Project Name: Reliance Worldwide Company

23/12/2022

Your PV system

Address of Installation

west drayton
UB7 8JL

Project Overview

Figure: Overview Image, 3D Design

PV System

3D, Grid-connected PV System with Electrical Appliances

Climate Data	Uxbridge, GBR (1996 - 2015)	
Values source	Meteonorm 8.1(i)	
PV Generator Output	11.04	kWp
PV Generator Surface	53.5	m²
Number of PV Modules	24	
Number of Inverters	1	

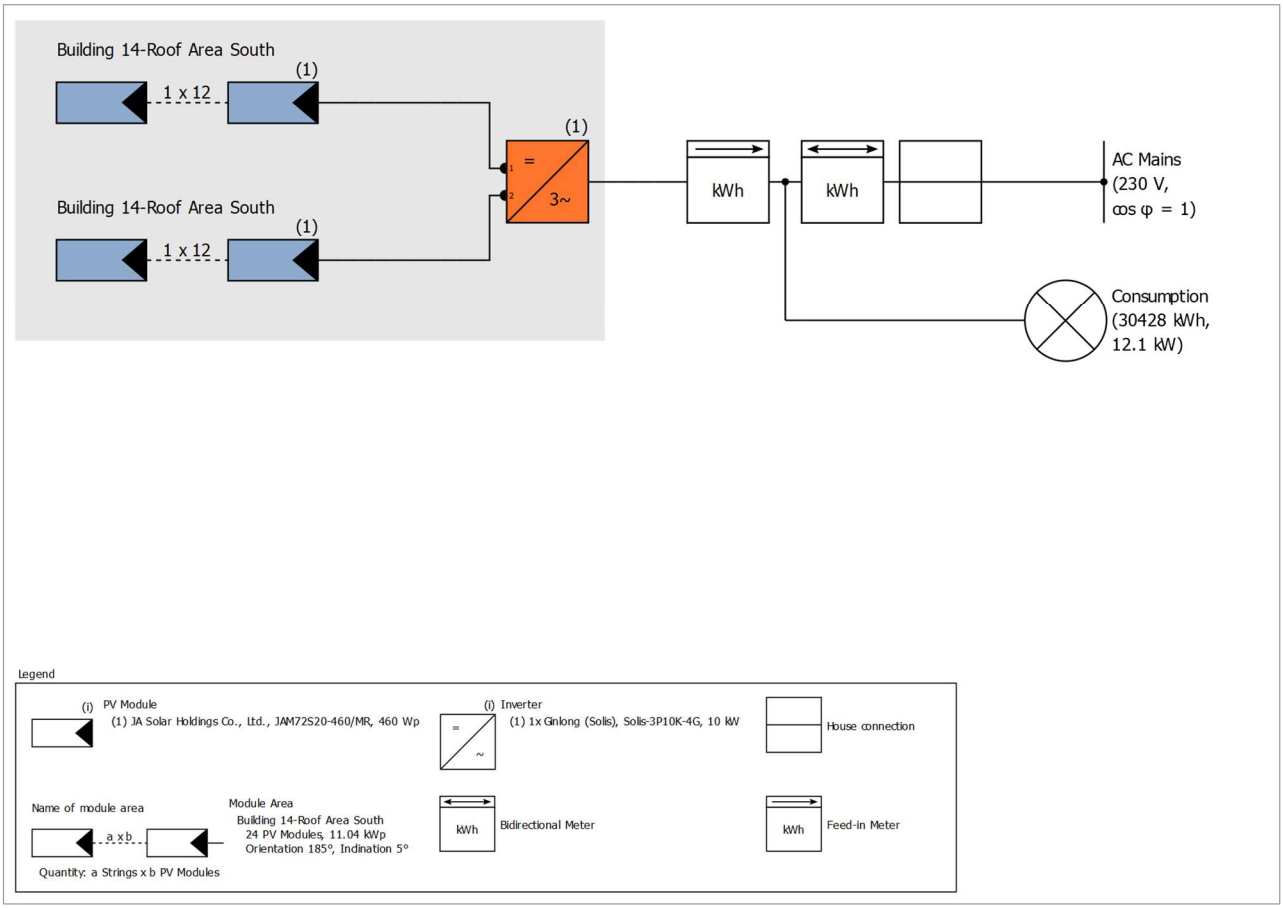

Figure: Schematic diagram

Production Forecast

Production Forecast

PV Generator Output	11.04 kWp
Spec. Annual Yield	892.65 kWh/kWp
Performance Ratio (PR)	85.35 %
Yield Reduction due to Shading	0.8 %
PV Generator Energy (AC grid)	9,859 kWh/Year
Own Consumption	6,298 kWh/Year
Down-regulation at Feed-in Point	0 kWh/Year
Grid Feed-in	3,560 kWh/Year
Own Power Consumption	63.9 %
CO_2 Emissions avoided	1,912 kg / year
Level of Self-sufficiency	20.7 %

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

Climate Data

Location	Uxbridge, GBR (1996 - 2015)
Values source	Meteonorm 8.1(i)
Resolution of the data	1 h
Simulation models used:	
- Diffuse Irradiation onto Horizontal Plane	Hofmann
- Irradiance onto tilted surface	Hay & Davies

Consumption

Total Consumption	30428 kWh
2000001629236	30428 kWh
Load Peak	12.1 kW

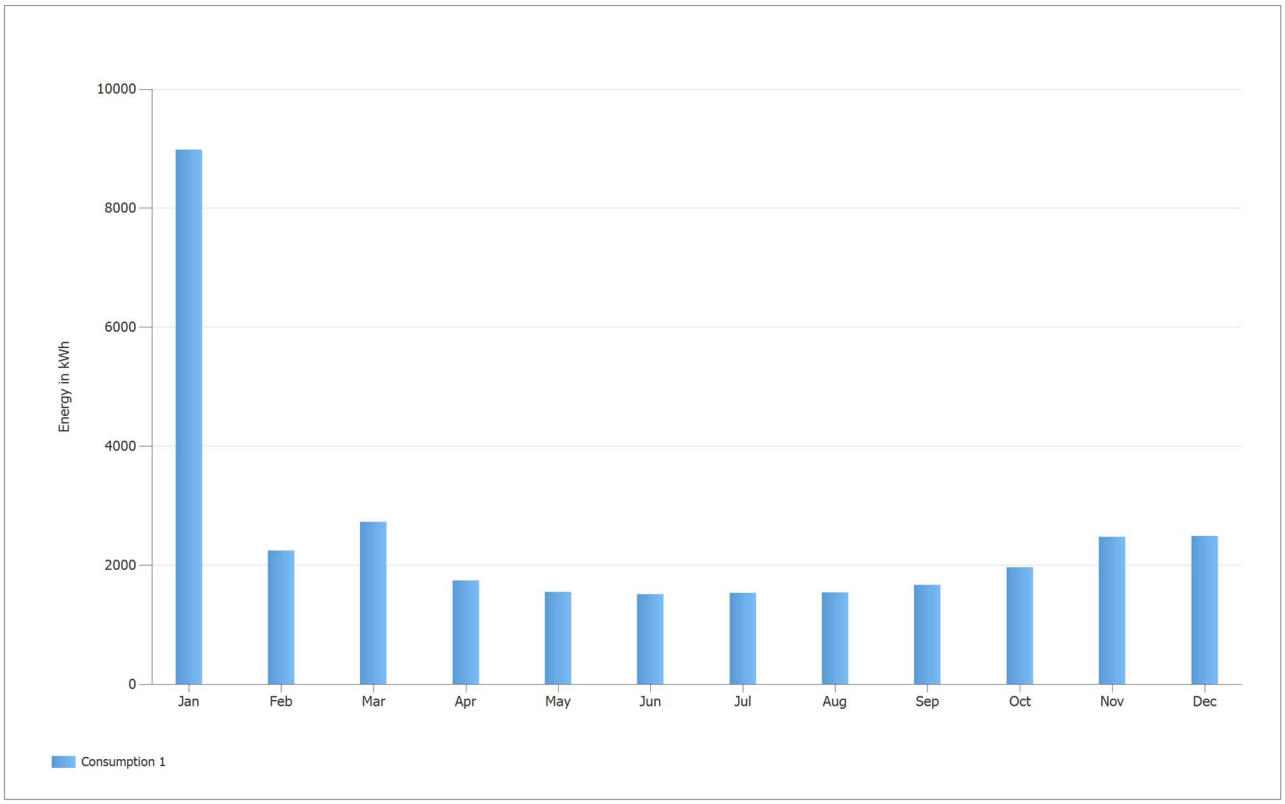

Figure: Consumption

Module Areas

1. Module Area - Building 14-Roof Area South

PV Generator, 1. Module Area - Building 14-Roof Area South

Name	Building 14-Roof Area South
PV Modules	24 x JAM72S20-460/MR (v5)
Manufacturer	JA Solar Holdings Co., Ltd.
Inclination	5 °
Orientation	South 185 °
Installation Type	Roof parallel
PV Generator Surface	53.5 m²

Figure: 1. Module Area - Building 14-Roof Area South

Horizon Line, 3D Design

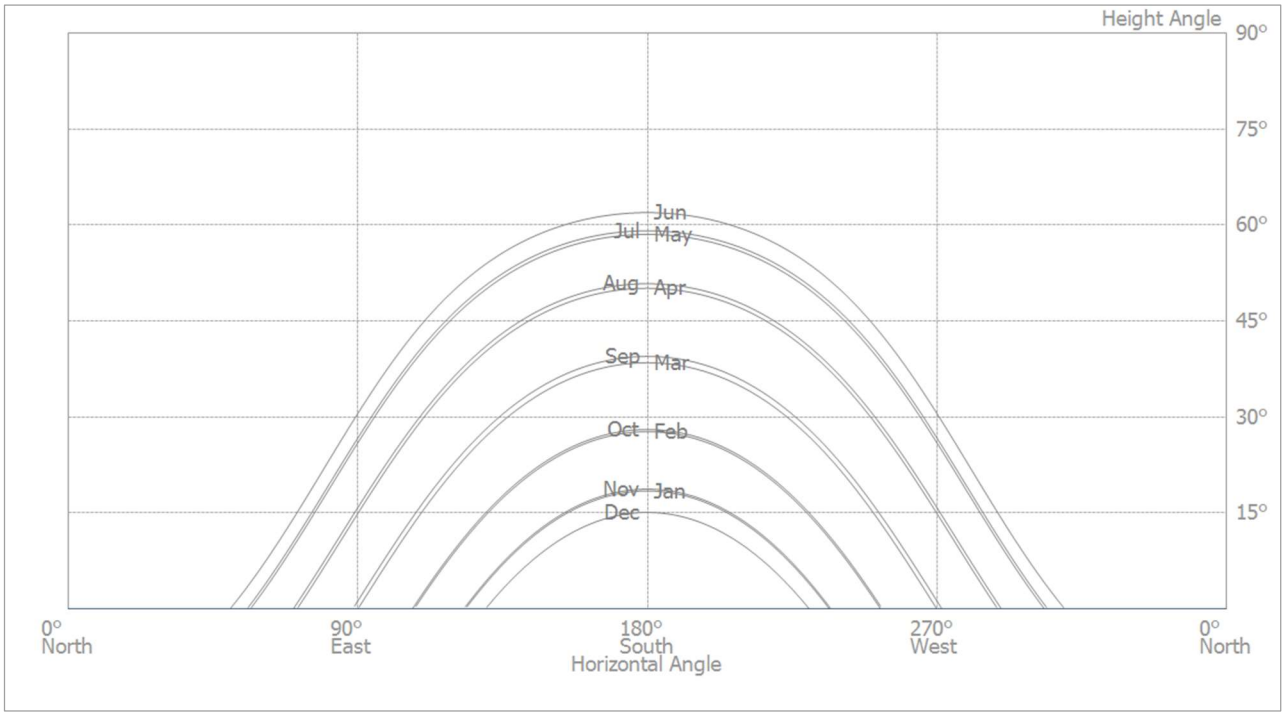

Figure: Horizon (3D Design)

Inverter configuration

Configuration 1	
Module Area	Building 14-Roof Area South
Inverter 1	
Model	Solis-3P10K-4G (v1)
Manufacturer	Ginlong (Solis)
Quantity	1
Sizing Factor	110.4 %
Configuration	MPP 1: 1 x 12
	MPP 2: 1 x 12

AC Mains

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

Simulation Results

Results Total System

PV System

PV Generator Output	11.04	kWp
Spec. Annual Yield	892.65	kWh/kWp
Performance Ratio (PR)	85.35	%
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PV Generator Energy (AC grid)	9,859	kWh/Year
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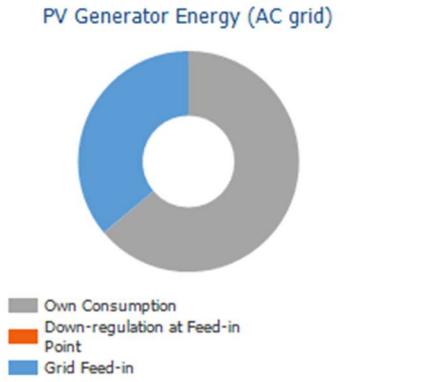
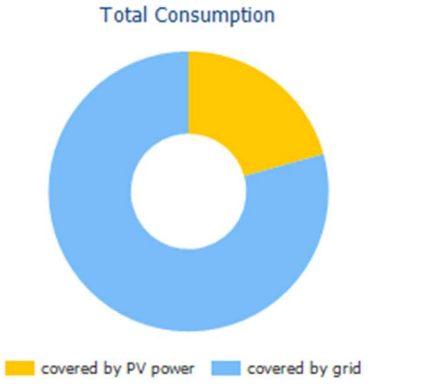


Appliances

Appliances	30,428	kWh/Year
Standby Consumption (Inverter)	4	kWh/Year
Total Consumption	30,432	kWh/Year
covered by PV power	6,298	kWh/Year
covered by grid	24,133	kWh/Year
Solar Fraction	20.7	%



Level of Self-sufficiency

Total Consumption	30,432	kWh/Year
covered by grid	24,133	kWh/Year
Level of Self-sufficiency	20.7	%

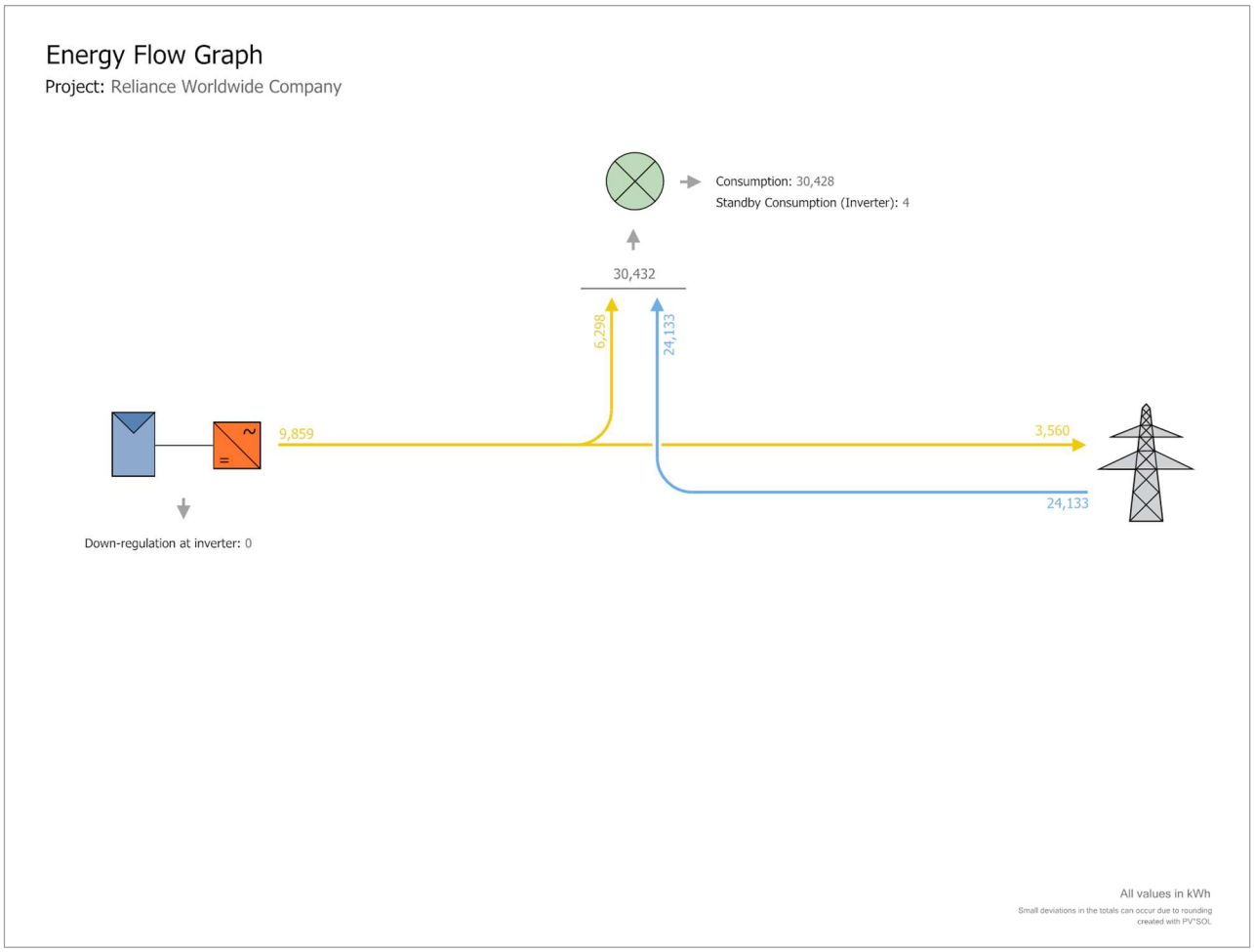


Figure: Energy flow

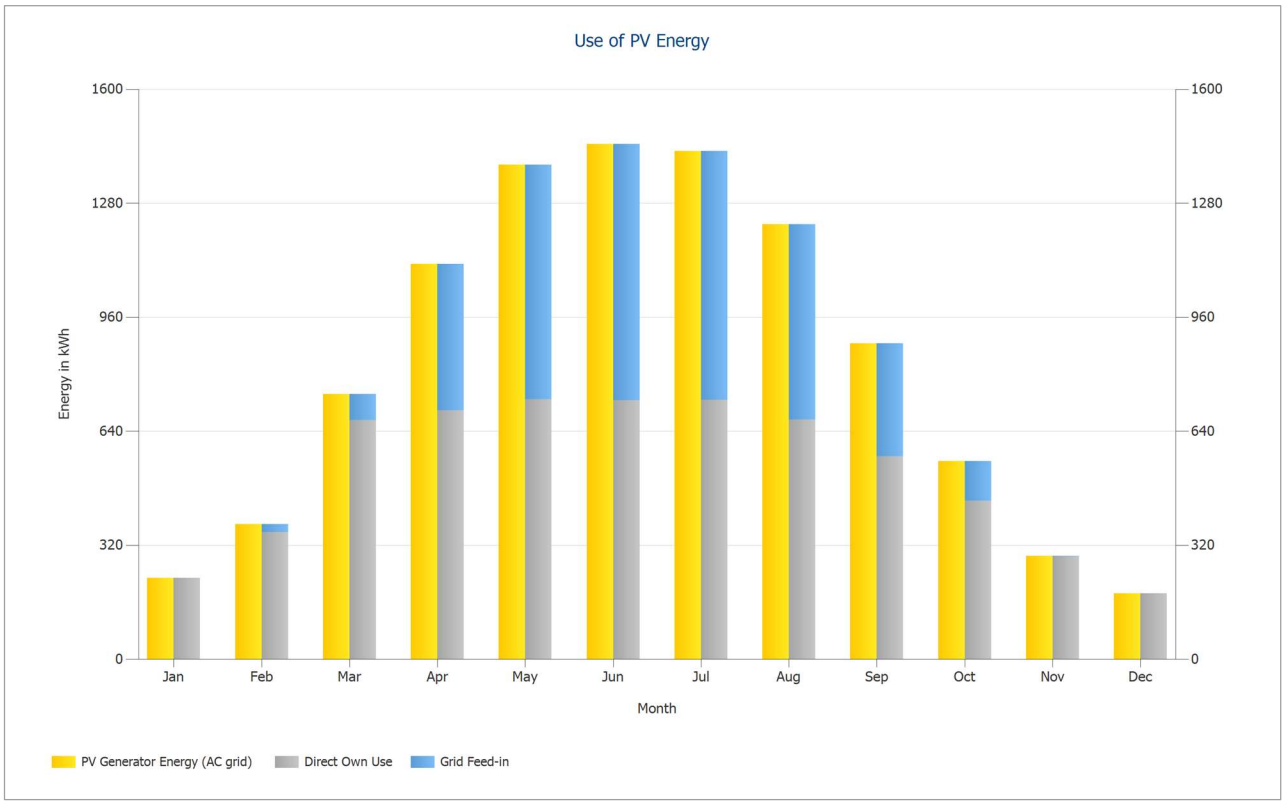


Figure: Use of PV Energy

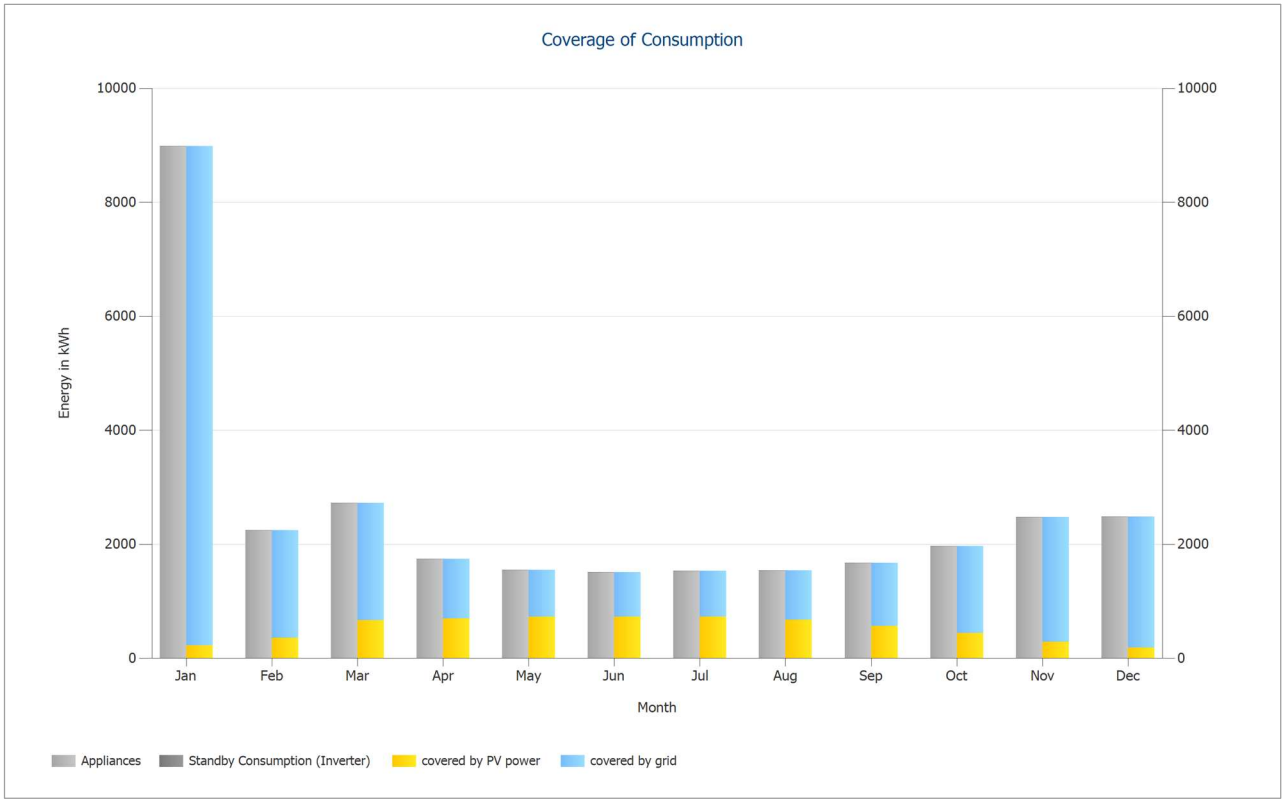


Figure: Coverage of Consumption

Plans and parts list

Circuit Diagram

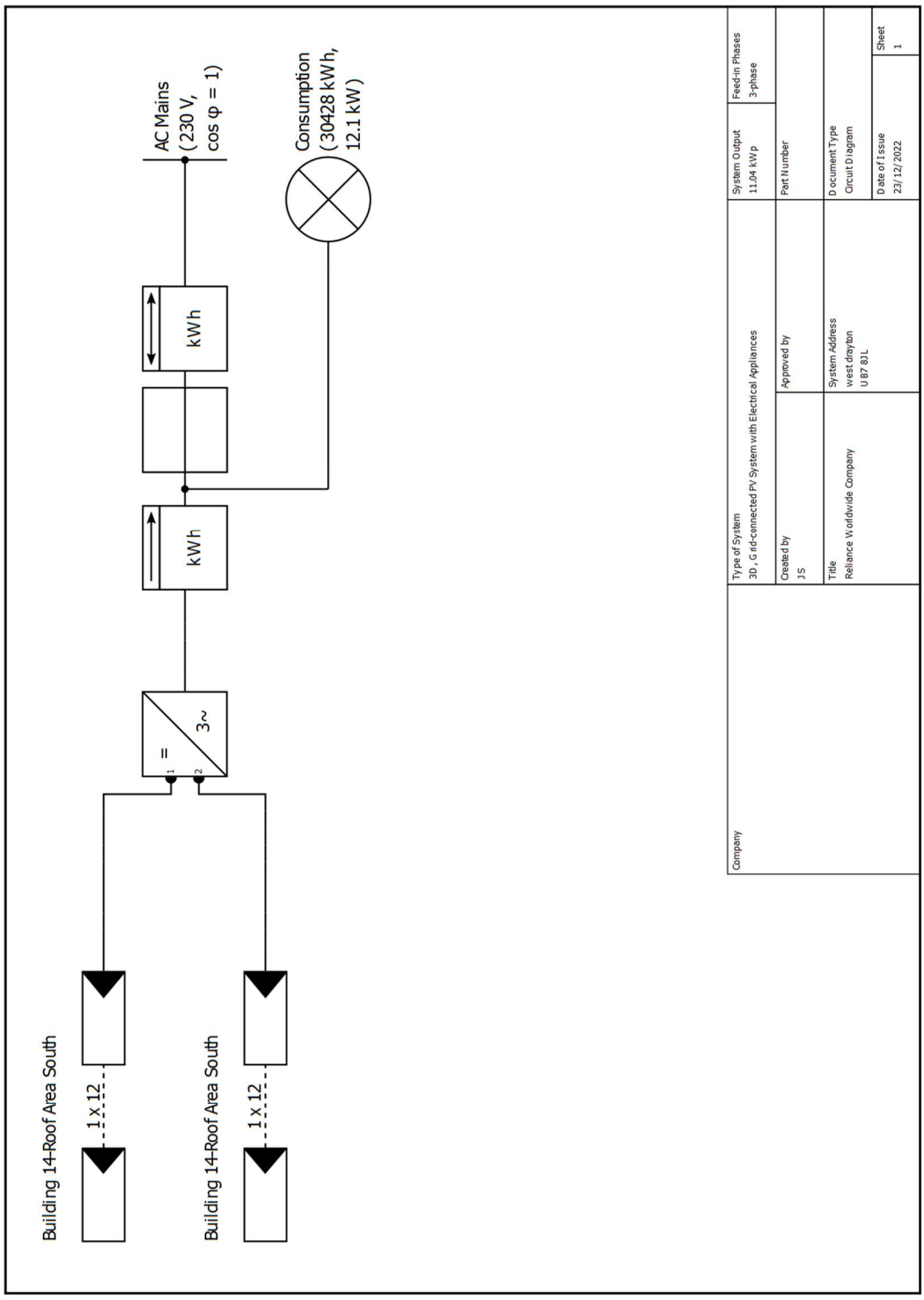


Figure: Circuit Diagram

Overview plan

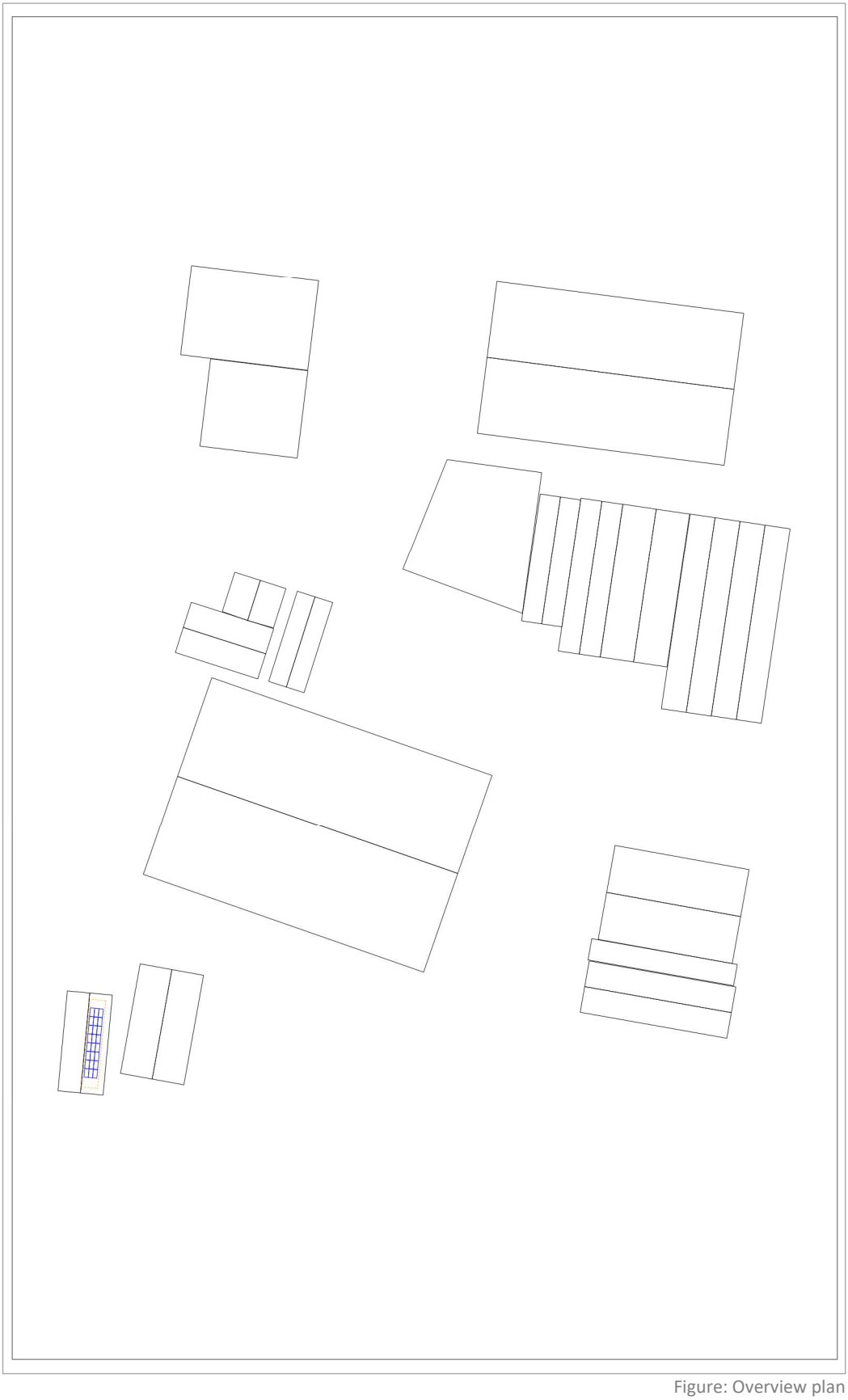


Figure: Overview plan

Dimensioning Plan

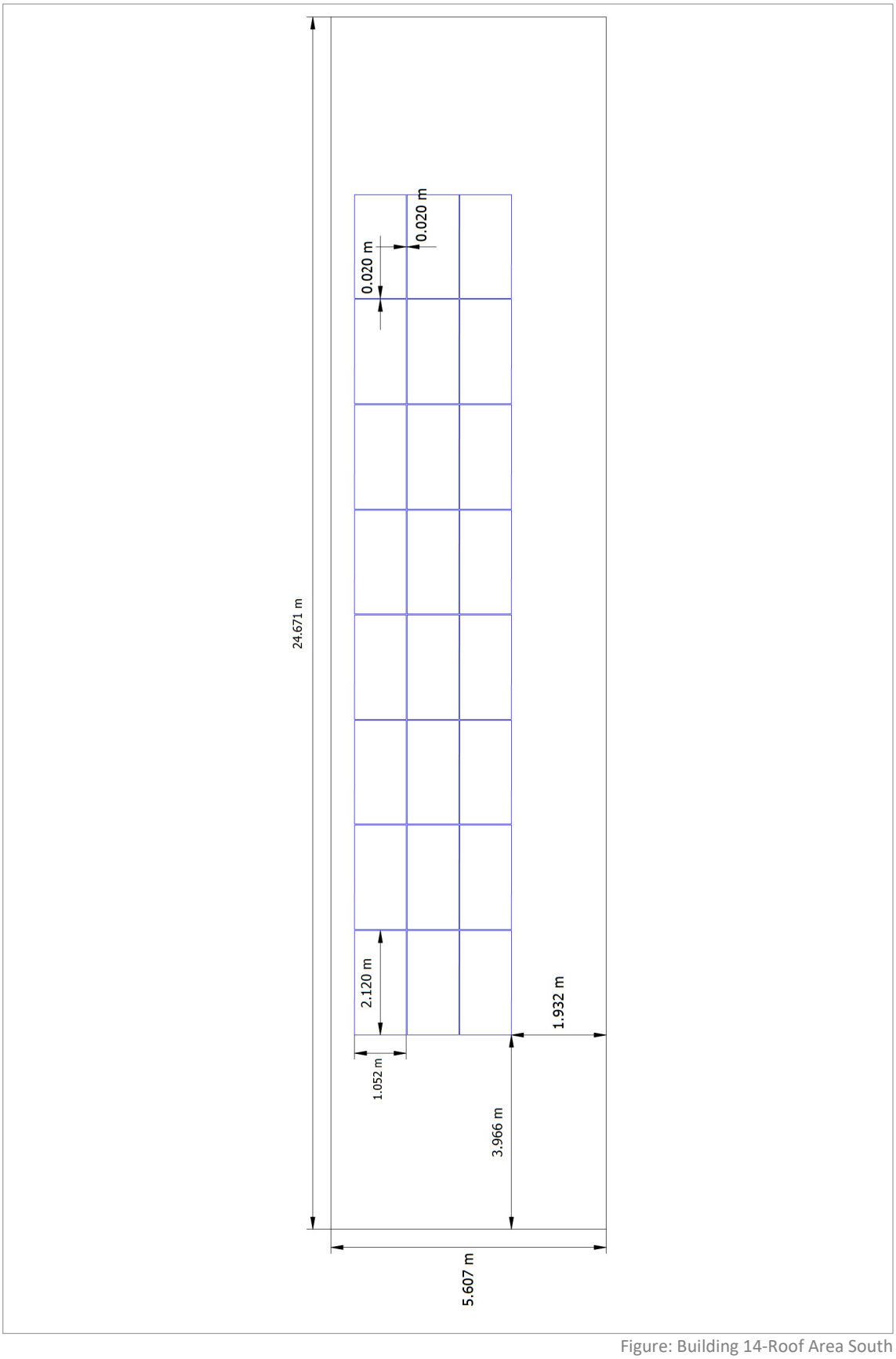


Figure: Building 14-Roof Area South

String Plan

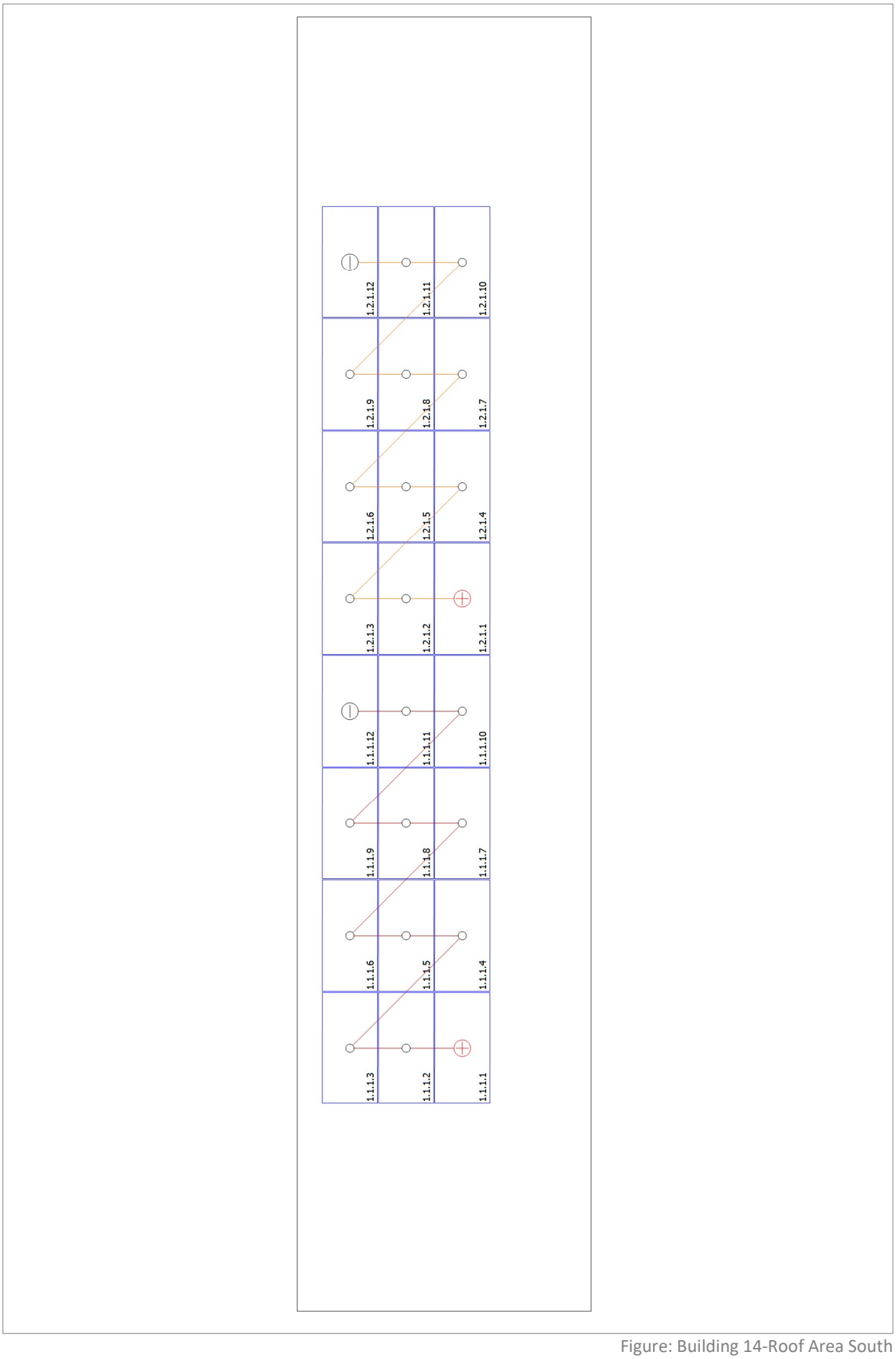


Figure: Building 14-Roof Area South

Parts list

Parts list

#	Type	Item number	Manufacturer	Name	Quantity	Unit
1	PV Module		JA Solar Holdings Co., Ltd.	JAM72S20-460/MR	24	Piece
2	Inverter		Ginlong (Solis)	Solis-3P10K-4G	1	Piece
3	Components			Feed-in Meter	1	Piece
4	Components			House connection	1	Piece
5	Components			Bidirectional Meter	1	Piece

Screenshots, 3D Design

Environment

Figure: Screenshot01