



NOVEA

GROUPE RAGNI

SOLAR LIGHTING,
DESIGNED TO LAST



MULTI SOLUTION



As a self-powered public lighting specialist, Novéa proposes a simple to implement and innovative technical solution.

- This Multi system serves to move power production away from the light points. In this manner, it is possible to equip areas where fully self-powered lampposts would be difficult to install due to the presence of trees or buildings that could impede sun light.
- This solution is suitable for the lighting of car parks, parks, roads, small squares, pedestrian passages or residential areas.
- It can be perfectly integrated into projects wishing to emphasise energy savings and the use of renewable energy.
- Moreover, the aesthetic aspect of this system is appreciated as the power production source is pooled in a single point.

THE ONLY SOLAR LIGHTING SOLUTION ADAPTED TO SHADED AREAS

ADVANTAGES



Suitable for installation in shaded areas.



AESTHETIC REASON

Pooling of solar panels at a single point, enabling the use of solar technology in more conventional environments.



ECONOMIC REASON

Pooling of technical elements (solar panels and batteries) at a single point.

OPERATION

- Solar power plant, consisting of a 360° swivelling photovoltaic solar panel fitted on top of a pole, can power from 1 to 12 lighting points.
- The solar power is transmitted from the power plant to the lampposts via a very low voltage (12 to 30V DC) network, thus simplifying the civil engineering work by comparison to a 230V AC network.
- This system can be used to power all Ragni range LED luminaires, most frequently managed by a proximity detection system in order to save power.



Recommended wiring 6mm².

Provide a connection box at the base of the pole.



- Several central sizes possible.
- 1 to 12 light points per power plant (depending on power and cable length) (user-definable light height adjustment).
- Luminaires chosen from the proposed fixtures (other luminaires by request, following an integration study).

Griff S

Light height : 4 m
Color 2525

Tekk S

Light height : 4 m
Color 2900

Borne Baïa S

Light height : 1 m
Color 2900 +
dye sublimation on
wood

Borne Kassio 900

Light height : 1 m
Color 2900

Spot

Light height : On the ground
Color 2900



EXPLODED VIEW OF MULTI TOP



1 Solar panel : high performance, self-cleaning

2 Technical equipment : endurance + battery and controller in cast aluminium box

3 Cast aluminium box for technical equipment

4 Mechanical support for box

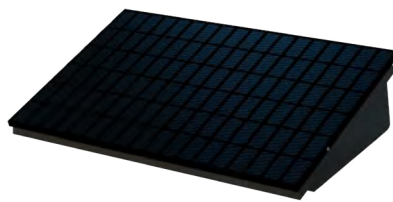
5 Powder-coated galvanized steel pole

6 Luminaire and electronics

“ THE SOLAR PANELS CAN BE INTEGRATED IN VARIOUS WAYS ”



GROUND-BASED
SUPPORT OR
ON A FLAT ROOF



WALL BRACKET



POLE





Footbridge

Multi top 5 Tekk S - Dakar (Sénégal)



Landing stage

Multi top 6 Griff S - Kourou (Guyane)

ACHIEVEMENTS



Residential

Multi 5 Tekk S - Campeneac (56)



Bike path

Multi top 6 Griff S - Aubry (59)



Natural Site
Multi 5 - Soyaux (16)



Park
Multi top 3 Tekk S - Tourcoing (59)

Pedestrian path
Multi top 6 Tekk S - La Roche sur Yon (85)



TECHNICAL SPECIFICATIONS



Electronics

for control and management of the solar pole enables to:

- Optimise energy extraction (MPPT)
- Optimise the charging and discharging of the battery
- Manage “day” mode (recharge) and “night” mode (discharge) transitions
- Control and protect the extra low safety voltage power supply circuit



Operating voltage

The extra low safety voltage network is made using the battery of the solar power plant.

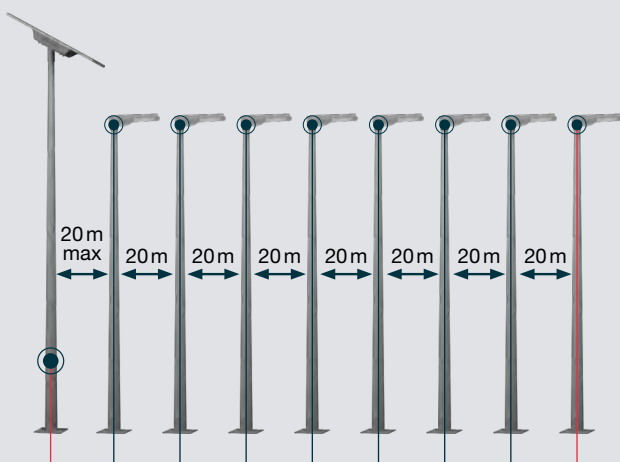
This continuous voltage can be between 12 and 30V DC.



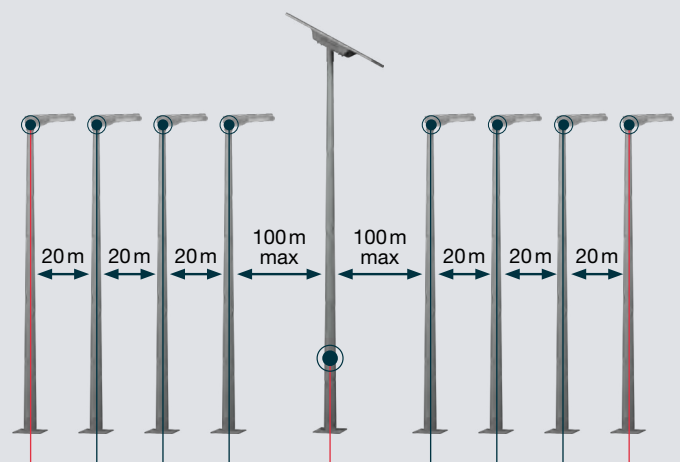
Wiring

- ▶ **We recommend a section less than or equal to 6 mm².** We advise you to add a connection box at the base of the pole, with a 2A fuse holder to facilitate intervention.
- ▶ It is possible to take over the existing electrical network: it will then be essential to test that it is functioning correctly, to indicate the **cable section** and the **length** to us in order to assess the line losses and ensure correct sizing.
- ▶ In all cases, **Novéa Énergies will carry out a detailed energy study** which will integrate the consumption of the luminaires but also the line losses due to the characteristics of the network and lighting points (length, section, number and power of the luminaires).

For information: the maximum distance between the solar power plant and the last street light also depends on the architecture of the extra low safety voltage network. Below are two examples.



Exemple 1



Exemple 2



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Solar Lighting,
designed to last

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NOVÉA ÉNERGIES
49070 BEAUCOUZÉ - France
Tél. : +33(0)2 41 36 53 98

www.novea-energies.com



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