SolarEdge Residential Offering for Installers
SolarEdge Fact Sheet

About us
In 2006, SolarEdge revolutionized the solar industry by inventing a better way to collect and manage energy in PV systems. Today, we are a global leader in smart energy technology. By deploying world-class engineering capabilities and with a relentless focus on innovation, we create smart energy products and solutions that power our lives and drive future progress.

Vision
We believe that continuous improvement in the ways we produce and manage the energy we consume will lead to a better future for us all.

Bankability
- Approved by major banks and financial institutions worldwide
- SolarEdge (SEDG) is traded on NASDAQ
- Our financial strength and stability, combined with our cutting-edge technology, has propelled us to become one of the largest residential inverter manufacturers in the world

Global outreach
- Systems installed in over 130 countries across five continents
- Sales via leading integrators and distributors
- Follow the sun call centers
- Local teams of sales, service, marketing, and training experts
- Global manufacturing capabilities with tier 1 electronic manufacturing service companies

Shipping since 2010
- Over 1 million inverters shipped worldwide
- SolarEdge’s monitoring platform continuously tracks over a million installations across the globe

Corporate social responsibility
As a global leader in smart energy technologies, SolarEdge is committed to a sustainable world and is in full compliance with international standards on quality and control, ethical conduct, and environmental protection.

Patents
SolarEdge has a vast portfolio of intellectual property, with hundreds of awarded patents and patent applications.

Reliability
- 25-year power optimizer warranty and 12-year inverter warranty, extendable to 20 or 25 years
- SolarEdge products and components undergo rigorous testing, and have been evaluated in accelerated life chambers
- Reliability strategy includes proprietary application specific ICs (ASIC)

Received nearly 30 awards from prestigious organizations including Red Herring, Frost & Sullivan, Intersolar, the Stratus Award, and the Edison Awards™.


The Complete SolarEdge Residential Solution

Monitoring platform
- View real-time system and module performance, and receive notifications on mobile devices
- Visibility of energy production and consumption, battery charge level, and EV charge status

Power optimizer
- Connects to each solar module enabling them to perform at maximum capability
- Provides greater energy production, enhanced safety, and constant feedback from each module

Inverter
- The brains of the PV system
- Efficiently converts DC energy to AC electricity for use in the home
- Manages system production, battery power, and EV charging
- Optional meter to track home energy consumption

StorEdge®
- Stores PV energy in batteries for use when needed
- Provides backup power for the home during grid outages
- Compatible with LG Chem RESU batteries

Integrated EV charger
- Combining EV and PV significantly reduces hardware costs
- Save time and effort, and avoid a potential main panel upgrade
- With solar boost mode, charge even faster than a standard Level 2 charger
- EV charging station also available

Inverter with HD-Wave technology

StorEdge inverter (for backup power)

EV-ready inverter

Inverter

SolarEdge Residential Offering solaredge.com
More Energy from Each Module

More power equals more revenue and more savings on electricity bills. In legacy string inverter systems, one underperforming module reduces the performance of an entire string.

With SolarEdge, each module produces at its maximum ability at all times, ensuring greater energy yield from the entire system.

- Generates maximum power from each module
- Modules are monitored individually. Up to 25% more energy is produced the PV system

Power losses can result from:

**Manufacturing tolerance mismatch**
The warranted output power range for PV modules received from a manufacturing plant may vary greatly. A standard deviation of ±3% is enough to result in ~2% energy loss.

**Soiling, shading and leaves**
Module soiling, from dirt or bird droppings, contributes to mismatch between modules and strings. While there may be no obstructions during site design, throughout a residential system’s lifetime, a tree may grow, or a structure may be erected that creates uneven shading.

**Uneven module aging**
Module performance degrades at different rates over time causing aging mismatch.

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Advanced Safety

With millions of photovoltaic (PV) systems installed worldwide, this technology is designed to be relatively safe and reliable. However, as traditional PV installations can reach voltages as high as 600VDC, precautions should be taken to ensure the safety of people and assets.

With traditional inverters, shutting down the inverter or the grid connection will terminate current flow, but DC voltage in the string cables will stay high for as long as the sun is shining. In addition, electrical arcs, which can result in a fire, create a threat to people and assets in the vicinity of the PV system.

The SolarEdge system provides an advanced safety solution for both electrocution and fire risks.

SafeDC™
SafeDC™ is a built-in module-level safety feature which minimizes electrocution risk. To maintain string voltage below risk levels, power optimizers are designed to automatically switch into safety mode, in which the output voltage of each module will be reduced to 1V in either of these cases:
- During installation, when string is disconnected from the inverter, or the inverter is turned off
- During maintenance or emergency, when the inverter or AC connection is shut down
- When the thermal sensors of the power optimizers detect a temperature above 185 °F

The SolarEdge SafeDC feature is compliant with NEC 2014 & NEC 2017 Rapid Shutdown functionality, section 690.12.

Arc fault detection and interruption
SolarEdge inverters have a built-in protection designed to mitigate the effects of some arcing faults that may pose a risk of fire, in compliance with the UL1699B arc detection standard. The US standard, which came into effect as part of NEC2011, includes requirements for arc detection (i.e. arcs within the string) and for manual, on-site restart after an arc detection event.

Homeowner value: superior safety
For decades now, PV systems have proven to pose minimal safety risks. SolarEdge further improves PV safety with its SafeDC™ feature, designed to reduce your PV system’s high voltage to a safe 1 volt per module whenever the grid is shut off, protecting solar professionals, installers, firefighters and your home.

This graph represents an automatic string shutdown. As demonstrated, the current is shut down immediately once AC power or the inverter is turned off. The string voltage is reduced to safe voltage within 30 seconds.
Design Flexibility

Get more with greater design flexibility
Our design flexibility allows you to utilize available roof space better. A wide variety of string lengths is possible with no requirement for matching string lengths. Longer strings lower BoS costs. The size and layout of an array is no longer defined by electrical constraints. Shaded modules won’t bring down the entire string performance, and module power rating, bin, and type can be mixed in multiple orientations or tilts, in the same string.

SolarEdge provides the opportunity to sell more modules and make each installation more profitable.

Peace of Mind

Module-level monitoring
SolarEdge provides real-time remote monitoring at the module, string, and system level, allowing for greater visibility of system performance.

The Monitoring Platform provides comprehensive tracking and reporting of energy yield, system uptime, performance ratio, and financial performance. Pinpointed alerts for immediate fault detection, accurate maintenance, and rapid response help minimize and shorten onsite visits. Monitoring can be customized for viewing at system-level or module-level.

Numerous communication options exist for connecting SolarEdge inverters to the monitoring platform, via hardwired Ethernet, ZigBee wireless or cellular connectivity. The monitoring platform is accessible from your computer or mobile devices.

Protecting the homeowner’s investment
As part of residential PV design, it is important to account for future costs that can impact the return on investment of a homeowner’s PV system. The SolarEdge DC optimized inverter solution effectively minimizes these potential costs.

- Replacement: SolarEdge allows modules of different power classes and brands in the same string. Any module available in the market could fit.
- Expansion: New power optimizers and modules can be utilized in the same string with older models.

SolarEdge products are built for long-term performance, with industry-leading warranties of 25 years for power optimizers, 12 years for inverters, and free monitoring for 25 years. Affordable extended inverter warranties of up to 25 years are also available, with low-cost out-of-warranty inverter replacement at ~40% less than traditional inverters.
Single Phase Inverters with HD-Wave Technology

A new era for inverter technology

Representing one of the most significant leaps in solar technology in the past 20 years, SolarEdge’s HD-Wave technology is a novel power conversion topology that significantly decreases inverter size and weight, while also achieving record 99% weighted efficiency.

By employing distributed switching and advanced digital processing to synthesize a clean, high-definition sine wave, inverters with HD-Wave technology have <1/2 the heat dissipation, 16x less magnetics, and 2.5x less cooling components than previous SolarEdge inverters, which are already among the smallest on the market.

*Multiple sizes with 3kW to 11.4kW inverter range*
*More energy from a record 99% weighted efficiency*
*More modules on the rooftop with up to 155% DC/AC oversizing*
*Longer strings up to 5,700W (up to 6,000W on SE10000H)*
*Easy installation due to small size and light weight*
*Improved reliability with less heat and film capacitors*
*UL1741 SA certified for CPLC Rule 21 grid compliance*

Superior safety with integrated Arc Fault protection and Rapid Shutdown compliant with NEC 2014 & 2017

High visibility with built-in module-level monitoring

Optional integrated revenue grade data, ANSI C12.20 (0.5% accuracy)

Comprehensive commissioning with automatic power optimizer ID and string assignment detection

Backward compatibility with existing SolarEdge systems

Product features:

- Superior safety with integrated Arc Fault protection and Rapid Shutdown compliant with NEC 2014 & 2017
- High visibility with built-in module-level monitoring
- Optional integrated revenue grade data, ANSI C12.20 (0.5% accuracy)
- Comprehensive commissioning with automatic power optimizer ID and string assignment detection
- Backward compatibility with existing SolarEdge systems

EV Charging Single Phase Inverter

The world’s first inverter that charges an electric vehicle. Close more business at a higher ASP and add more value for homeowners by offering our single phase inverter with built-in Level 2 EV charger. Charge up to 20% faster than typical Level 2 chargers with solar boost mode (grid + PV).

By installing SolarEdge’s EV charging inverter, your customers will save hundreds, maybe thousands of dollars in hardware and installation costs of purchasing an EV charger separately. Additionally, our integrated solution eliminates the need for additional wiring, conduit, and breaker.

Whether your customer owns an EV now or just wants to be EV-ready, drive your business into the future with this next generation solution.

Full visibility and control:

The EV charging inverter supports full network connectivity and integrates seamlessly with the monitoring platform. Homeowners can track their charging status, control vehicle charging, and set charging schedules.

- Smart-scheduling for use with Time of Use (TOU) rates to charge from the grid during off peak hours
- Track PV, EV, and grid consumption for visibility and control of household energy usage
- Remote operation via mobile app. Turn charging on and off directly from your smartphone
- View charging duration, charge energy, and percent charge from PV

Product features:

- Combines sun and grid power for charging up to six times faster than existing electrical infrastructure
- Fully integrated with the monitoring platform
- Reduces workload and costs of installing separately a standalone EV charger and a PV inverter
- Built-in meter enables separate tracking of EV power usage for visibility and control
- 12-year warranty(1), extendable to 20 or 25 years
- Optional built-in Revenue Grade Meter (RGM)
- Saves space on main distribution panel to avoid potential upgrade
- Demand-Response ready

(1) Monitoring connection is also required for first-time EV charging
(2) Cable and connector are not included
Full Monitoring of PV and StorEdge Systems

The SolarEdge monitoring platform provides insight into household PV production and consumption, displaying the power flow between the PV array, battery, grid and house loads as well as tracking real-time system data.

Monitor Home Consumption with a SolarEdge Energy Meter

The SolarEdge energy meter provides full insight into the electricity produced by your customer’s PV system and the household consumption 24 hours a day, displayed in the SolarEdge monitoring mobile app in an easy to understand format.

Full transparency of energy consumption

By understanding how and when homeowners generate and use power, they can make more use of the energy produced by their PV system by diverting excess solar energy to other electrical appliances around the home.

Get real-time insight into home energy production and usage

Once the SolarEdge energy meter is installed, the monitoring platform can be used to view homeowners energy production and consumption levels.

The energy meter also lets you add additional energy saving products to your customer’s system, either now or in the future. To maximize self-consumption, add battery storage or SolarEdge smart energy products.
The StorEdge Solution: Enabling Energy Independence

SolarEdge’s breakthrough PV inverter technology and leading battery storage systems join to help homeowners reduce their electricity bills while maximizing energy independence from the grid.

StorEdge is based on a single SolarEdge DC optimized inverter that manages and monitors PV production, consumption, battery storage and backup power. The StorEdge solution is compatible with high voltage batteries from LG Chem.

Optimizing energy consumption

The StorEdge solution can be used to increase energy independence for homeowners, by utilizing a battery to store power and supply power as needed. To optimize self-consumption, the battery is automatically charged and discharged to meet consumption needs and reduce the amount of power purchased from the grid.

Keeping the lights on when the grid goes down

In addition to optimizing self-consumption, StorEdge can also automatically provide backup power to the entire house or pre-selected loads when the household suffers from grid interruptions. A combination of PV and battery is used to power important loads such as the refrigerator, TV, lights and AC outlets to keep things running smoothly, day or night.

Providing backup power day or night

With StorEdge, the excess energy produced during peak sunlight hours is stored to the battery and used later so no energy is ever wasted.
Maximizing the Homeowner's Solar Investment with StorEdge

The StorEdge system is full of benefits for the installer and homeowner alike.

More energy
- Power optimizers increase rooftop energy production
- PV power is stored directly in the battery; no additional conversions from AC to DC and back to AC
- DC coupled battery solution allows high system efficiency

Simple design and installation
- A single inverter for PV, energy storage and backup power
- Can be installed in either indoor or outdoor locations
- Utilizes the same PV cables; no special wires are required
- Supports multiple inverter/battery installations

Full visibility and easy maintenance
- Monitor the battery status, PV production, and self-consumption data
- Smarter energy consumption to reduce electricity bills
- Monitor battery energy levels and remaining hours of backup power
- Remote diagnostics
- Remote firmware upgrades to both inverter and battery

Enhanced safety
- PV array and battery voltage reduced to a safe voltage automatically upon AC shut down when not in backup mode
- Integrated Arc Fault protection and Rapid Shutdown compliant with NEC2014 & 2017

PV system with DC-coupled storage

PV system with AC-coupled storage

Vs.
**StorEdge Flexible Home Backup**

Saves installation time by connecting the inverter to a backup interface, pre-fitted with an energy meter and auto-transformer (enabling split phase balancing for 120V loads).

During grid failures, backup power automatically supplies the entire house or pre-selected loads, day or night. Connection to an external power source (third-party generator) is also supported.

**Flexible home backup + StorEdge inverter solution**

1. **StorEdge single phase inverter**
   The StorEdge single phase inverter manages battery and system energy, in addition to its functionality as a DC-optimized PV inverter.

2. **Backup interface**
   When in backup mode, the backup interface controls disconnection of house loads from the grid and provides full flexibility in deciding which loads to backup.

3. **Battery pack**
   Compatible with DC coupled, high-voltage and high-efficiency batteries from LG Chem.

**Flexible home backup + StorEdge HD-Wave inverter solution**

**Expected availability: Q4 2019**

1. **StorEdge HD-Wave inverter**
   Powered by HD-Wave technology for higher inverter efficiency and greater overall energy output. Manages battery and system energy, in addition to its functionality as a DC-optimized PV inverter.

2. **Backup interface**
   When in backup mode, the backup interface controls disconnection of house loads from the grid and provides full flexibility in deciding which loads to backup.

3. **Battery pack**
   Compatible with DC coupled, high-voltage and high-efficiency batteries from LG Chem.
Advanced StorEdge Configurations

/ DC-coupled large systems*
For homes with high consumption requiring extra battery capacity, two batteries are connected to a single StorEdge single phase inverter, with only one battery operating at a given time. During power outages, power is supplied to backed up loads.

* When connecting two LG Chem batteries, each battery must have a different part number, supporting SolarEdge firmware required

/ Additional capacity & power
For systems larger than 10,250Wdc (the max DC capability of the StorEdge SE7600A-USS inverter) install an additional StorEdge inverter to handle the extra PV power. Each inverter is connected to a separate battery, and during power outages power is provided to backed up loads.

/ AC-coupled self-consumption
To upgrade existing PV installations, the StorEdge single phase inverter connects to the existing inverter’s AC output (AC-coupled). The inverter charges the battery using the PV power produced by the existing inverter.
Working with SolarEdge

SolarEdge offers its PV installers valuable services to help make your experience positive and efficient.

Support
Comprehensive pre and post-sale technical services include technical documentation, personal project-based technical consulting, and more. Do not hesitate to contact the SolarEdge support team with for technical or service support. Simply open a case via the Support tab of your SolarEdge monitoring dashboard or the SolarEdge website Support page.

Training
Expand your knowledge of SolarEdge products and solutions. The SolarEdge website Training page links directly to webinars and E-learning courses. There you’ll also find registration links to SolarEdge training seminars taking place in a location near you.

Alliance program
Welcome to the Alliance program where you can accumulate 15 points for every kW of SolarEdge systems that you register on the monitoring platform. Redeem your points for promotional materials or gifts, perfect for company employees or family members. Redeem points by accessing your Alliance account via the SolarEdge website.

Marketing tools
Access marketing collateral to help you sell SolarEdge solutions: visit the SolarEdge website Downloads section to access product catalogs, brochures, case studies, datasheets and more. Contact your local SolarEdge sales or marketing person for more information about marketing and support services.
Residential Product Offering

Complete residential PV solution

Single phase inverters with HD-Wave technology
3kW-11.4kW

Power optimizers
Module-level optimization P300-P505

Monitoring platform
Free, real-time system visibility at the module level

Installer catalog
Homeowner brochure
Datasheet

Designer
Online tool to plan, build and validate your SolarEdge systems from inception to installation

Movies
Installer movie
Homeowner movie
Datasheet

Wireless communication
Multiple options for wireless connection of inverters to the internet e.g. for monitoring

Studio Brochure
Datasheet

EV charging single phase inverters
Expand homeowner’s PV usage with the world’s first EV charging inverter

Movie
Brochure
Datasheet

StorEdge™ with backup power
Maximizes self-consumption and provides backup power when the grid is down

Movie
Brochure
StorEdge inverter datasheet
StorEdge backup interface datasheet

Energy meters & current transformers
For export limitation, production and consumption (including prior to inverter installation) monitoring, and StorEdge applications

Movie
Cellular plug-in datasheet
ZigBee plug-in datasheet

Datasheet
SolarEdge Ordering Information

Contact your local SolarEdge distributor

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Product Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE3000H-US000BNJ4</td>
<td>1ph inverter with HD-Wave Technology, 3.0kW (-40°C)</td>
</tr>
<tr>
<td>SE3800H-US000BNJ4</td>
<td>1ph inverter with HD-Wave Technology, 3.3kW @ 208V Grid (-40°C)</td>
</tr>
<tr>
<td>SE5000H-US000BNJ4</td>
<td>1ph inverter with HD-Wave Technology, 5.0kW (-40°C)</td>
</tr>
<tr>
<td>SE6000H-US000BNJ4</td>
<td>1ph inverter with HD-Wave Technology, 6.0kW @ 240V Grid (-40°C)</td>
</tr>
<tr>
<td>SE7600H-US000BNJ4</td>
<td>1ph inverter with HD-Wave Technology, 7.6kW (-40°C)</td>
</tr>
<tr>
<td>SE10000H-US000BNJ4</td>
<td>1ph inverter with HD-Wave Technology, 10.0kW @ 208V Grid (-40°C)</td>
</tr>
<tr>
<td>SE11400H-US000BNJ4</td>
<td>1ph inverter with HD-Wave Technology, 11.4kW @ 240V Grid (-40°C)</td>
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**Power Optimizers**

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<tr>
<td>P320</td>
<td>For 60-cell modules, 320W/48V, MC4 Input (box of 20)</td>
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<tr>
<td>P370</td>
<td>For high power 60 and 72-cell modules, 370W/60V, MC4 Input (box of 20)</td>
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<tr>
<td>P405</td>
<td>For thin film modules, 405W/125V, MC4 Input (box of 10)</td>
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<tr>
<td>P505</td>
<td>For high current modules, 505W/183V, MC4 Input (box of 10)</td>
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**Frame-Mounted Power Optimizers**

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<tr>
<td>P320-5NC4AFS</td>
<td>For 60-cell modules, 300W/48V Input-MC4-Compatible (box of 10)</td>
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**Communication Products**

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<tr>
<td>SE-ZBGW-B-S1-NA</td>
<td>ZigBee Gateway + ZigBee Plug-in</td>
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<tr>
<td>SE1000-ZBRPT05-NA</td>
<td>ZigBee Repeater (range extender)</td>
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<tr>
<td>SE-ZBLSV-B-S1-NA</td>
<td>ZigBee Plug-in</td>
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**Metering Solutions**

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<tr>
<td>SE-MTR240-C-S2</td>
<td>1ph, 240V Energy Meter with Cellular Connection (for household consumption monitoring), + Data Plan, NEMA3R, (CT sold separately)</td>
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<tr>
<td>SE-MTR240-0-000-S2</td>
<td>1ph, 240V Energy Meter with Modbus Connection, NEMA3R, (CT sold separately)</td>
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<td>SEACT0750-200NA-20</td>
<td>200A CT, Box of 20</td>
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<td>SEACT1250-400NA-20</td>
<td>400A CT, Box of 20</td>
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<tr>
<td>SEACT-FLX-250A-5</td>
<td>250A Flexible CT, Box of 20</td>
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**StorEdge**

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**Inverter Warranty Extensions**

Please refer to [https://www.solaredge.com/us/service/warranty](https://www.solaredge.com/us/service/warranty)
SolarEdge is a global leader in smart energy technology. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge creates smart energy solutions that power our lives and drive future progress.

SolarEdge developed an intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge DC optimized inverter maximizes power generation while lowering the cost of energy produced by the PV system.

Continuing to advance smart energy, SolarEdge addresses a broad range of energy market segments through its PV, storage, EV charging, UPS, and grid services solutions.