

Installation manual Soluxio



P110
P220
P330



Prior to any Soluxio installation, please notify FlexSol Solutions of the planned installation date. This way, FlexSol can assist if needed by verifying remotely whether the masts have been installed properly and whether all systems are working correctly. Since every mast is connected to the Internet, this verification can be performed remotely. If there are any questions regarding installation or functioning of the product, please contact us as well.

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CAUTION: Always use proper personal protective equipment when working on a Soluxio. Handle all electronic components with care, especially the solar modules. Never apply large forces to the Soluxio solar modules. Do not lift the pole at the solar modules as they might break under the load! It is strongly advised to perform the installation with 2 persons.

We advise a verticle installation, whereby the pole is already positioned and the modules are placed into position using an aerial work platform or similar.

When lifting the Soluxio, ensure that no external forces are applied to the solar modules.

Never lift the Soluxio at one of the solar modules, since this may cause the glass to crack.

Only lift the Soluxio directly at the steel column at the top and base of the column.

Required parts & tools

Parts

- FlexSol Solar Module
- Adapter-bottom-ring
- Adapter-center-ring (inc. setscrews)
- Adapter-top-ring (inc. setscrews)
- Light-cable/luminaire cable
- FlexSol Control Unit Breakout cable
- FlexSol Control Unit enclosure
- Connection kit (GPS, GSM, Cable tubes & FlexSol Control Unit enclosure bolts)



FlexSol Solar Module(s)



FlexSol Control Unit enclosure



FlexSol Control Unit Breakout cable



Bolts for combipack (10 & 12mm)

Required parts per kit:

Soluxio P110

- 1 x FlexSol Solar Module with 2 m solar cable
- 1 x Adapter-bottom-ring
- 1 x Adapter-center-ring (inc. setscrews)
- 1 x Adapter-top-ring (inc. setscrews)
- 1 x 4 m luminaire-cable
- 1 x FlexSol Control Unit Breakout cable
- 1 x FlexSol Control Unit enclosure
- 1 x Connection kit
 - 1 x GPS antenna
 - 1 x GSM antenna
 - 1 x cable grommet
 - 1 x bolts for FlexSol Control Unit enclosure

Soluxio P220

- 1 x FlexSol Solar Module with 2 m solar cable
- 1 x FlexSol Solar Module with 3 m solar cable
- 1 x Adapter-bottom-ring
- 2 x Adapter-center-ring (inc. setscrews)
- 1 x Adapter-top-ring (inc. setscrews)
- 1 x 5 m luminaire-cable
- 1 x FlexSol Control Unit Breakout cable
- 1 x FlexSol Control Unit enclosure
- 1 x Connection kit
 - 1 x GPS antenna
 - 1 x GSM antenna
 - 2 x cable grommet
 - 1 x bolts for FlexSol Control Unit enclosure

Soluxio P330

- 1 x FlexSol Solar Module with 2 m solar cable
- 1 x FlexSol Solar Module with 3 m solar cable
- 1 x FlexSol Solar Module with 4 m solar cable
- 1 x Adapter-bottom-ring
- 3 x Adapter-center-ring (inc. setscrews)
- 1 x Adapter-top-ring (inc. setscrews)
- 1 x 6 m luminaire-cable
- 1 x FlexSol Control Unit Breakout cable
- 1 x FlexSol Control Unit enclosure
- 1 x Connection kit
 - 1 x GPS antenna
 - 1 x GSM antenna
 - 3 x cable grommet
 - 1 x bolts for FlexSol Control Unit enclosure



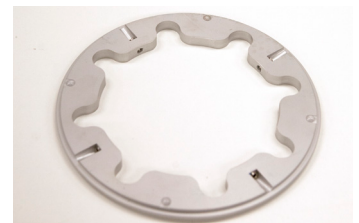
Luminaire or light cable



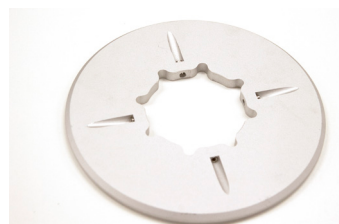
Cable grommets (one per module)



Adapter bottom ring



Adapter center ring



Adapter top ring



GSM antenna

Tools required

- 4mm Hex-key for adapter-center- and top-ring
- Streetpole outrigger and luminaire set-screws specific hex-key
- Cable puller
- Flat screwdriver to place cable grommets
- Small pipe wrench
- Aerial work platform or similar
- Maintenance-hatch-key



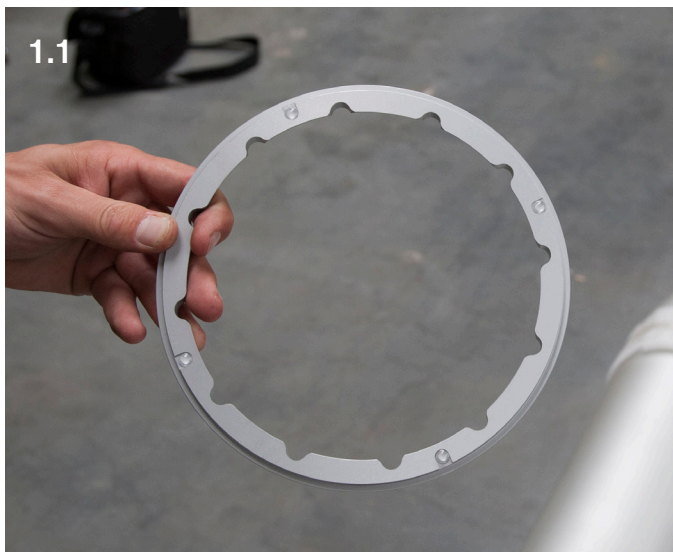
GPS antenna



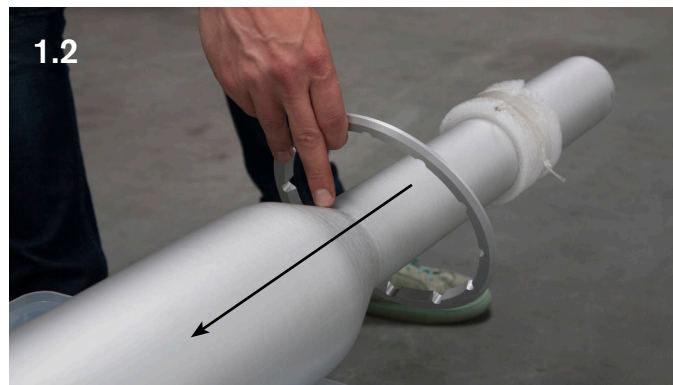
Lock with 2 keys

1.

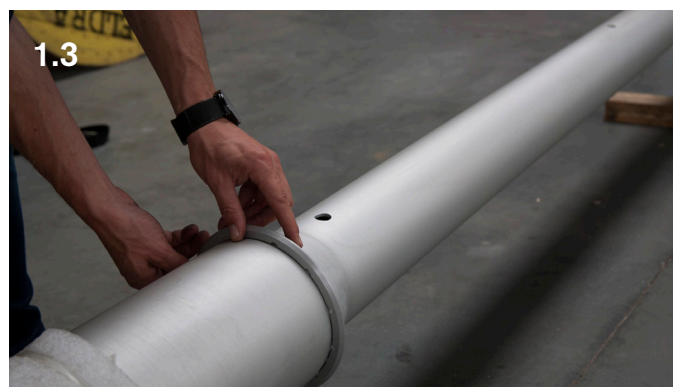
First FlexSol Solar Module



1.1 Tape the adapter-bottom-ring. Note the plastic caps on one side.



1.3



1.2 Slide the adapter-bottom-ring from the top of the pole downwards, with the plastic caps facing to the top of the pole.

1.3 Slide the adapter-bottom-ring from the top of the pole downwards till it rests on the thickening of the pole and can't go any lower.



1.4 Take the first FlexSol Solar Module (shortest solar module cable)



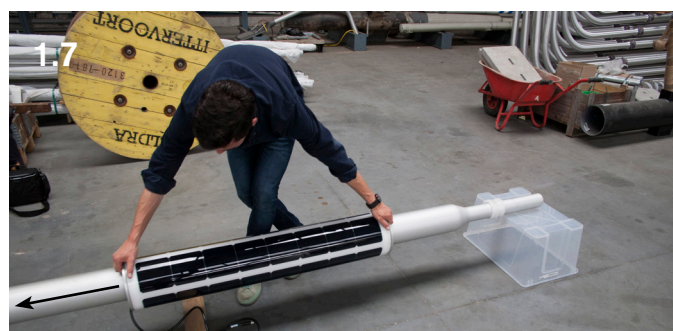
Be aware of the cables inside the module when sliding the module over the lightpole



1.5 Be aware of the cables inside the module when sliding the module on the lightpole.

1.6 Carefully slide the first FlexSol Solar Module over the pole from the top end.

1.7 Slide the FlexSol Solar Module towards the adapter-bottom-ring.





1.8

1.8 Take the solar-cable from the module.



1.9

1.9 Guide the solar cable via the hole through the pole till it can be reached at the maintenance hatch opening.



1.10/1.11

Use enough slack in order to prevent tension on the cables.

1.10 Make sure to leave enough slack on the solar cable.

1.11 Place the cable-grommet on the cable and in the hole (flat screwdriver needed)



1.12/1.13

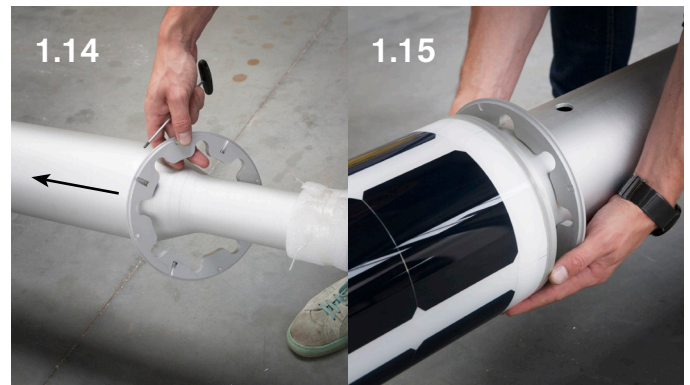
1.12 Lower the FlexSol Solar Module till it rests on the bottom-ring.

1.13 Turn the FlexSol Solar Module orientation as pleased.

- In case of P220 and P330, apply the adapter-center-ring on the FlexSol Solar Module.
- In case of P110, apply adapter-top-ring, see step: 3.6

1.14/1.15 Slide the adapter-center-ring over the top of the pole downwards, with the set-screws facing to the top of the pole.

1.16 Evenly fasten the adapter-center-ring with the 4 set-screws.



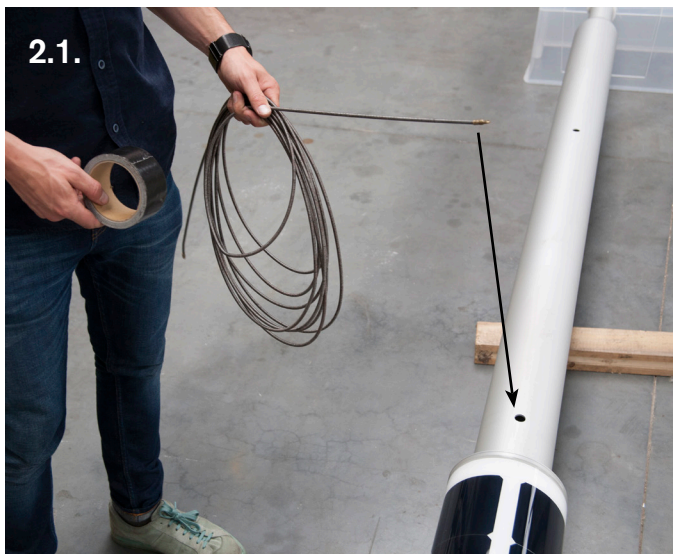
1.14

1.15



1.16

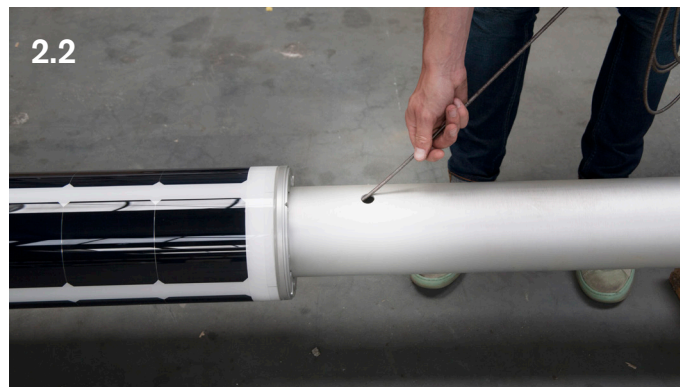
2. Second FlexSol Solar Module



2.1 Take cable-puller and ducktape to guide solar cable through the pole.

2.2 Slide the cable-puller through the hole above the first FlexSol Solar Module.

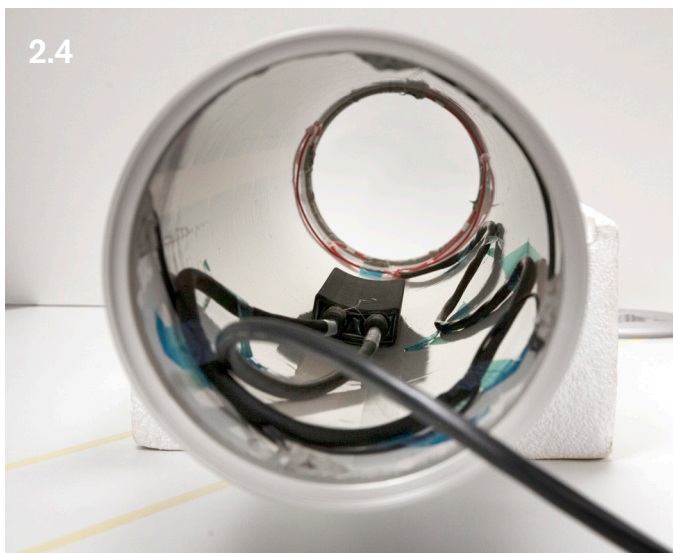
2.3 Slide the cable-puller downwards till it can be reached at the maintenance hatch.



2.2



2.3



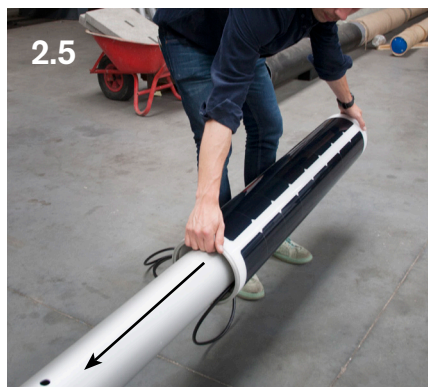
2.4

2.4 Take second FlexSol Solar Module (solar cable should be one meter longer compared to the solar cable of the first FlexSol Solar Module)

Be aware of the cables inside the module when sliding the module on the lightpole.

2.5 Carefully slide the FlexSol Solar Module over the pole from the top end.

2.6. Slide the FlexSol Solar Module towards the first module.



2.5

Be aware of the cables inside the module when sliding the module over the lightpole



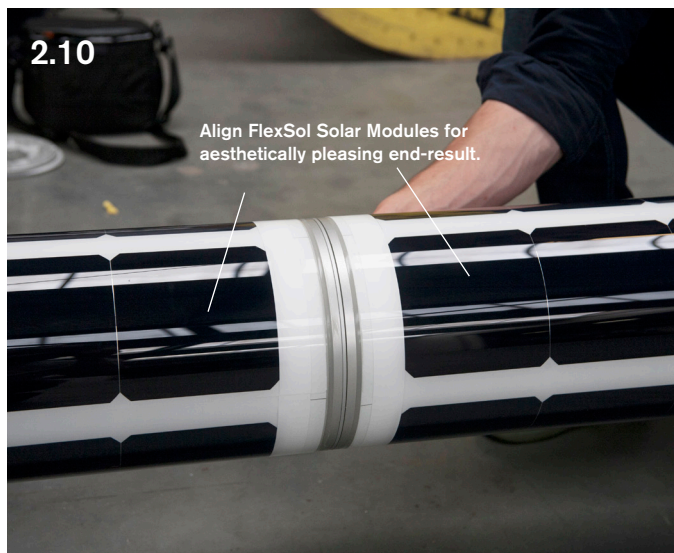
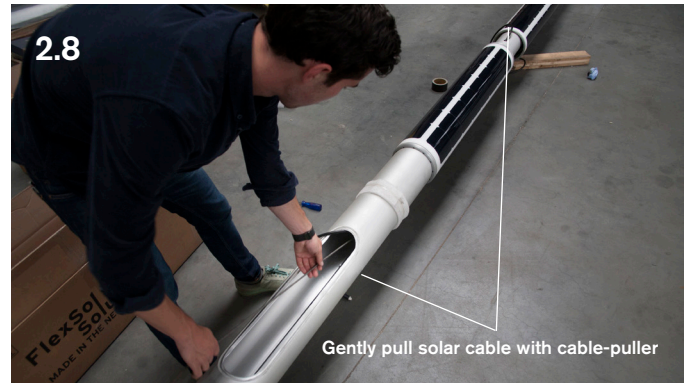
2.6



2.7 Attach the solar cable to the cable-puller using ducktape.

2.8 By using the cable-puller, make sure the solar cable reaches the maintenance hatch.

2.9 Apply cable-grommet on solar cable. Again make sure there is enough slack in the cable to avoid tentional forces on the cable.

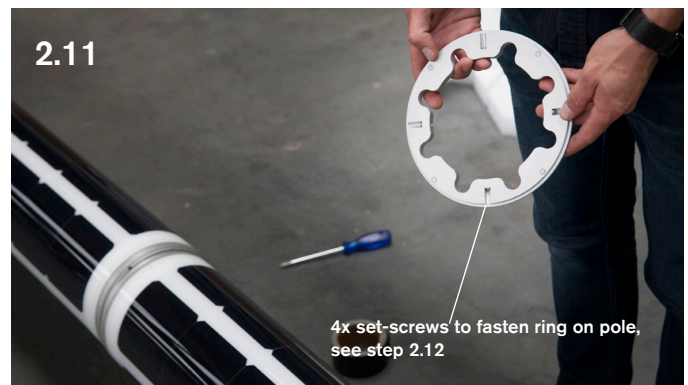


2.10 Lower the FlexSol Solar Module till it rests on the adapter-center-ring. Turn the FlexSol Solar Module orientation till the solar cells are aligned with the other FlexSol Solar Module.

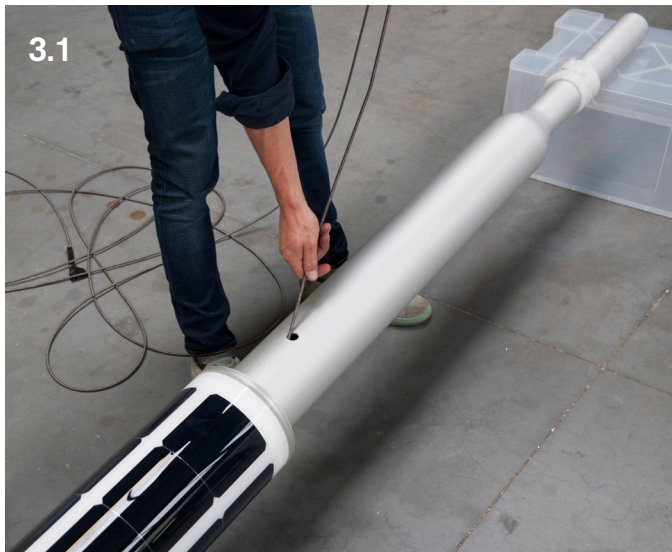
- In case P330, apply the adapter-center-ring on the module.
- In case of P220, apply adapter-top-ring, see step: 3.6

2.11 Slide the adapter-center-ring over the top of the pole downwards with the setscrews facing to the top of the pole.

2.12 Evenly fasten the adapter-center-ring with the 4 set-screws.



3. Third FlexSol Solar Module



3.1

Be aware of the cables inside the module when sliding the module over the lightpole

3.1 Slide the cable-puller through the hole above the second FlexSol Solar Module till it can be reached at the maintenance hatch.



3.2

Be aware of the cables inside the modules when sliding the module on the lightpole.

3.2 Carefully slide the FlexSol Solar Module over the pole from the top end.

3.3 Attach solar cable of FlexSol Solar Module to cable-puller and pull cable down till it can be reached at the maintenance hatch (as seen in step 2.8)

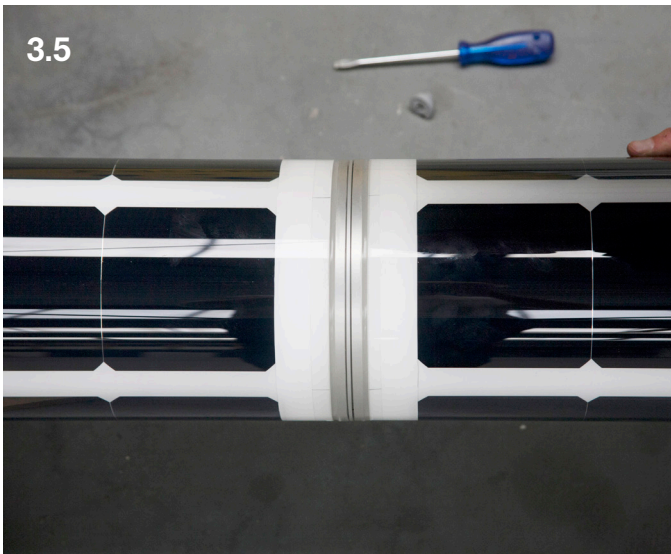
3.4 Apply cable-grommet on solar cable. Again make sure there is enough slack in the cable to avoid tentional forces on the cable.



3.3



3.4



3.5 Lower the module till it rests on the adapter-center-ring. Turn the FlexSol Solar Module orientation till the solar cells are aligned with the other module.



3.6 Take the adapter-top-ring

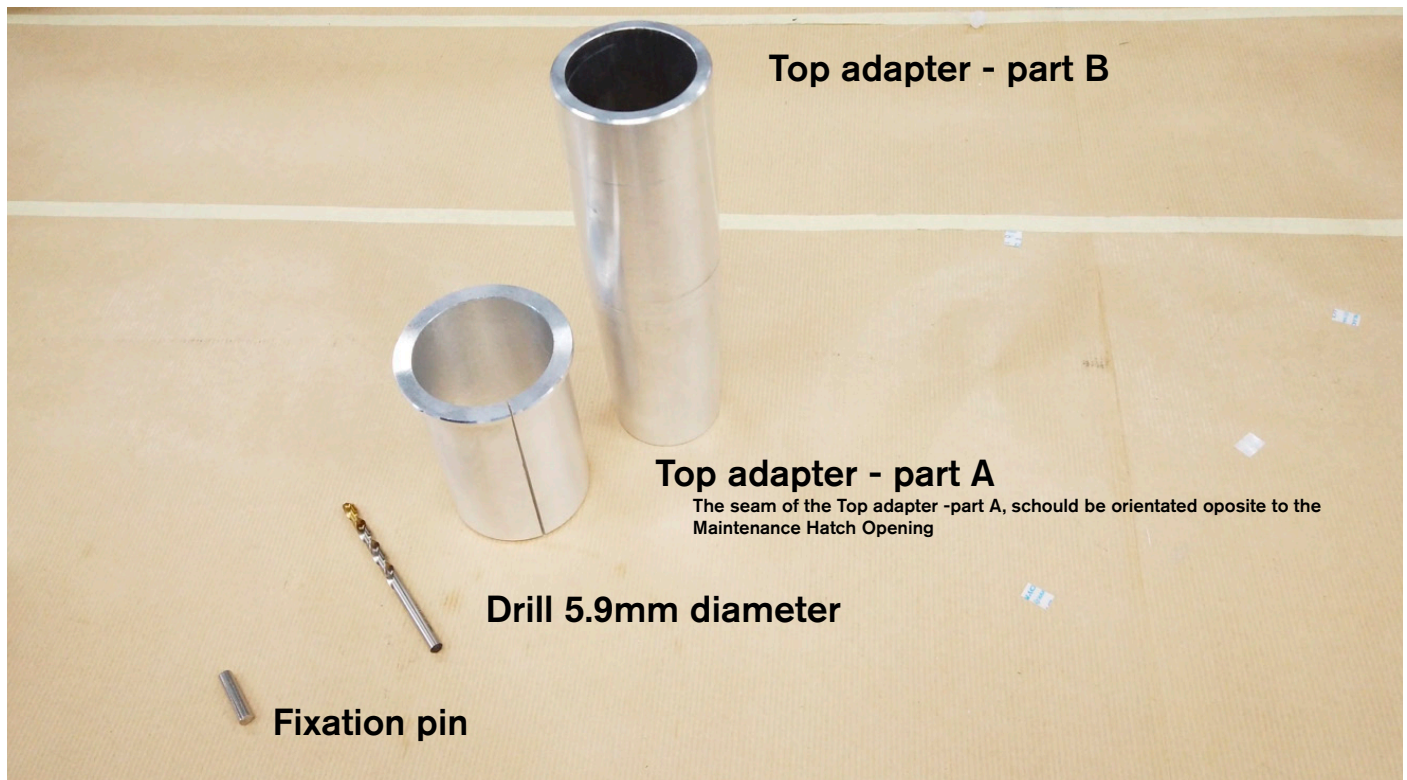


3.7 Slide the adapter-top-ring over the top of the pole downwards, with the setscrews facing to the top of the pole.

3.8 Evenly fasten the adapter-top-ring with the 4 set-screws.



T.1 Top adapter



T.1 Position the seam of top adapter - part A in such a manner that it is orientated opposite to the maintenance hatch opening.

T.2 insert the Top adapter - part A in the pole.

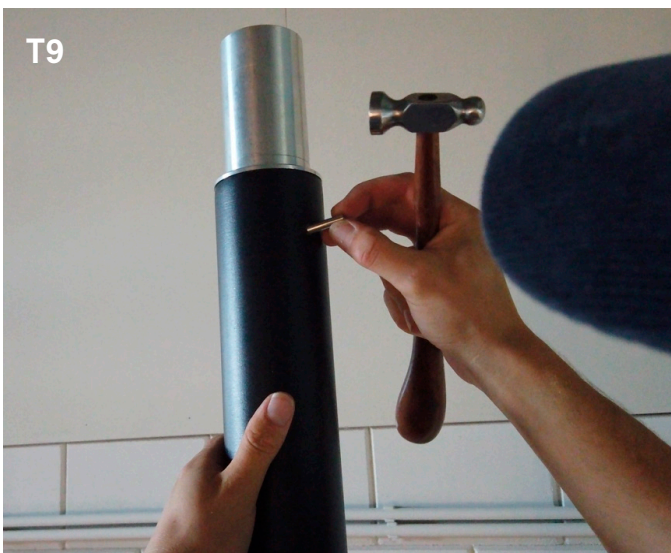
T3. Insert Top adapter - part B inside Top adapter - part A



T5. Give a few firm hits with a hammer and a piece of wood (to prevent damages) on top of Top Adapter - part B.

T6. measure 4cm beneath the top of the pole to set a drilling point. (this is to be sure the hole will go through both pole and top adapter part A & B.

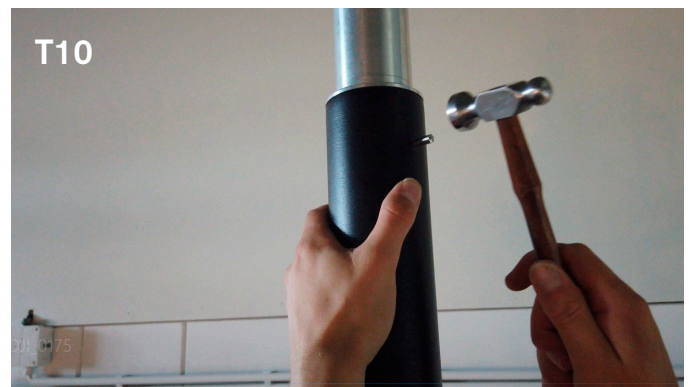
T7. Drill the hole, with a drill of 5.9mm, through POLE, TOP ADAPTER PART A & B.



T9. Insert the fixation pin (tapered) in the drilled hole with the smallest diameter facing the center of the pole.

T10. Hit the fixation pin with a hammer till it is flush with the pole and can't go any further.

T11. Finished.



4. Luminaire



4.1 Slide the cable puller through the tophole of the pole downwards till it can be reached at the maintenance hatch.

4.2 Take the supplied Light-cable (make sure the light-cable length corresponds to the height of the streetpole) and pull cable through the outrigger.

4.3 Be aware of the orientation of the cable. Female connector is needed to connect to luminaire. Male is needed on FlexSol Control Unit Breakout cable connector.



Female connector of light-cable



4.4 Attach the Light-cable to the cable-puller. carefully pull the light cable using the cable puller till it can be reached at the maintenance hatch.

4.5 Place the outrigger on the pole.

4.6 Turn outrigger into desired position. Evenly fasten the outrigger using the 6 set-screws.





4.7 Connect the light-cable and luminaire-cable. In case of double-luminaire, use a splitter to connect both luminaires to light-cable.

4.8 Place the luminaire(s) on the outrigger.

4.9 Fasten the luminaire(s) on the outrigger using the 2 set-screws onto the desired position.



5. FlexSol Control Unit enclosure



5.1 Take the FlexSol Control Unit Breakout cable
Do not attach the FlexSol Control Unit Breakout cable to the combipack before light- and solar-cables are attached.

5.2 Make sure all cables are reachable via the maintenance hatch. (per module one solar cable and one light-cable for the luminaire).

5.3 Connect the solar- and light cable(s) to the FlexSol Control Unit Breakout cable on the corresponding connectors (solar on solar, light on light). Make sure the arrows on the connectors align.

NOTE: The receptacle (COM) with dust cap screwed on top is for connecting a programming device such as a laptop to the pole. It is not used during normal operation. Please ensure that the dust cap is properly screwed on to avoid any dust or water ingress.



Do not attach the FlexSol Control Unit Breakout cableconnector to the Control Unit enclosure before solar and light cables are connected.



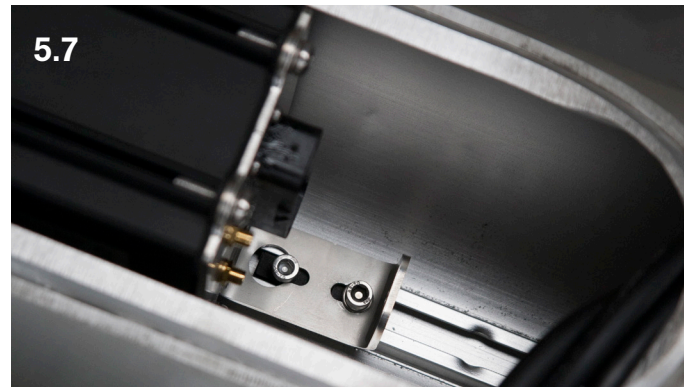
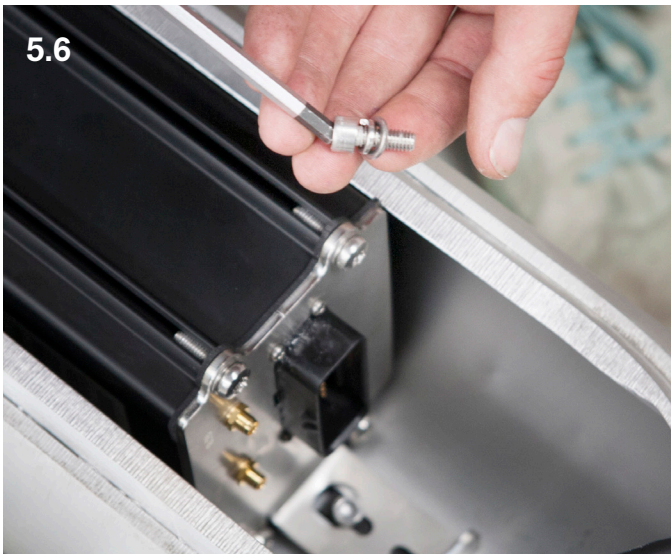
5.4 Make sure the two sliding nuts are positioned at the top of the maintenance hatch.

5.4 Firmly Insert a M4 10mm hex-bolt in the second (from top) sliding nut. This bolt will be used to temporarily position the FlexSol Control Unit enclosure.

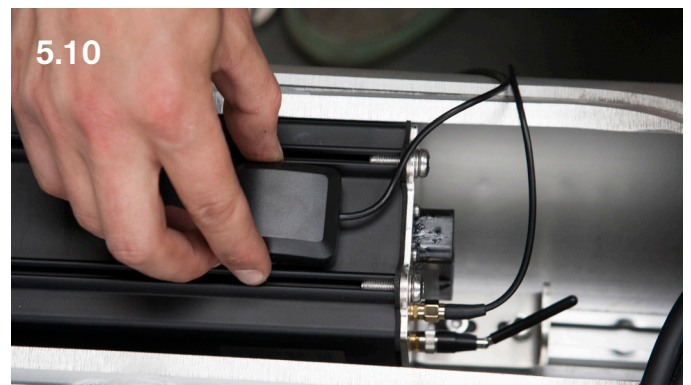
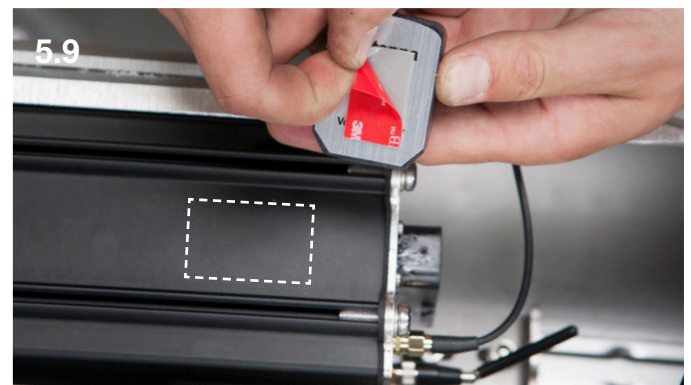
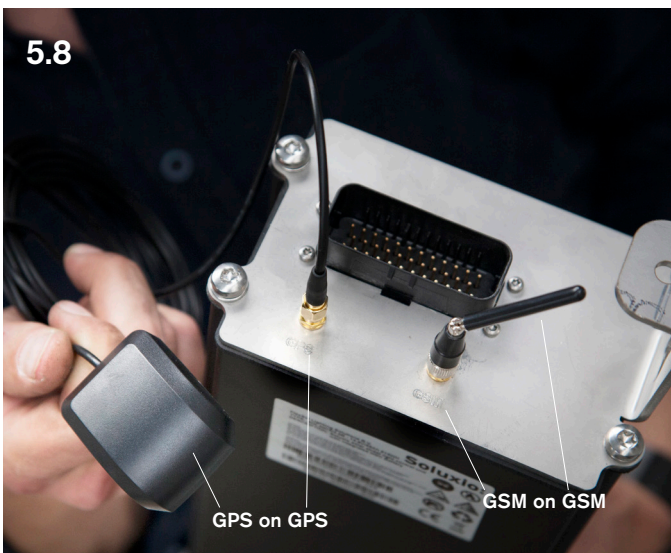
5.5 Insert the FlexSol Control Unit enclosure.

5.6 Let it rest in the previously installed hex-bolt (step 5.4)





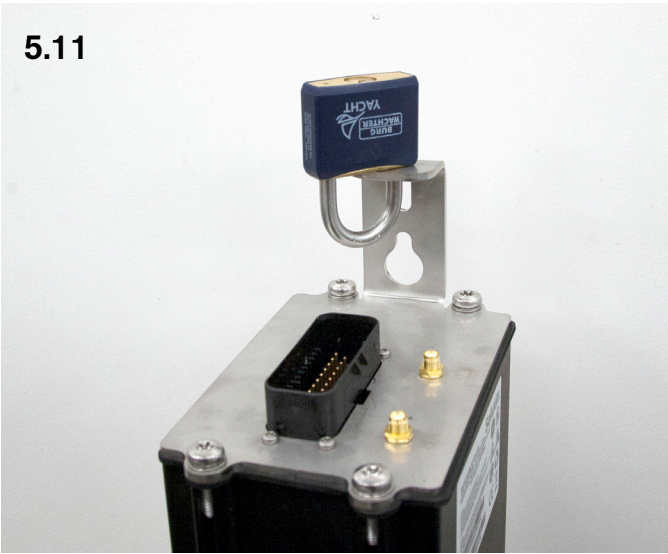
5.6 / 5.7 Secure the FlexSol Control Unit enclosure with the top sliding nut via the M4 12 mm hex-nut along with the 2 rings.



5.8 Attach the GPS antenna on the GPS connector on the FlexSol Control Unit enclosure and attach the GSM antenna on the GSM connector on the FlexSol Control Unit enclosure. Ensure a correct connection by fastening the GPS with a small pipe wrench.

5.9 / 5.10 Attach the GPS antenna on the side of the FlexSol Control Unit enclosure using the double sided tape.

5.11



5.11 place the lock on the FlexSol Control Unit enclosure to ensure its is secured on its place, as the bolts (step 5.4 and 5.6) can't be reached anymore.

5.12

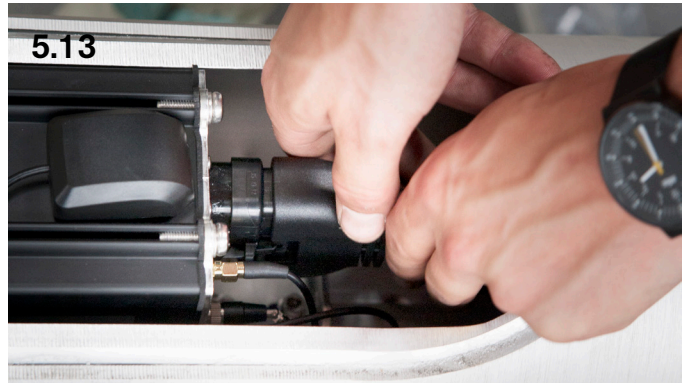


5.12 Connect the FlexSol Control Unit Breakout cable to the FlexSol Control Unit enclosure.

5.13 Make sure you feel or hear a click of the FlexSol Control Unit Breakout cable clip when it is beeing attached, to ensure adequate connection.

5.14 - close up photo of connectors clip -

5.13



5.14



Clip of breakoutcable

5.15



5.15 Place the sticker with the UUID code of the FlexSol Control Unit enclosure onto the maintenance hatch, so it is visible when the hatch is closed.

5.15 Close the hatch and fasten with bolts. Your FlexSol Soluxio is installed.

Once all components are properly connected, the Soluxio will automatically start operation using the default settings. This means that it will first determine its geographical location and the local time using GPS and will start the default lighting scheme from sunset to sunrise based on this information. It can occur that the Soluxio will not turn on the first couple nights, because the battery will first need to charge. This is normal, and the Soluxio will automatically turn on once the battery has charged sufficiently.