OFF-GRID LAMP WITH BUILT-IN BATTERY AND PHOTOVOLTAIC PANEL

MIRACLE
SOLAR

The Miracle Solar lamp is preferably used in places where electricity is not available through the distribution network. Fields or driveways to secluded houses. The lamp is powered by a built-in battery, which is recharged by a photovoltaic panel. Everything is part of a compact design. For perfect function, you need to choose a position that has an all-day view of the sun

mechanical design

Design	compact flat design with PV panel and built-in battery
Dimensions	model 30/40W - 400 x 887 mm, model 50/60W - 400 x 1160 mm, model 80/100W - 400 x 1435 mm
Material	die-cast aluminum, powder coating, silicone seal
Paint color	silver
Opening	tool, not intended for field repair
Hold	for column, ⌀ 60, horizontal and horizontal position
Mechanical resistance	IK09
Degree of protection	IP66
Weight	12-18 kg depending on the model
Battery	LiFePo4, more than 2000 cycles, simple replacement, charging time approx. 6 hours, endurance 2 - 3 days
FVE	single crystal

light source

LED	3,000 to 5,000 K (optional), 0 to 100 W / to 17,000 lm depending on model and Tc used (controlled by motion sensor with timer and photosensitive sensor)
Color rendering	>80
ULOR	0%
Power	0 to 100 W, depending on the model

optics

Direction of light	selectable combination of emission of each lens: IES II or III

control system

Night detection	drop in ambient light intensity below 10lx
Time division	time periods follow from switching on - 2 / 3 / 6 / 1 hour
Intensity without movement	30% / 20% / 10% / 10% in individual sections
Intensity during movement	100% / 50% / 20% / 30% in individual sections

Design

With its shape, the lamp is maximally suitable for the physical principle of battery charging. The upper surface consists of a photovoltaic panel made of monocrystalline silicon. LEDs with suitable lenses, a motion sensor and a switch are located on the bottom surface. After switching on, the light behaves fully autonomously. It can be mounted both horizontally (boom) and vertically (on the column shaft) for a pipe diameter of max. 60 mm. Installation is simple, after installing and tightening the screws, just turn on the switch. During installation, it is necessary to ensure maximum access of the sun's rays. The service life of the LiFePo4 battery is 2000 charging cycles, which corresponds to approximately 6 years of operation. It is understandable that battery capacity decreases over time and needs to be replaced at the end of its life. The design of the lamp allows easy access to the battery and thus its replacement. With the use of suitable tools, it can be replaced directly on the pole.

Functions

The light turns on automatically when the ambient light intensity drops below 10 lux. From the time it is switched on, the lighting control logic recognizes several time zones in which it shines with different intensity. In the first 2 hours, when movement is detected, it lights up at 100% of its power, if there is no movement, it lights up at 30% to save energy. The next time zone is 3 o'clock, when 50% or 20% lights up with the recognition of movement or stillness. In the next 6 hours, it shines with an intensity of 20% or 10%, and in the last stage, 30% or 10%. Quality LEDs can emit light in an alternate chromaticity temperature of 3000 to 5000K (a higher value corresponds to a whiter light, but with better luminous efficiency than yellow light). The optical lenses are replaceable in each position as needed, while it is possible to choose from the IES type II or III characteristics.