	4.8KG	4.8KG	7.2KG	7.2KG
ENERGY				
Solar Panel	185W / 18V	185W / 18V	290W / 18V	290W / 18V
Cell Type	Monocrystalline Topcon Grade A - Up to 25.5% Efficiency and 97% Conversion Efficiency in Low Light			
Certificates	IEC 61215 - IEC 61730 I and II - IEC 60904			
Weight	11.2KG	11.2KG	16KG	16KG
ELECTRONIC				
Controller	MPPT Smart Controller			
Cabling	Waterproof Connector Plug and Play			
Protection	Battery Management System (BMS)			
WORKING MODE				
Mode	PR 2	PR 1	PR 2	PR 1

Related Solar Products



MagSol
AIOS



MagSol Pro
Streetlight



MagSol Pro
Floodlight

MAGNITECH - BENCHMARKING
THE STANDARD OF **QUALITY**



MAGNITECH
LIGHTING INDUSTRIES

MAGNITECH (PTY) LTD

21 RAEBOR ROAD, BENROSE, JOHANNESBURG, 2094

TEL: +27 11 618 2720 | **FAX:** +27 11 614 9603

EMAIL: SALES@MAGNITECH.CO.ZA

WWW.MAGNITECH.CO.ZA