



# INSTALLATION MANUAL

## SIMPLE BRACKET SOLAR STREET LIGHT

LEKLA<sup>MD</sup>

## How does it work ?



The battery gets loaded during daytime with the electricity produced by the solar panel (PV).



Nighttime is detected by measuring the voltage of the solar panel :

- daytime  $\rightarrow$  PV voltage  $> 30V$
- nighttime  $\rightarrow$  PV voltage  $= 0V$



Avoid **any shadow** on the solar panel (trees, houses, traffic signs...). Shadows will considerably impact electricity production of the panel and hence reduce recharging of the battery.



Avoid **artificial light** on the solar panel during nighttime. This could hinder correct detection of sun fall by the panel and can, worst case, completely disable switching on of the light.

## Transport

Do not depalletise the solar panels before arriving at the construction site. FONROCHE guarantee is voided if the modules are handled before.

All mechanical parts are collected together on a separate pallet. Do not disassemble the packages before arriving at construction site.

## Reception

The delivery must be checked for completeness and possible transit damage immediately at receipt:

- Control if the parts have not been harmed during transport, otherwise please claim damage to the shipper within 48h after receipt (and inform FONROCHE Lighting).
- Likewise, control the right fit bracket/pole, if any operating problem is found, claim damage to FONROCHE Lighting.

*Installation must comply with the installation manual; all items provided must be installed otherwise the guarantee is voided.*

## Long-term storage

### **Power365 system :**

Batteries must be stored within their original packing in a dry location.



**The installation of batteries should happen before the date indicated on the packing. Contact FONROCHE Lighting in case you need to store them longer.**

### **Mechanical parts:**

Mechanical parts must not be stored directly on the ground or near a storage place of powdery products. The storage area should be sufficiently ventilated to avoid any deterioration.

Poles strapping should be removed for storage periods longer than 3 weeks.

## Maintenance - swap

The client is responsible for returning any defective part to FONROCHE Lighting for expertise. After receipt of the defective parts, FONROCHE Lighting will determine the guarantee validity. Depending on the result of the expertise, the defective spare part may be charged to the client if the guarantee period has expired or if the default is the result of an event out of FONROCHE Lighting responsibility (bumps, falls, unadapted handling...).

## Part list

N°	Réf. article	Désignation	Quantité
1	1100001	Universal tool disconnect MC4	1
2	1108025	Washer M08 Inox A2-70-M	4
3	1108044	Screw TBHC M10 x 70 Inox A2-70	2
4	1108046	Washer M10 - M - Inox A2-70	20
5	1108047	Grower Washer M10 - Inox A2 - 70	10
6	1108048	Nut M10 Inox A2 - 70	10
7	1108058	Grower Washer M08 - Inox A2-70	2
8	1108063	Screw TBHC M10 x25 Inox A2 - 70	8
9	1108066	Nut M08 - Inox A2-70	2
10	1108068	Screw TBHC M08 x 80 - Inox A2-70	2
11	1108070	Black screw Hexa Head notched base HM06 x 20 - DIN 6921 - Inox A2-70	4
12	1108384	Black nut notched base M 06 - DIN 6923 - Inox A2-70	4
13	1999008	PV module - 60 Cells - 38 mm - 3,2mm - Black	1
14	2301201	Plate Width=4 - battery support	1
15	2301203	Binding - POWER 365	2
16	2301209	Orientation flask Left	1
17	2301210	Orientation flask Right	1
18	2301212	High tube	1
19	2301250-2301251	Simple bracket D60 - with setscrews M10 and plastic plug	1
20	-	Pole with M10 setscrews	1
21	-	Box energy - Power 365	1
22	2309203 à 2309205	Led lantern - with cap	1



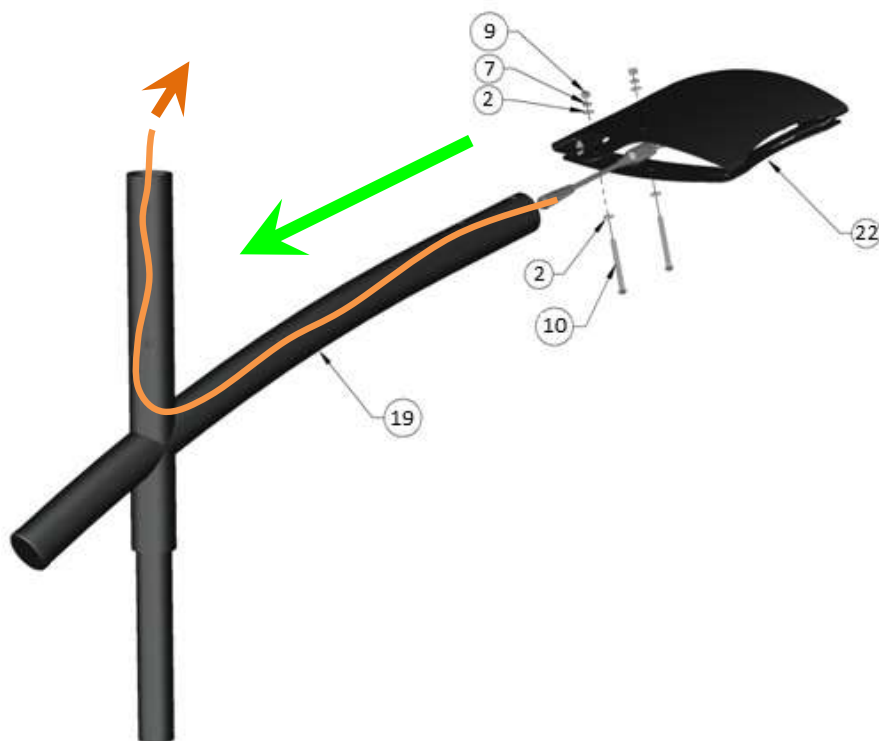
N° screw	Thread type	Tightening torque (Nm)
11	M6	> 10
10	M8	> 24
3, 8, setscrews	M10	> 47,7

M10 Setscrews

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## 1 Assemble the luminary on the bracket

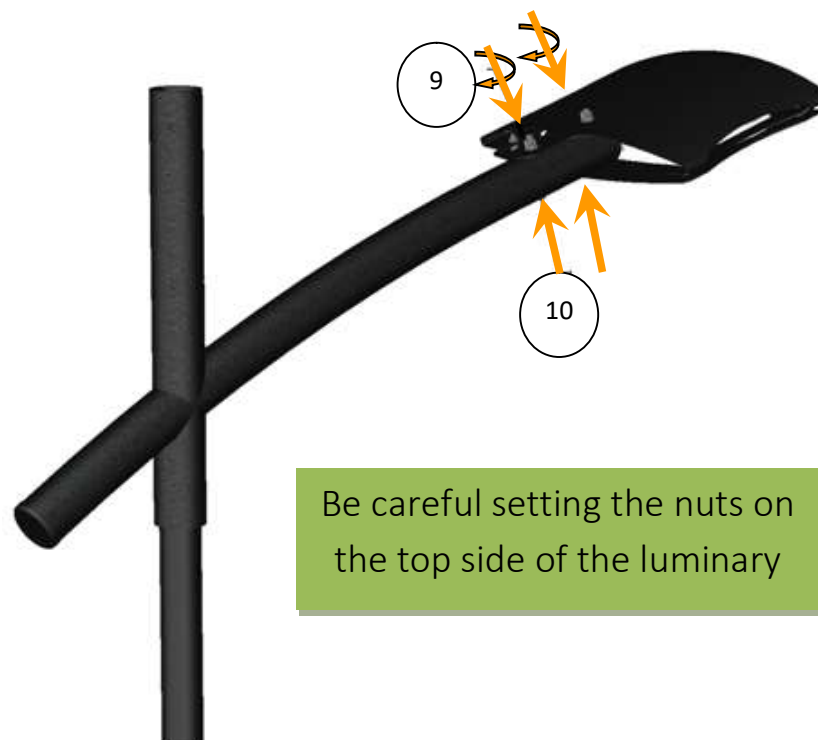
Use a draw wire (fish-tape) to draw the connector cable of the lantern through the bracket to the top.



## 2 Set the luminary



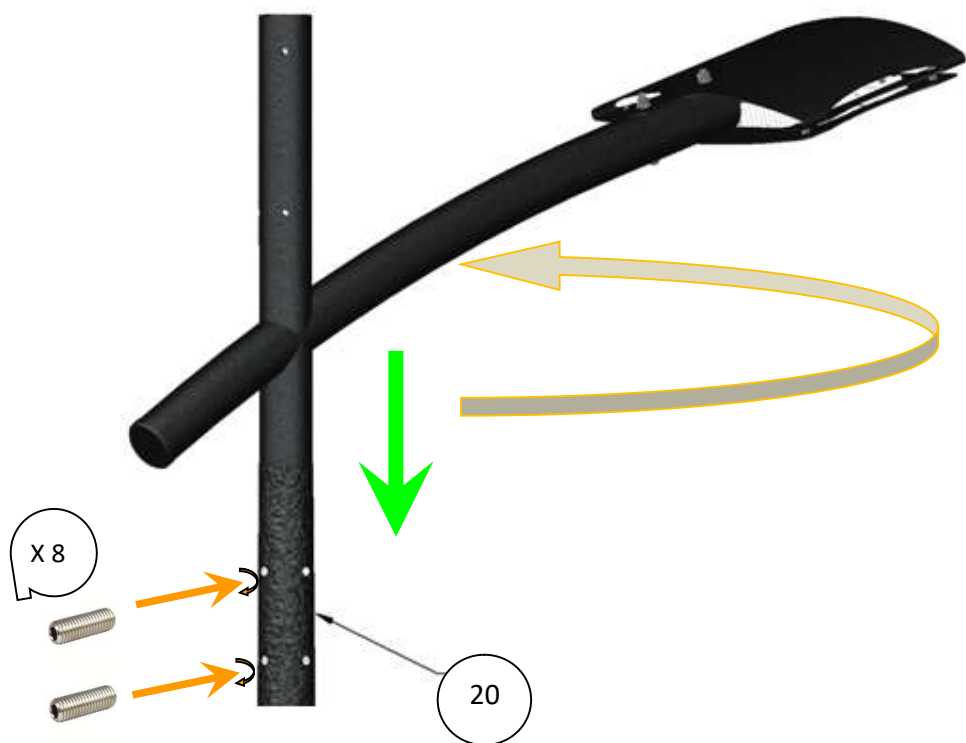
*For all the setup, every screw/nut system must be tightened to the torque advocated by FONROCHE\**



*\*See table on page 4*

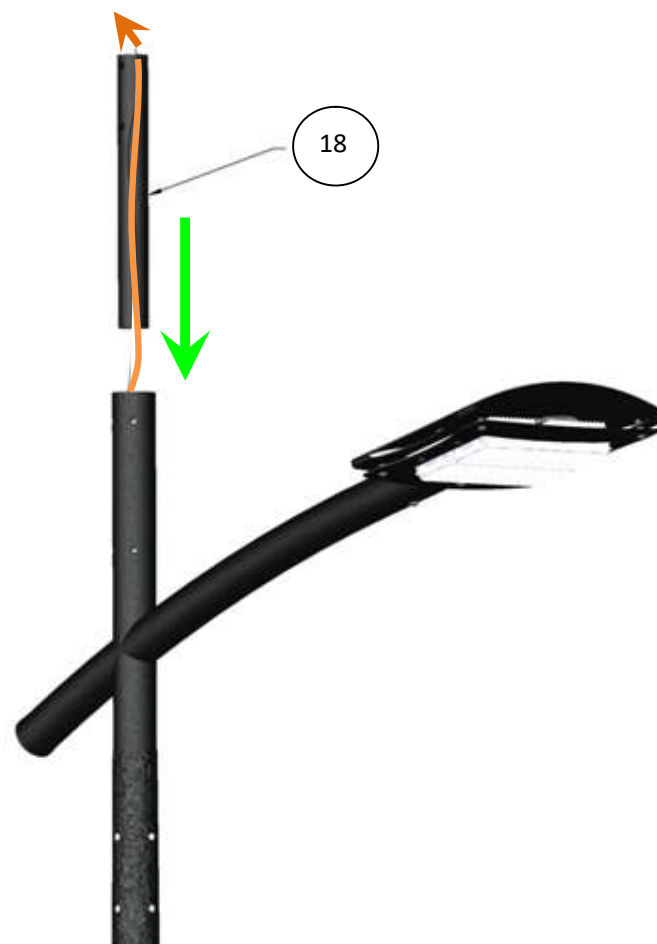
### 3 Assemble the bracket on the pole and orientation

Orient the luminary, fasten slightly each setscrew, and then tighten them all.



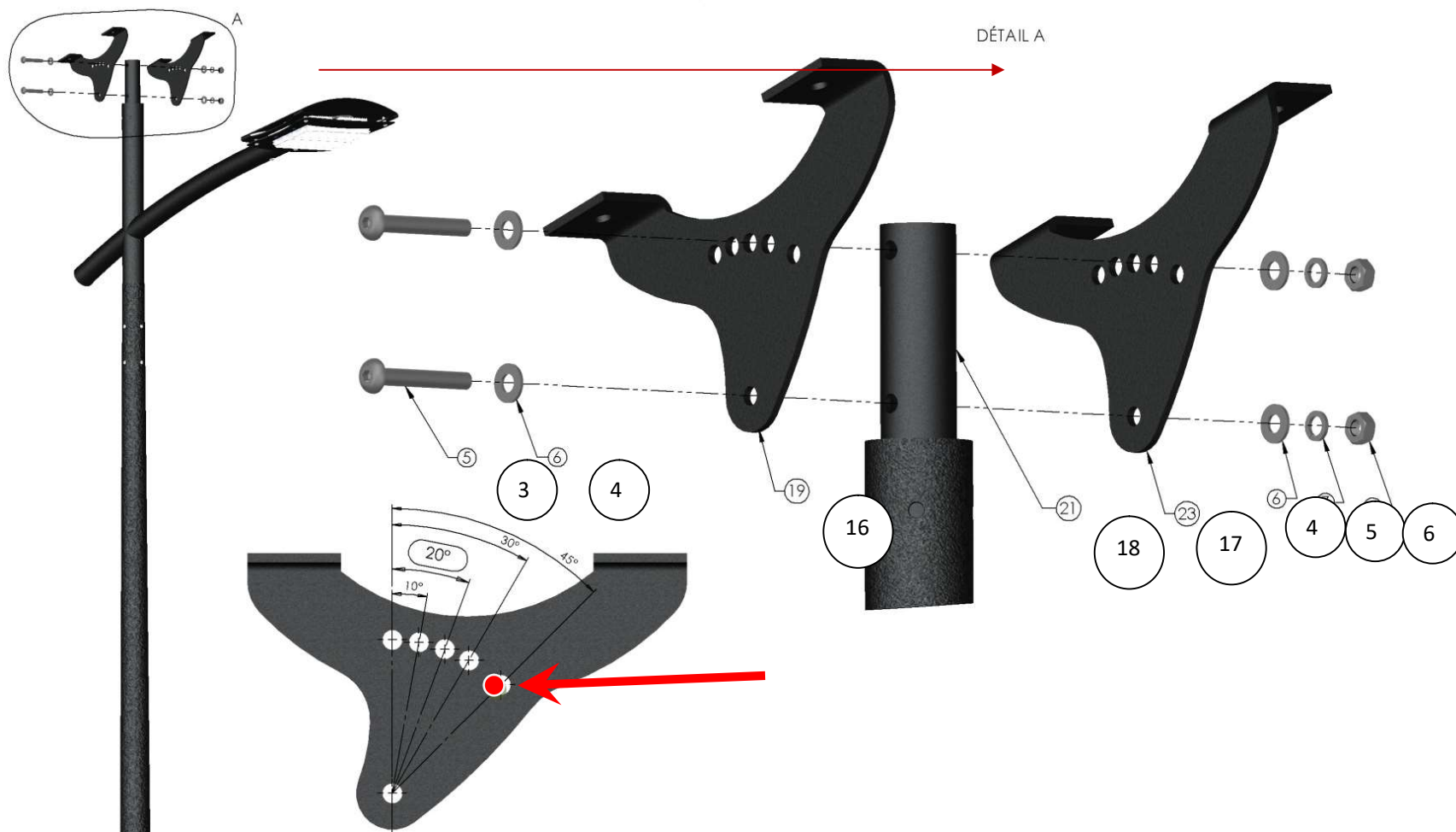
### 4 Insert the tube into the bracket

Insert the cable into the tube.

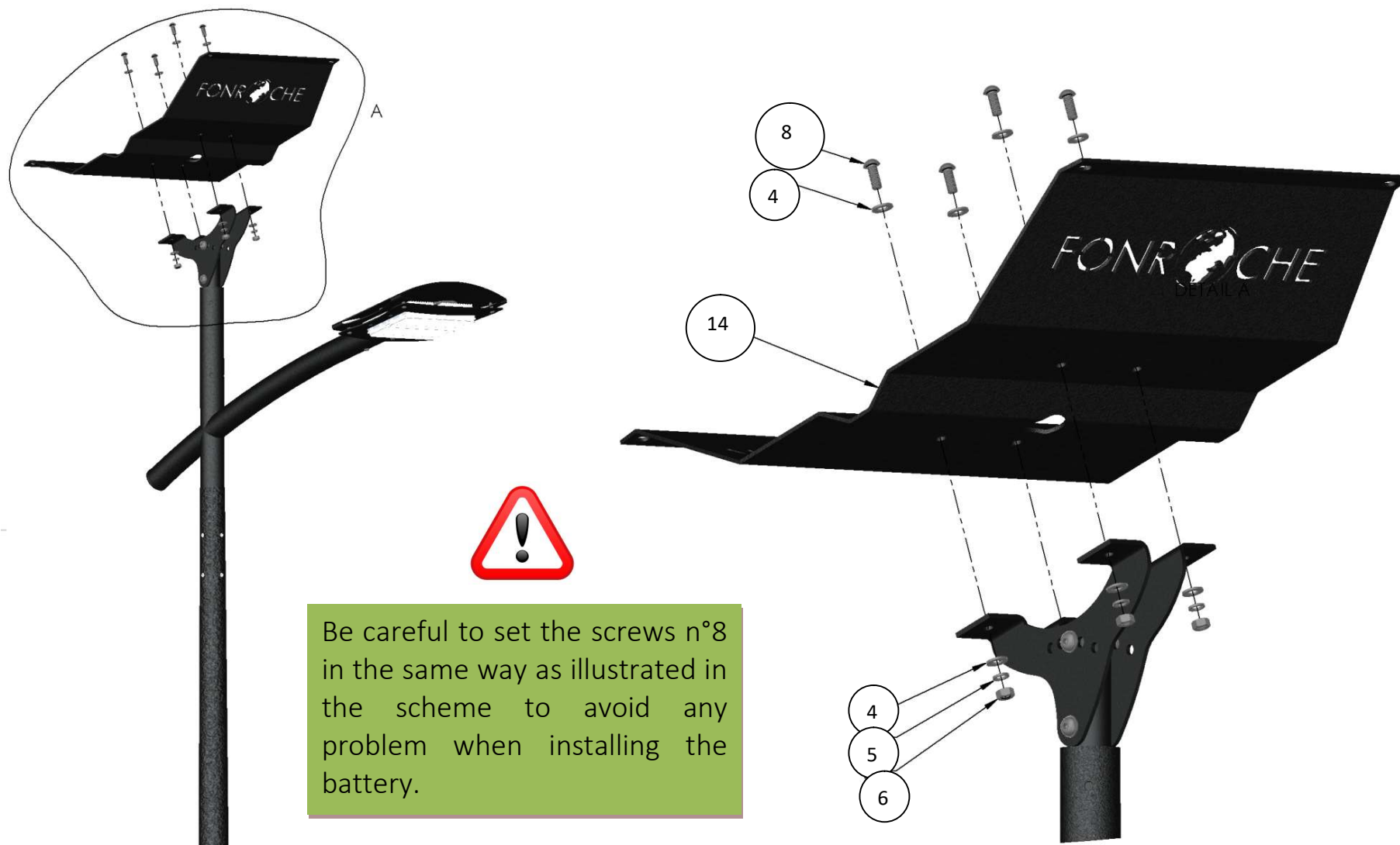


## 5 Assemble the base support

Set to 45° (unless otherwise stated).



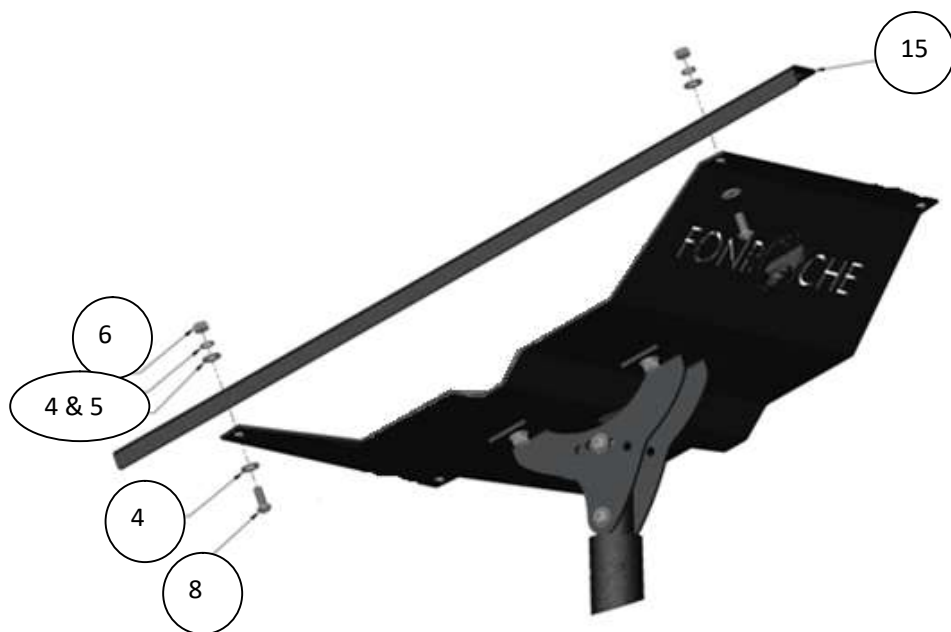
## 6 Assemble the support for PV modules



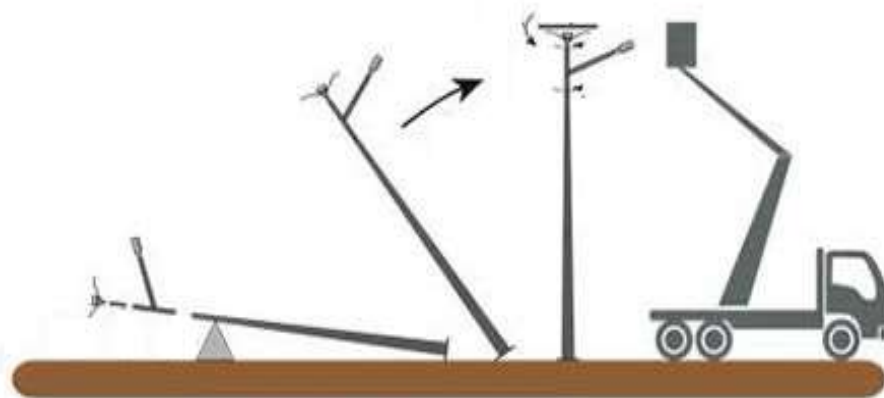


## 7 Install the first PV binding, on the ground

Install only one PV binding n°15 before erecting the pole

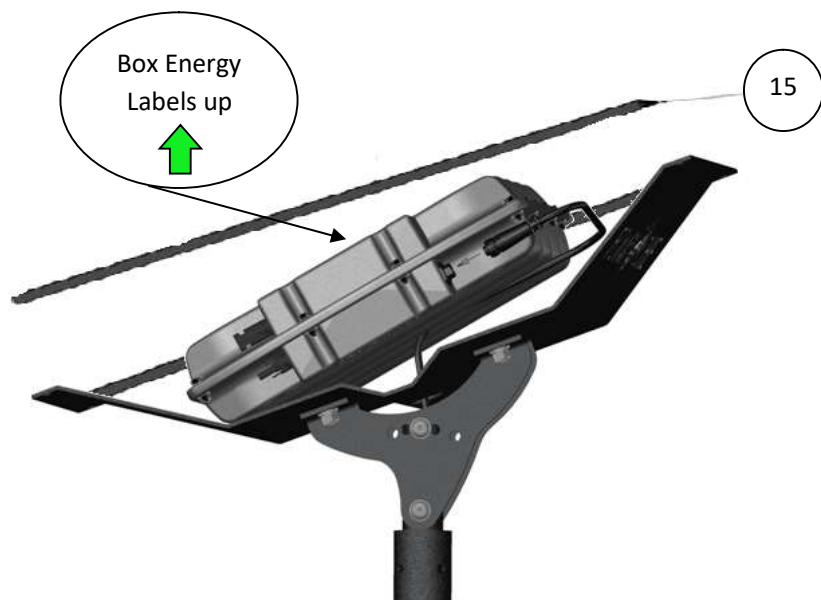


## 8 Erect the street light



Once the street light erected, go to step 9.

## 9 Install the second binding, the battery and connect the luminary



- Same steps as step 7.
- Pass the cable under the battery.
- Energy Box label should be positioned always to upside (direction to PV).

Do not leave the cable hanging under the support.

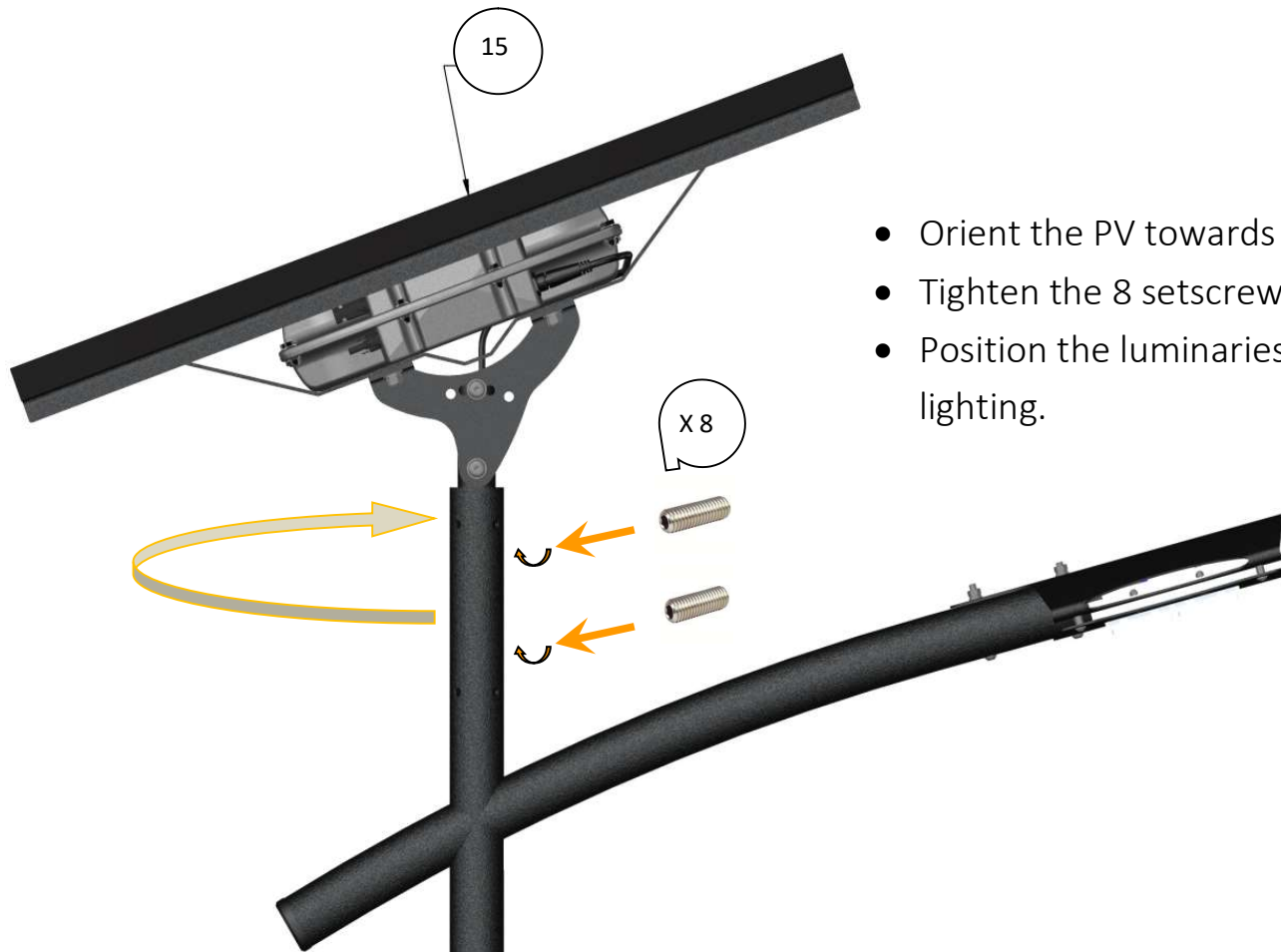


## 10 Assemble the PV



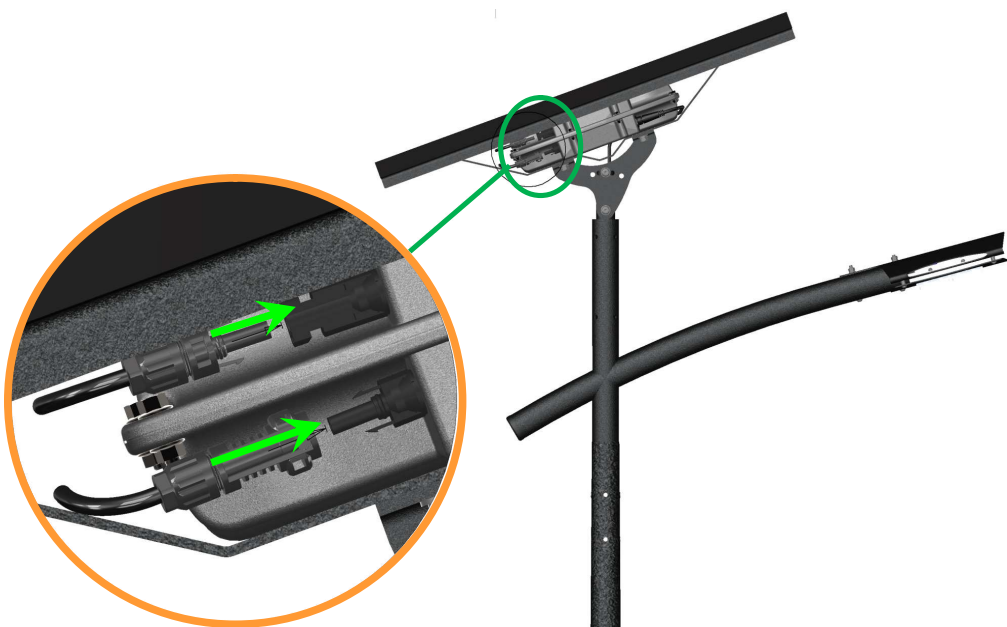
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## Orient the PV to the south



- Orient the PV towards the equator,
- Tighten the 8 setscrews,
- Position the luminaries straight in order to optimize the lighting.

## 12 Connect the PV to the battery



## 13 Initialize the battery

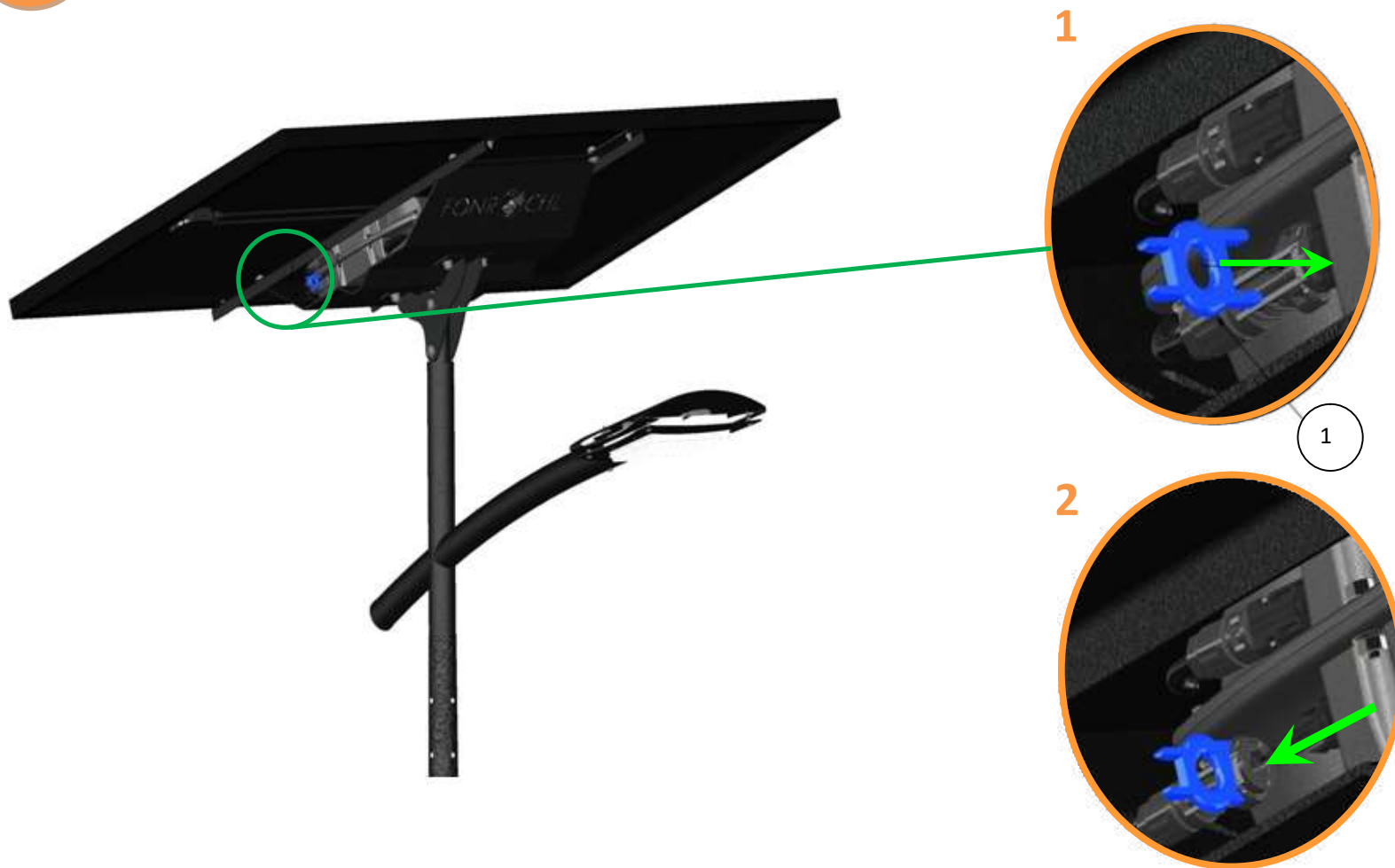


**Please wait 30  
seconds**


*after plugging for system  
activation*

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## Validate your installation




Detach one connector of each PV with the « Universal tool disconnect » n°1.

 **Wait 1 min max, light must switch ON**

Then you can reconnect the PV.



 **Wait another min max light must switch off**



If light switches OFF, installation is OK.

You can bind all the cables with cable ties.

## Last step of installation – Check-list

Check points	Installer check (write OK or no)
Are lanterns straight positioned to optimize the lighting ?	
Are the 16 pressure screws installed and correctly tightened ?	
Is the PV oriented to the south ? If several solar street lights are installed, are the PVs oriented towards the same direction ?	
Is the PV set to 20° tilt (unless otherwise stated) ?	
Are all the cable ties installed (so that the cables will not hang anywhere) ?	
Are all the parts installed on the solar streetlight ? If parts remain, please check on this manual to find out what has been forgotten and please be careful to install everything	
Have the nut-screws systems been correctly tightened according to the tightening torques recommended at page 4 ?	

# Trouble shooting

Problems	Causes	Solutions
<b>The light remains switched on during the day</b>	Wrong connection of the PV	<ul style="list-style-type: none"> <li>Check that the solar module is correctly connected to the Power 365 battery system unit.</li> </ul>
	Defect of the solar module	<ul style="list-style-type: none"> <li>Verify open circuit voltage on the cable towards the module. You should measure a voltage between 30 and 40 V. If not, the module is damaged.</li> </ul>
<b>The light doesn't work</b>	Open circuit voltage during the night is higher than detection threshold for day/night detection	<ul style="list-style-type: none"> <li>Check that the solar module doesn't catch stray light from the surrounding.</li> </ul>
<b>The light doesn't work during installation test</b>	Bad cables connection	<ul style="list-style-type: none"> <li>Check that all connectors are connected and correctly locked onto the Power 365 battery system unit.</li> </ul>
	If the installation happens too late in the evening, the system unit doesn't detect the solar module and the system stays in low-power transport mode.	<ul style="list-style-type: none"> <li>Wait until next day so that the output voltage of the solar module is high enough.</li> </ul>
<b>The light doesn't work after it has been working for several days</b>	Batteries are discharged	<ul style="list-style-type: none"> <li>Check the connections of the solar module.</li> <li>Check that there is no shadow on the solar module.</li> <li>Check tilt angle and orientation of the solar module.</li> <li>Wait some days if it is winter, if not call FONROCHE Lighting for further actions.</li> </ul>

For any other problem, please contact Lekla

[info@lekla.ca](mailto:info@lekla.ca)

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