

# VMXOG OFF-GRID LIGHTING

## THE SOLAR POWERED OFF-GRID LIGHTING RANGE FOR REMOTE ILLUMINATION



Our Solar Powered lighting solution is the perfect way to bring light into remote and rural locations, as well as urban areas where it might be difficult to run new mains infrastructure. Powered by 100% renewable energy, there is no need for reliance on the national grid. Perhaps you're seeking improved safety or environmentally friendly energy alternatives. We adapt and optimise our Solar solution to suit your requirements. With over 125 years of experience in public lighting, now powered fully by the sun!

### System Architecture

All energy harvested by solar is directed and stored in the internal batteries. The system is flexible and can facilitate P-class road lighting levels utilising our latest VMXII road luminaire. Converted electricity is then completely free and forever sustainable. The system is sized to offer up to an average 7-day battery back-up – one of the longest back-up periods on the market!

### Benefits

- Powered from 100% renewable energy
- Minimal environmental disruption
- No need to dig trenches for cable ducting or conduit
- A system that is independent from the grid
- No on-going energy or standing charges
- Quick and easy installation

### Typical Applications

- Rural footpaths
- Airfields
- Car parks
- Play areas
- Bus shelters
- Remote homes
- Urban areas



# Here's an example

## System Operation

The system will typically be configured to provide ambient lighting of 2W with PIR detection. Upon detection the system will ramp up to the specified system power (typically 12W or circa 1500lms using VMXII) and will stay on for a short period after last movement.

### 1 Solar Panels

The photovoltaic panel is sized to generate power in all seasons in the UK and Europe.

### 2 Energy Efficient LED Technology

The system utilises the latest in LED and optical technology from Holophane manufactured in the UK. The optics are designed to minimise upward light pollution thereby maximising the performance and light towards the ground. The lamp is activated by the controller's light level and timer settings. Technicalities are adjustable by the user.

### 3 PIR Sensors

Individual Passive Infra Red sensor with a 10m detection range (when mounted at 5m) will keep the luminaire in a dimmed state, ensuring that the power consumption is minimised.

### 4 Columns

The type of column required is location dependent. Since the heaviest part of the system, the batteries, are at the bottom, this reduces the head-load on the top to allow for an optimised column unlike competitor systems where all the system components are at the top. The batteries are mounted to the column so no secondary foundation is required for any battery cabinets. The luminaire can be placed at any length up the column (to be defined prior to manufacture) therefore allowing the column to place the PV panels independent to the luminaire so both are fully optimised! The PV Panels will be approximately 1.5m above the luminaire height, taking the total height of the column to 1.5m more than the specified height of the ordering code.

### 5 Batteries

A high-quality sealed gel battery is used to deliver power over a long life. The maintenance free battery provides energy storage for periods of low solar power generation. The reserve is typically 4/5 days in winter and up to 10 days in summer based on the highest power system.

### 6 Anti-climb spike bracket

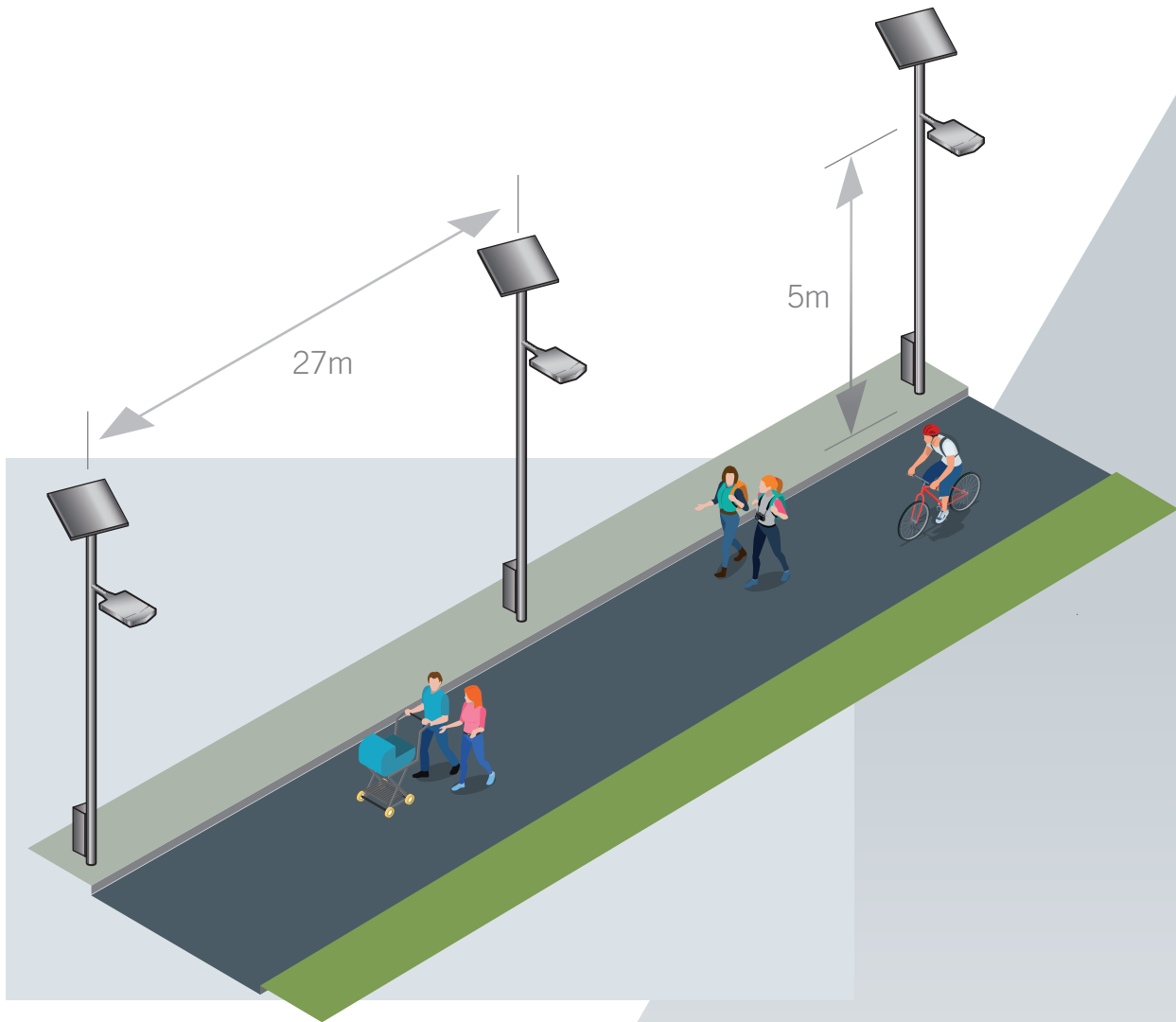
Available to order to deter vandalism.

#### Typical system specifications:

- 220Wp Monocrystalline Solar PV panel
- 200Ah AGM Battery-pack.
- PIR controlled system 2W nominal/12W peak.
- Circa. 1500 lm peak lumen output.
- Holophane VMXII roadway luminaire. LM6 construction, IP69.
- Luminaire and PV panel can be mounted independently on column for complete system optimisation – lighting and energy generation.
- Single foundation required only for column (no independent battery cabinets etc).



# Here's a typical lighting scheme



Lighting class	Pedestrian area P5 EN 13201:2015)	Average illuminance (Eav)	3.00
Light source lumens	1000lm	Minimum illuminance (Emin)	1.08
Maintenance factor	0.92	Maximum illuminance (Emax)	6.26
Light source height	5m	Emin/Emax	0.17
Column spacing	27m	Emin/Eav	0.36

To ensure that the solar solution is optimised the installation location must be free from daytime shadows with the orientation of the solar array facing the equator at an angle equal to the latitude plus 15 degrees.

Holophane Europe Limited does not assume responsibility and disclaims liability for damage, loss, or expense arising from improper use, operation, or installation of this product. Holophane Europe Limited assumes such position due to the inability to control the conditions and methods of installation and use of said product.



Holophane Europe Limited  
Bond Avenue, Bletchley,  
Milton Keynes MK1 1JG  
United Kingdom

Telephone: +44 (0)1908 649292  
UK Fax: +44 (0)1908 367618  
International Fax: +44 (0)1908 363789  
E-mail: info@holophane.co.uk

[www.holophane.co.uk](http://www.holophane.co.uk)