



Milngavie Golf Club

Prepared by:

admin@mcnenergysolutions.co.uk

07759145725

admin@mcnenergysolutions.co.uk

For:

Laighpark, Milngavie

Quote #: 3636612

Valid until: 10th February 2024



Solar Energy System Proposal

Dear ,

Thank you for the opportunity to present your Solar Energy System Proposal.

Please find enclosed your custom proposal for your consideration.

Best Regards,

admin@mcnenergysolutions.co.uk

MCNL Energy solutions

MCNL Energy solutions

102 Broomfield Crescent

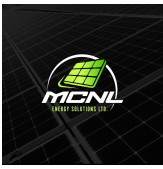
Glasgow None G21 3HA

Phone: 07759145725

Email: admin@mcnenergysolutions.co.uk

Web:





Recommended System Option

35.7 kW
System Size

0 kWh
Battery Size

689%
Total Return on
Investment

4 Years
3 Months
Payback





Your Solution

Solar Panels

Trina Solar Co., Ltd.

35.700 kW Total Solar Power

84 x 425 Watt Panels (TSM-425DE09R.08)

26,986 kWh per year

SolarEdge Home Wave Inverter – Three Phase 3kW-10kW

7.000kW of inverter power

SolarEdge Technologies Ltd.

1 x SE7K

12 Years Product Warranty

Produce More, Use More, Save More



SolarEdge Three Phase Inverter 12.5kW-17kW

12.500kW of inverter power

SolarEdge Technologies Ltd.

1 x SE12.5K

12 Years Product Warranty

Produce More, Use More, Save More



SolarEdge Home Wave Inverter – Three Phase 3kW-10kW

6.000kW of inverter power

SolarEdge Technologies Ltd.

1 x SE6K

12 Years Product Warranty

Produce More, Use More, Save More



Scaffolding / Edge protection

3 x Scaffolding / Edge Protection

Structural Survey

Desktop Structural Survey Report by independent structural survey engineer.

4 x Struc Survey

Power Optimizer P-Series for Commercial Installations

42 x P850

25 Year Warranty

(Maximize the output and safety of each panel)

Produce More, Use More, Save More

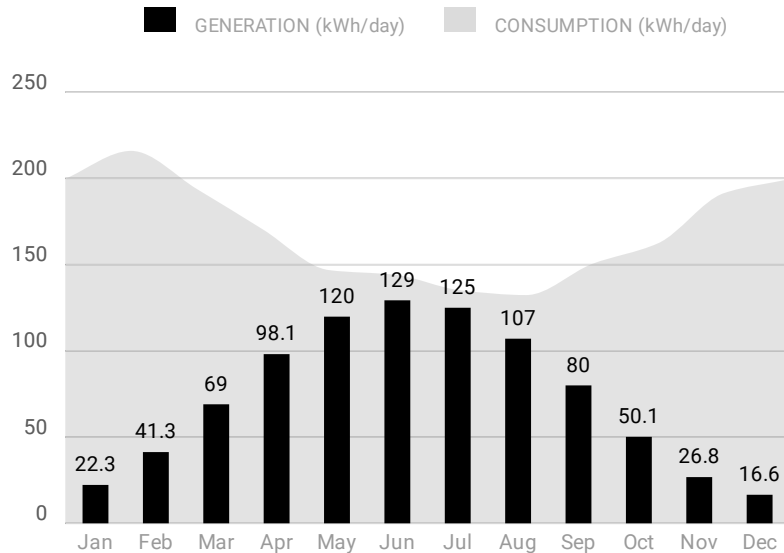


Warranties: 15 Year Panel Product Warranty, 25 Year Panel Performance Warranty, 12 Year Inverter Product Warranty



System Performance

44%
Energy From Solar



71% Self-consumption	29% Export to grid
--------------------------------	------------------------------

System Performance Assumptions: System Total losses: 0%, Inverter losses: 0%, Optimizer losses: 0%, Shading losses: 0%, Performance Adjustment: 0%, Output Calculator: MCS. Panel Orientations: 18 panels with Azimuth 252 and Slope 10, 28 panels with Azimuth 233 and Slope 35, 7 panels with Azimuth 252 and Slope 45, 4 panels with Azimuth 162 and Slope 45, 13 panels with Azimuth 252 and Slope 45, 14 panels with Azimuth 175 and Slope 35.

The performance of solar PV systems is impossible to predict with certainty due to the variability in the amount of solar radiation (sunlight) from location to location and from year to year. This estimate is based upon the standard MCS procedure is given as guidance only. It should not be considered as a guarantee of performance. The solar PV self-consumption has been calculated in accordance with the most relevant methodology for your system. There are a number of external factors that can have a significant effect on the amount of energy that will be self-consumed.

Shading will be present on your system that will reduce its output to the factor stated. This factor was NOT calculated using the MCS shading methodology, but we can confirm that the system as quoted, taking into account the shading present, will deliver at least 90% of the energy (in kWh) as set out in this performance estimate.

This system performance calculation has been undertaken using estimated values for array orientation, inclination, or shading. Actual performance may be significantly lower or higher if the characteristics of the installed system vary from the estimated values.

A. Installation data		
Installed capacity of PV system - kWp (stc)	35.70	kWp
Orientation of the PV system - degrees from South	Group 1: 18 panels with Orientation: 70 ° Group 2: 28 panels with Orientation: 55 ° Group 3: 7 panels with Orientation: 70 ° Group 4: 4 panels with Orientation: 20 ° Group 5: 13 panels with Orientation: 70 ° Group 6: 14 panels with Orientation: 5 °	°
Inclination of system - degrees from horizontal	Group 1: 18 panels with Tilt: 10° Group 2: 28 panels with Tilt: 35° Group 3: 7 panels with Tilt:	°



	45° Group 4: 4 panels with Tilt: 45° Group 5: 13 panels with Tilt: 45° Group 6: 14 panels with Tilt: 35°	
Postcode region	14	
B. Performance calculations		
kWh/kWp (Kk) from table	Group 1: 718 Group 2: 765 Group 3: 711 Group 4: 821 Group 5: 711 Group 6: 832	kWh/kWp
Shade Factor (SF)	1.00	
Estimated annual output (kWp x Kk x SF)	26,986	kWh
C. Estimated PV self-consumption - PV Only		
Assumed annual electricity consumption, kWh	62,000.00	kWh
Assumed annual electricity generation from solar PV system, kWh	26,986	kWh
Expected solar PV self-consumption (PV Only)	19,130.89	kWh
Grid electricity independence / Self-sufficiency (PV Only)	30.86	%

Environmental Benefits

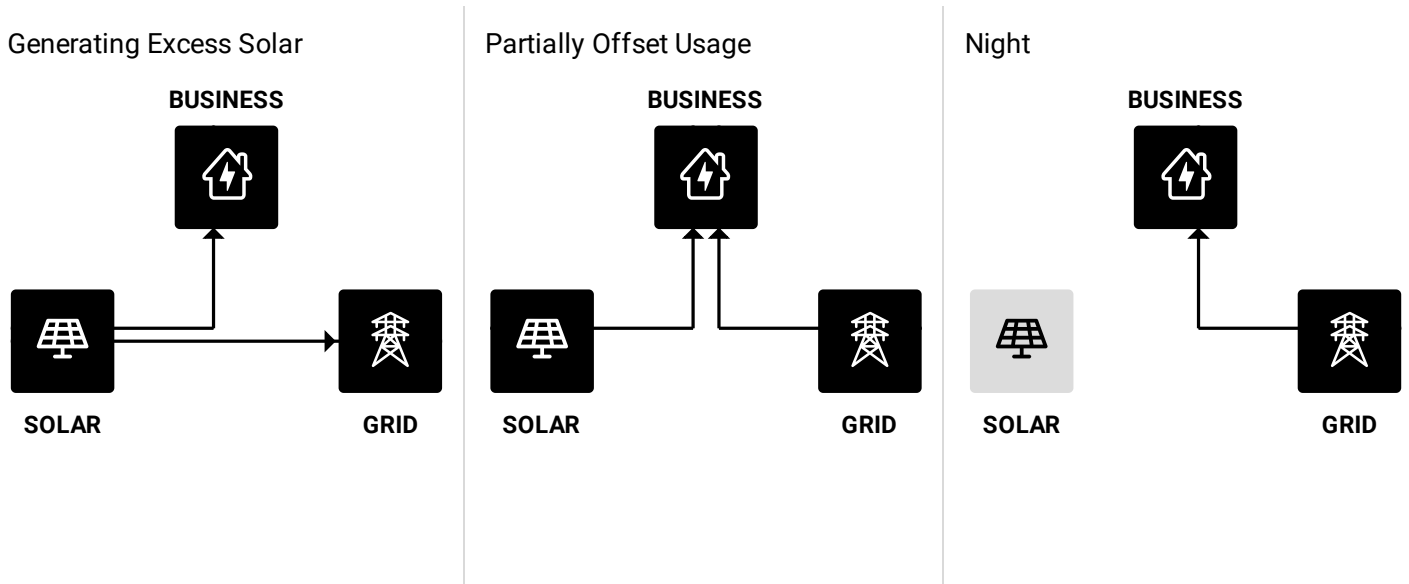
Solar has no emissions. It just silently generates pure, clean energy.



Each Year		Over System Lifetime		
44%	7 tons	201,421	1,295	144
Of CO ₂ , SO _x & NO _x	Avoided CO ₂ per year	Car km avoided	Trees planted	Long haul flights avoided



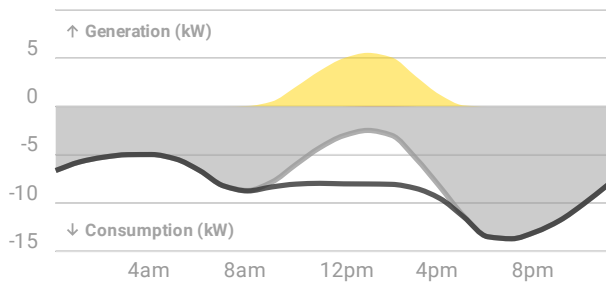
How your system works



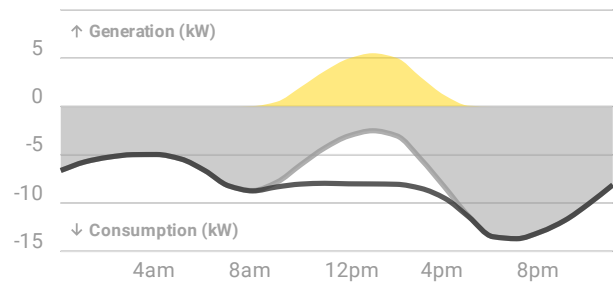
Daily Energy Flows

■ CONSUMPTION (kWh) ■ GENERATION (kWh) ■ NET CONSUMPTION (kWh) ■ EXPORT TO GRID (kWh)

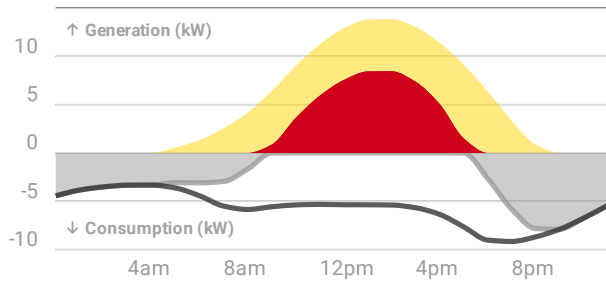
Winter Weekday



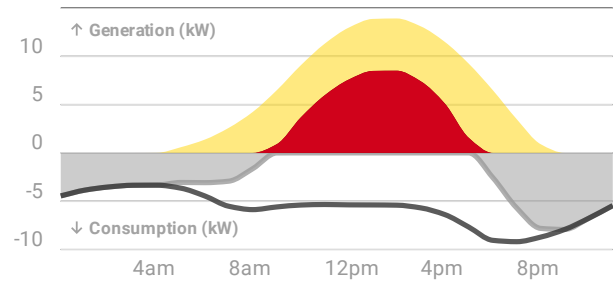
Winter Weekend



Summer Weekday



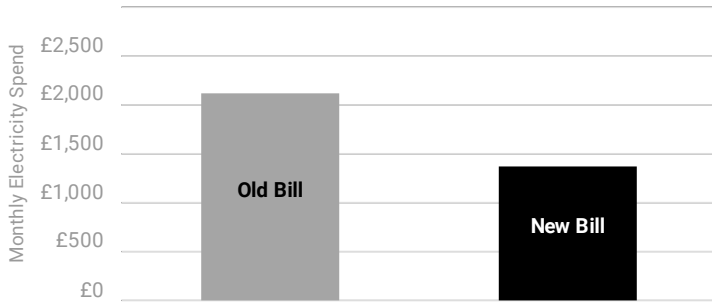
Summer Weekend



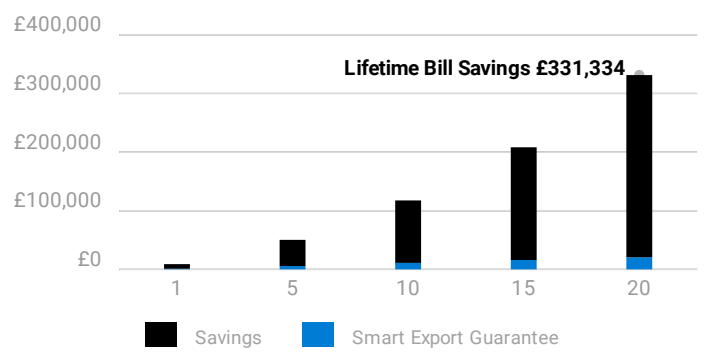


Electricity Bill Savings

First Year Monthly Bill Savings



Cumulative Bill Savings



Month	Solar Generation (kWh)	Electricity Consumption before solar (kWh)	Electricity Imported after solar (kWh)	Electricity Exported after solar (kWh)	Export Credit (£)	Utility Bill before solar (£)	Utility Bill after solar (£)	Estimated Savings (£)
Jan	690	6,193	5,502	0	0	2,537	2,256	281
Feb	1,157	6,046	4,890	0	0	2,476	2,005	471
Mar	2,139	6,007	4,121	253	38	2,462	1,655	807
Apr	2,943	5,112	2,985	816	122	2,096	1,107	990
May	3,714	4,552	2,243	1,405	211	1,868	716	1152
Jun	3,879	4,325	1,980	1,534	230	1,775	589	1186
Jul	3,874	4,188	1,930	1,616	242	1,720	557	1163
Aug	3,318	4,103	2,128	1,344	202	1,685	679	1007
Sep	2,399	4,512	2,810	697	104	1,852	1,053	799
Oct	1,555	5,034	3,668	189	28	2,065	1,480	585
Nov	804	5,743	4,939	0	0	2,354	2,026	328
Dec	513	6,186	5,673	0	0	2,535	2,326	209

Your projected energy cost is calculated by considering a 7.0% increase in energy cost each year, due to trends in the raising cost of energy. This estimate is based on your selected preferences, current energy costs and the position and orientation of your roof to calculate the efficiency of the system. Projections are based on estimated usage of 62000 kWh per year, assuming Standing Variable Tariff Electricity Tariff.

Your electricity tariff rates may change as a result of installing the system. You should contact your electricity retailer for further information.

Proposed Tariff Details - British Gas Standing Variable Tariff (Essex)	
Energy Charges	
Day Usage Charge <i>All Day from 31 Dec to 30 Dec</i>	£0.40 / kWh
rate 1	£0.00 / kWh



<i>All Day</i>	
Climate Change Levy <i>All Day</i>	£0.01 / kWh
Smart Export Guarantee	
Smart Export Guarantee <i>All Day</i>	£0.15 / kWh
Fixed Charges	
Fixed Charge	£0.40 / day

Quotation

Payment Option: Sales Invoice

84 x TSM-425DE09R.08 425 Watt Panels (Trina Solar Co., Ltd.) 1 x SE12.5K, 1 x SE7K, 1 x SE6K (SolarEdge Technologies Ltd.) 3 x Scaffolding / Edge Protection, 4 x Struc Survey, 42 x P850 Tilt Racks (18 panels only)	
Total System Price	£41,996.76 Excluding £0.00 VAT
Purchase Price	£41,996.76 Including £0.00 VAT

PLEASE NOTE THIS QUOTE IS EXCLUDING 20% VAT

Price excludes Retailer Smart Meter should you want us to install your Smart Meter it will be an additional cost.

This proposal is valid until 10th February 2024.

Quote for

Milngavie Golf Club Laighpark G62 8EP

Quote Acceptance

I have read & accept the terms and conditions.

Signature

Name

Date



This proposal has been prepared by MCNL Energy solutions using tools from OpenSolar. Please visit www.opensolar.com/proposal-disclaimer for additional disclosures from OpenSolar.

Should you require either this Contract or any other information we have supplied to you in large print, please contact us.

This Contract has been prepared to comply with all our obligations under the Renewable Energy Consumer Code (RECC) and the Microgeneration Certification Scheme (MCS).

This contract details our obligations to you, and your obligations to us, if there is any point that we can clarify for you, please contact us.

Our main obligation to you is to do the work with all reasonable skill and care according to the standards set by the Microgeneration Certification Scheme (MCS) and according to the timetable set out in the Quote. Under the MCS, only certified companies can enter into a contract with a customer for the sale and installation of a system.

1. The Quotation

The quotation we have given you (**provided separately**) is valid for 30 days from the date of issue. To confirm your order, you will need to sign both copies of this contract; you should keep one copy for your records and return the other copy to us at the address on the quotation. No contract will be in place until we confirm the order with you.

Please read these terms carefully before signing them. If you need any explanations about them, please contact us using the address or telephone number provided.

The quotation will document all goods and services we propose to supply, along with the total price for these goods and services including VAT.

We will provide you with a timetable for supplying the goods and carrying out the installation.

The quotation will include information as to the performance of the technology we have proposed to install. These performance estimates will be calculated according to the requirements of the appropriate MCS Standard.

We will discuss with you and provide you with information as to the location of key components. You will be given the opportunity to approve the site designs before work commences.

Where we are unable to supply the main energy generator that was specified in the quotation, we will inform you of this in writing and you will have the right to cancel this contract.

We will advise you on approvals and permissions that may be required for the work; however, it will be your responsibility to ensure that such approvals and permissions are in place. If we require evidence of those permissions (and related drawings and/or specifications) you must make those available.

Additional Payments

If there are additional payments that you may have to make, such as planning costs or if you need to consult a Structural Engineer, we will offer assistance and advice, but you will be responsible for these costs.

If there is a particular service or item of equipment that would normally be considered as part of the installation and you have requested that this not be included, then we will have documented this on the quotation.

Please take time to acquaint yourself with this contract, if there is anything you do not understand, or if you require clarification on any point, please contact us.

2. Right to cancel

Your rights under this contract

You have the right to cancel this contract during the 'cancellation period' without giving any reason.

The cancellation period lasts 14 days and will start on the day the last part of the goods relating to the contract is delivered to you. You can also cancel the contract without penalty before any of the goods are delivered.

To exercise the right to cancel, you must inform us of your decision to cancel this contract by a clear statement (e.g. a letter sent by post, fax or e-mail). You may use the Cancellation Form we have supplied but it is not obligatory.

To meet the cancellation deadline, it is sufficient for you to send your communication concerning your exercise of the right to cancel before the cancellation period has expired.

You may also cancel this contract if there is an unreasonable delay in the installation being carried out, if this has not been caused by you. You would also be entitled to a full refund if that delay has been caused by something outside of our direct control but not caused by you.

If you cancel this contract outside the cancellation period you may have to pay to us reasonable costs for any losses we may have incurred. We will attempt to keep these costs to a minimum. If you have paid us a deposit or any advance payments we may retain all or part of these payments as a contribution.

You will be entitled to cancel this contract if there is a serious delay in our ability to carry out the agreed work that is outside of your control, but within our control. You will be entitled to a full refund.

If the final design or the main Energy Generator differs from what is outlined in the quotation, you are entitled to cancel the contract. You are also entitled to cancel the contract if, due to price increases in products, the total cost of this contract increases between initial signing and the payment schedule being introduced.

If we are in serious breach of our obligations as detailed in this contract then you will be entitled to cancel this contract, request a repair or replacement or you may be entitled to request compensation.

3. Effects of cancellation

If you cancel this contract, we will reimburse to you all payments received, including the costs of delivery (except for the supplementary costs arising if you chose a type of delivery other than the least expensive type of standard delivery offered by us).

We may make a deduction from the reimbursement for loss in value of any goods supplied, if the loss is a result of unnecessary handling by you.

We will make the reimbursement without undue delay, and not later than:

- a) 14 days after the day we receive back from you any goods supplied, or
- b) (if earlier) 14 days after the day you provide evidence that you have returned the goods, or
- c) If there were no goods supplied, 14 days after the day on which we are informed about your decision to cancel this contract.

We will make the reimbursement using the same means of payment as you used for the initial transaction, unless you have expressly agreed otherwise; in any event, you will not incur any fees as a result of the reimbursement.

We will collect the goods at our expense. You are only liable for any diminished value of the goods resulting from the handling other than what is necessary to establish the nature, characteristics and functioning of the goods.

4. Work begun prior to the expiry of the cancellation period

If you have agreed in writing that installation work will commence before the cancellation period expires, and you subsequently cancel in accordance with your rights, you are advised that reasonable payment may be due for any work carried out. You must confirm in writing that work may commence before your cancellation period expires.

You will be entitled to cancel this contract if there is a serious delay in our ability to carry out the agreed work that is outside of your control, but within our control. You will be entitled to a full refund.

If we are in serious breach of our obligations as detailed in this contract then you will be entitled to cancel this contract, request a repair or replacement or you may be entitled to request compensation.

You can only recourse to these actions if the goods or services are incorrectly described or not fit for purpose. You will not be entitled to seek these remedies if you have changed your mind about the goods and services agreed to outside of any required cancellation periods.

5. Related credit and other agreements

If you decide to cancel your contract for our goods and services, then any credit agreement and any other ancillary contracts related to the main contract will be automatically cancelled.

6. Our rights under this contract

If, within fourteen days of us informing you in writing of a serious breach of your obligations to us you have failed to rectify this breach, we will have the right to cancel this contract.

Should we suffer any losses due to a breach of this contract then we will be entitled to reasonable compensation to cover these losses. We are required to attempt to keep all losses to a minimum.

7. Timetable for works

We will have agreed with you a timetable for carrying out the installation. By signing this contract, you are confirming that you agree with this timetable.

There can be occasions that this timetable may need to be varied, due to, for example, poor weather or unavailability of goods and services. We will inform you of any delay we become aware of at the earliest possible opportunity. We would then arrange a new mutually agreeable timetable.

In the case of severe delays to the delivery of goods then you may be offered different products of equivalent specification, value and quality, so long as they are MCS certified. You can either accept that offer, wait for the products you ordered or choose to cancel the contract without penalty.

Should the delay be caused by us, or by our suppliers, and that delay could be considered as severe by a reasonable person, you would be entitled to cancel this contract without penalty to you.

Should the delay be caused by you, we will attempt to accommodate that delay without cost to you. However, if the delay incurs us in extra costs, for example scaffolding, we will require that you cover these costs.

8. The Installation

The installation will be carried out strictly in line with the MIS Standard relevant to the technology, and to any document referred to within that standard. In addition, we will ensure at all times that we meet all our obligations under the RECC Consumer Code.

The goods we supply will be of satisfactory quality and fit for the purpose. They will operate as we have described to you. We will have insurances in place which will cover any loss or damage caused by us or our agents.

You will be required to supply to us normal services free of charge; this would include toilet, washing, water facilities and electricity. You should also ensure we have safe and easy access to the installation area and if required, the password to your Wi-Fi.

Any work to prepare for the installation, carried out by you or a third party that you employ should be carried out in line with the agreed start date for the installation. If this work has not been completed and a consequent delay is caused you may be liable for any costs incurred by us for such a delay.

The work will be carried out by personnel trained in each of the tasks they are assigned.

You will be given warranties for both the installation itself and for the installed goods. The terms of these warranties will be given to you in writing and we will explain them to you verbally.

Within seven days of the completion of the installation we will hand over to you all documentation required as set out within the appropriate Microgeneration Installation Standard.

9. Deposits, advance payments and goods purchased with deposits and advance payments

Any deposits and advance payments that you make to us can only be used to carry out work under this contract.

We are required under the Renewable Energy Consumer Code to protect any deposits and advance payments you make to us, as well as the Workmanship Warranty, with an insurance policy. We will give to you the name and contact details of this insurance company with the quotation. You will be entitled to claim on this policy should we fall into receivership, bankruptcy or administration.

When we purchase goods for use under this contract the legal title to those goods or the proportion of which you have paid us for will pass to you. We will either deliver them to you or we will store them for you and mark them as your property. They will be kept separate from other goods. We will ensure that these goods are insured until they are delivered to you. You may make arrangements to inspect the goods or to remove them from our premises if you wish.

If we have requested a deposit, then this deposit will not exceed 25% of the total contract price set out in the quotation. Should you decide to cancel this contract within the cancellation period, then this deposit will be returned to you promptly.

If we have requested advance payments in addition to a deposit, the total of all advance payments and deposits will not exceed 60% of the total contract price.

We will not request advance payments to be made any more than 3 weeks from the agreed delivery or installation date.

If we have requested a deposit before a full technical assessment of your property has been made, and we are unable to proceed because of something discovered during that technical inspection, then any deposits or advance payments will be returned.

The quotation will set out in detail when invoices will be sent and the amounts due for each payment.

10. Goods belonging to us

Any goods belonging to us that have been delivered to you should remain clearly identifiable as our property. Until the title to the goods is transferred to you the goods should be stored in such a way as they are protected from damage. They should be kept in their original packaging. Should you fear for the safety of the goods in any way, or you feel that the goods are causing any form of hazard you should contact us.

Where products and materials are delivered to, or stored at, the installation site you, the customer, shall not be liable for inspection, storage or handling of those goods. This does not preclude us asking you to check the goods received for any visible damage, and to ensure they are correct.

Should you terminate the contract for any reason, then we will make arrangements with you to collect the goods. If this happens then we will reimburse you if any of your money was used to purchase a proportion of the goods. If you do not make adequate and reasonable arrangements with us to allow the goods to be collected, we retain the right to take legal proceedings to recover the goods or their value. The amount of any reimbursement may be reduced by any reasonable costs we may have incurred.

11. Changes to the planned work

If you decide to make changes to any planned work after you have signed this contract you should contact us without delay. Wherever possible we will incorporate your changes and if we are not able to do so we will inform you as to why it is not possible for us to do so.

Where we are able to agree to your changes, we will require that you set out, in writing and within fourteen days, confirmation of your request.

You need to be aware that any changes to the original design may mean an adjustment to the cost of the installation. Any adjustment in the cost, either in addition or subtraction will be dealt with as a Variation of Contract and we will adjust the price by written agreement with you. You are also entitled to cancel the contract if there are changes in the original design or if the main Energy Generator differs to that in the quotation, as outlined in clause 2 of this contract.

There can be occasions when we come across unexpected work. Should this arise, we will discuss this with you. If it is an area of work in which we are competent to operate, we will issue you with a quotation to complete that work. We will have documented on the quotation the normal rate for the work of our installers. If the work is outside our area of competence, we will assist you in finding a suitably qualified contractor to carry out the work. If this unexpected work causes a delay in the installation process, we may need to make reasonable charges for this delay.

12. Late payment

You should make the payments agreed on the quotation as they become due. The final payment will be due on completion of the installation. If you fail to make any agreed payment we may cease work. If you fail to pay the amount specified in an invoice sent to you by the agreed due date, then we reserve the right to charge you interest until you pay the amount due. The interest rate we will charge will be 3% above the Bank of England base rate.

It is not permissible under this contract to withhold any more than a proportionate amount of the outstanding balance for any alleged defect. If you do withhold any amount after a payment has become due, you should give us notice of your

intention before the final date on which payment is due. You should also, with that notice, state the reasons for withholding payment.

If we intend to cease work, we will give you notice of this in writing.

If you are in breach of this contract because you have not made a payment that was due to us and we have ceased work, you may have to compensate us for any additional costs we have incurred.

Dependent on the circumstances, we may require that the goods are returned to us. If necessary, we will take legal proceedings to recover the goods or/and any outstanding amounts due to us.

13. **Mediation and arbitration**

Note: The RECC renewable adjudication service only covers unresolved disputes arising from issues connected to the sale and installation of small scale renewable technologies.

If at any time a dispute arises between you and us that cannot be resolved you can refer the matter to be handled through RECC's dispute resolution process provided it falls within their remit. We must agree to follow this procedure if that is your wish. RECC is certified through the Chartered Trading Standards Institute as an Alternative Dispute Resolution provider. You can find further information on the RECC website: www.recc.org.uk/consumers/how-to-complain.

If you register a dispute with RECC it will be allocated to a RECC caseworker, who will mediate between both parties in order to resolve the dispute. Mediation aims to reach a non-legal solution to the dispute in a reasonable timescale.

If an agreement is not reached through mediation for any reason, you can refer the matter to RECC's Renewable Adjudication Service, and we must agree to arbitration if that is your wish. You would have to pay a small fee directly for this, which may be refunded to you if the arbitrator finds in your favour. In some cases, RECC may agree to refer your complaint directly to this service without mediation.

You can find more information on the RECC website: www.recc.org.uk/consumers/how-to-complain/independent-arbitration

An award made under the Renewable Adjudication Service will be final and legally binding on you and us, provided you accept the findings. If you choose not to accept the decision by the Renewable Adjudication Service, it is not final and binding, leaving you to pursue legal avenues, such as small claims court, at which point RECC will cease to be involved in the process.

Disputes that relate to the MCS Installer Standards can be referred to our MCS Certification Body. We will supply their contact details to you on request.

Three Phase Inverter For Europe

SE12.5K - SE17K

INVERTERS



Specifically designed to work with power optimizers

- // Superior efficiency (98%)
- // Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- // Small, lightest in its class, and easy to install
- // Built-in module-level monitoring
- // Internet connection through Ethernet or Wireless
- // IP65 – Outdoor and indoor installation
- // Fixed voltage inverter for longer strings
- // Smart Energy Management control
- // Advanced safety features - integrated arc fault protection
- // Optional RS485 surge protection

/ Three Phase Inverter

For Europe

SE12.5K - SE17K

Applicable to inverters with part number	SEXXXK-XXXXXBXX4			
	SE12.5K	SE16K	SE17K	
OUTPUT				
Rated AC Active Output Power	12500	16000	17000	W
Maximum AC Apparent Output Power	12500	16000	17000	VA
AC Output Voltage - Line to Line / Line to Neutral (Nominal)	400 / 230			Vac
AC Output Voltage - Line to Neutral (Range)	184 - 264.5			Vac
AC Frequency	50/60 ± 5			Hz
AC Output Line Connections	20	25.5	26	Aac
Grids Supported - Three Phase	3 / N / PE (WYE with Neutral)			
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes			
THD	≤ 3			%
INPUT				
Maximum DC Power (Module STC)	16850	21600	22950	W
Transformer-less, Ungrounded	Yes			
Maximum Input Voltage DC+ to DC-	1000			Vdc
Nominal Input Voltage DC+ to DC-	750			Vdc
Maximum Input Current	21	23	23	Adc
Reverse-Polarity Protection	Yes			
Ground-Fault Isolation Detection	700kΩ Sensitivity			
Maximum Inverter Efficiency	98			%
European Weighted Efficiency	97.7			%
Nighttime Power Consumption	< 2.5			W
ADDITIONAL FEATURES				
Supported Communication Interfaces ⁽¹⁾	RS485, Ethernet, Wi-Fi (optional) ⁽²⁾ Cellular (optional)			
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection			
Smart Energy Management	Export Limitation			
Arc Fault Protection	Integrated, User Configurable (According to UL1699B)			
RS485 Surge Protection	Optional ⁽³⁾			
STANDARD COMPLIANCE				
Safety	IEC-62103 (EN50178), IEC-62109, AS3100			
Grid Connection Standards ⁽⁴⁾	VDE-AR-N-4105, G99, AS-4777, EN50438, EN50549-1, CEI-021, VDE 0126-1-1, CEI-016, EN50549-1			
Electromagnetic Compatibility (EMC)	EN/IEC 61000-6-1, EN/IEC 61000-6-2, EN/IEC 61000-6-3, EN/IEC 61000-6-4, EN 55011, FCC Part 15, EN/IEC 61000-3-2, EN/IEC 61000-3-3, EN/IEC 61000-3-11, EN/IEC 61000-3-12			
RoHS	Yes			
INSTALLATION SPECIFICATIONS				
AC Output Gland Diameter / Wire Cross Section	15-21mm / Solid wire 2.5-16 mm ²			
DC Input	2 MC4 pairs			
Dimensions (H x W x D)	549 x 317 x 264			mm
Weight	30.7			kg
Operating Temperature Range	-40 to +60 ⁽⁵⁾			°C
Cooling	Fan (user replaceable)			
Noise	< 50			dBA
Protection Rating	IP65 - outdoor and indoor			
Mounting	Brackets provided			

(1) Refer to Datasheets -> Communications category in Downloads page for specifications of optional communication options: <http://www.solaredge.com/groups/support/downloads>

(2) Wi-Fi connectivity requires connection of an additional Wi-Fi component, ordered separately. For more details ask your SolarEdge sales person or refer to: <https://www.solaredge.com/products/communication>

(3) An RS485 SPD plug-in can be purchased. Refer to: https://www.solaredge.com/sites/default/files/se_spd_plug_in_for_rs485_for_3ph_with_setapp_ds.pdf

(4) For all standards refer to Certifications category in Downloads page: <http://www.solaredge.com/groups/support/downloads>

(5) For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf>

SolarEdge Home Wave Inverter

Three Phase, for Europe

SE3K - SE10K

INVERTERS



Specifically designed to work with power optimizers

- // Noise level suitable for residential environments – no external fan
- // Superior efficiency (98%)
- // Battery-ready – one inverter for both PV and battery-storage^(*)
- // Small, lightest in its class, and easy to install
- // Built-in module-level monitoring
- // Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- // Internet connection through Ethernet or Wireless (Wi-Fi, ZigBee Gateway, Cellular)
- // IP65 – Outdoor and indoor installation
- // Fixed voltage inverter for longer strings
- // Smart Energy Management control

(*) Pending battery availability and firmware upgrade

solaredge.com

solaredge

/ SolarEdge Home Wave Inverter

Three Phase, for Europe

SE3K-SE10K⁽¹⁾

	SE3K ⁽²⁾⁽³⁾	SE4K ⁽²⁾	SE5K	SE6K ⁽²⁾	SE7K	SE8K	SE9K	SE10K	UNITS
Applicable to inverters with part number	SEXXX-XXXTXBXX4								
OUTPUT									
Rated AC Power Output	3000	4000	5000	6000	7000	8000	9000	10000	VA
Maximum AC Power Output	3000	4000	5000	6000	7000	8000	9000	10000	VA
AC Output Voltage - Line to Line / Line to Neutral (Nominal)	380 / 220 ; 400 / 230								Vac
AC Output Voltage - Line to Neutral Range	184 - 264.5								Vac
AC Frequency	50/60 ± 5								Hz
Maximum Continuous Output Current (per Phase)	5	6.5	8	10	11.5	13	14.5	16	A
Grids Supported - Three Phase	3 / N / PE (WYE with Neutral)								
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes								
INPUT									
Maximum DC Power (Module STC)	4050 ⁽⁴⁾	5400	6750	8100	9450	10800	12150	13500	W
Transformer-less, Ungrounded	Yes								
Maximum Input Voltage	900								Vdc
Nominal DC Input Voltage	750								Vdc
Maximum Input Current	5	7	8.5	10	12	13.5	15	16.5	Adc
Reverse-Polarity Protection	Yes								
Ground-Fault Isolation Detection	700kΩ Sensitivity								
Maximum Inverter Efficiency	98								%
European Weighted Efficiency	96.7	97.3	97.3	97.3	97.4	97.6	97.5	97.6	%
Nighttime Power Consumption	< 2.5								W
ADDITIONAL FEATURES									
Supported Communication Interfaces ⁽⁵⁾	RS485, Ethernet, ZigBee (optional), wireless SolarEdge Home Network (optional) ⁽⁶⁾ , Wi-Fi (optional), Cellular (optional)								
Smart Energy Management	Export Limitation, Home Energy Management (Device Control)								
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection								
STANDARD COMPLIANCE									
Safety	IEC-62103 (EN50178), IEC-62109								
Grid Connection Standards ⁽⁷⁾	VDE 0126-1-1, VDE-AR-N-4105, AS-4777, G83 / G59								
Electromagnetic Compatibility (EMC)	EN/IEC 61000-6-1, EN/IEC 61000-6-2, EN/IEC 61000-6-3, EN/IEC 61000-6-4, EN 55011, FCC Part 15, EN/IEC 61000-3-2, EN/IEC 61000-3-3, EN/IEC 61000-3-11, EN/IEC 61000-3-12								
RoHS	Yes								
INSTALLATION SPECIFICATIONS									
AC Output	Cable Gland - diameter 15-21								mm
DC Input	2 MC4 pairs								
Dimensions (HxWxD)	540 x 315 x 191								mm
Weight	16.4								kg
Operating Temperature Range	-40 to +60 ⁽⁸⁾								°C
Cooling	Internal Fan								
Noise	< 40								dBA
Protection Rating	IP65 - Outdoor and Indoor								
Mounting	Bracket Provided								

⁽¹⁾ For higher power models refer to: <https://www.solaredge.com/sites/default/files/se-three-phase-inverter-extended-power-datasheet.pdf>.

⁽²⁾ Available in some countries; refer to Certifications category in Downloads page: <http://www.solaredge.com/groups/support/downloads>.

⁽³⁾ SE3K-RW010BNN4 is dedicated for connection of exactly 10 P404/P405/P485/P505 optimizers.

⁽⁴⁾ Maximum allowed DC power is 3700W with SE3K-RW010BNN4.

⁽⁵⁾ Refer to Datasheets -> Communications category in Downloads page for specifications of optional communication options: <http://www.solaredge.com/groups/support/downloads>.

⁽⁶⁾ For more information, refer to: <https://www.solaredge.com/sites/default/files/se-energy-net-plug-in-datasheet.pdf>.

⁽⁷⁾ For all standards refer to Certifications category in Downloads page: <http://www.solaredge.com/groups/support/downloads>.

⁽⁸⁾ For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf>.

Power Optimizer

For Europe

P605 / P650 / P701 / P730 / P800p /
P801 / P850 / P950 / P1100



POWER OPTIMIZER

PV power optimization at the module level

The most cost-effective solution for commercial and large field installations

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Balance of System cost reduction; 50% less cables, fuses and combiner boxes, over 2x longer string lengths possible
- Fast installation with a single bolt
- Advanced maintenance with module-level monitoring
- Module-level voltage shutdown for installer and firefighter safety
- Use with up to two PV modules connected in series or in parallel

Power Optimizer

For Europe

P605 / P650 / P701 / P730 / P801

Power Optimizer Model (Typical Module Compatibility)	P605 (for 1 x high power PV module)	P650 (for up to 2 x 60-cell PV modules)	P701 (for up to 2 x 60/120-cell PV modules)	P730 (for up to 2 x 72-cell PV modules)	P801 (for up to 2 x 72/144 cell PV modules)		
INPUT							
Rated Input DC Power ⁽¹⁾	605	650	700*	730**	800	W	
Connection Method	Single input for series connected modules						
Absolute Maximum Input Voltage (Voc at lowest temperature)	65	96		125		Vdc	
MPPT Operating Range	12.5 - 65	12.5 - 80		12.5 - 105		Vdc	
Maximum Short Circuit Current per Input (Isc)	14.1	11	11.75	11**	12.5***	Adc	
Maximum Efficiency						99.5	%
Weighted Efficiency						98.6	%
Overvoltage Category						II	

OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREdge INVERTER)							
Maximum Output Current						15	Adc
Maximum Output Voltage						80	Vdc

OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREdge INVERTER OR SOLAREdge INVERTER OFF)							
Safety Output Voltage per Power Optimizer						1 ± 0.1	Vdc

STANDARD COMPLIANCE							
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3	FCC Part 15, IEC 61000-6-2, and IEC 61000-6-3 - Class B, EN 55011					
Safety	IEC62109-1 (class II safety)						
RoHS	Yes						
Fire Safety	VDE-AR-E2100-712:2013-05						

INSTALLATION SPECIFICATIONS							
Compatible SolarEdge Inverters	Three Phase Inverters SE16K & larger ⁽²⁾						
Maximum Allowed System Voltage	1000						Vdc
Dimensions (W x L x H)	129 x 153 x 52	129 x 153 x 42.5		129 x 153 x 49.5		mm	
Weight	1064	834		933		gr	
Input Connector	MC4 ⁽³⁾						
Input Wire Length	0.16			0.16 / 0.9 ⁽⁴⁾		m	
Output Connector	MC4						
Output Wire Length	Portrait orientation: 1.4		Portrait orientation: 1.2			m	
	-	Landscape orientation: 1.8		Landscape orientation: 2.2			
Operating Temperature Range ⁽⁵⁾	-40 to +85					°C	
Protection Rating	IP68 / NEMA6P						
Relative Humidity	0 - 100					%	

* For P701 models manufactured after work week 06/2020, the rated DC input is 740W

** For P730 with manufactured date greater than working week 06 of 2020 the rated DC input is 760W and maximum Isc per Input is 11.75A

*** For P801 models manufactured in work week 40/2020 or earlier, the maximum Isc per input is 11.75A

The manufacture code is indicated in the Power Optimizer's serial number. Example: S/N SJ0620A-xxxxxxx (working week 06 in 2020)

(1) Rated power of the module at STC will not exceed the Power Optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed

(2) For compliance with EN 55011 class A (where required), installation shall be done with inverter 20kVA or larger, and comply with the requirements in the EMC section of the installation manual

(3) For other connector types please contact SolarEdge

(4) Longer inputs wire lengths are available for use with split junction box modules. (For 0.9m/2.95ft order P730-xxxLxxx)

(5) For ambient temperature above +70°C / +158°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details

PV System Design Using a SolarEdge Inverter ⁽⁶⁾⁽⁷⁾⁽⁸⁾		230/400V Grid SE20K, SE25K*, SE33.3K*		230/400V Grid SE27.6K*		230/400V Grid SE30K*		277/480V Grid SE33.3K*, SE40K*		
Compatible Power Optimizers		P605	P650, P701, P730, P801	P605	P650, P701, P730, P801	P605	P650, P701, P730, P801	P605, P650, P701, P730, P801		
Minimum String Length	Power Optimizers	14		14		15		14		
	PV Modules	14	27	14	27	15	29	27		
Maximum String Length	Power Optimizers	30		30		30		30		
	PV Modules	30	60	30	60	30	60	60		
Maximum Continuous Power per String		11250		11625		12750		12750		W
Maximum Allowed Connected Power per String ⁽⁹⁾ (Permitted only when the difference in connected power between strings is 2,000W or less)		13500		13875		15000		15000		W
Parallel Strings of Different Lengths or Orientations		Yes								

* The same rules apply for Synergy units of equivalent power ratings, that are part of the modular Synergy Technology inverter

(6) P650/P701/P730/P801 can be mixed in one string only with P650/P701/P730/P801. P605 cannot be mixed with any other Power Optimizer in the same string

(7) For each string, a Power Optimizer may be connected to a single PV module if 1) each Power Optimizer is connected to a single PV module or 2) it is the only Power Optimizer connected to a single PV module in the string

(8) For SE25K and above, the minimum STC DC connected power should be 11kW

(9) To connect more STC power per string, design your project using [SolarEdge Designer](#)

Power Optimizer

For Europe

P800p / P850 / P950 / P1100

Power Optimizer Model (Typical Module Compatibility)	P800p (for up to 2 x 96-cell 5" PV modules)	P850 (for up to 2 x high power or bi-facial modules)	P950 (for up to 2 x high power or bi-facial modules)	P1100 (for up to 2 x high power or bi-facial modules)	
INPUT					
Rated Input DC Power ⁽¹⁾	800	850	950	1100	W
Connection Method	Dual input for independently Connected modules	Single input for series connected modules			
Absolute Maximum Input Voltage (Voc at lowest temperature)	83	125			
MPPT Operating Range	12.5- 83	12.5- 105			
Maximum Short Circuit Current per Input (Isc)	7	14.1*		14.1	Adc
Maximum Efficiency	99.5				
Weighted Efficiency	98.6				
Overvoltage Category	II				
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)					
Maximum Output Current	18				
Maximum Output Voltage	80				
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)					
Safety Output Voltage per Power Optimizer	1 ± 0.1				
STANDARD COMPLIANCE					
EMC	FCC Part 15, IEC 61000-6-2, and IEC 61000-6-3 - Class B, EN 55011				
Safety	IEC62109-1 (class II safety)				
RoHS	Yes				
Fire Safety	VDE-AR-E2100-712:2013-05				
INSTALLATION SPECIFICATIONS					
Compatible SolarEdge Inverters	Three Phase Inverters SE16K& larger ⁽²⁾			Three Phase Inverters SE25K & larger	
Maximum Allowed System Voltage	1000				
Dimensions (W x L x H)	129x 168 x 59	129x 162 x 59			mm
Weight	1064				
Input Connector	MC4 ⁽³⁾				
Input Wire Length	0.16	0.16, 0.9, 1.3, 1.6 ⁽⁴⁾		0.16, 1.3, 1.6 ⁽⁴⁾	m
Output Connector	MC4				
Output Wire Length	Portrait orientation: 1.2			2.4	m
	Landscape orientation: 1.8	Landscape orientation: 2.2			
Operating Temperature Range ⁽⁵⁾	-40 to +85				
Protection Rating	IP68 / NEMA6P				
Relative Humidity	0 - 100				

* For P850/P950 models manufactured in work week 06/2020 or earlier, the maximum Isc per input is 12.5A. The manufacture code is indicated in the Power Optimizer's serial number
Example: S/N SJ0620A-xxxxxxx (work week 06 in 2020)

(1) Rated power of the module at STC will not exceed the Power Optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed

(2) For compliance with EN 55011 class A (where required), installation shall be done with inverter 20kVA or larger, and comply with the requirements in the EMC section of the installation manual

(3) For other connector types please contact SolarEdge

(4) Longer inputs wire length are available for use with split junction box modules

(For 0.9m/2.95ft order P801/P850-xxxLxxx. For 1.3m/2.95ft order P850/P950/P1100 -xxxXxxx. For 1.6m/5.24ft order P850/P950-xxxYxxx)

(5) For ambient temperature above +70°C/+158°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details

PV System Design Using a SolarEdge Inverter ⁽⁶⁾⁽⁷⁾⁽⁸⁾		230/400V Grid SE20K, SE25K*	230/400V Grid SE27.6K*	230/400V Grid SE30K*	230/400V Grid SE33.3K*	277/480V Grid SE33.3K*, SE40K*
Compatible Power Optimizers		P800p, P850, P950, P1100	P800p, P850, P950, P1100	P800p, P850, P950, P1100	P800p, P850, P950, P1100	P800p, P850, P950, P1100
Minimum String Length	Power Optimizers	14	14	15	14	14
	PV Modules	27	27	29	27	27
Maximum String Length	Power Optimizers	30	30	30	30	30
	PV Modules	60	60	60	60	60
Maximum Continuous Power per String		13500	13950	15300	13500	15300
Maximum Allowed Connected Power per String ⁽⁹⁾ (Permitted only when the difference in connected power between strings is 2,000W or less)		1 string - 15750 2 strings or more - 18500	1 string - 16200 2 strings or more - 18950	1 string - 17550 2 strings or more - 20300	2 strings or less - 15750 3 strings or more - 18500	2 strings or less - 17550 3 strings or more - 20300
Parallel Strings of Different Lengths or Orientations		Yes				

* The same rules apply for Synergy units of equivalent power ratings, that are part of the modular Synergy Technology inverter

(6) P800p/P850/P950/P1100 can be mixed in one string only with P800p/P850/P950/P1100

(7) For each string, a Power Optimizer may be connected to a single PV module if 1) each Power Optimizer is connected to a single PV module or 2) it is the only Power Optimizer connected to a single PV module in the string

(8) For SE25K and above, the minimum STC DC connected power should be 11KW

(9) To connect more STC power per string, design your project using SolarEdge Designer

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.

-  SolarEdge
-  @SolarEdgePV
-  @SolarEdgePV
-  SolarEdgePV
-  SolarEdge
-  www.solaredge.com/corporate/contact

solaredge.com

© SolarEdge Technologies, Ltd. All rights reserved. SOLAREEDGE, the SolarEdge logo, OPTIMIZED BY SOLAREEDGE are trademarks or registered trademarks of SolarEdge Technologies, Inc. All other trademarks mentioned herein are trademarks of their respective owners. Date: 11/2021 DS-000024-2.0-EU. Subject to change without notice.

Cautionary Note Regarding Market Data and Industry Forecasts: This brochure may contain market data and industry forecasts from certain third-party sources. This information is based on industry surveys and the preparer's expertise in the industry and there can be no assurance that any such market data is accurate or that any such industry forecasts will be achieved. Although we have not independently verified the accuracy of such market data and industry forecasts, we believe that the market data is reliable and that the industry forecasts are reasonable.