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About SolarEdge

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 worldclass 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 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 with tier 1 electronic manufacturing service companies



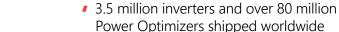
Award-winning technology











Power Optimizers shipped worldwide
SolarEdge's Monitoring Platform continuously tracks over 2.45 million

installations across the globe

Shipping since 2010

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 years
- SolarEdge products and components undergo rigorous testing, and have been evaluated in accelerated life chambers
- Reliability strategy includes proprietary application specific ICs (ASIC)





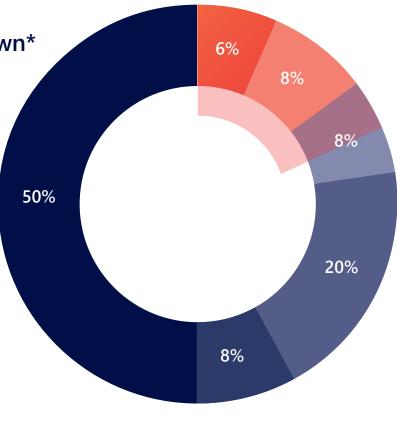
The Importance of Inverter Selection

Commercial rooftop installation cost breakdown*

Inverters account for less than 10% of the system cost but,

- Manage 100% of system production
- Influence up to 20% of system cost
- Control O&M expenses through PV asset management solutions

Therefore, the inverter selection is critical for the long term financial performance of a PV system as it can maximize energy production and reduce lifetime costs.



Other

■ Installation labor ■ Racking materials

PV modules

Inverter

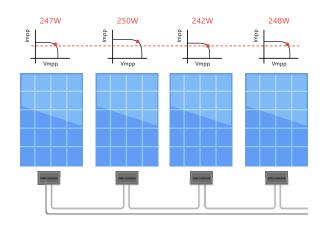
BOS

^{*} Based on NREL 2017

Maximum Energy Yield in Commercial Installations

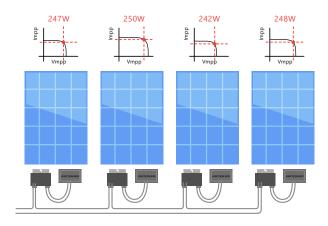
Unavoidable in commercial installations, module-level mismatch occurs when modules in a string have different Maximum Power Points (MPPs). Arising from a variety of sources, the mismatch decreases the energy yield of the entire string.

Traditional string inverter



- MPPT per string all modules operate at same current, regardless of their individual MPP
- Weak modules reduce the performance of all modules in the string or are bypassed
- Power losses due to module mismatch

SolarEdge DC optimized inverter solution



- Module-level MPPT current & voltage adjusted at the module level
- Maximum power produced and tracked from each module individually
- 2%-10% more energy from the PV system

The SolarEdge DC optimized inverter solution mitigates power losses caused by module mismatch for maximum power generation from each module. With SolarEdge, strong modules are not affected by the weaker ones.

Examples of power mismatch in commercial installations:

Manufacturing tolerance mismatch

The module manufacturer-warranted output power range may vary greatly. A standard deviation of 3% is sufficient to result in ~2% energy loss.

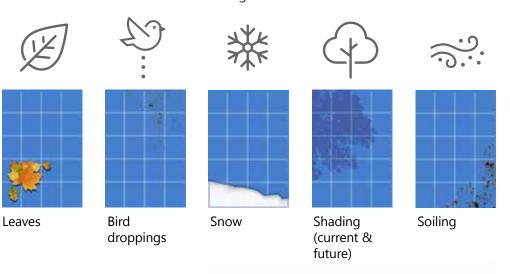


Guaranteed power output from module manufacturers 0~+3%

Soiling, shading & leaves

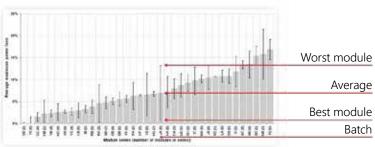
Module soiling, from dirt, bird droppings or snow, contributes to mismatch between modules and strings.

While there may be no obstructions during site design, throughout a system's lifetime, a tree may grow or a structure may be erected that creates uneven shading.



Uneven module aging

Module performance can degrade up to 20% over 20 years, however, each module ages at a different rate, which causes aging mismatch.



Source: A. Skoczek et. al., "The results of performance measurements of field-aged c-Si photovoltaic modules", Prog. Photovolt: Res. Appl. 2009; 17:227–240

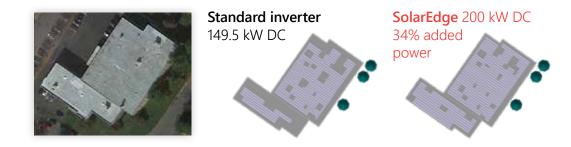


Design Flexibility

More power

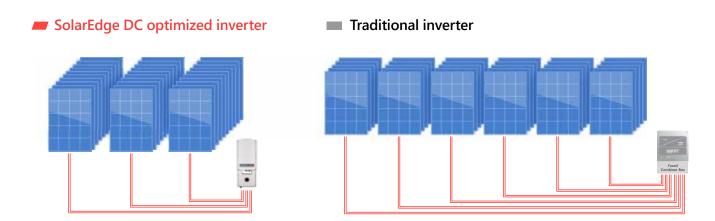
With module-level power optimization and maximum design flexibility, more modules can be installed on the roof, enabling a shorter project payback period SolarEdge Power Optimizers enable installation of:

- Modules in partially shaded areas
- Strings of uneven lengths
- Strings in multiple orientations and different roof facets



Reduced BoS cost

Up to 15kW per string allows for more modules per string. This leads to fewer strings per inverter and therefore less wiring, combiner boxes, and fuses.



145kW SolarEdge system, The Netherlands, installed by New Energy Systems 12 | SolarEdge Commercial Offenne

PV Asset Management with Module-Level Monitoring

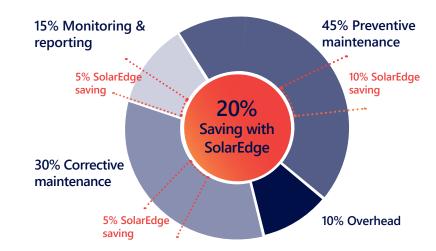


As equipment prices drop and system sizes trend upward, PV projects are increasingly seen as secure longterm investment opportunities. Like any financial asset, PV systems must be monitored and managed to realize their full potential.

Traditional inverters offer limited information, such as string-level or system-level monitoring that can indicate underperformance of the array, but little else. It then becomes costly and time consuming to send skilled technicians to perform on site troubleshooting.

The SolarEdge DC optimized inverter solution offers advanced PV monitoring and asset management. Power Optimizers constantly track MPP and report high-resolution data on module performance.

The SolarEdge Monitoring Platform transforms O&M from a manual, resource-intensive process to an automated, at-a-glance service, ensuring that every plant is performing to the best of its ability at all times.



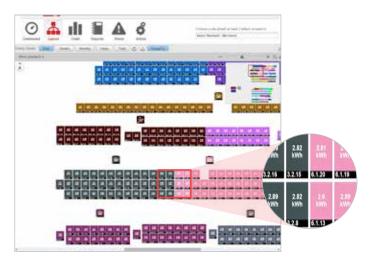
PV Asset Management with Module-Level Monitoring (cont.)

SolarEdge's Monitoring Platform features:

1. Real-time remote monitoring at the module, string, and system levels



The logical layout displays the electrical connectivity between modules, strings and inverter



The hierarchy layout displays grouping of components per inverter

2. Comprehensive analytics tracking and reports of energy yield, system uptime, performance ratio, and financial performance

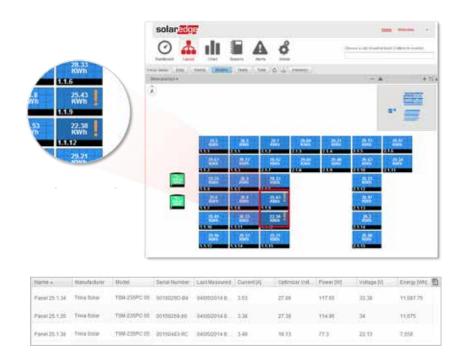


Dashboard - Energy production is displayed with weekly, monthly and yearly resolution

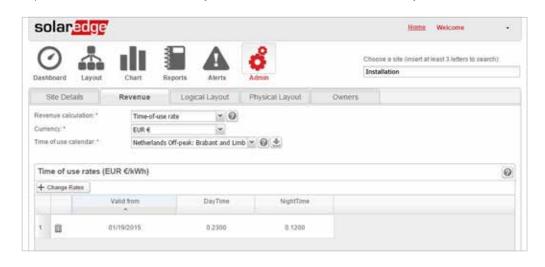


Performance Ratio - Analyze and track the system's performance ratio using satellite data or onsite sensors

3. Pinpointed and automatic alerts for immediate fault detection, accurate maintenance, and rapid response. The alerts show the specific fault location, fault description, and fault status. Energy thresholds alerts can be set to detect underperforming modules. Custom settings available for time of day and offset from sunrise and sunset.



4. The time-of-use feature allows system owners to define peak and off-peak rates in order to track expected PV revenue. This may be used as an indication of the systems ROI.



PV Asset Management with Module-Level Monitoring (cont.)

5. Accurate and remote troubleshooting for fast and efficient resolution with minimal and shortened onsite visits. Examples of identifying underperforming modules:

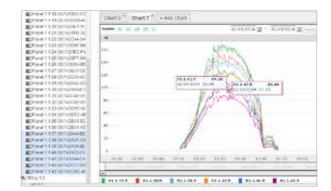
Soiling



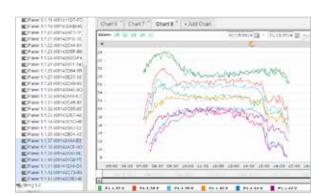




Potential induced degradation (PID)



Looking at the modules within one string, it is possible to see the power degradation increasing towards the negative pole.



No need to send technicians to the roof –module voltage is measured remotely

Bypass diode failure



It is easy to identify the bypass diode failure with the module-level voltage graphs. The faulty module outputs at only 2/3 of the voltage (5/6 in this case of Power Optimizer connected to two modules).

6. The consumption monitoring feature shows data about electricity consumption, PV production, and self-consumption. This feature is integrated into all SolarEdge inverters and requires only a connection of a SolarEdge energy meter.



700kW SolarEdge system, Santa Clara, UT Installed by Creative Energies **18** | SolarEdge Commercial Offering

Advanced Safety

The SolarEdge solution includes inverter-embedded rapid shutdown functionality without the need for additional roof-mounted devices. The function de-energizes PV source circuits from all sources to less than 30 Volts within 30 seconds.





- With SolarEdge whenever AC power is off, DC string cables are automatically de-energized
- Power Optimizers automatically shut down the DC voltage in the string cables to protect installers, maintenance personnel and firefighters
- The SolarEdge inverter solution meets the most advanced safety standards
- NEC 2011 AFCI Compliant | NEC 2017 & 2020 Rapid Shutdown Compliant
- Meets FM Global Property Loss Prevention Datasheet (1 -15) engineering requirements



Future Compatibility & Warranty

As part of PV asset management planning, it is important to account for future costs that can impact the return on investment of a PV system. The SolarEdge DC optimized inverter solution effectively minimizes these potential costs.

Forward compatibility eliminates expensive stock of spare module inventory.

- Replacement: SolarEdge allows modules of different power classes and brands in the same string.
- Expansion: New Power Optimizers can be utilized in the same string with older models.

SolarEdge offers 25-year Power Optimizer warranty, 12-year inverter warranty, and free monitoring for 25 years. SolarEdge offers extended warranties at attractive prices.



Power Optimizers

860W-1101W



Three phase inverters 9kVA-120kVA



Monitoring Platform

SolarEdge provides low-cost inverter replacement out of warranty

~40% less than traditional inverters

Products are certified for ammonia resistance - suitable for agricultural areas

All inverter models are UL1741 SA certified, for CPUC Rule 21 grid compliance



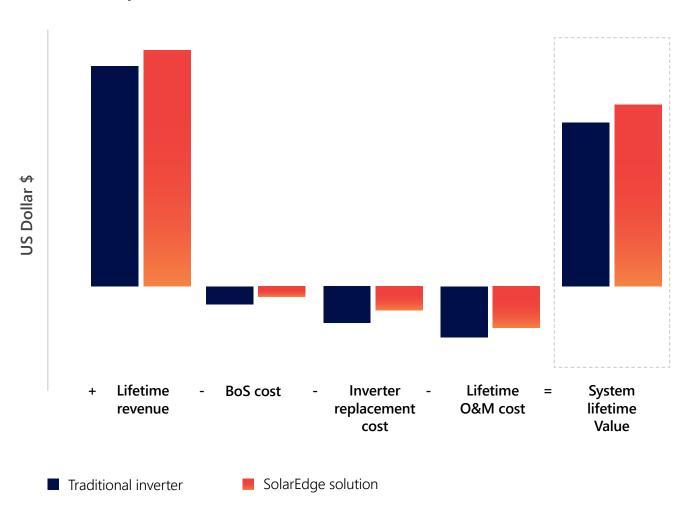
1.3MW SolarEdge system, Arizona, USA Developed by AES Distributed Energy, Inc. (formerly Main Street Power) Installed by Rosendin Electric 22 | SolarEdge Commercial Offering

A Higher Lifetime Value

The SolarEdge DC optimized inverter solution offers a better LCOE for a system's lifetime by maximizing yield and reducing costs.

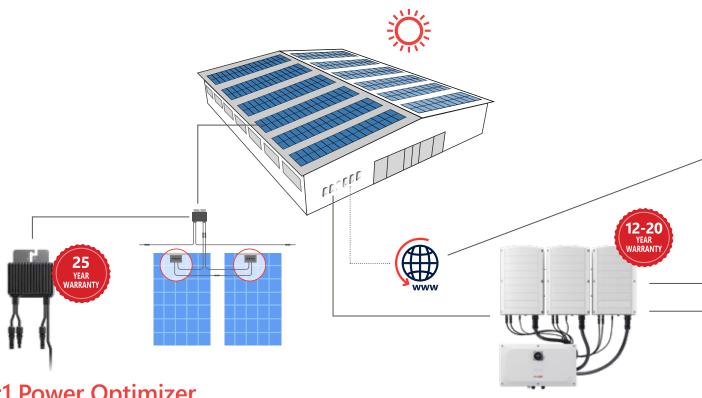
The SolarEdge DC optimized inverter solution maximizes power generation at the individual module level, which leads to a higher lifetime revenue from PV systems. While the initial cost of the SolarEdge solution is generally slightly higher than the equivalent traditional inverter system, the total installation cost as well as the lifetime maintenance cost is lower. This makes the SolarEdge solution more economically attractive.

Lifetime PV system cost and revenue



Commercial System Diagram

The SolarEdge solution consists of inverters, Power Optimizers, and a Monitoring Platform. The technology provides superior power harvesting and module management by connecting Power Optimizers at the module level. The ability to connect two modules to one Power Optimizer, combined with DC to AC conversion and grid interaction being centralized at a simplified PV inverter, maintains a competitive cost structure.



2:1 Power Optimizer configurations

- Module-level MPPT no mismatch power losses
- Strings of uneven lengths, modules on multiple azimuths & tilts
- Compatible with all three phase SolarEdge inverters
- SafeDC[™] automatic module-level safety shutdown

9kVA-120kVA inverters

- Specifically designed to work with Power Optimizers
- Easy installation, including 2-person install for large capacity models
- Innovative pre-commissioning tool for validating each stage of the install process (on selected models)
- Easy, step-by-step inverter activation and commissioning with the SetApp mobile application
- Built-in communication hardware, with optional cellular plug-in
- Advanced safety features, including built-in arc fault protection and rapid shutdown
- Embedded export limitation
- Built-in AC, DC, and RS485 surge protection (on selected models)



Monitoring Platform

- Full visibility of system performance
- Remote troubleshooting
- Access via browser or any Android, iOS smart phone or tablet
- Communication with the Power Optimizers over existing DC power lines (PLC)



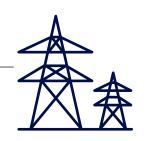
SolarEdge data logger

Connection of environmental sensors with several wireless communication options, providing monitoring and control



Performance monitoring

Calculate site performance ratio and measure environmental conditions, using environmental sensors or a satellite-based service.



Grid interaction

Supports power control, e.g. zero export limitation, local and remote active/reactive power control, inverter AC relay control for secondary grid protection; low voltage and frequency ride through.

24 | SolarEdge Commercial Offering (on selected models) solaredge.com | 25

1.96MWp Rooftop System Comparison

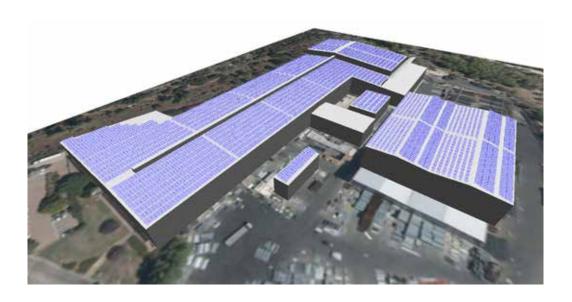
Comparison of a 1.96MWp SolarEdge system to an identical system with a traditional string inverter

The system comprises 1,000 \times 480Wp modules. One system was designed with 14 x SE100K SolarEdge Synergy technology inverters and 2,040 x P1100 Power Optimizers in a 2:1 configuration. The second system was designed with 28 \times 75kW traditional string inverters.

Energy comparison

PVsyst was used to simulate the yield of both systems in year 1 and year 20. The SolarEdge advantage grows with time due to uneven panel aging which increases mismatch between panels.

	Traditional String Inverter	SolarEdge System	SolarEdge Advantage
PVsyst year 1 yield (MWh)	3,237	3,318	2.5%
PVsyst year 20 yield (MWh)	2,789	3,018	8.2%

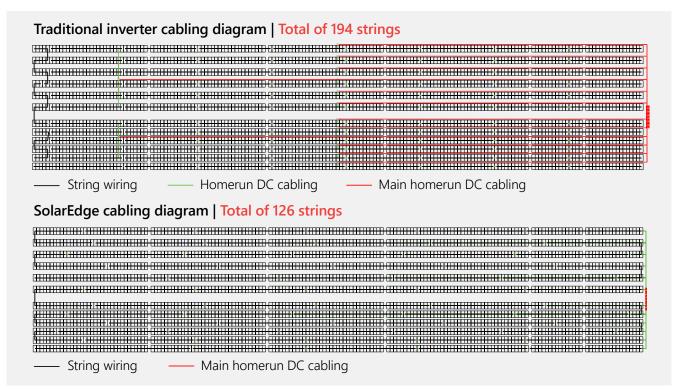


BoS comparison

	Traditional String Inverter	SolarEdge DC Optimized Inverter
DC power (MWp)	1.96	1.96
AC power (MVA)	1.5	1.5
Modules (480Wp)	4,080	4,080
Inverters	28	14
No. of strings	194	126
Modules per string	21	32/33
DC cable CU 1 × 6mm² (m)	11,782	24,030
DC AL Cable 1 x 95mm²	6,768	-
DC Combiner Box	28	-
AC cable N2XY 4 x 70mm ²	140	-
AC cable N2XY 4 x 90mm²	-	70
AC Combiner Box	1	1
MC4 connectors (1 pair)	388	252
Datalogger	1	-
BoS cost	100%	42%
BoS cost saving*		2.8 c/w

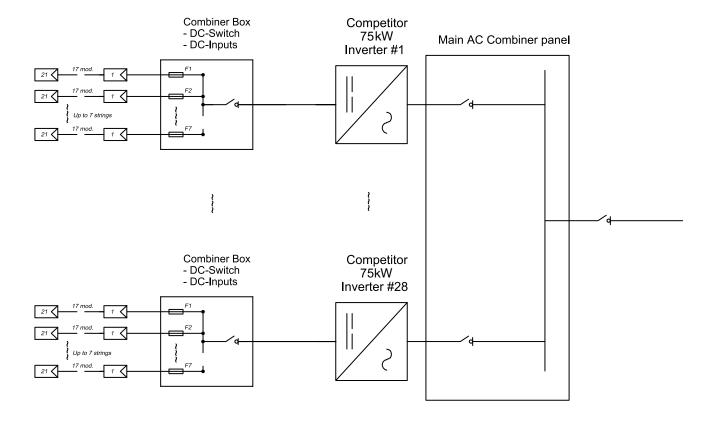
^{*} Estimated saving on BoS components based on typical market prices in \$

Cabling comparison

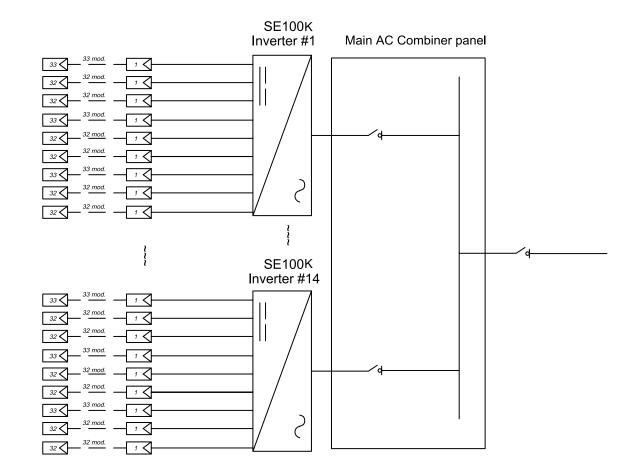


1.96MWp Rooftop System — Electrical Diagram Comparison

Traditional string inverter system



SolarEdge DC optimized inverter solution



2.44MWp Ground Mount System Comparison

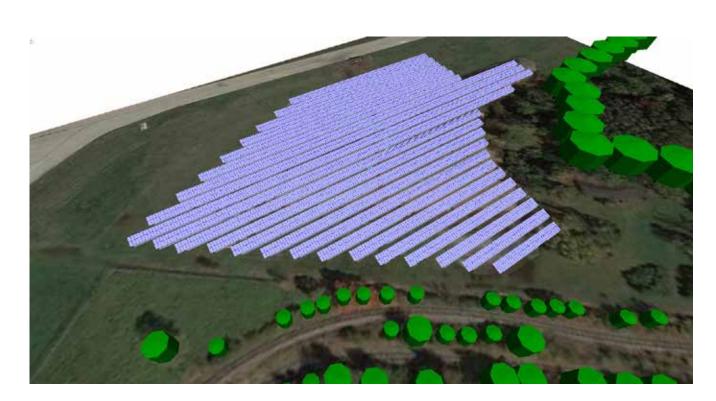
Comparison of a 2.44MWp SolarEdge system to an identical system with a traditional string inverter

The system comprises $5,544 \times 440 \text{Wp}$ modules. One system was designed with $17 \times \text{SE}120 \text{K}$ SolarEdge Synergy technology inverters and $2,772 \times \text{P9}50$ Power Optimizers in a 2:1 configuration. The second system was designed with $14 \times 150 \text{kW}$ traditional string inverters.

Energy comparison

PVsyst was used to simulate the yield of both systems in year 1 and year 20. The SolarEdge advantage grows over time due to its ability to mitigate the module mismatch caused by uneven PV module aging. Otherwise, there is the risk that eventually, the module voltage levels will decrease and exit the required voltage range needed for the inverter to perform MPP tracking.

	Traditional String Inverter	SolarEdge System	SolarEdge Advantage
PVsyst year 1 yield (MWh)	3,187	3,249	1.9%
PVsyst year 20 yield (MWh)	2,834	3,005	6%

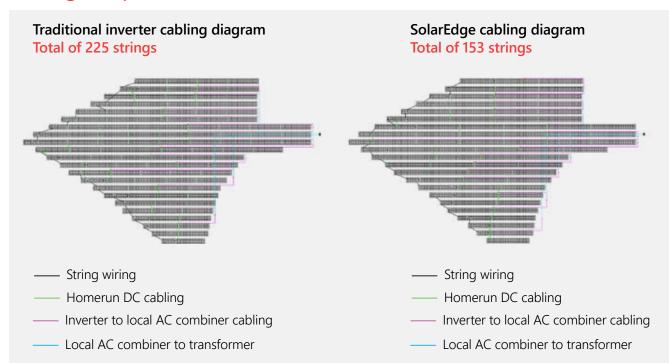


BoS comparison

	Traditional String Inverter	SolarEdge DC Optimized Inverter
DC power (MWp)	2.44	2.44
AC power (MVA)	2.0	2.0
Modules (480Wp)	5,544	5,544
Inverters	14	17
No. of Strings	225	153
Modules per string	25	36
DC cable CU 1 × 6mm ² (m)	13,787	6,424
DC AL Cable 1 x 120mm ²	140	-
DC Combiner Box	14	-
AC cable N2XY 2 x (3 x 120mm ²) + 120mm ²	529	733
AC cable N2XY 4 x 120mm ²	1,156	1,375
AC Combiner Box	7	8
MC4 connectors (1 pair)	225	153
Datalogger	1	-
BoS cost	100%	85%
BoS cost saving*		0.62 c/w

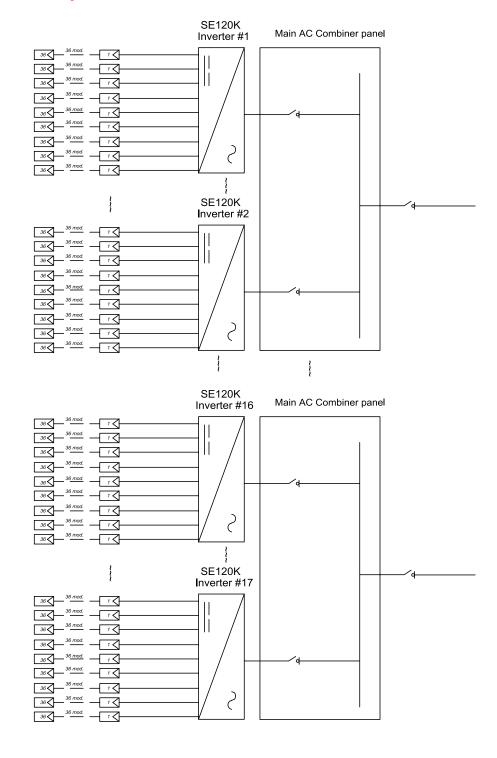
 $[\]mbox{\ensuremath{^{\star}}}$ Estimated saving on BoS components based on typical market prices in $\mbox{\ensuremath{^{\star}}}$

Cabling comparison

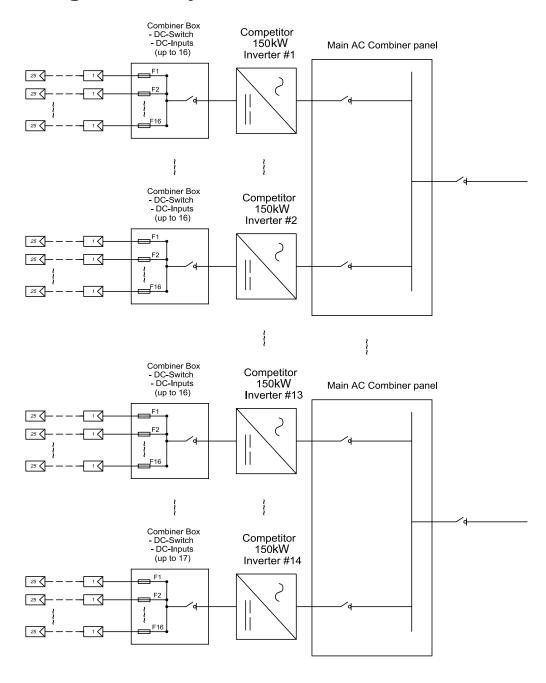


2.44MWp Ground Mount System — Electrical Diagram Comparison

SolarEdge DC optimized inverter solution



Traditional string inverter system



Commercial Product Offering



Three Phase Inverters

- / 9kW-40kW models
- / Fixed voltage inverters for superior efficiency and longer strings
- / Integrated arc fault protection and rapid shutdown



Three Phase Inverters with Synergy Technology

- / 50kW-120kW models
- / Combines large capacity with ease of installation
- / Reduces time onsite with pre-commissioning before grid connection



Power Optimizers

- / Power Optimizer models for module outputs up to 600W
- / Module-level optimization with 1:1 or 2:1 PV module to Power Optimizer ratio
- / Advanced safety features for maximum protection of people and property
- / Supports all module types including high power and bi-facial



Monitoring Platform

- Free, real-time system visibility at the module level, anytime, anywhere
- / Pinpointed alerts for faster maintenance and higher system uptime
- Dedicated Monitoring installer app and mySolarEdge app for system owners



SolarEdge Designer

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





Installation and Commissioning Tools

- SetApp: Easy inverter commissioning direct from the installer's smartphone
- **/ Mapper:** Quick creation of virtual site maps in the Monitoring Platform via a mobile app



Cellular Communications

Wireless connection to the SolarEdge monitoring server via cellular network



Energy Meter & Current Transformers

Supports high accuracy production/consumption monitoring, and export limitation



Performance Monitoring

Calculate site performance ratio and measure environmental conditions





Surge Protection Devices

Protect the AC/DC power lines and RS485 communication buses of SolarEdge Three Phase Inverters from electrical surges, such as lightning.

Commercial Offering Ordering Information Contact your local SolarEdge distributor for more details

Part Number	Product Description	
Three Phase Inver	ters; with SetApp inverter configuration; 12-year warranty included	200 E50
SE17.3K-USR2IBNZ4	Three Phase Inverter, 17.3kW, 208V, with AC Automatic Rapid Shutdown, DC Safety Switch, DC Fuses and AFCI	
SE30K-USR8IBNZ4	Three Phase Inverter, 30.0kW, 270V/480V, with AC Automatic Rapid Shutdown, DC Safety Switch, DC Fuses and AFCI	
SE40K-USR8IBNZ4	Three Phase Inverter, 40kW, 270V/480V, with AC Automatic Rapid Shutdown, DC Safety Switch, DC Fuses and AFCI	•
Three Phase Inver	ters with Synergy Technology; with SetApp inverter configuration; 12-year	
warranty include		
SE50K-US02IBNZ4	Three Phase Synergy Manager, 50kW, AC Automatic Rapid Shutdown, 208V, DC Safety Switch and AC/DC SPD	
SE80K-US08IBNZ4	Three Phase Synergy Manager, 80kW, AC Automatic Rapid Shutdown, 270V/480V, DC Safety Switch and AC/DC SPD	
SE100K-US08IBNZ4	Three Phase Synergy Manager, 100kW, AC Automatic Rapid Shutdown, 270V/480V, DC Safety Switch and AC/DC SPD	
SE120K-US08IBNZ4	Three Phase Synergy Manager, 120kW, AC Automatic Rapid Shutdown, 270V/480V, DC Safety Switch and AC/DC SPD	
SE120K-USG8IBNZ4	Three Phase Synergy Manager for ground mount systems only (no AC RSD), 120kW, 270V/480V, DC Safety Switch and AC/DC SPD, Multiple Input	
SE120K-USG8IBNW4	Three Phase Synergy Manager for ground mount systems only (no AC RSD), 120kW, 270V/480V, DC Safety Switch and AC/DC SPD, Combined Input	
SESUK-USR0INNN4	Synergy Unit	
	oK requires 2 x Synergy Units OK, SE100K & SE120K require 3 x Synergy Units	
Power Optimizers	; 25-year warranty included	
P1100	Designed for 2 x high power or bi-facial modules, 1100W/125V, output cable 7.9', input cable 5.2' - ground mount only	
P1101	Designed for 2 x high power or bi-facial modules, 1100W/125V, PVRSS compliant, output cable 7.9', input cable 5.2'	A
Metering Solution	ns	
SE-RWND-3D-480-MB		7F) 999" B)
SE-RGMTR-3D-208V-A	Energy Meter for 208V Grid, 3ph Delta, ANSI C12.20 CLASS 05, CT sold separately	10
SE-RGMTR-3Y-480V-A	Energy Meter for 480V Grid, 3ph Wye, ANSI C12.20 CLASS 05, CT sold separately	
SE-RGMTR-3Y-208V-A	Energy Meter for 208V Grid, 3ph Wye, ANSI C12.20 CLASS 05, CT sold separately	
SEACTL-1250-150-C3	Current Transformer, 150A, Kit of (3)	2
SEACTL-1250-300-C3	Current Transformer, 300A, Kit of (3)	
SEACTL-1250-600-C3	Current Transformer, 600A, Kit of (3)	1

Part Number	Product Description		
Environmental Ser	nsors		
SE1000-SEN-IRR-S1	Irradiance Sensor 0-1.4V		
SE1000-SEN-TAMB-S2	Ambient Temperature Sensor 0-10V		/m/1-
SE1000-SEN-TMOD-S2	Module Temperature Sensor 4-20mA		
SE1000-SEN-WIND-S1	Wind Velocity Sensor 4-20mA		
SEACTL-1250-600-C3	Current Transformer, 600A, Kit of (3)		
	re for these products is provided directly by Ingenieurbüro M see http://www.imt-solar.com/products.html	encke & Tegtmeyer GmbH.	40
Communication P	roducts		
SE1000-DTLG-S1	Data Logger		00
SE1000-CCG-G-S1	Commercial Gateway		
SE-RS485-SPD3-B-K4	RS485 Surge Protection Kit, Three Phase inverters (5pcs)		6
Cellular Communi	cations for Commercial Inverters		
For inverters with a dis	splay		200 =
CELL-A-R05-US-S-S4	For Commercial Systems up to 200kWp		18.0
CELL-A-R05-US-S-S5	For Commercial Systems up to 1,000kWp		125
For inverters without a	a display, supporting SetApp inverter configuration		444
CELL-B-R05-S-S4	For Commercial Systems up to 200kWp, 5-year plan		100
CELL-B-R05-S-S5	For Commercial Systems up to 1,000kWp, 5-year plan		
Accessories			
SE-GNDLUG5-100	SolarEdge Grounding Lug Kit for 100 Power Optimizers		_
SE-GNDPLATE-100	SolarEdge Grounding Plate Kit for 100 Power Optimizers		
DCD-3PH-1TBK	Single Input Kit for Three Phase Inverters (5 units)		
DCD-3PH-6FHK-S1	6 x 25A Fuses + Holders Kit for Three Phase DC Safety Switch		
Inverter Warranty	Extensions		
Please refer to https://w	ww.solaredge.com/us/service/warranty		
Satellite-based Per	rformance Ratio		
SE-SAT-PR-S1	Satellite-based Performance Ratio; one site, for one year	For full details visit:	Table To the Control of the Control
SE-SAT-PR-S2	Satellite-based Performance Ratio; one site, for one year plus one year historical data	https://www.solaredge.com/us/ products/pv-monitoring/satellite- based-pr	1116

Comprehensive Service Suite

SolarEdge supports you throughout your PV project life cycle. We provide the tools and services to help you grow your business with us.





Project design & pre-sale





Project execution

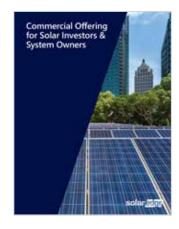




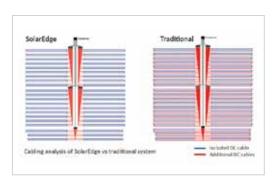
Operation & maintenance

Project design and pre-sale

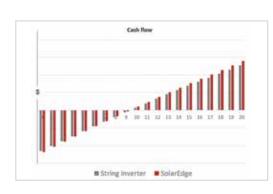
Our dedicated tools and engineering services help you close deals.



Training and tools help your sales team convey the added value of the SolarEdge solution



Tailor-made design optimization by SolarEdge pre-sale engineers



LCOE and ROI analysis



PV simulation and comparative system analysis

Comprehensive Service Suite (Cont.)

Project execution

Our advanced tools and features will assist you to easily and smoothly execute projects.



Project design validation prior to installation



Hands-on installation training by local field engineers



Installation validation checklist



DC safety protecting installers from high DC voltage



Easy and flexible string layout



Remote and on-site installation **support** by local service teams



Easy inverter activation and commissioning using the mobile SetApp



Remote operations to commission and activate the installation



Automatic commissioning report

Operation & maintenance

Our advanced Monitoring Platform allows you to guarantee system availability and high performance ratio for system lifetime.

Performance monitoring



Fleet management



Pre-scheduled performance and status reports of multiple sites



alerts

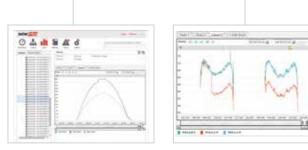


Pinpointed automatic Inter-site and multi-site comparisons



Satellite-based performance ratio

Fault detection



Inverter and module-level fault identification

Remote troubleshooting tools

Service



Rapid RMA process



Follow the sun call center

Executive reporting



Site specific automated production reports

29.5GW of Systems Shipped Worldwide

Ground mounts



Industrial rooftops



Farms & agriculture



Public buildings



Carports, floating systems & safety



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