

# SOLAR

## USER MANUAL



# Data Monitoring

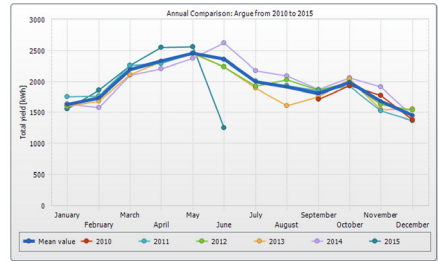
Data monitoring provides both TFS and the customer with real-time system information, allowing for consistent monitoring of production and swift diagnosis of error.

Data monitoring is web-based, and can be viewed from any desktop, laptop, tablet, or mobile device that supports internet browsing.

To access your data monitoring, simply log in to your online dashboard via the URL that corresponds to your system, listed below. Each data monitoring service allows you to see historical and realtime solar production.

## To Access Your System's Data:

- SunPower: [sunpowermonitor.com](http://sunpowermonitor.com)
- Sunny Portal: [sunnyportal.com](http://sunnyportal.com)
- Other: \_\_\_\_\_



## DATA MONITORING LOGIN:

Feel free to write down your login information here for safe keeping:

# Reading Your Inverter

## Understanding the Indicators On Your Inverter (Inverter models SPR or SMA 3000TL - 7700TL)

**Green LED is lit:** Indicates the inverter is in operation.

**Green LED is flashing:** Occurs during start-up and shutdown; indicates requirements for connection to the power grid have not yet been met.

**Red LED is lit:** Indicates an error and you should call your installer.



Your TL inverter provides backup power via a dedicated outlet when the grid goes down. To energize the outlet, flip the switch and you will have up to 1,500 watts - enough to power a small load - at your disposal once the inverter starts up. Once the grid re-energizes, you must flip the switch back to off.

### ADDITIONAL INFORMATION:

If you need additional info or have a different inverter model, please refer to your expanded owner's manual or our online documentation portal:

**[tfssolar.com/pv-documentation](https://tfssolar.com/pv-documentation)**

# Cleaning & Upkeep

Solar panels do not require regular cleaning in order to function properly. Occasional rainfall is sufficient to keep modules clean and operating optimally here in the southwest. If, however, your panels have accumulated excess dirt or bird droppings, we recommend that you use the following tips for a safe cleaning.



## DO'S:

- Rinse solar panels with water from a standard garden hose
- Carefully move any debris such as sticks or leaves from the surface of panels
- Gently wipe panel surface with a wet rag to remove persistent bird droppings
- Wash panels in the early morning before the sun rises to avoid temperature fluctuation

## DON'TS:

- Avoid washing panels in the daytime once they have begun absorbing heat
- Do not scrub the surface of the panels with any rough or coarse materials
- Do not use chemical cleaning solutions to wash panels - water is sufficient
- Do not douse panels in water of any extreme temperature, hot or cold

# Reading Your Utility Bill

On your utility bill, kWh represents energy delivered from the utility, while KBH represents energy received by the utility from the your PV system.

To find your Net Usage, subtract your monthly KBH usage from your monthly kWh usage. If the number is negative, TEP received more energy from you than they delivered to you. This excess energy will be listed on your bill as "Excess kWh Credit carried forward," and will be rolled over on future bills.

In October, unused accumulated credits will be bought by the utility at wholesale rate, which is used to pay for your standard utility fees.



Account: 0123456789  
 Bill Date: 09-27-2013  
 Customer Name: TFS Customer  
 Service Address: 123 Sustainability Lane  
 Tucson, AZ 85700

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A LineSource Energy Company

Previous Balance	- Payments/Credits	+ Charges/Debits	= Current Balance
25.56	25.56	49.69	49.69

DUE DATE	AMOUNT DUE
10-11-2013	\$49.69

Payment: \$25.56 on 09/03/2013 - Thank you!

R-01-Residential-Net-Metering (Service No: 0123456789)

Electric Charges for Period 09-28-13 - 09-28-13

#### NET METERING

Excess kWh Credit carried forward from last month 0.  
 Excess kWh Credit carried forward to next month 0.

#### DELIVERY SERVICES

Customer Charge 10.00  
 Summer - 1st 500 kWh 341.00 @ \$0.0562 19.16

#### POWER SUPPLY CHARGES

Summer - kWh 341.00 @ \$0.035111 11.97  
 PPFAC - kWh 341.00 @ \$-0.001388 0.47 CR

#### GREEN ENERGY CHARGES

Renewable Energy Standard Tariff 2.73  
 DSM Surcharge - kWh 341.00 @ \$0.002232 0.76

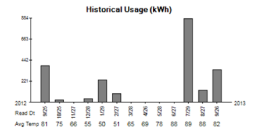
#### TAXES AND ASSESSMENTS

ACC Assessment 0.09  
 RUCO Assessment 0.01  
 City Franchise Fee 0.90  
 State Sales Tax 2.57  
 County Sales Tax 0.23  
 City Sales Tax 0.88  
 City Public Utility Tax 0.77

#### TOTAL CURRENT CHARGES - Electric Service

49.69

Month	Unit of Measure	Next Read Date	Current Read Date	Prev Read Date	Days	Current Reading	Prior Reading	= Reading Difference	= Multiplier	= Usage
SK3-1234	kWh	10-25	9-26	8-27	30	10379	9711	668	1	668
SK3-1234	kWh	10-25	9-26	8-27	30	8065	7738	327	1	327



A sample utility bill. Note: Total solar production is not represented on your utility bill. See Data Monitoring page for more info.

## ADDITIONAL INFORMATION:

For an in-depth, guided explanation of how to read your utility bill, please refer to either your extended owner's manual or our online tutorial at:

[tfsolar.com/utility-bill-explained](http://tfsolar.com/utility-bill-explained)

For expanded information, please visit: [tfssolar.com/owners-manual](http://tfssolar.com/owners-manual)



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