



**covimed**  
**solar**

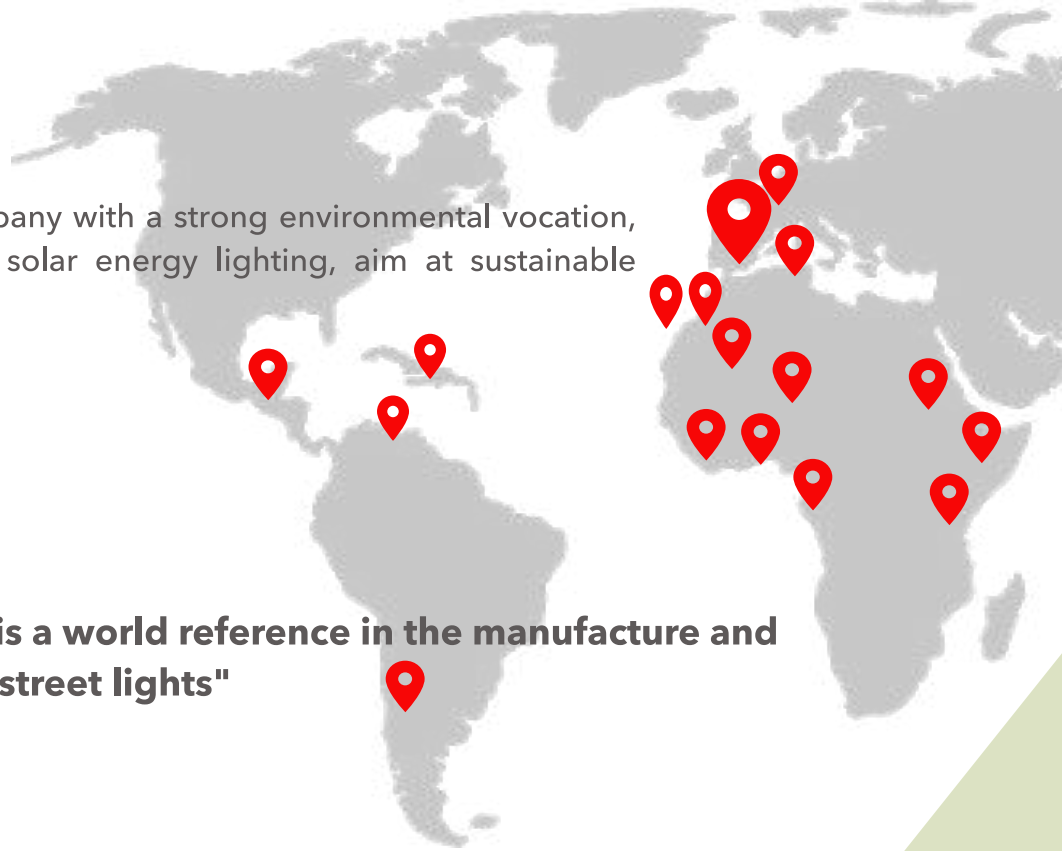
SUSTAINABLE LIGHTING



AGENDA  
**2030**

World-leading company in the design and manufacture of solar streetlights since 2003.

COVIMED SOLAR is a company with a strong environmental vocation, all its products related to solar energy lighting, aim at sustainable development.



**"COVIMED SOLAR is a world reference in the manufacture and innovation of solar street lights"**

Company's international action makes us present in many countries where COVIMED solar street lights and lighting kits have been installed, carrying out projects adapted to the different technical requirements of the project, the continent and the country of destination.

**OBJETIVOS DE DESARROLLO SOSTENIBLE**



COVIMED SOLAR as an authorized distributor of the different UN organizations (UNHCR, UNDP, FAO ...) has collaborated in numerous lighting projects such as supplying more than 1,000 units in the refugee camps.

# BETTING FOR THE FUTURE

## ECONOMIC

No electrical line or associated work is needed (trenches, power lines, transformer ...)

No consumption of the electricity grid

Reduced maintenance

Quick and easy installation

## SUSTAINABLE

100% renewable electricity production

100% autonomous

Its operation produces 0 CO2 emissions

## EFFICIENT

High light output (170lm / W)

Long component life

Great efficiency in energy consumption

## A TECHNICAL TEAM AT YOUR SIDE

Carrying out light studies for your projects will allow you to determine the necessary power and the appropriate distance between Streetlights.

Our technical team will guide you in the implementation of necessary components depending on your needs



Allowing for better decision-making, favoring compliance with the Energy Efficiency Regulation.



# CHARACTERISTICS

## LED LIGHTING

High light output led  
Great light projection amplitude

## COMPONENTS IN HEIGHT

Greater security against theft  
Better energy efficiency due to the proximity of the equipment  
Simpler installation  
It favors the ventilation of electronic equipment  
With security lock



## TECHNOLOGY

COVIMED SOLAR uses the latest generation LiFeP04 lithium batteries capable of storing up to 3 times more than lead-acid batteries of the same size. The batteries are made up of small lithium and iron batteries connected to each other to reduce the cyclical stress of charges and discharges, achieving increased battery durability. LiFeP04 batteries can discharge up to 90% without damage. They have a BMS that protects the battery so that in extreme climates it continues to work.

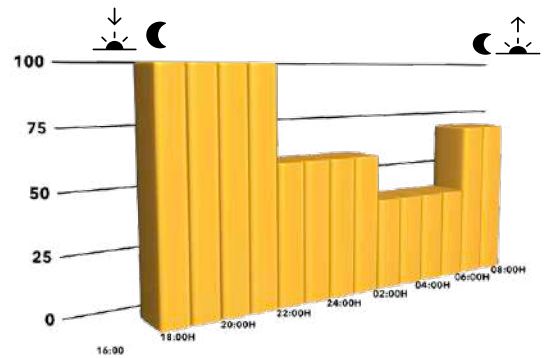


COVIMED SOLAR protects the batteries against high and low temperatures with a thermal insulator that allows a constant temperature to be maintained in the battery, thus allowing greater durability.

# CUSTOM PROGRAMMING

The Ecology and Eco Road streetlights allow programming their operation during the night:

- Define different on and off times
- Set different lighting intensities



Regulate from 0 to 100% of intensity of the led at different times Improves performance and energy savings

## REMOTE CONTROL



Group remote control and monitoring using the COVIMED software. Status display, configuration changes, location and alert notification.

## APP MONITORING



Individual or group control via APP. Status display, configuration changes, location and alert notification.





LiFeP04



20 W



4,60 m



Custom programming



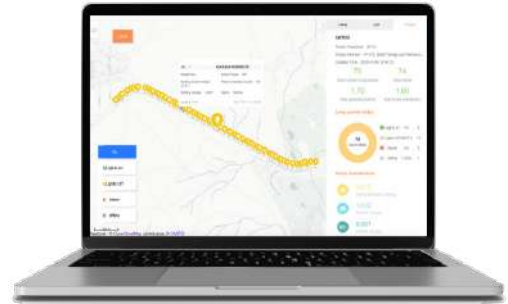
Fast charge



High luminous efficiency

# covimed solar INTEGRATED MONITORING

Covimed Solar's software and APP contributes to improving the maintenance that every public lighting installation needs. By geolocation of each streetlight we can identify in real time how much the solar panel produces, know the state of charge of the battery and check the correct operation of the luminaire. The APP will notify us of any incident thanks to its alert system, with which we can solve problems that may arise effectively.



Cada farola Covimed integra un sistema de comunicación que permite el control total de la instalación mediante cualquier dispositivo, ya sea móvil, tableta o PC. La APP está disponible para iOS y Android.



## How does it work?

Covimed streetlights integrate a SIM card with a 4G module that allows bidirectional communication between the Covimed software and each streetlight. By incorporating a SIM card in each streetlight, all of them are independent of each other and do not need an external device to act as a controller. In this way, communication failures are reduced, since the distance at which the streetlights are located does not matter. This is a great advantage for installations in rural or scattered areas.

## Smart saving mode

The MPPT has several intelligent power saving modes depending on the actual battery capacity, the number of rainy days and other factors. These modes can be programmed to High, Medium, Low, Automatic, Custom or not activate it



# ADVANTAGES OF MONITORING

## Remote management

Avoid trips to check correct operation

## Alert service

Quickly identify any incident

## Geolocation

Visualization of each street light on the map

## Parameter configuration

Configure up to 9 programming phases and the sunrise function that automatically adjusts each day to adapt to time change

## ECO mode

Configure the different smart saving modes based on the actual battery capacity, the number of rainy days and other factors.



Covimed ECOLOGY solar street lights are supplied with a SIM card that allows you to use the monitoring software for 2 years. Once the 2 years have passed, if you wish to continue maintaining the service, the customer must assume the cost of the SIM card, which is €5/year for each streetlight installed.

Monitoring of solar street lights is optional. If the project does not require remote monitoring, all these programming and status display functions for the streetlights can be performed using the remote control by placing yourself under each streetlight. (more information in the "Smart MPPT" document)



## SMART MPPT



APP monitoring



Remote control



COVIMED ECOLOGY / ECOROAD incorporates a MPPT with remote control to configure and monitor the operation of the equipment, in this way we can have full control of our installation.

### FEATURED MPPT CONFIGURATIONS

#### 9 programming phases plus sunrise function

In these 10 phases we can configure how long each phase lasts from 1 minute to 15 hours and the % brightness from 0 to 100%. The standard programming we use is divided into 4 sentences.

- 4H at 100%
- 4H at 60%
- 4H at 40%
- 2H at 70% Dawn

The dawn function allows us to give more intensity to the light 2 hours before dawn, this function is automatically regulated day by day to adapt to time changes. It can be regulated from 1 minute to 15h, like the rest of the phases.

#### Configuration power on

The MPPT orders the power on according to the voltage of the solar panel and this voltage can be modified to be able to control when the luminaire is turned on, as well as can be delayed from 10 seconds to 1 hour.

#### Configuration of each phase

Depending on each project, the lighting needs are different and therefore this MPPT allows us to configure the time that the light is at 100%. In most installations the luminous flux is reduced in the middle of the night, thus reducing consumption and extending the life of the batteries. To do this, we can help each other in the different programming phases.

#### Smart Saving Mode

The MPPT has various smart power saving modes depending on the actual battery capacity, the number of rainy days and other factors. These modes can be set to High, Medium, Low, Auto, Custom, or not enabled. The objective of this function is to prolong the days of autonomy of the streetlights, since the system will keep the luminaire on with a lower power than the one programmed when it detects many consecutive days of low radiation, it will automatically return to normal mode when the radiation increases

#### System information

Monitor the operation of the equipment with a simple button or from the APP, know the status of the battery, the charging power of the panel, the power of the luminaire, the charge and discharge time in both amperes and hours/days of operation, days that the battery has been completely discharged, days that the battery has been fully charged, temperature,...

## LAMP

Power	20 W
Ligthing tipe	LED
Color temperature	3.000K / 4.000K / 5.500K
Light intensity	170 lm/w
Durability	+ 50.000 hours
Lamp height	4 m

## SOLAR PANEL

Power	100 W
Voltage	18 V
Dimensions	640x745x80 mm

## BATTERY

Technology	LiFePO4
Tension	12,8 V
Capacity	45 A
Weight	5 Kg
Durability	6-8 years
Performance reserve	+5 days
Protecction	BMS

## ELECTRONICS

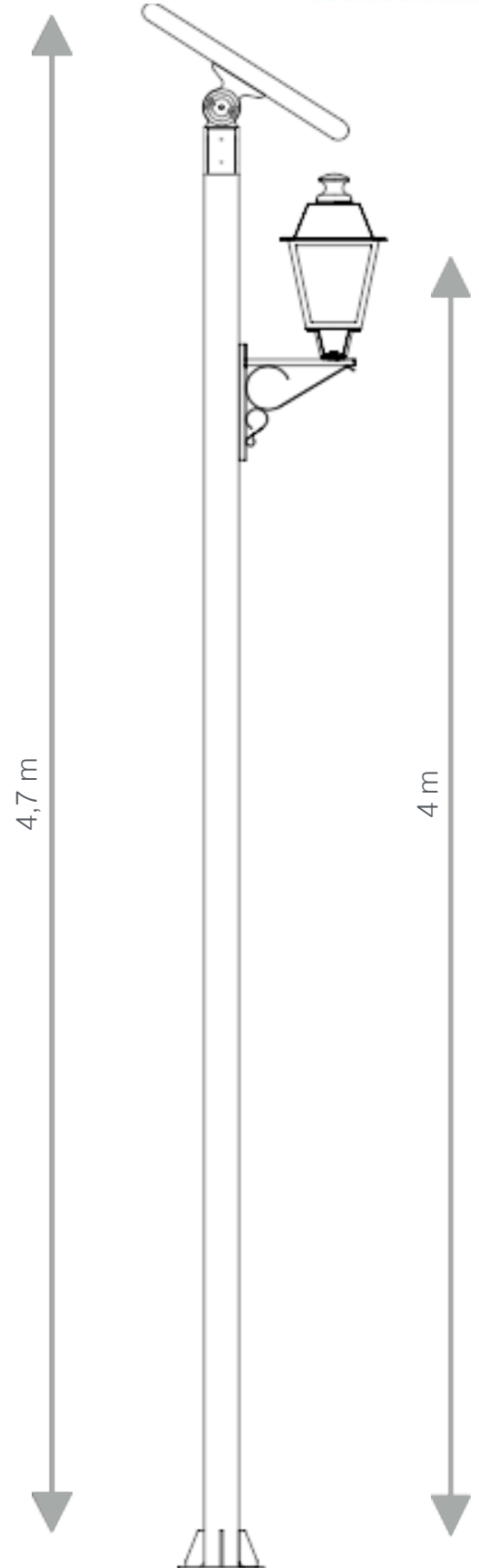
Solar Controller	MPPT
Night detector	Programmable
Hours of operation lighting	Programmable
intensity	Programmable
Short circuit protection	Sí
Overload protection	Sí
Polarity protection	Sí

## POLE

Material	Hot galvanized steel
Total height	4,6m
Painting	Epoxy oven painted 220°
Color	RAL 7016
Diameter	120 mm
Anchor bolts	4 units 400 x 20 mm
Foundation	500 x 500 x 600 mm
Wind resistance	140 Km/h

## WARRANTY

Solar Panel	10 years
Battery	4 years
Lamp	2 years





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