

Thank You for Choosing the EV Charging Single Phase Inverter

The EV charging inverter enables you to charge your electric vehicle directly from the power of the sun, maximizing your solar usage and reducing your electricity bills. **This guide will introduce you to the charging modes available in the Monitoring Platform mobile application.**

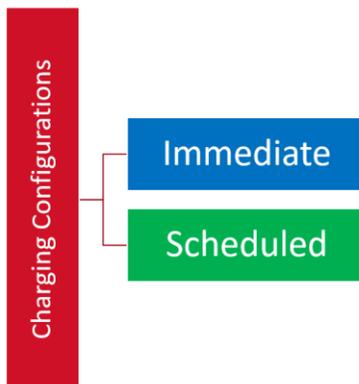
Before starting to charge, connect the EV charger cable to the inverter, and make sure that the inverter is activated and connected to the Monitoring Platform¹. For EV-charger activation and cable installation instructions & videos, refer to: <https://www.solaredge.com/us/products/ev-charger/activation-and-configuration>

To access the mobile application, download the monitoring platform app for iOS or Android

1. Log in using your monitoring platform credentials
2. Tap the car icon to access the EV Charger screen
3. Follow the instructions on the screen to activate your EV Charger



The monitoring app offers two basic charging configurations:



Immediate charging: plug & charge

The default app setting, **Immediate**, will start charging whenever the charger is plugged into your vehicle.

Immediate charging is recommended if your cost of electricity is fixed during the day (flat rate electricity tariffs). If you have varying electricity rates, also known as time-of-use (TOU) tariffs, consider using the **Scheduled** charging mode instead.

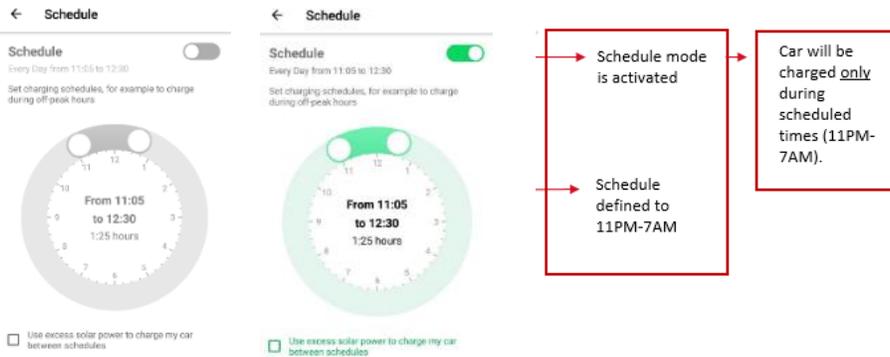
¹ Connection options: Ethernet / ZigBee / Cellular connection with 50MB data plan (purchased from a cellular provider). The SolarEdge data plan is <50MB and can be used for activation only, not for EV charging configuration and monitoring

Note: If solar energy is available during charging, the innovative *Solar Boost* feature will utilize grid and solar energy simultaneously - for quicker and more efficient charging (see **Box #1** for more info).

Scheduled charging: set a daily charging schedule

Use the **Scheduled** charging mode to define a daily charging schedule and enable charging at certain hours of the day. Charging will be done using solar power, and if needed, also using grid power.

Scheduled charging is recommended if you have varying electricity rates (TOU tariffs), so you can enjoy considerable cost savings by limiting grid charging to specific off-peak hours, when grid rates are lower.



To create a daily schedule, activate the schedule option on your app, and set the charging schedule.

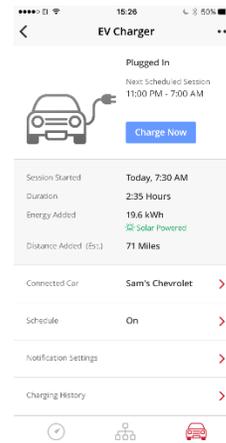


Example: If your schedule is set from 11PM to 7AM, your vehicle, while plugged in, will charge daily only between 11PM and 7AM.

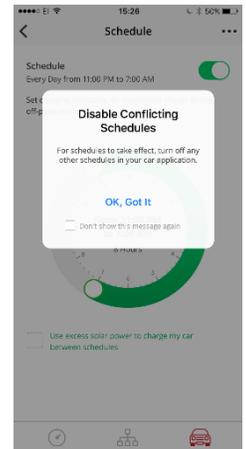
Daily Charging Schedule (grid-only charging during the night and grid+ solar charging during the day.

Tip: Generally, TOU rates are highest from 5PM to 10PM, lowest from 10PM to 10AM and higher during workdays than during weekends. Check your local electricity tariffs to determine preferred charging times.

- ➔ **Note:** The defined schedule will repeat daily as long as no changes are made to the schedule. You may easily change the schedule, or deactivate it altogether at any point.
- ➔ To prevent scheduling conflicts, make sure any other schedules configured from your EV application are turned off.
- ➔ **Note:** If charging is immediately required, and the next schedule has not yet started; or if charging was manually stopped ➔ tap “Charge Now” on the app screen to initiate charging outside of schedule.



“Charge Now” message

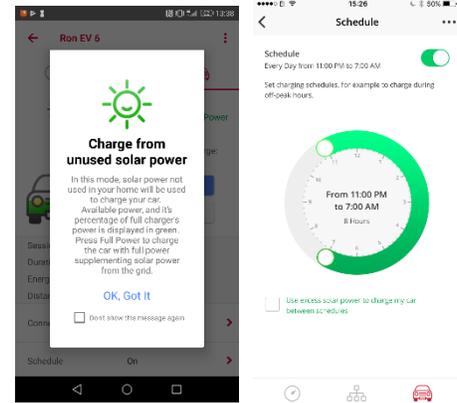


“Disable conflict schedule” message

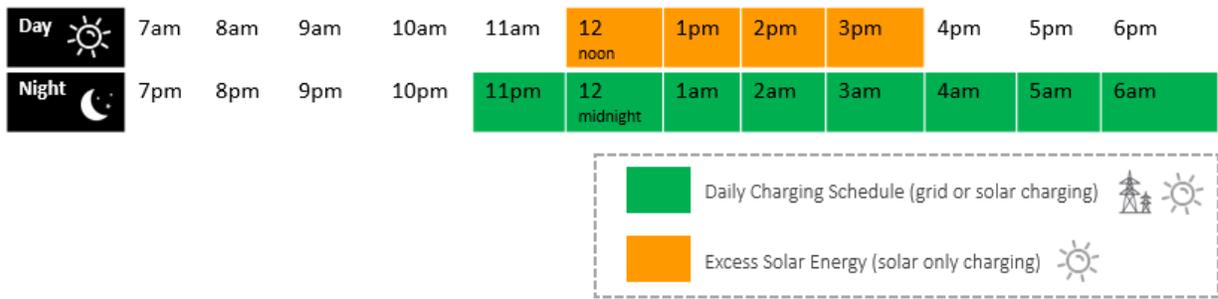
Charge outside of schedule using *excess solar energy*

The innovative **Excess Solar** feature enables you to also charge **outside of schedule**, using 100% renewable solar energy.

Excess solar energy is typically available when energy produced from the solar system exceeds the energy consumed by your home loads at a given time. This tends to occur during peak solar production hours.



Select the Use Excess Solar Power checkbox to charge between schedules.



Example: Your daily schedule is set from 11PM to 7AM, however you wish to use excess solar energy to charge your vehicle from noon to 4PM on a certain day. Assuming your Excess Solar feature is activated, and if excess solar energy is available — your car will also be charged between noon and 4PM that day using the excess solar energy.

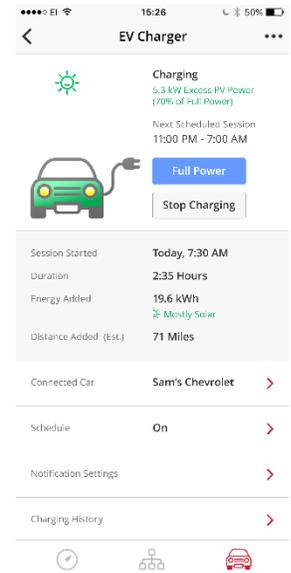
- ➔ **Note:** As long as the **Excess Solar** box is checked, the **Excess Solar** feature will activate automatically whenever your car is plugged-in outside the scheduled time.
- ➔ While the **Excess Solar** feature is recommended to anyone who uses scheduled charging, you may easily opt out of this option by unchecking **Excess Solar** on the schedule screen.

Press “Full Power” to Maximize Charging Speed

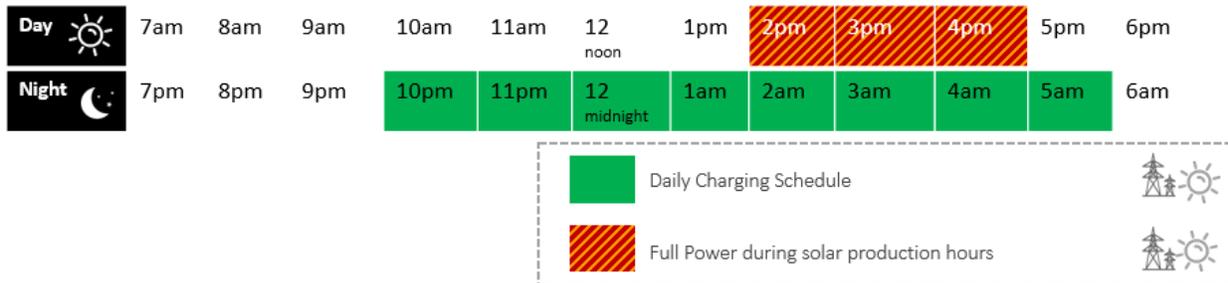
Solar only charging (as is the case during **Excess Solar** charging) is slower than grid charging. Moreover, Solar only charging does not guarantee full battery charge, as charging will stop once the excess solar energy is low (below 1.5kW).

If you wish to leverage solar charging AND ensure fastest charging, click the **Full Power** button on the **Excess Solar** charging screen.

The **Full Power** feature will temporarily override the **Schedule** mode and the **Excess Solar** feature, and will charge your vehicle at maximum speed between schedules, using both solar and grid power.



To activate “Full Power” charging, press “Full Power” on the SolarEdge app. When finished charging, press “Stop Charging”.



*Example: Your daily schedule is set from 10PM to 5AM and the **Excess Solar** feature is checked on your app. You arrive home at 2PM and wish to charge your vehicle immediately, and as quickly as possible. Normally, once plugged in, until 10PM your car would charge using excess solar power only, if available. To override the **Schedule** mode AND the **Excess Solar** feature, and ensure full and speedy charging, press **Full Power** on the **Excess Solar** app screen. To resume **Excess Solar** charging, press “Stop Charging”.*

➔ **Note:** The **Full Power** option will appear on the **Excess Solar** screen only when:

1. The **Schedule** mode AND the **Excess Solar** feature are both enabled

AND

2. If excess solar power is available (during daytime)

Summary – Charging Modes

	Description	Power Source	Recommended For	App Activation
Immediate: Plug & Charge	Charging starts as soon as the charger is plugged into the EV.	Solar (when available) and grid	Flat electricity rates	This is the default setting.
Scheduled (Daily charging schedule)	Regular daily charging schedule, pre-defined in the "Schedule" screen	Daytime – solar and grid Nighttime – grid only	Varying electricity rates (Time-of-Use (TOU) tariffs)	Activate the schedule option, and define the charging schedule.
	→ Solar Only (Charge Between Schedules)	Charge between schedules using excess solar energy	Excess solar	Use of 100% green energy, limiting use of the electric grid *Make sure your scheduler is activated. *Select the "Use Excess Solar Power" checkbox in the "Schedule" screen
	→ Full Power	Charge between schedules. Override the "Excess Solar" mode to expedite charging and guarantee full battery charge.	Solar and grid	*To ensure speedy charging, irrespective of the power source. *When there is insufficient excess solar power to fully charge the EV.

Regional Variation: Hawaii

Certain variations may occur in the implementation of the Excess Solar mode when the inverter is set to one of the Hawaii country settings.

Solar Only charging (using the Excess Solar mode) will only be available to homeowners with Smart Export tariffs. It will not be available for those with Zero Export tariffs.

During the day, homeowners with either tariff program (Smart or Zero Export) will be able to maximize their charging using available solar power combined with grid power priced at Hawaii's lowest retail rates.

To offset the nighttime consumption of electricity priced at Hawaii's high retail rate, it is recommended to set a daytime daily schedule (usually from 10AM to 5PM), and use the Full Power mode to charge outside a scheduled time.

Solar Boost: 6X Faster Charging

The innovative **Solar Boost** feature combines solar and grid power for quicker and more efficient charging, up to 6 times faster than the standard charger supplied with an EV, and 25% faster than with a standard Level 2 charger.

How does Solar Boost Work?

In standard (non-solar) EV chargers, the energy powered into the EV is limited by the home circuit breaker (CB) rating.

The Solar Boost capability enables the surpassing of circuit breaker limits for faster charging, while still complying with electrical standards by using solar energy in addition to energy from the grid. The rate of charging acceleration will depend on the CB rating, the inverter size, the car battery capacity and the solar energy produced at a given time

Operating the Solar Boost Mode

Solar Boost charging starts automatically when there is solar production and according to EV charge capabilities.



9.6kW (40 AMP) Level 2 charger

	Level 1 EV Charger	SolarEdge Level 2 EV Charger	SolarEdge EV Charger with Solar Boost Mode
Maximum charge current	1.4kW 12A@120VAC	Max 7.6kW 32A@240VAC ⁽¹⁾	Max 9.6kW 40A@240VAC ⁽¹⁾
Added miles per 1hr of charge ⁽²⁾	5 miles	20-25 miles	25-30 miles
Charge time for daily commute ⁽²⁾	7:00 – 6:30 hours	1:30 – 1:15 hours	1:15 – 1:00 hours

*(1) Check your car manual for maximum charge rate
(2) Assuming 3 miles/kWh and with a US household average driving distance of 29 miles per day
(source: www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/subject_areas/national_household_travel_survey/daily_travel.html)*

Box 1: Solar Boost