

Prepared by: info@energy-store.uk
07921129862
info@energy-store.uk

For:
Laighpark, Milngavie

Quote #: 3676435
Valid until: 16th February 2024



Solar Energy System Proposal

Dear ,

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

Best Regards,
info@energy-store.uk
Energy Store Ltd

Energy Store Ltd
None
None None G13 1GG

Phone:
Email:
Web:

Scan QR code on your phone to
access the online proposal.



Recommended System Option

35.7 kW
System Size

£10,964
Estimated Annual
Electricity Bill Savings

£42,750
Total System Price
including VAT

£42,750
Net System Price
including VAT

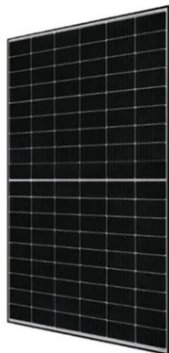


Your Solution

JAM54S30 BF GR

35.700kW of Solar Power
84 x JAM54S30-425/GR
425 Watt panels
12 Year Product Warranty & 25 Year Linear Performance Warranty
28,054kWh per year

JA SOLAR



Inverter

SOLIS - Ningbo Ginlong Technologies
15.000 kW Total Inverter Rating
1 x Solis-3P15K-4G

Inverter

SOLIS - Ningbo Ginlong Technologies
5.000 kW Total Inverter Rating
1 x Solis-3P5K-4G-AU

Module-level PV Optimizer

Module-level PV Optimizer
84 x TS4-A-0

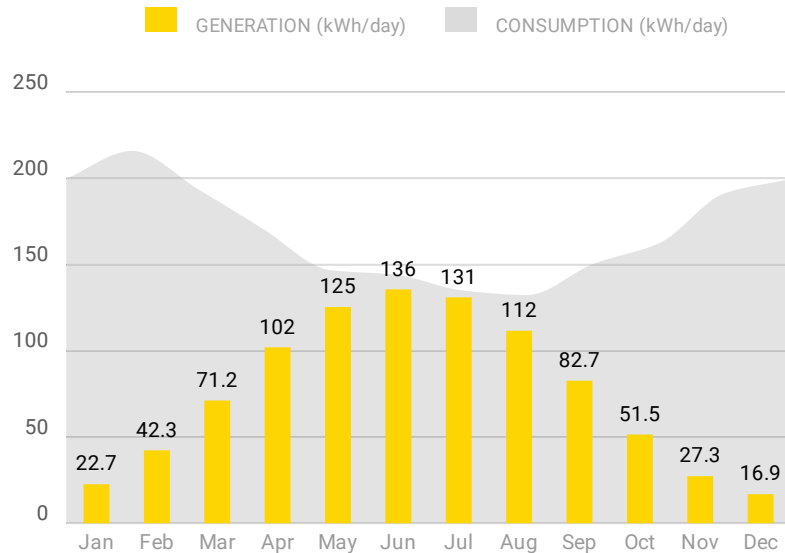
Inverter

SOLIS - Ningbo Ginlong Technologies
12.000 kW Total Inverter Rating
1 x Solis-3P12K-4G

Warranties: 12 Year Panel Product Warranty, 25 Year Panel Performance Warranty, 5-10 Year Inverter Product Warranty

System Performance

45%
Energy From Solar



System Performance Assumptions: System Total losses: 0%, Inverter losses: 0%, Optimizer losses: 0%, Shading losses: 0%, Performance Adjustment: 0%, Output Calculator: MCS. Panel Orientations: 28 panels with Azimuth 232 and Slope 20, 14 panels with Azimuth 175 and Slope 20, 42 panels with Azimuth 163 and Slope 20.

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.

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: 28 panels with Orientation: 50 ° Group 2: 14 panels with Orientation: 5 ° Group 3: 42 panels with Orientation: 15 °	°
Inclination of system - degrees from horizontal	Group 1: 28 panels with Tilt: 20° Group 2: 14 panels with Tilt: 20° Group 3: 42 panels with Tilt: 20°	°
Postcode region	14	
B. Performance calculations		
kWh/kWp (Kk) from table	Group 1: 762 Group 2: 800 Group 3: 797	kWh/kWp

Shade Factor (SF)	1.00	
Estimated annual output (kWp x Kk x SF)	28,054	kWh
C. Estimated PV self-consumption - PV Only		
Assumed occupancy archetype	In Half Day	
Assumed annual electricity consumption, kWh	62,000.00	kWh
Assumed annual electricity generation from solar PV system, kWh	28,054	kWh
Expected solar PV self-consumption (PV Only)	19,303.62	kWh
Grid electricity independence / Self-sufficiency (PV Only)	31.13	%

Environmental Benefits

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



Each Year

45%
Of CO₂, SO_x & NO_x

7 tons
Avoided CO₂ per year

Over System Lifetime

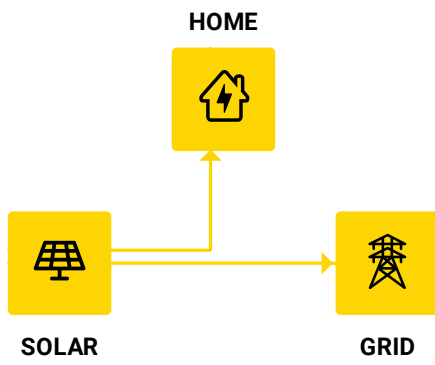
209,398
Car km avoided

1,346
Trees planted

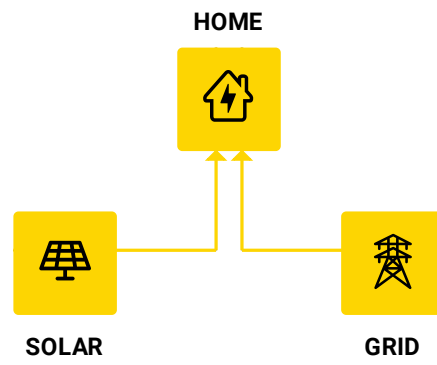
150
Long haul flights avoided

How your system works

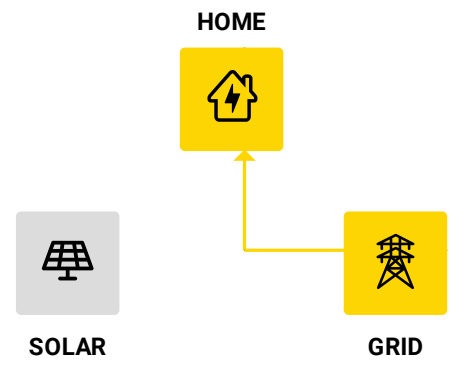
Generating Excess Solar



Partially Offset Usage

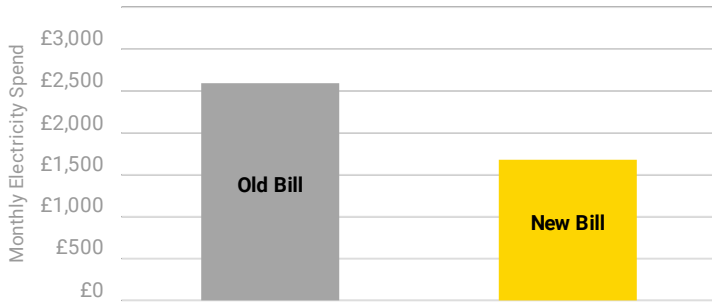


Night

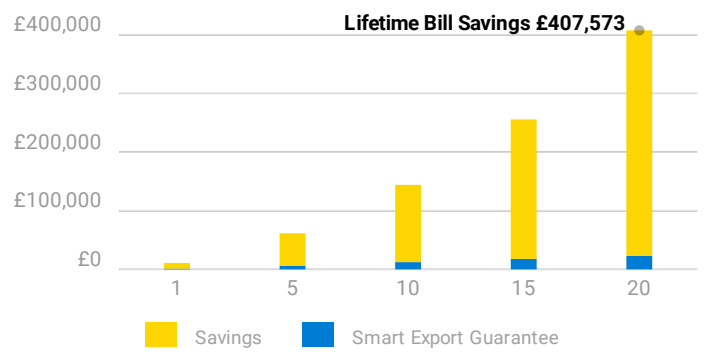


Electricity Bill Savings

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	702	6,193	5,490	0	0	3,106	2,755	351
Feb	1,185	6,046	4,861	0	0	3,033	2,440	592
Mar	2,208	6,007	4,077	278	42	3,013	2,007	1006
Apr	3,061	5,112	2,954	903	135	2,566	1,351	1214
May	3,887	4,552	2,255	1,590	239	2,286	899	1387
Jun	4,069	4,325	1,990	1,734	260	2,172	744	1428
Jul	4,061	4,188	1,938	1,810	272	2,104	707	1397
Aug	3,461	4,103	2,134	1,493	224	2,061	853	1208
Sep	2,481	4,512	2,782	751	113	2,266	1,288	978
Oct	1,596	5,034	3,629	191	29	2,526	1,796	731
Nov	820	5,743	4,923	0	0	2,881	2,471	410
Dec	523	6,186	5,663	0	0	3,103	2,841	262

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 Custom 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 - Custom Tariff

Energy Charges

rate 0 <i>All Day</i>	£0.50 / kWh
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Smart Export Guarantee

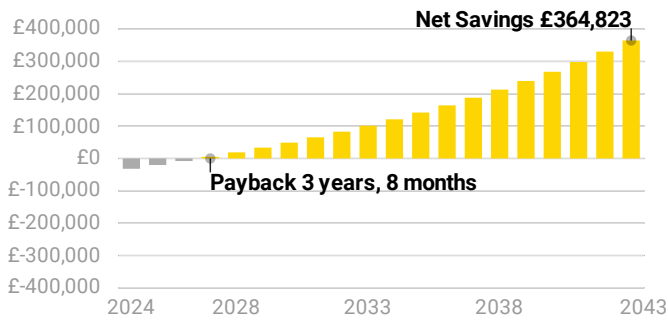
rate 0 <i>All Day</i>	£0.15 / kWh
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Fixed Charges	
Fixed Charge	£9.61 / month

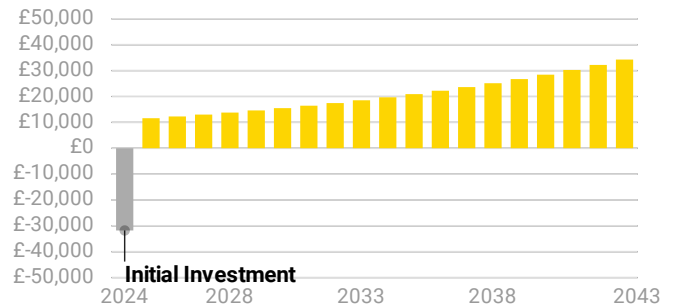
Net Financial Impact Cash

$$\begin{array}{rcl}
 \text{£407,573} & - & \text{£42,750} & = & \text{£364,823} \\
 \text{Utility Bill Savings} & & \text{Net System Cost} & & \text{Estimated Net Savings}
 \end{array}$$

Cumulative Savings From Going Solar



Annual Savings From Going Solar



Estimates do not include replacement costs of equipment not covered by a warranty. Components may need replacement after their warranty period. Financial discount rate assumed: 6.75%

Quotation

Payment Option: Cash

84 x JAM54S30-425/GR 425 Watt Panels (JA Solar)
1 x Solis-3P15K-4G, 1 x Solis-3P5K-4G-AU, 1 x Solis-3P12K-4G (SOLIS - Ningbo Ginlong Technologies)
84 x TS4-A-O

Total System Price

£42,750.00 Including £7,125.00 VAT**Purchase Price****£42,750.00** Including £7,125.00 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 16th February 2024.

Quote Acceptance

I have read & accept the terms and conditions.

Signature

Name

Date



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

DEEP BLUE 3.0 Pro

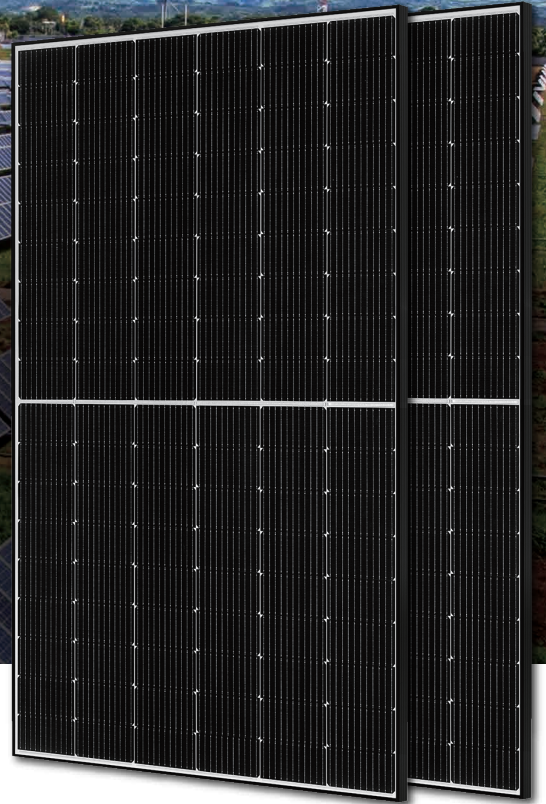
Mono

425W MBB Half-cell Module

JAM54S30 400-425/GR Series

Introduction

Assembled with 11BB PERC cells and gapless ribbon connection technology, the modules can offer higher output power with improved module efficiency, the reduction of cells gaps brings outstanding module appearance. The half-cell configurature makes less shading effect, lower risk of hot spot, as well as more reliable and stable power generation.



Higher output power



Lower LCOE



Less shading and lower resistive loss

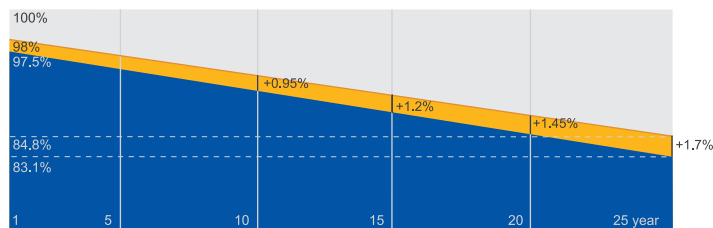


Better mechanical loading tolerance

Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty

0.55% Annual Degradation Over 25 years



■ New linear power warranty ■ Standard module linear power warranty

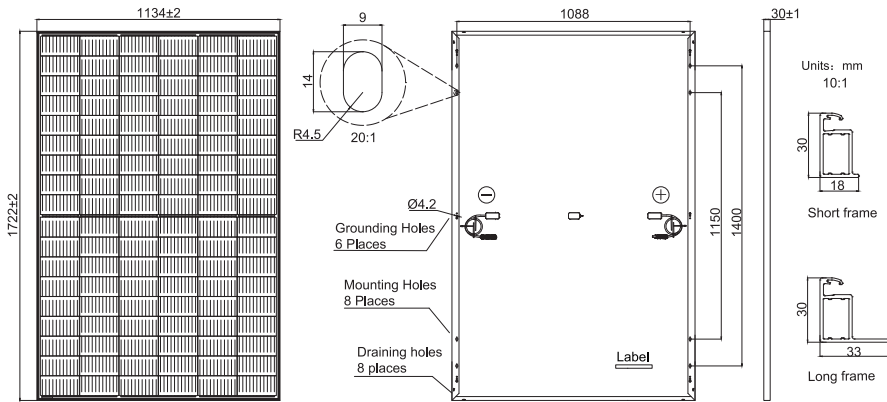
Comprehensive Certificates

- IEC 61215, IEC 61730, UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC 62941: 2019 Terrestrial photovoltaic (PV) modules - Quality system for PV module manufacturing



MECHANICAL DIAGRAMS

SPECIFICATIONS



Cell	Mono
Weight	19.5kg
Dimensions	1722±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm ² (IEC) , 12 AWG(UL)
No. of cells	108(6x18)
Junction Box	IP68, 3 diodes
Connector	MC4-EVO2/ QC 4.10-35
Cable Length (Including Connector)	Portrait: 200mm(+)/300mm(-); Landscape: 1200mm(+)/1200mm(-)
Front Glass	2.8mm
Packaging Configuration	36pcs/Pallet 936pcs/40HQ Container

Remark: customized frame color and cable length available upon request

ELECTRICAL PARAMETERS AT STC

TYPE	JAM54S30 -400/GR	JAM54S30 -405/GR	JAM54S30 -410/GR	JAM54S30 -415/GR	JAM54S30 -420/GR	JAM54S30 -425/GR
Rated Maximum Power(Pmax) [W]	400	405	410	415	420	425
Open Circuit Voltage(Voc) [V]	37.07	37.23	37.32	37.45	37.58	37.72
Maximum Power Voltage(Vmp) [V]	31.01	31.21	31.45	31.61	31.80	31.98
Short Circuit Current(Isc) [A]	13.79	13.87	13.95	14.02	14.10	14.18
Maximum Power Current(Imp) [A]	12.90	12.98	13.04	13.13	13.21	13.29
Module Efficiency [%]	20.5	20.7	21.0	21.3	21.5	21.8
Power Tolerance	0~+5W					
Temperature Coefficient of Isc(α _{Isc})	+0.045%/°C					
Temperature Coefficient of Voc(β _{Voc})	-0.275%/°C					
Temperature Coefficient of Pmax(γ _{Pmp})	-0.350%/°C					
STC	Irradiance 1000W/m ² , cell temperature 25°C, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.

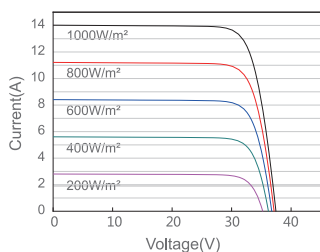
ELECTRICAL PARAMETERS AT NOCT

OPERATING CONDITIONS

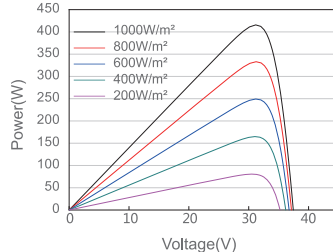
TYPE	JAM54S30 -400/GR	JAM54S30 -405/GR	JAM54S30 -410/GR	JAM54S30 -415/GR	JAM54S30 -420/GR	JAM54S30 -425/GR		
Rated Max Power(Pmax) [W]	302	306	310	314	318	322	Maximum System Voltage	1000V/1500V DC
Open Circuit Voltage(Voc) [V]	34.88	35.12	35.23	35.37	35.50	35.64	Operating Temperature	-40°C~+85°C
Max Power Voltage(Vmp) [V]	29.26	29.47	29.72	29.89	30.09	30.26	Maximum Series Fuse Rating	25A
Short Circuit Current(Isc) [A]	11.03	11.10	11.16	11.22	11.29	11.36	Maximum Static Load, Front Maximum Static Load, Back	5400Pa(112lb/ft ²) 2400Pa(50lb/ft ²)
Max Power Current(Imp) [A]	10.32	10.38	10.43	10.50	10.57	10.64	NOCT	45±2°C
NOCT	Irradiance 800W/m ² , ambient temperature 20°C, wind speed 1m/s, AM1.5G						Safety Class	Class II
							Fire Performance	UL Type 1

CHARACTERISTICS

Current-Voltage Curve JAM54S30-415/GR



Power-Voltage Curve JAM54S30-415/GR



Current-Voltage Curve JAM54S30-415/GR

