Solar pack operating manual

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AQMesh solar pack operating manual

This manual explains how to install and operate the solar pack that can be supplied with the AQMesh air quality monitoring system (AQMesh pods) as one of its power options.

The solar pack needs to be specified at the time of manufacture and is easily connected to the AQMesh monitor for continuous power and operation.

AQMesh pods using the solar pack power option are supplied with arctic grade 2-core electrical cable with military style connectors for connecting the pod and the solar pack. The solar pack is also supplied with 4 jubilee clips that allow it to be fixed securely to a pole or post.

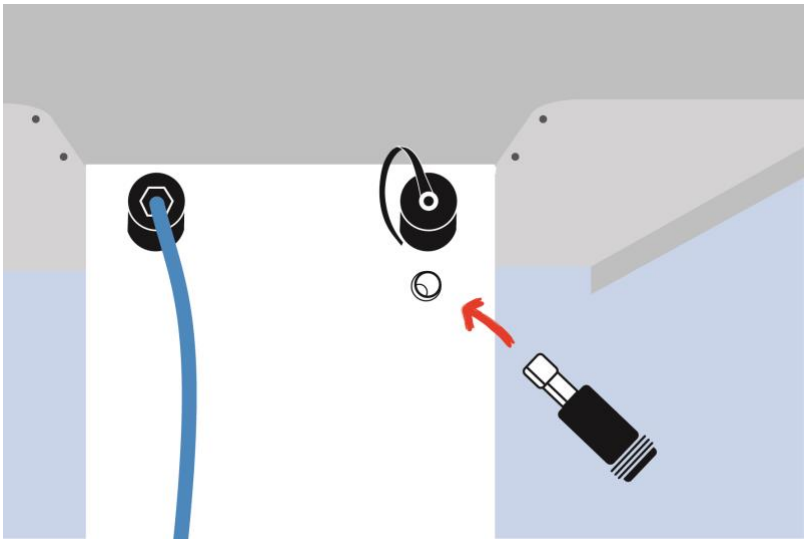
Installation

The tools required for installing the solar pack are:-

AQMesh fitting kit (comes with pod)
Handle for hex bit
8mm socket
Appropriate flat blade screwdriver
PZ2 screwdriver

- IMPORTANT!

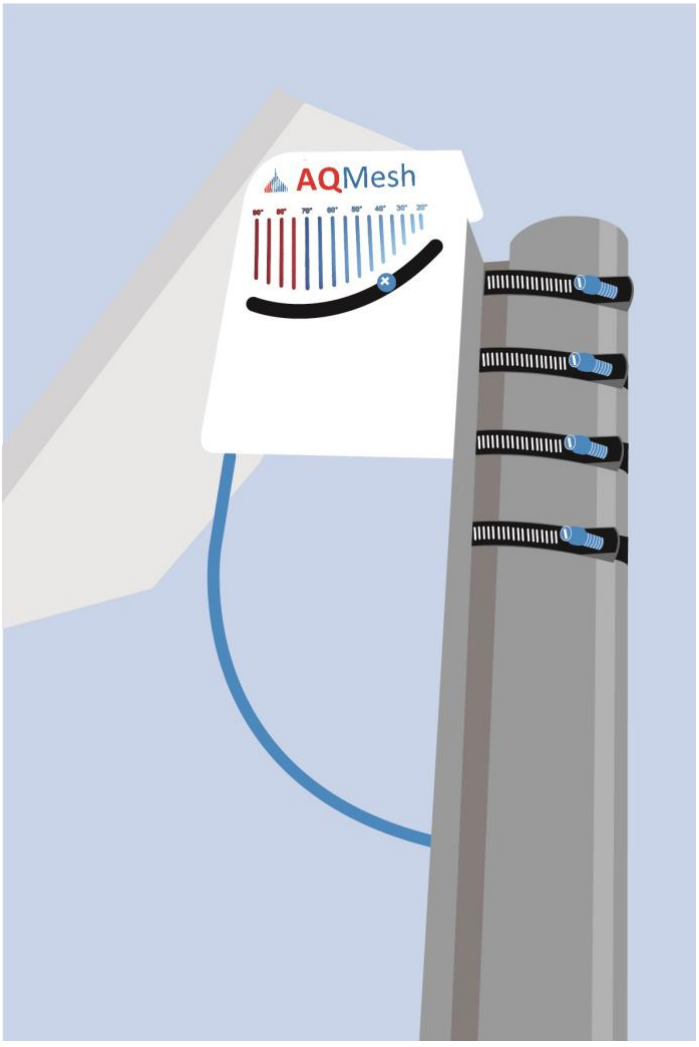
  The fuse MUST be inserted in order to activate the panel



STEP 1:

Review the chosen location for installation.

- For optimal output from the solar panel, ALL cells should be in direct sunlight throughout the day
- Please install the solar pack ABOVE the pod
- When installing the solar pack ensure you are following your local health & safety guidelines with regards to working at height and relevant electrical regulations
- Avoid installing in the solar panel and AQMesh pod in areas of shade, such as shade created by nearby buildings or trees
- Avoid areas where the panel will be in the shadow of other smaller objects – even the shadows of small wires can adversely affect the performance
- Do not install behind a window or any other form of material

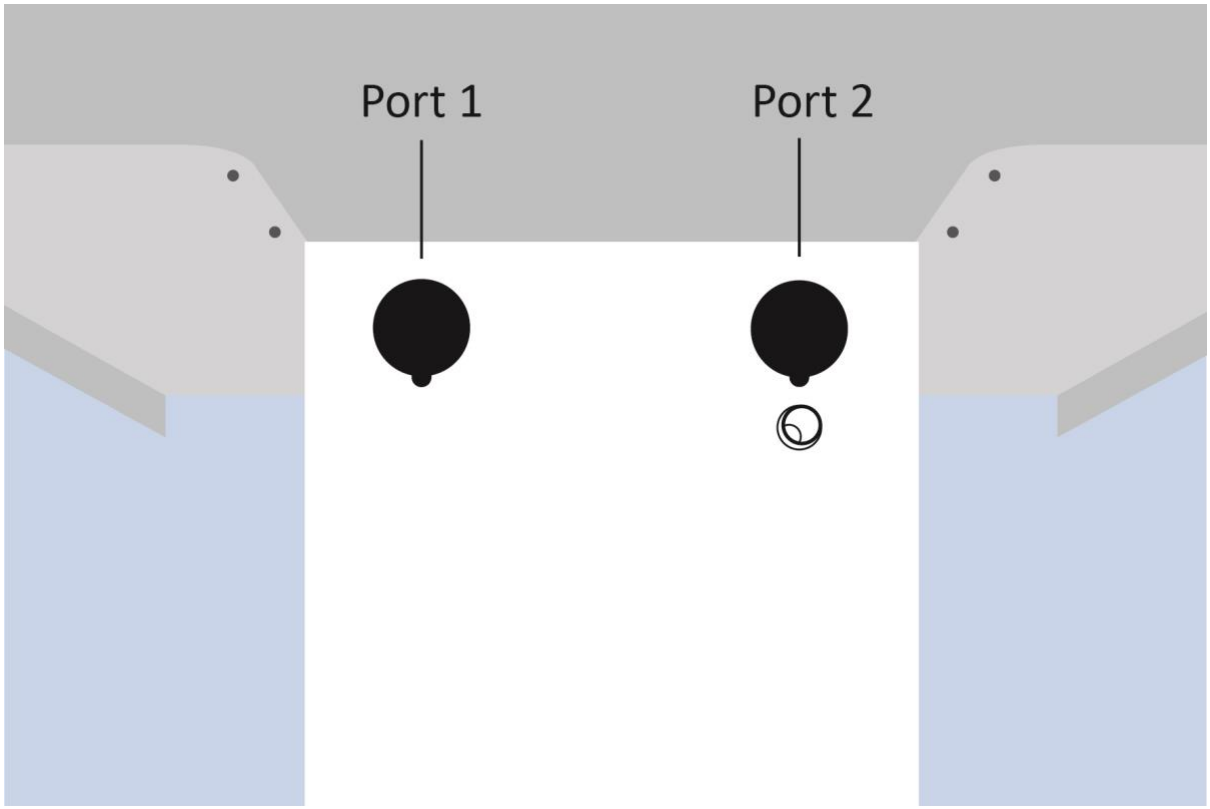


- Remove the two security screws from the base of the solar assembly and separate the pole mounting bracket
- Loosely install the bracket to the pole using the 4 jubilee clips provided
    - DO NOT overtighten the screws at this stage as this may damage the bracket
- Install the main body of the solar assembly, making sure that all 4 studs are engaged
- Tighten the jubilee clips fully

STEP 2:

- There are two ports on the solar panel allowing it to power 2 AQMesh pods for a short space of time, such as when co-locating against a 'gold pod' for scaling. Either port can be used when powering a single pod.

For more information on 'gold pods' please visit:
www.aqmesh.com/support/faqs



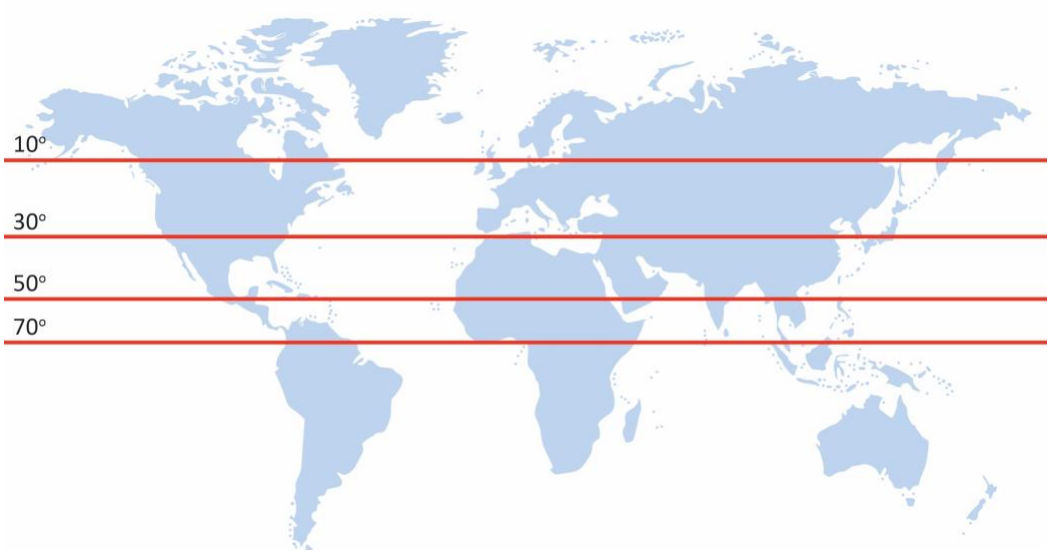
STEP 3:

Adjust the position of the solar panel so that it is angled towards the midday sun.

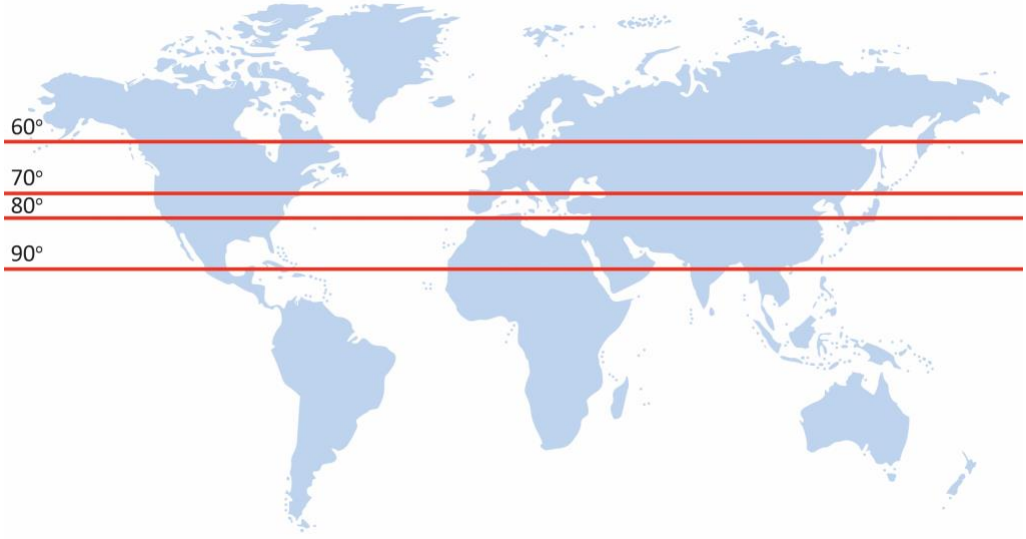
The following maps show the optimum angle for the solar panel depending on the region and time of year.

The solar panel can be repositioned at the beginning of summer and winter for optimum performance, or it can remain in the same position all year round if preferred.

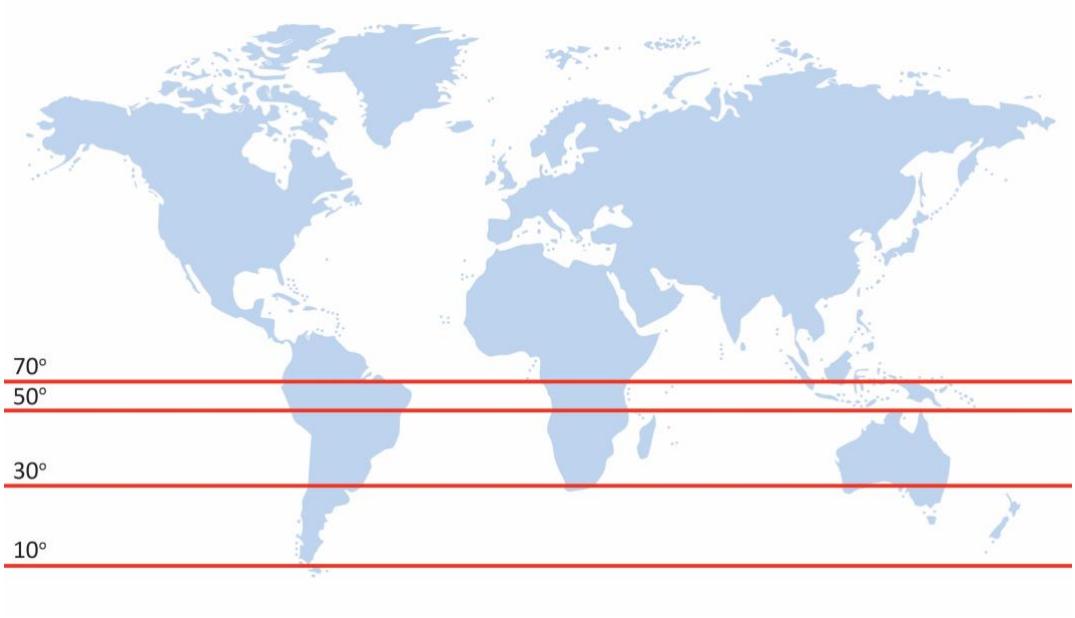
- **Northern Hemisphere Winter**



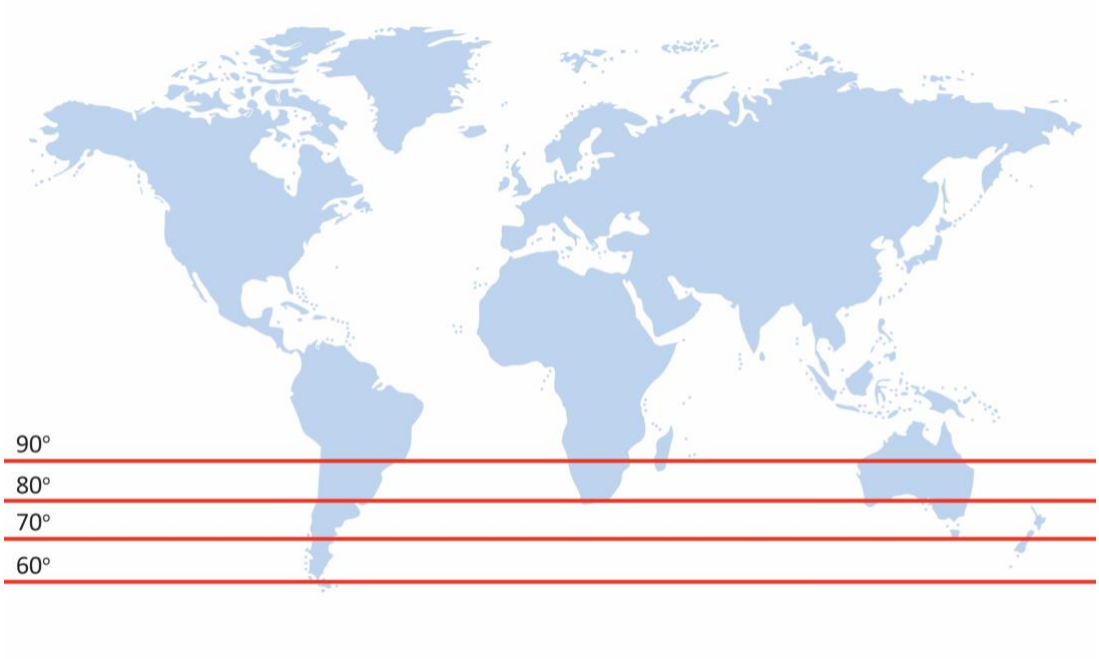
- **Northern Hemisphere Summer**



- **Southern Hemisphere Winter**



- **Southern Hemisphere Summer**



STEP 4:

Check the output of the solar panel and the lead acid battery using the mobile application. The mobile application connects to the panel via Bluetooth from a mobile device.

To download the mobile app, please visit:

www.aqmesh.com/iOSapp for Apple devices or www.aqmesh.com/androidapp for Android devices.

- The default PIN code required to initially connect the app to the solar pack is 0 0 0 0 0 0 (six zeros)

Cleaning and maintenance

The panel will require very little maintenance but please ensure it is kept clean of any dirt, dust or other material that may gather over time to maintain optimum performance.

- To avoid hot surfaces, clean in the morning or evening only
- Use warm water and soft cloth
- Do not spray the panel with cold water

It is recommended that the lead-acid battery fitted inside the solar assembly is changed every two years to maintain optimum performance.

Trouble shooting

If the pod does not power on, please:-

- Check that the activation fuse has been inserted correctly
- Check the output of the socket using a volt meter
- Check the output of the solar panel using the mobile app

If the pod loses power after a few days, please:-

- Optimise the orientation and angle of the panel to try and maximise all available sunlight
- Check for any shadows that may compromise panel performance
- Change the lead acid battery

Further assistance

If further support is required for the installation, maintenance or operation of the solar panel please contact support@aqmesh.com

Version Control QMS ISO9001:2015						
Version	Owner	Author	Reviewer	Approver	Changes	Date
1.0	Marketing	J. Burniston	J. Downie	S. Earp	None	July 2018
1.1	Marketing	J. Burniston	R. Handy	S. Earp	Updating tools required for installation as per DevOps #2421	April 2023