Photovoltaic Street Lamp Vienna

Technological innovation
for public lighting

Lithium Battery **Long Life**
RADAR Sensor **Night Time Slots**
Remote Control **Low Weight**
Reduced Profile
Equipped single and double lamp

LED lighting system powered by a renewable source that does not require connection to the electricity grid. The product is designed for the lighting of high-speed roads, extra-urban roads and motorway entrances

The system is innovative because it adopts Li-NCM lithium batteries of the latest generation, even compared to LiFe Ferro Phosphate LiFe P04, which has characteristics of reliability, low space, long life up to 6000 cycles.
These batteries solve the problem of temperature, as they can be recharged with temperatures up to 50°C. The discharge depth can reach up to 80%.

It is possible to orient the photovoltaic panel towards the south and orient the lamp perfectly on the road thanks to the special joint that allows the rotation of 360 °.
The fittings, the joint and the omega structure are made of Fe360 steel with hot-dip galvanized finish. The screws, inserts, nuts, bolts and washers are made of stainless steel.

The radar of the Doppler-effect with two integrated antennas was necessary to detect motor vehicles moving at high speed. This system is able to detect approaching vehicles, signaling the event to the control system.
The control and communication system immediately switches on the entire lighting system thanks to the communication network present on all the poles.

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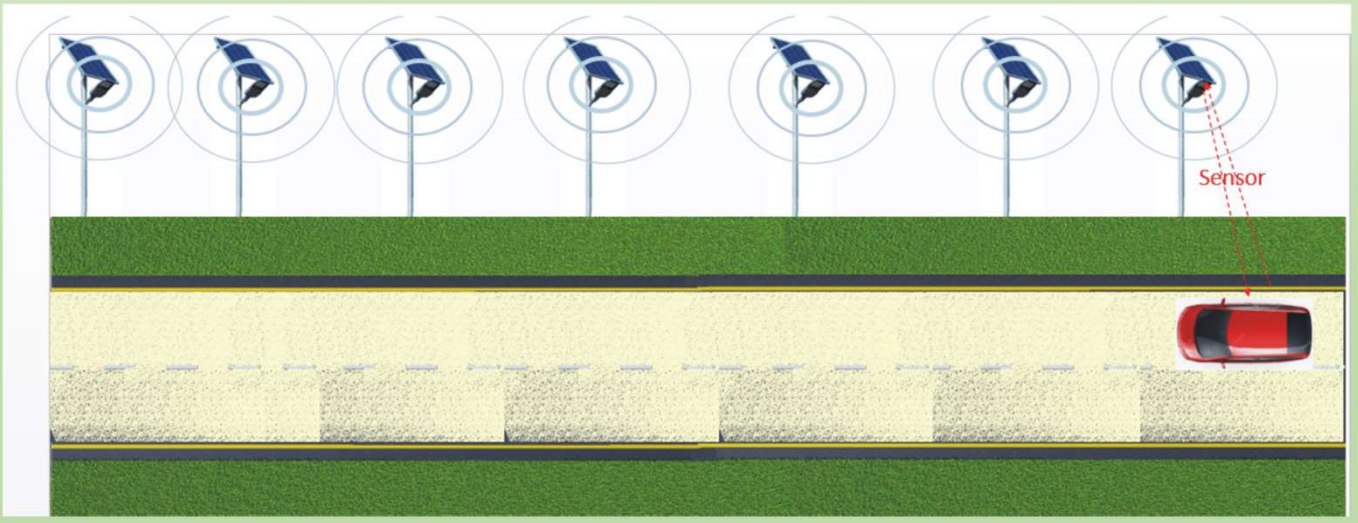


Regolazione 0 +15°

Regolazione -10 +15°

Toro Streetlamp

Accurato design per dissipazione e
Eccellente auto pulizia della polvere

Lenti Stradali
Lenti Residenziali
Lenti Simmetriche

STREET LAMP

Alta Efficienza fino a 167 LmW
I lumen prodotti sono misurati al netto delle perdite elettriche, termiche, del vetro e del picco idcorrente

Diagramma 1

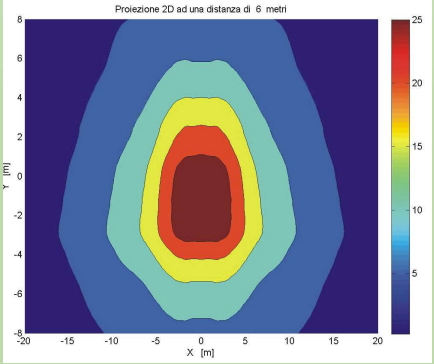


Diagramma 2

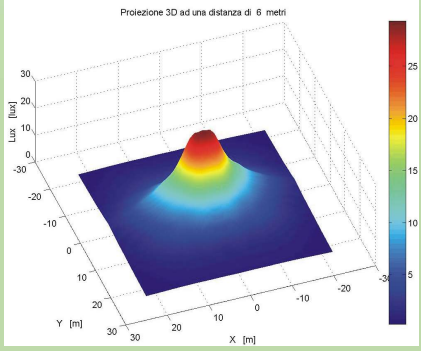
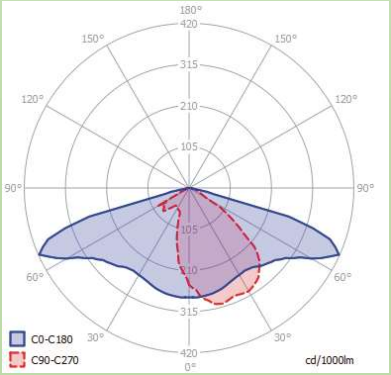


Diagramma 3



Regolazione -10 +15°

Regulation 0 +15°

Centauro streetlamp

Accurate design for dissipation e
Excellent car dust cleaning

Road lenses

STREET LAMP

Centauro	4000K	80W	13.000	>70	12Vdc	Classe II	>100Kh

High Efficiency up to 160.2 Lm / W (the LED used originally has 200Lm / W)
The lumens produced are measured net of electrical, thermal, glass and peak current losses

Diagramma 1

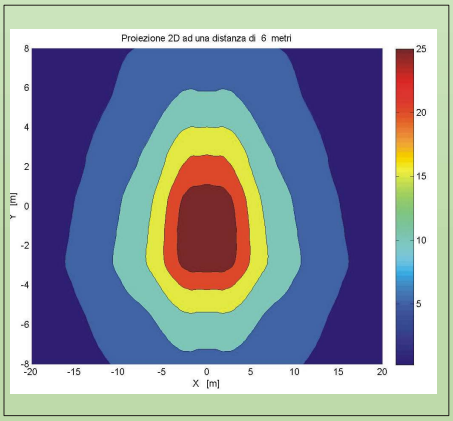


Diagramma 2

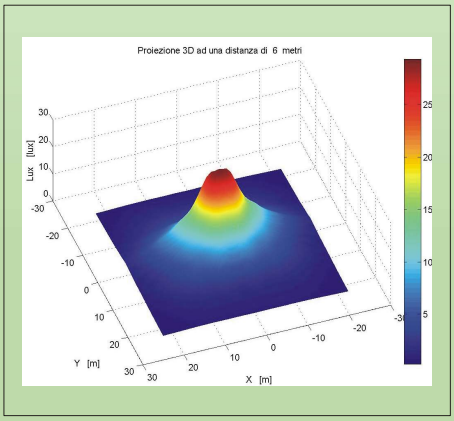
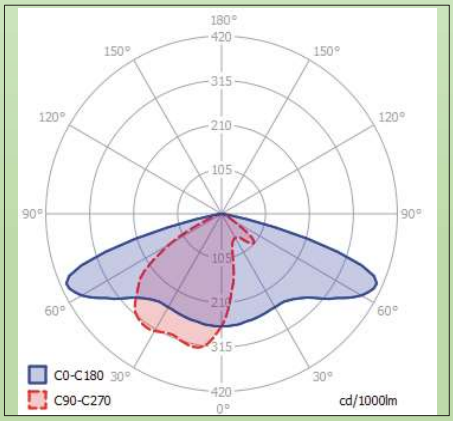
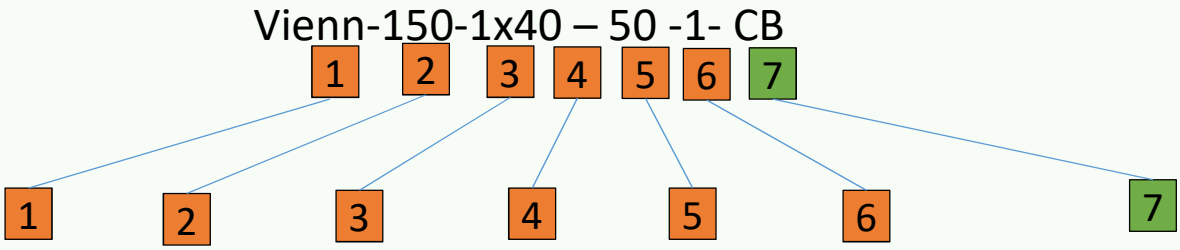


Diagramma 3



Codification



Product Name	Phot. Panel (W)	N. Of Lamp	Lamp Power (W)	Battery (Ah)	Cabinet	Option
Vienna	150-300	1x-2x	40-80	50-86	1 On top single 2 On top Double	TC Tele Control CB Battery Control CR Radar Control

Ordering

Description	Ordering Code
Vienn-150-1x35-50-1-TC/CB/CR	Panel 150W, one lamp 35W, Battery 50Ah, On Top located, and Controls module
Vienn-150-2x35-86-1-TC/CB/CR	Panel 150W, Two lamp 35W, Battery 86Ah, On Top located, and Controls
Vienn-150-1x70-86-1-TC/CB/CR	Panel 150W, one lamp 70W, Battery 86Ah, On Top located, and Controls
Vienn-300-2x70-2x86-2-TC/CB/CR	Panel 300W, Two lamp 70W, Battery 2x86Ah, On Top located, and controls

TC: (Tele control) The system is visible on OrionView remote platform.
(Requires an SimCard about every 40 street lamp)

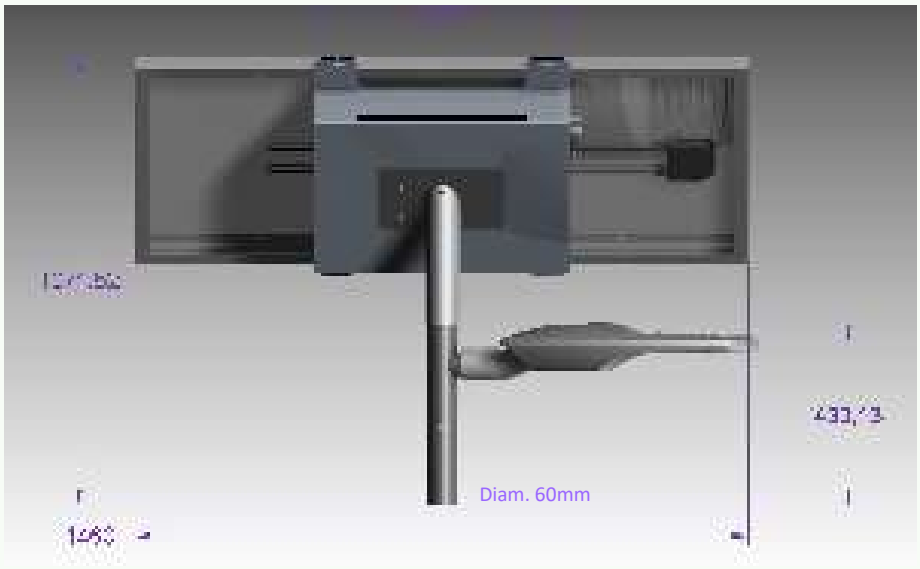
CB: (Control Battery) Reduces the light under 50% battery capacity

CR: (Control Radar) Reduce the light in relation the no car traffic

The battery is made of iFeP04, built in Italy by a partner company in SPITECNO. It has a higher thermal stability is not combustible and does not decompose to short circuit. The life of the bladder is measured in cycles and this reaches 2000 cycles with 1C discharge (discharge in one hour), but with longer discharges (as in our case) it can even reach much higher cycles.
The system controller is able to communicate with the battery through BMS (Battery Management System) to monitor the charge status, the voltage and the number of cycles that the battery has accomplished by objectively quantifying the battery life itself.

The battery box can contain one or two batteries depending on the equipment with single or double LED lamps and all the necessary electronics, it can be easily inserted and removed for normal system maintenance.

The Velasquez communication card is the heart of the lighting system, in this application the following performances reside:
1-Communication with all the lighting system boards
2-Radar sensor interface
3-Lighting management
4-Management of night time slots.
The night can be divided into three time slots so that as traffic falls, the illuminations also decrease.
When there is no traffic on the road, the Velasquez board reduces the illuminance and consequently the battery consumption.
As soon as the radar detects a vehicle, it immediately raises the lighting to established values and transmits this event to all the other lamps of the event, so that the entire street is illuminated.
The three time slots can be changed with a special tool consisting of a device and an application for Android phone.



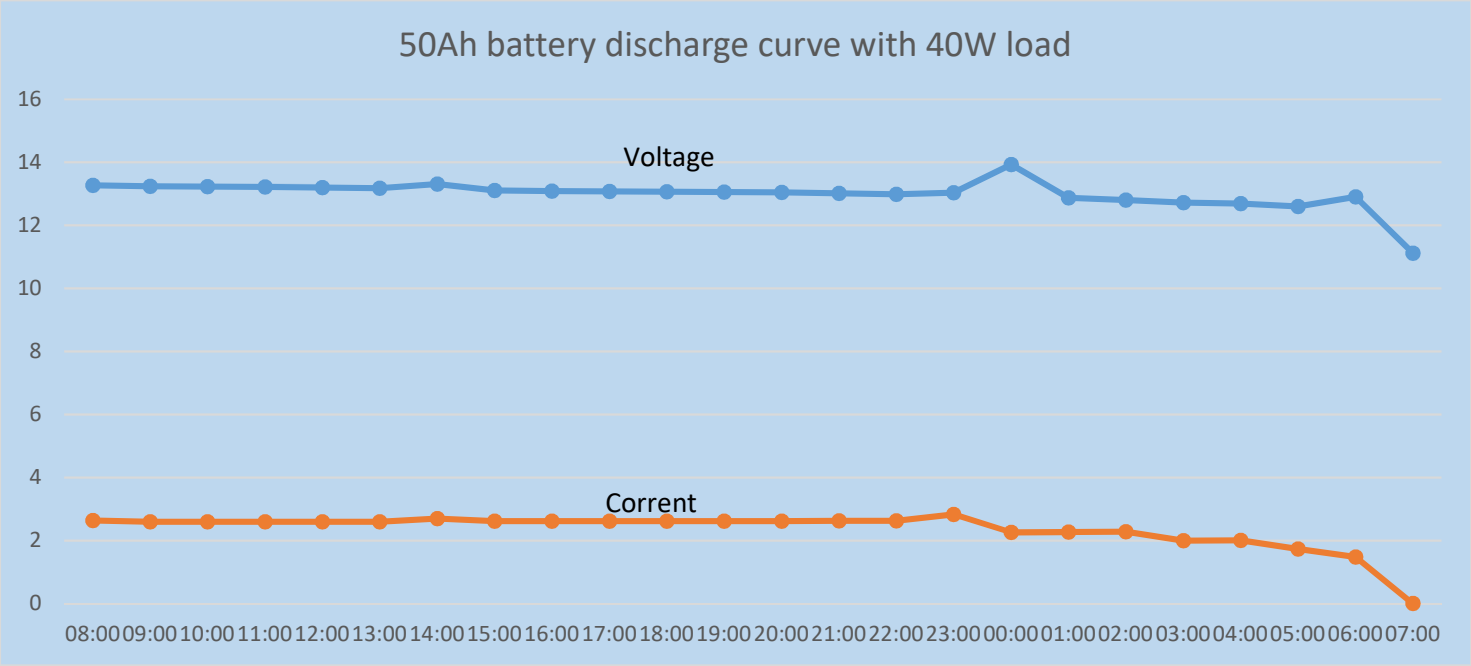
Features:

Lamp Max power 40W @ 6500 Lm
Efficiency 162,5 Lm / W
Lithium-LiFeP04 battery
Capacity 50Ah
V. Nominal 13Vdc
DOD 80%
No. of cycles (1C) 2.000
No. of cycles (12C) 6.000
MPPT Charger
Current 10A Single
FV Panel 150W Current 8.5A or 16A
Module Control Battery
Weight 32Kg

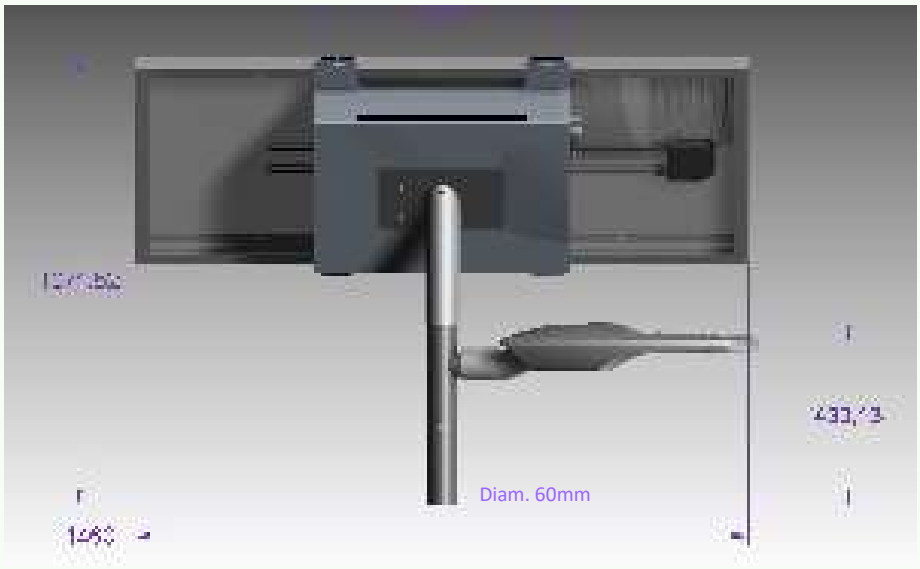
Version with 50Ah battery and 40W lamppost

This equipment includes a battery control card that constantly monitors the battery charge.
1- When it is switched on at dusk, the card decreases the power of the lamppost by 50% for 15 minutes.
2 - During normal operation, the control board checks the battery voltage which lowers consumption to critical voltages.

thresholds	
13V	-20%
12,8V	-30%
12,7V	-40%
12,6V	-50%
11,2v	SwitchOff



A discharge test shows how in these conditions the duration of the switched on lamp is 23 hours

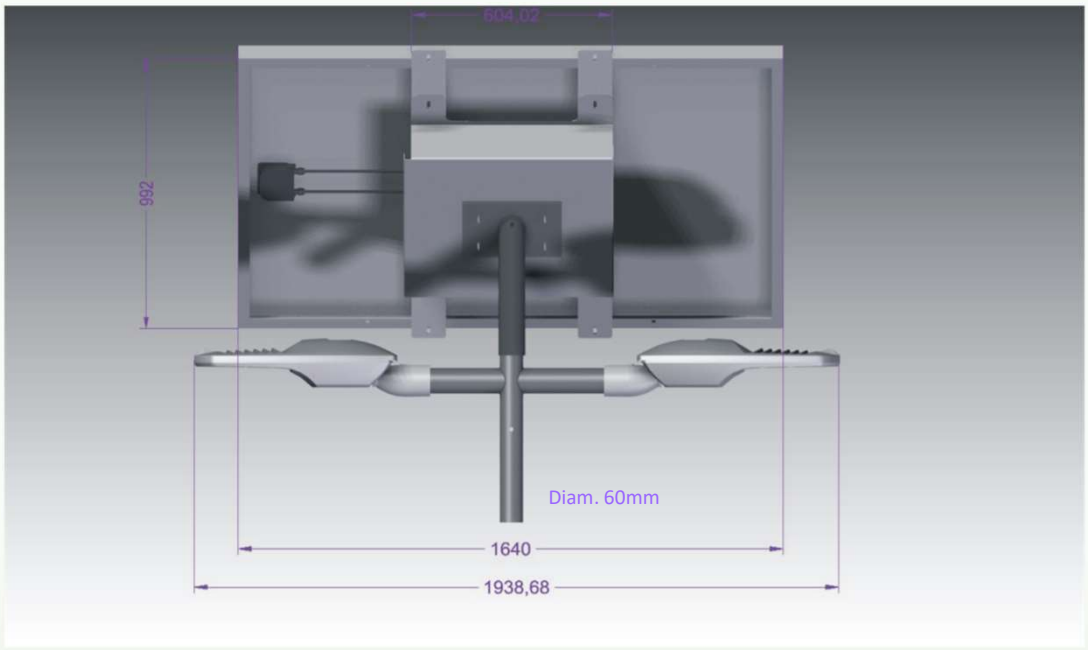


Features:

Lamp Max power 80W @ 13000 Lm
Lamp operating power 70W @ 12000 Lm
Efficiency 162,5 Lm / W
Lithium-LiFeP04 battery
Capacity 86Ah
V. Nominal 13Vdc
DOD 80%
No. of cycles (1C) 2.000
No. of cycles (12C) 6.000
MPPT Charger
Current 10A Single
Current 20A Double
FV Panel 150W or 300W
Current 8.5A or 16A
Radar 30m
Remote Control
Network Mesch
Weight 32Kg single or 45Kg Double

The control system can be connected to the internet and managed with ORIONVIW platform by adding concentrator + Sim Data.

Optionals:
- Pole
- Concentrator
- Orionview
- Radar



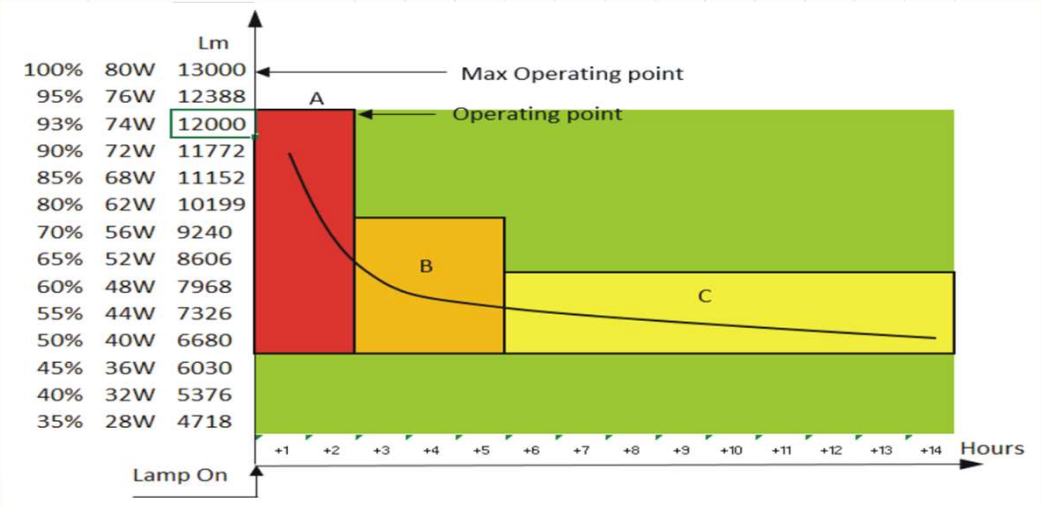
Features:

Lamp Max power 2x 80W @ 2x13000 Lm
Lamp operating power 2x70W @ 2x12000 Lm
Efficiency 162,5 Lm / W
Lithium-LiFeP04 battery
Capacity 2x86Ah
V. Nominal 13Vdc
DOD 80%
No. of cycles (1C) 2.000
No. of cycles (12C) 6.000
MPPT Charger
Current 20A
FV Panel 300W
Current 19A
Radar 30m
Remote Control
Network Mesch
Weight 45Kg

The control system can be connected to the internet and managed with ORIONVIW platform by adding concentrator + Sim Data.

Optionals:
- Pole
- Concentrator
- Orionview
- Radar

Night divided into three time slots @ 74W 12000 Lm



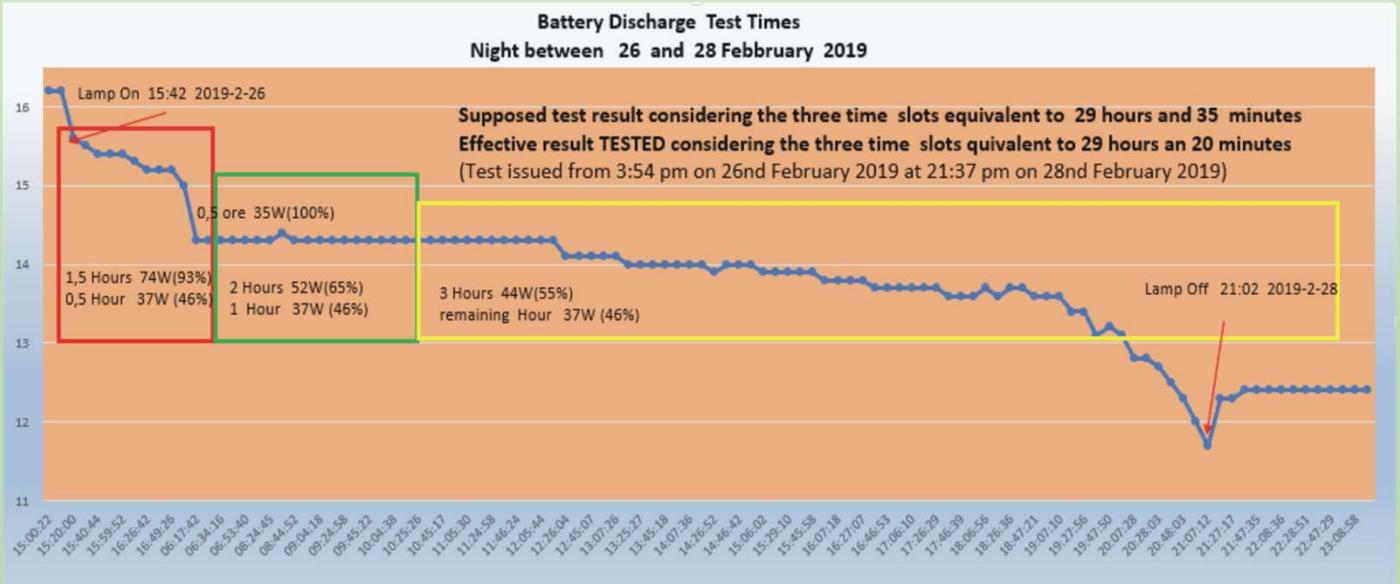
Slot A duration 2 hours (assumptions 1,5 hours car trafic, 0,5 Hour no car trafic)
Traffic presence 70W full power, 37W traffic absence

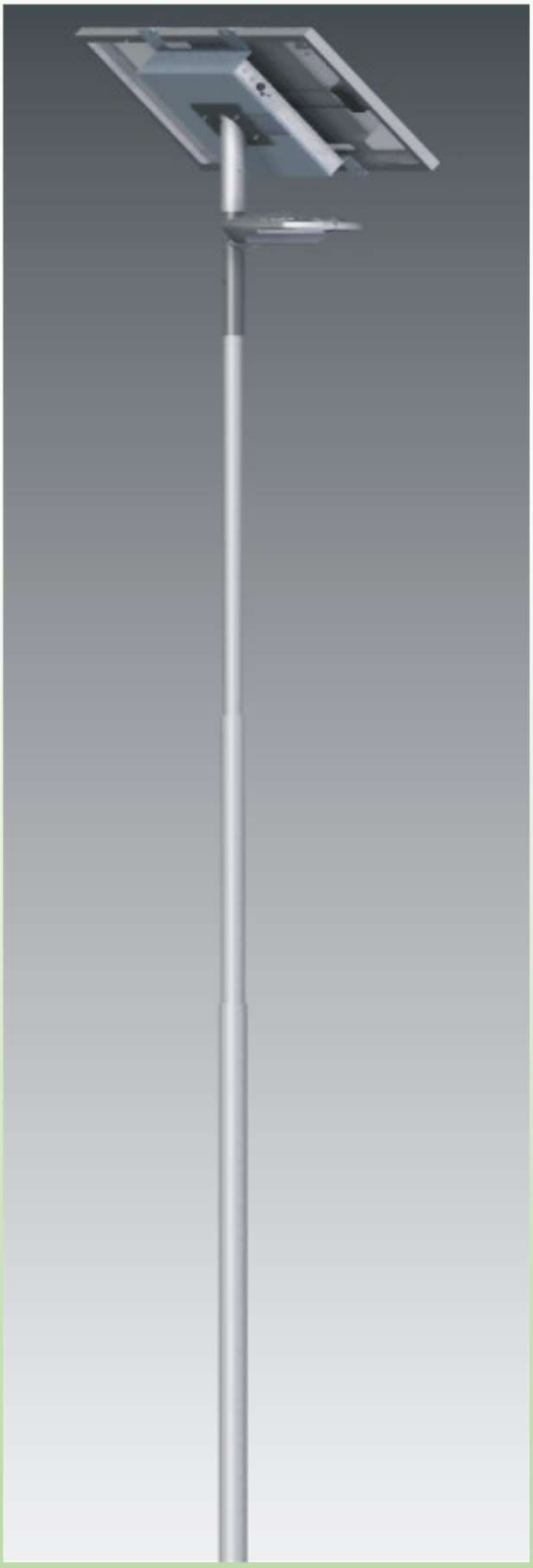
Band B duration 3 hours (assumptions 2 hours car trafic, 1 Hour no car trafic)
Traffic presence 52W full power, 37W traffic absence

Band C lasting rest of the night (assumptions 3hours car trafic, remaining Hours no car trafic)
Traffic presence 44W full power, 37W traffic absence

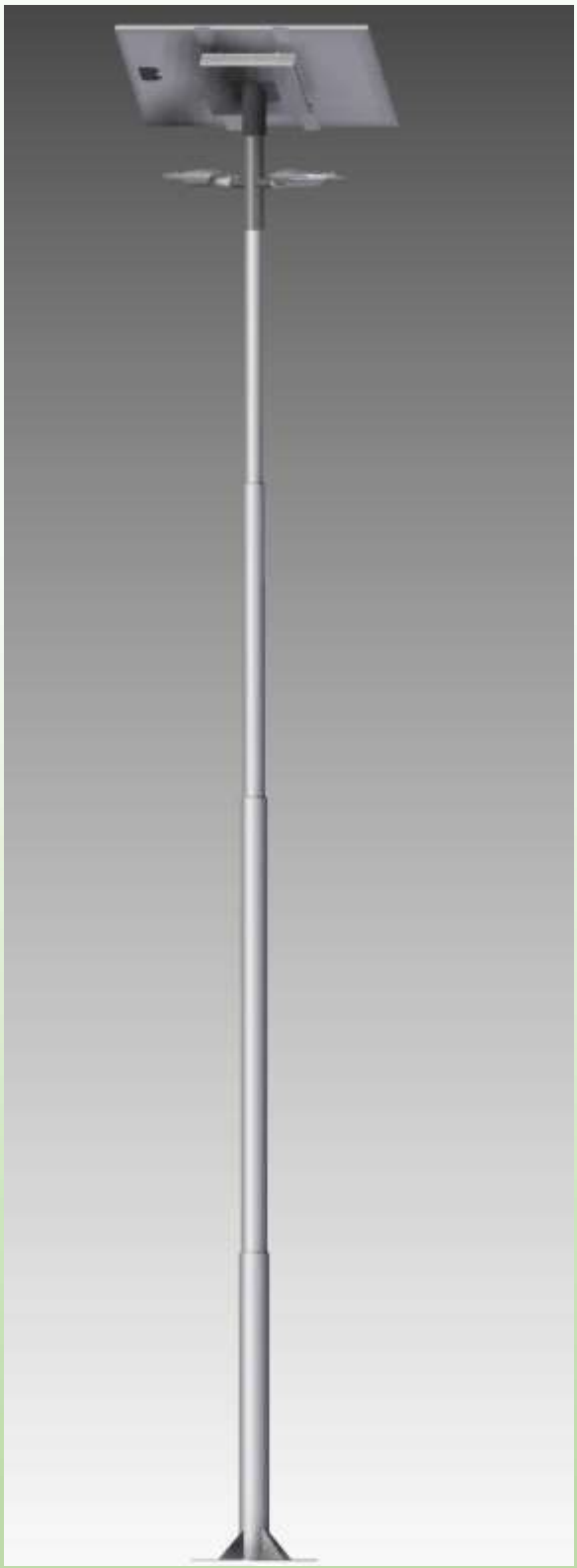
The function of the Radar is to bring the illumination back to full power within the time band. The duration of the radar intervention lasts 5 minutes, if in the meantime there are no vehicles arriving.

These time slots can be completely changed by the operator, both in terms of duration and power.

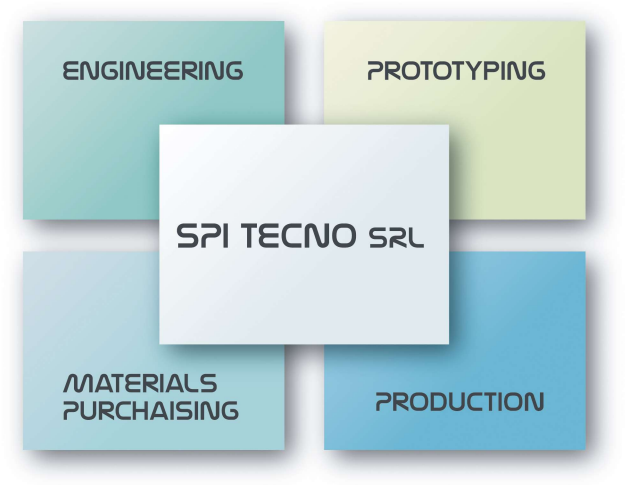




Single



Double



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