

Project Overview



Figure: Overview Image, 3D Design

PV System

3D, Grid-connected PV System with Electrical Appliances and Battery Systems

Climate Data	London-Gatwick/Crawley, GBR (2001 - 2020)
Values source	Meteonorm 9.0
PV Generator Output	11.39 kWp
PV Generator Surface	46.0 m²
Number of PV Modules	23
Number of Inverters	1
No. of battery systems	1

Hugh-11.39kWAiko495-Sig10kWTP-3xSig10

Infinity Energy Services Ltd

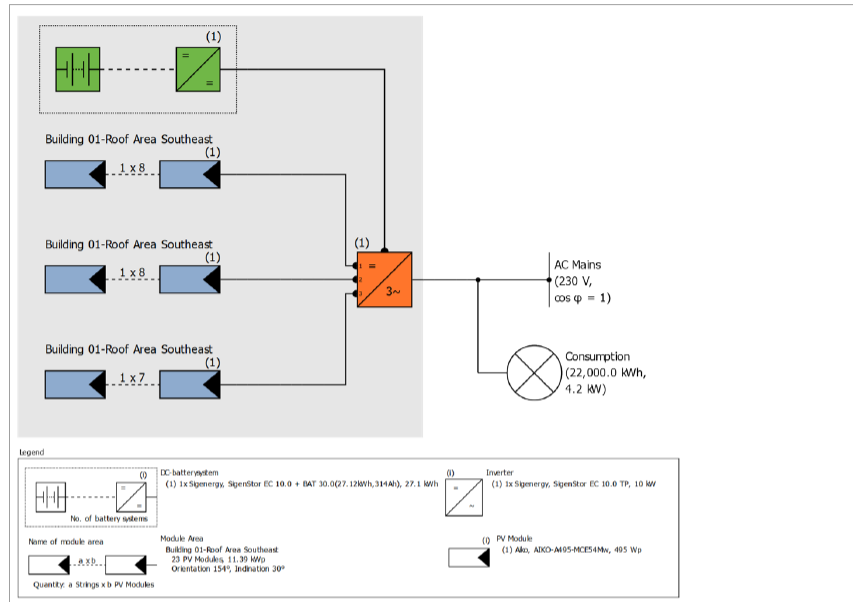


Figure: Schematic diagram

Production Forecast

Production Forecast

PV Generator Output	11.39 kWp
Spec. Annual Yield	1,085.57 kWh/kWp
Performance Ratio (PR)	91.80 %
Yield Reduction due to Shading	0.1 %
PV Generator Energy (AC grid) with battery	12,174 kWh/Year
Direct Own Use	11,149 kWh/Year
Clipping at Feed-in Point	0 kWh/Year
Grid Export	1,025 kWh/Year
Own Power Consumption	91.6 %
CO ₂ Emissions avoided	4,529 kg / year
Level of Self-sufficiency	50.6 %

The results have been calculated with a mathematical model calculation from Valentin Software GmbH (PV*SOL algorithms). The actual yields from the solar power system may differ as a result of weather variations, the efficiency of the modules and inverter, and other factors.

Set-up of the System

Overview

System Data

Type of System	3D, Grid-connected PV System with Electrical Appliances and Battery Systems
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Climate Data

Location	London-Gatwick/Crawley, GBR (2001 - 2020)
Values source	Meteonorm 9.0
Data resolution	1 h
Simulation models used:	
- Diffuse Irradiation onto Horizontal Plane	Hofmann
- Irradiance onto tilted surface	Hay & Davies

Consumption

Total Consumption	22000 kWh
UK Household (Copy) Hugh	22000 kWh
Load Peak	4.2 kW

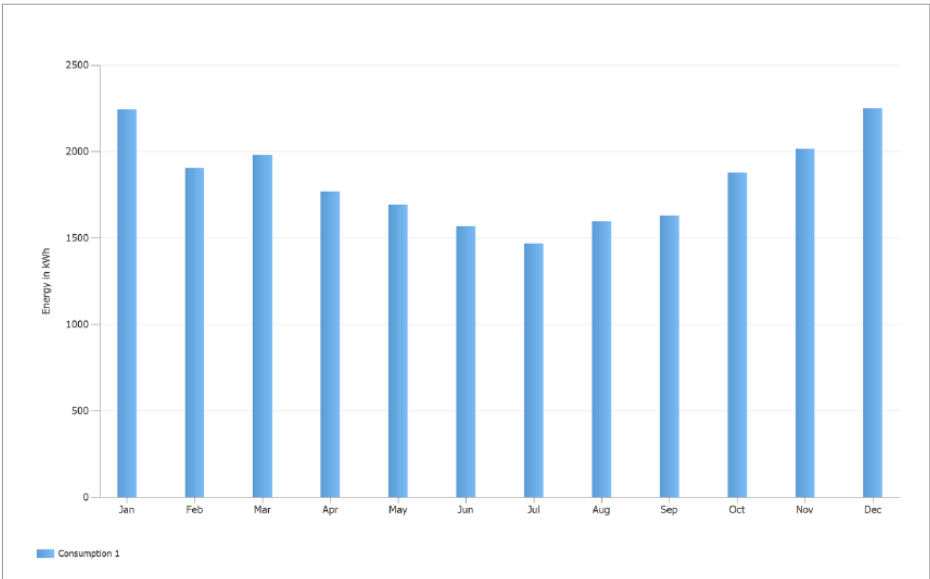


Figure: Consumption

Module Areas

1. Module Area - Building 01-Roof Area Southeast

PV Generator, 1. Module Area - Building 01-Roof Area Southeast

Name	Building 01-Roof Area Southeast
PV Modules	23 x AIKO-A495-MCE54Mw (v1)
Manufacturer	Aiko
Inclination	30 °
Orientation	Southeast 154 °
Installation Type	Roof parallel
PV Generator Surface	46.0 m ²

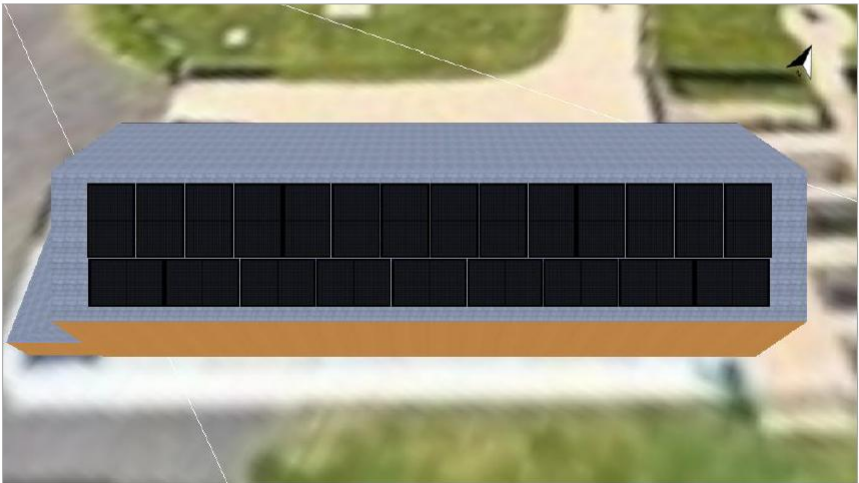


Figure: 1. Module Area - Building 01-Roof Area Southeast

Horizon Line, 3D Design

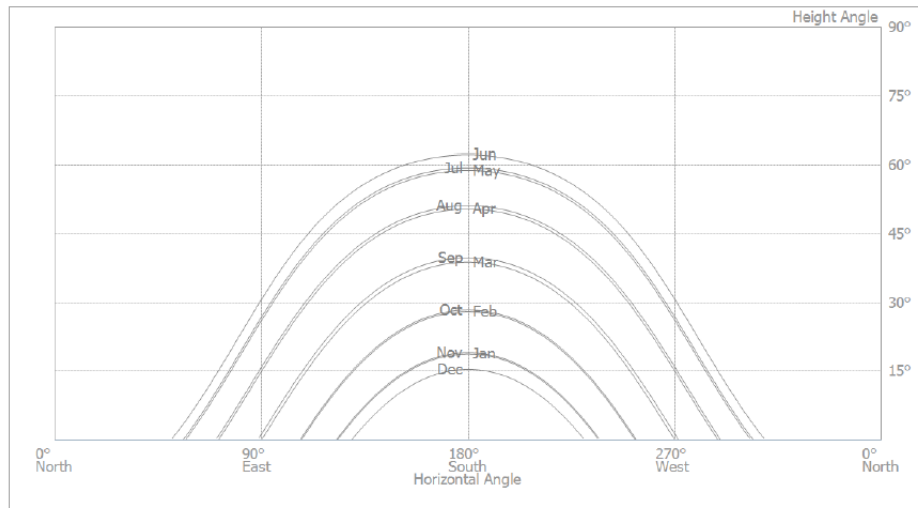


Figure: Horizon (3D Design)

Inverter configuration

Configuration 1

Module Area	Building 01-Roof Area Southeast
Inverter 1	
Model	SigenStor EC 10.0 TP (v2)
Manufacturer	Sigenergy
Quantity	1
Sizing Factor	113.9 %
Configuration	MPP 1: 1 x 8
	MPP 2: 1 x 8
	MPP 3: 1 x 7

AC Mains

AC Mains

Number of Phases	3
Mains voltage between phase and neutral	230 V
Displacement Power Factor (cos phi)	+/- 1