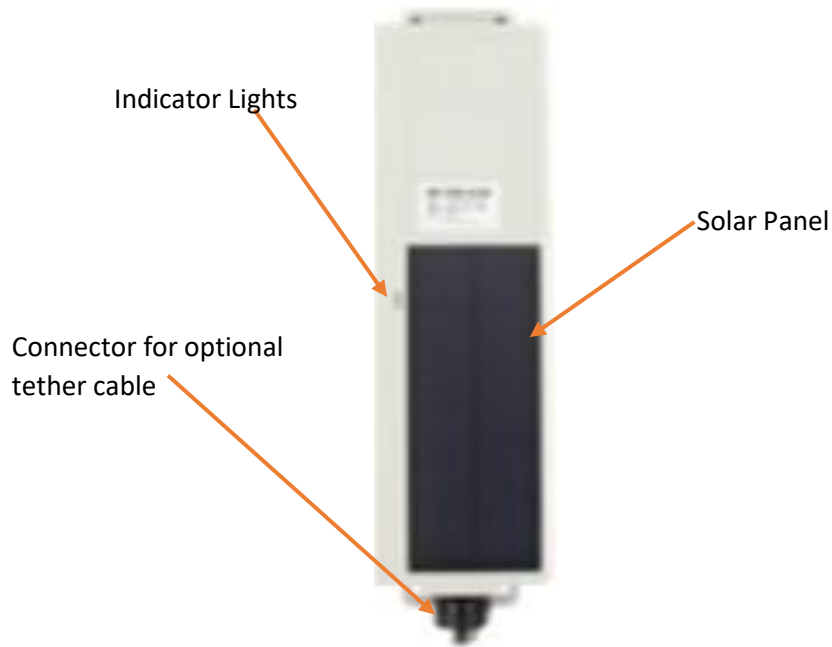




# Troubleshooting Guide

## SolarNet



## 1. Quick Overview

### a. SolarNet With Tether Harness

- i. Unit has a cable that connects to power line to supply power to unit. (Figure 1)
  - 1. Pin 1 Main Power (Positive)
  - 2. Pin 2 Aux. Power (Positive)
  - 3. Pin 4 Ground

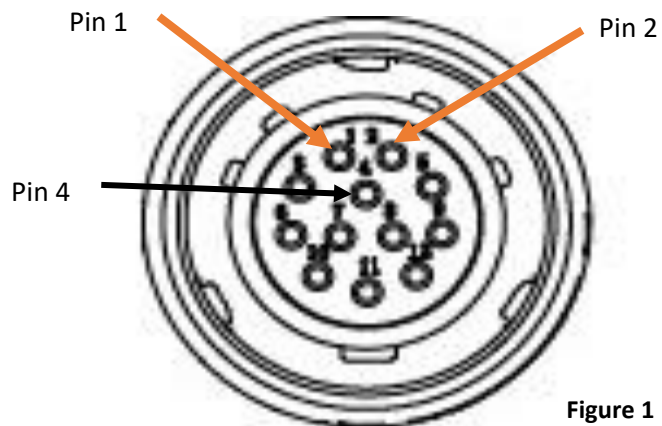


Figure 1

Looking at connector on cable that connects to Gateway

### b. SolarNet Untethered

- i. The unit works on Battery. No External Power Connected. Unit Charged by Solar Panel.

### c. All units come with a Shipping Plug. This plug keeps the unit in ship mode and will not connect to GPS or Cell.

- i. The Shipping plug needs to be removed prior to installation.
- ii. The shipping plug can also be used to do a soft reset of the unit. This will just reboot the unit and not clear any trip data.



- d. LED Indicators
  - i. LED indicators may not show if the unit is not powered externally. Units working on Battery may need to sense vibration to get LEDs to light.
  - ii. The LED indicators behaviors are in the table 1.
- e. Location of indicator lights
  - i. Located on top of unit along side of Solar Panel
- f. Meaning of the lights:
  - i. Red – GPS Locked
  - ii. Green – Cellular Connected
  - iii. Orange – Senses vibration

Light Behavior	What it Means	What to Check
<b>Green, Red, &amp; Orange OFF</b>	GPS disconnected, cellular data session is off, device is either turned off (sleeping) or in low power mode (standby)	<ul style="list-style-type: none"> <li>• Once the device starts moving, it will look for GPS and cellular data.</li> </ul>
<b>Green Blinking, Red Solid, Orange Blinking</b>	Attempting to lock cellular, GPS locked, vibration detected	<ul style="list-style-type: none"> <li>• Could be a cellular coverage issue.</li> <li>• Make sure that the device has a clear view of the sky or the ground.</li> </ul>
<b>Green Solid, Red Solid, Orange Blinking</b>	Perfect health; that's how it should be. Locked to cellular and GPS.	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Green Blinking, Red Blinking, Orange Blinking</b>	Attempting to lock to cellular and GPS; this is the combination you should see when the device wakes up (vibration detected)	<ul style="list-style-type: none"> <li>• If this combination persists, please make sure the device has a clear view of the sky or the ground.</li> </ul>
<b>Green Solid, Red Blinking, Orange Blinking</b>	Locked to cellular and attempting to lock to GPS	<ul style="list-style-type: none"> <li>• Could indicate an issue with device interference.</li> <li>• Make sure the device has a clear view of the sky or the ground.</li> </ul>
<b>Green Blinking, Red Off</b>	Attempting to connect to cellular, GPS off	<ul style="list-style-type: none"> <li>• This indicates a cellular coverage issue.</li> </ul>
<b>Green Solid, Red Off</b>	Locked to cellular, GPS off	<ul style="list-style-type: none"> <li>• This indicates a device interference issue.</li> </ul>
<b>Green Off, Red Blinking</b>	Not connected to cellular, attempting to connect to GPS	<ul style="list-style-type: none"> <li>• This indicates a cellular coverage issue.</li> </ul>
<b>Green Off, Red Solid</b>	Not connected to cellular, connected to GPS	<ul style="list-style-type: none"> <li>• This indicates a cellular coverage issue.</li> </ul>

Table 1



## 2. Not showing on Map or unable to lock on GPS

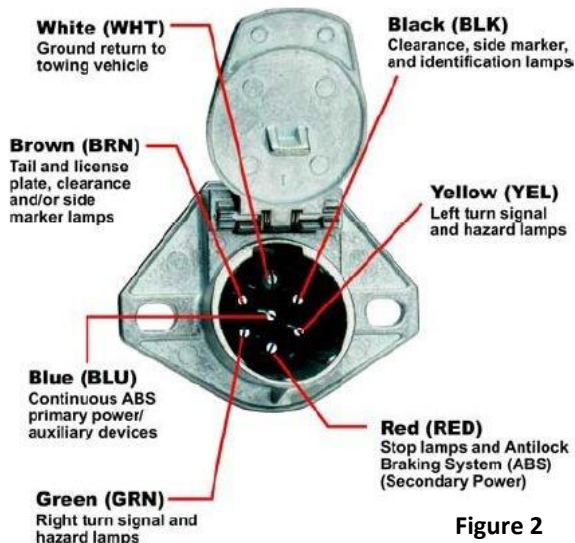
- a. Verify unit still attached to Asset.
- b. Inspect for Damage to unit
- c. Phillips Connect devices need a clear view of the sky or the ground to communicate with GPS.
- d. Devices that are not able to connect to GPS will not show accurate location or trips.
  - i. Ensure there is nothing obstructing the device where it is installed, specifically metal.
  - ii. Ensure the asset is not inside a shop or building.
  - iii. Ensure the device is in an area with good coverage (see attached cell coverage maps)
- e. To confirm whether the device is getting signal, submit a ticket to
  - i. [ResellerHelpDesk@phillips-connect.com](mailto:ResellerHelpDesk@phillips-connect.com)
  - ii. (833) 213-5839

## 3. Not able to Connect to Cellular

- a. SIM card issues for non-carrier purchases must be diagnosed by Phillips Connect.
- b. Contact Phillips Connect for support.
  - i. [ResellerHelpDesk@phillips-connect.com](mailto:ResellerHelpDesk@phillips-connect.com)
  - ii. (833) 213-5839
- c. SIM card issues for carriers must be diagnosed by the carrier.
  - i. Contact the carrier for support.

## 4. If unit is not reporting and no LED indication

- a. If the unit is connected to a power source.
  - i. Confirm the power source the device is connected to is working.
  - ii. Disconnect Connector from gateway.
    1. Use a voltmeter to measure output.
    2. Verify Voltage on Pin 1 of the Cable Connector is at least 12 Volts. (Figure 1)
      - a. If voltage is below 12 Volts or very low. Clean pins on 7-way connector (figure 2)
      - b. If no voltage present, verify ABS fuse in Cab is good.
      - c. Check Cab 7-way connector for power. If no power on Middle pin, the ABS Fuse is blown. ( Figure 2)



3. Check connection where the cable connects to the power source.



- iii. Verify Ground (Pin 4) has continuity to chassis ground.
- iv. Check the installation of power cable for loose connections.
- b. If the unit is a non-tethered unit.
  - i. Check Solar Panel for any damage.
  - ii. Verify Solar panel is free of debris and has a clean surface.
  - iii. Verify that the Solar Panel has complete Sunlight over the whole Solar Panel.
  - iv. The Solar Panel consists of many smaller solar panels. These panels are connected in series. If one panel goes dead the other panels will not produce voltage to charge the battery.
    - 1. The same may occur if the unit is not getting complete sunlight. IF one panel is in the shade it may reduce the amount of voltage to charge the battery.
    - 2. This could possibly keep the Solar Panel from Charging. Depleting the battery and causing the unit to go into low power mode.
  - v. Verify Battery Voltage in UI is above 3.20 Volts
    - 1. If the battery drops below 3.20 Volts, the unit will go into a low voltage mode and will not report until the unit is above 3.45 Volts to restart the MCU
    - 2. You may request an Power cable or Cigarette lighter cable from Phillips Connect to charge the unit.
- c. If there are still no lights on the device, submit a ticket
  - i. [ResellerHelpDesk@phillips-connect.com](mailto:ResellerHelpDesk@phillips-connect.com)
  - ii. (833) 213-5839

## **5. IMEI does not shown in UI to assign to an Asset**

- a. Contact Phillips Connect for support.
  - i. [ResellerHelpDesk@phillips-connect.com](mailto:ResellerHelpDesk@phillips-connect.com)
  - ii. (833) 213-5839